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COMMISSION OF THE EUROPEAN COMMUNITIES

# BIOREP



**PERMANENT INVENTORY OF  
BIOTECHNOLOGY RESEARCH PROJECTS  
IN THE EUROPEAN COMMUNITIES**



JANUARY 1990



BIOREP: Biotechnology research in the EEC

Project management

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Permanent inventory of  
biotechnology research projects  
in the European Communities

January 1990

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## Preface

In the framework of the Commission's 3rd Action Programme for the development of the European market in high quality information services a proposal was submitted for the creation of a database of ongoing biotechnology research in the EEC member states. Aims were to stimulate international cooperation and to provide policy makers and managers with an additional tool for co-ordination and planning; in view of the many organizational and practical problems envisaged in setting up such a database this was an ambitious plan indeed. Because of the multidisciplinary and innovative character of and rapid developments in biotechnology the Commission accepted this proposal for financial support, since it was felt that such instrument would be useful both for the national authorities and the Commission, and in the long run also as a link between academia and industry.

The Commission is pleased to see that the initiators have succeeded in realizing most of their aims. This is also owing to the active collaboration of almost all member states, and the support on the part of the former Task Force for Biotechnology Information (TFBI) of this Directorate-General and of the Concertation Unit for Biotechnology in Europe (CUBE) of the Directorate-General for Science, Research and Development (DG XII) in Brussels, through which the project became broadly based.

This is the abridged printed version of the database as it has been built up in 1988/1989, with introduction and a lot of practical information on the BIOREP project and the database. Of course this cannot be more than a random indication of publicly funded biotechnology research in Europe, because new information will be regularly added to the database. Although it is not yet complete at this moment, it has recently already proved its worth in finding research partners for projects in the framework of the new BRIDGE programme (Biotechnology Research for Innovation, Development and Growth in Europe) of DG XII. The original BIOREP proposal dates from some years ago, but its topical interest has been strengthened by the notion of Laboratories Without Walls, which has been adopted for BRIDGE. Within the framework of Europe 1992 international collaboration will become even more important than before. In the forthcoming period routines will be developed to guarantee completeness and currency of the data, the userfriendliness will be improved and possibilities will be examined for extension of the information to raise its attractiveness for management and biocommerce.

The maintenance and extension of BIOREP deserve further support. The Commission would like to encourage the member states to sustain their national focal points so that high-quality information will remain available for the international biotechnology research and business community, also in view of a future bio-informatics infrastructure in Europe.

Luxemburg, January 1990

V. Parajón Collada

Deputy Director General for  
Telecommunications, Information  
Industries and Innovation





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## List of abbreviations

AGREP	Permanent Inventory of Agricultural Research Projects in the European Communities
BAP	Biotechnology Action Programme (1985-1989)
BRIDGE	Biotechnology Research for Innovation, Development and Growth in Europe (1990-1993)
CCL	Common Command Language
CEFIC	Conseil Européen des Fédérations de l'Industrie Chimique
CODATA	Committee on Data for Science and Technology of the International Council of Scientific Unions
ECHO	European Commission Host Organisation
EFTA	European Free Trade Association
EMBL	European Molecular Biology Laboratory
GBF	Gesellschaft fuer Biotechnologische Forschung mbH
KNAW	Royal Netherlands Academy of Arts and Sciences
NORDINFO	The Nordic Council for Scientific Information and Research Libraries

## 1. Introduction

### 1.1 History and outlines of BIOREP

In March 1987 the project BIOREP was started with the aim to establish an information service regarding ongoing biotechnology research in Europe. In its launching phase the project was supported by the Commission of the European Communities (DG XIII, Luxembourg) under its 3rd Action Programme for the development of the European market in high quality information services, and by the Dutch Ministries of Education and Sciences and of Economic Affairs. This has resulted in a database which now covers already a substantial part of publicly funded biotechnology research in the EEC member states. In the forthcoming years this database will be further extended and developed towards a system that will be more attractive for management purposes and for biocommerce as well. The main characteristics of BIOREP will be discussed in this Chapter.

Biotechnology is a rapidly evolving, multidisciplinary field of research and development leading to an ever increasing number of applications and products in societally important sectors like medicine, environment, agriculture, food industry etcetera. It is to be expected that the biotechnology revolution will have at least the same impact on society as information technology, with all the associated societal and ethical questions. The scientific production is enormous, in industry biotechnology is a strategic and highly competitive field. For all people involved it is therefore necessary to be well informed: researchers, research managers, industrial managers and policy makers.

There is a strong need for factual data: sequences, vectors, hybridomas, patents, etcetera, as well as bibliographical information (including grey literature (reports and the like)).

In view of the rapid developments it is however equally important to be informed about ongoing R&D-activities which have not yet resulted in concrete results or products.

BIOREP aims at providing this information and to function as a link between the process of planning and the results in the form of factual and bibliographical information. In the original proposal the ambitious aims were formulated as follows:

- to identify trends in biotechnology research in the EEC member states for the benefit of funding and science policy bodies, and to point up any gaps in research and prevent duplication;
- to further scientific contacts between researchers and to arrive at more efficient planning of research projects by means of a systematic survey of all ongoing projects;
- to provide a basis for the coordination and planning of research in the field of biotechnology at the national level and to stimulate cooperation between the national bodies and institutions of the EEC which are responsible for biotechnology research.

For the realization of these aims and for the viability of such an information system the collection and ready accessibility of the data are of paramount importance. When an adequate technical and organizational infrastructure is lacking the chances for survival will be minimal. Moreover the data themselves should meet three requirements: completeness, reliability and currency.

The practical and organizational problems in setting up such infrastructure are legion. If we restrict ourselves to the European Community we have to deal with twelve countries in which nine different languages are spoken and where research infrastructures are quite different. Often research funding is on the basis of projects, but sometimes on the basis of programmes. France is an outstanding example of the latter approach: in this country research lines are clustered around laboratories. So, information will become available at several hierarchical levels.

On the researchers' part sometimes, with and without good reasons, objections

are raised against registration of ongoing research. Such objections mostly regard the feasibility and viability, increased bureaucracy, unjust claims on research projects which might stifle ideas and the geographical limitations, which international literature does not have.

Therefore it is not surprising that the Commission of the European Communities wished to consider the first stage of the project as a feasibility study. It had to be demonstrated that the project would become broadly based in the EEC member states before the implementation of the database would be formally approved.

The ideas on which BIOREP was based appeared to be valued widely. Also owing to the cooperation of the national representatives in the former Task Force for Biotechnology Information of the European Commission, who were indispensable for the right contacts, and of the policy echelons, we did succeed in getting commitments from almost all member states and in establishing so-called "national focal points" which are responsible for collection and input of their national data.

In this stage we had to confine ourselves largely to publicly funded research. The reasons for this are twofold: first of all, ongoing research in industry is generally confidential because of company strategy and competition considerations and thus it will be virtually impossible to obtain data at the level of projects. In the second place the national focal points are usually government institutions or closely related bodies like (national) funding agencies or libraries, whose contacts with industry are generally limited.

Since BIOREP, unlike more specialized factual and expertise databases, is broadly orientated and covers the whole area of biotechnology (with applications in and from medicine, agriculture, environment, process technology etcetera), it is pre-eminently suited for linking academia and industry and for furthering cross-disciplinary communication. Its strength is that it brings together research data, which could otherwise only be obtained with great difficulty from many scattered and heterogeneous sources.

This is one of the most important arguments against those who raise doubts as to the usefulness of ongoing research information systems. A striking example from practice which clearly supports the usefulness of BIOREP is that, when the database was for the first time used at the end of last year for looking for collaboration to arrive at new proposals for transnational research projects, people did indeed find laboratories and researchers, whose work was unknown to them, even though the database was far from being complete!

Technically communication is also facilitated because the records are being indexed with the help of a hierarchically structured thesaurus, which was originally developed in German by the Gesellschaft fuer Biotechnologische Forschung mbH (GBF) at Braunschweig, FRG. For BIOREP an English version has been developed, which is edited and maintained at our library (see Chapter 2). By means of broad terms disciplines and areas of application can be easily selected. Specific narrow terms can be used in searching, although title and abstract are searchable in free text. In view of these particular properties of the thesaurus we are highly interested in the present activities under the auspices of the CODATA Commission on the Terminology and Nomenclature of Biology which aim at arriving at standardization of terminology and nomenclature of biology for linking databases and for interdisciplinary communication.

Since BIOREP will remain in full development in the forthcoming years it is important that all interested parties are regularly informed about the progress. The following section will give information about the BIOREP Newsletter. In section 1.3 insight will be given into the contents and structure of this book; section 1.4 will deal with the on-line availability of BIOREP and finally section 1.5 will give a preview on short-term developments.

### 1.2 BIOREP Newsletter

The Library and Information Centre of the Royal Netherlands Academy of Arts and Sciences (KNAW) periodically issues the BIOREP Newsletter (ISSN

0923-4918; free of charge) in which current developments in the project are treated. In addition to its information function the BIOREP Newsletter also aims at becoming a communication channel for all those who are dealing with biotechnology research information, either as user or as producer. Therefore room will be offered for reactions, readers' letters and short opinion notes, of which fruitful use may be made with further development and management of the database.

For further information and subscriptions please contact:

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Tel : +31 20 6685511  
Fax : +31 20 6685079

### 1.3 Contents and structure of the BIOREP directory

The directory contains the data which were submitted by the national focal points and by the Commission of the European Communities.

The data were tested against the Selection Guidelines employed for inclusion of scientific papers and patents in Derwent Biotechnology Abstracts (ISSN 0262-5318; Derwent Publications Limited, Rochdale House, 128 Theobalds Road, London WC1 8RP, UK) and against the following definition:

"Biotechnology comprises the integrated use of biochemistry, molecular genetics, microbiology and process technology to arrive at practical application of the possibilities of microorganisms, cell cultures or parts thereof".

Only less than 2% of the submitted information did not comply with the criteria for inclusion.

Aim of this printed directory is to provide insight into the contents and structure of the database. Because a publication like this can give no more than the picture at a given moment - the data were collected in the years 1988 and 1989 and there are still gaps - its value consists mainly in its informative character.

The structure of the book is as follows:

After this introductory chapter which concentrates on the backgrounds and use of BIOREP, Chapters 2 and 3 will deal respectively with the thesaurus, by means of which the project records have been indexed, and give a number of examples (one for each member state) of full records of projects and institutes as they are stored in the database. The latter serves as an illustration of the real contents of the database, in contrast with the abridged version of the whole directory which is presented in Chapter 4.

The arrangement in the latter Chapter is alphabetical according to the two-letter code of the member state - France and Greece did not yet submit information - and further according to alphabet of institute code and record number. Presented are the full data of an institute / laboratory / department (always the most specific research unit, as far as known), hereinafter called "institute", followed by a short description of biotechnology research carried out at this institute:

title in English (bold type) and in the national language (where appropriate and as far as available), the name(s) of the project leader(s) and the assigned thesaurus terms. This provides a "profile" of the institute.

Indexes have been omitted because of the structure of the thesaurus (see Chapter 2). Frequently many references would appear under one term (e.g. under "monoclonal" 3431), which does not add much to the possibility of browsing which is offered by this presentation without index.

For real searches the reader is referred to the on-line directory at ECHO (see section 1.4) which is regularly being updated.

As mentioned in section 1.1, national focal points have been defined which have collected and pre-processed the data. The data concerning the national focal points and contact persons appear at the top of each national subsection. Further information about any national data sets may be obtained from the mentioned contact persons.

Hereinafter for each member state the number of records has been tabulated and information sources and coverage are described.

As regards the former it should be noted that the number of records does not give any indication on the coverage, because the level of aggregation of the information varies (see also section 1.1).

For example, the 506 German records, which are generally taken up in the database as themes with often very extensive abstracts describing the constituent projects, from the information and coverage point of view may be regarded to be equivalent to the 2180 British records.

**Table 1** BIOREP DATABASE

JANUARY 1990

MEMBER STATE	PROJECTS	INSTITUTES	
Belgium	374	127	
Germany	506	286	
Denmark	168	77	
Spain	33	20	
France			*)
Britain	2180	521	
Greece			**)
Ireland	261	43	
Italy	225	151	***)
Luxembourg	1	1	
Netherlands	407	184	
Portugal	70	40	
CEC (BAP)	245	213	
EMBL	c. 50	1	****)
Total	c. 4520	1664	

\*) involved in 46 BAP projects

\*\*) involved in 5 BAP projects

\*\*\*) on-line on ECHO February 1990

\*\*\*\*) to be submitted March 1990; not recorded in this book

#### BELGIUM

Coverage: publicly funded research (universities and national research institutes)

Source: national database (Services of the Prime Minister)

#### FEDERAL REPUBLIC OF GERMANY

Coverage: publicly funded research (universities and national research institutes; partly also industry)

Sources: mainly project lists and annual reports of funding organisations, i.e. Deutsche Forschungsgemeinschaft (National Research Council), Federal Ministries, esp. several programmes coming under the Bundesministerium fuer Forschung und Technologie (Ministry of Research and Technology), the Genzentrum at Martinsried, Federal State of Nordrhein-Westfalen, DECHEMA, Stiftung Volkswagenwerk, Fritz Thyssen Stiftung

#### DENMARK

Coverage: publicly funded research (Danish Biotechnology Programme)

Source: national database (being set up at Risoe Library)

#### SPAIN

Coverage: national research programme

Source: management database ministry (Comisión Interministerial Ciencia y Tecnología)

In Spain recently a national biotechnology centre has been established. This will become the new national focal point

#### FRANCE

National focal point to be established. Information: Ministère de la Recherche et de la Technologie, Département de l'Information Spécialisée, 1 Rue Descartes, 75005 Paris, tel. +33 1 4634635, fax +33 1 46343571

#### UNITED KINGDOM

Coverage: publicly funded research (universities and national research institutes)

Source: CRIB files, Biological Sciences (CRIB = Current Research in Britain), maintained by the British Library

#### GREECE

National focal point: National Hellenic Research Foundation, Documentation Centre, 48 V. Constantinou Avenue, 11635 Athens.

Contact person: Dr. E. Bouboukas, tel. +30 1 7246825, fax +30 1 7212729

#### IRELAND

Coverage: publicly funded research (universities and national research institutes)

Sources: national survey, Irish BAP projects

**ITALY**

Coverage: national programme Biotechnology and Bioinstrumentation of the Consiglio Nazionale delle Ricerche (CNR, National Research Council)

Source: files of CNR

Definite national focal point for Italy to be established

**LUXEMBURG**

In Luxemburg recently an Act has come into effect regarding the creation of a national research infrastructure for the Grand Duchy.

Until last year only a structure of undergraduate university education existed

**THE NETHERLANDS**

Coverage: publicly funded research (universities and national research institutes)

Source: national database, maintained by a consortium of scientific libraries and documentation and research management organisations, the technical activities of which are coordinated by the NBOI, the Netherlands Bureau for Research Information

**PORTUGAL**

Coverage: publicly funded research (universities and national research institutes)

Source: inquiry and national inventory

**COMMISSION OF THE EUROPEAN COMMUNITIES**

Coverage: full data of the Biotechnology Action Programme (1985-1989) of Directorate-General XII (Science, Research and Development; Directorate Biology, Division Biotechnology)

Source: SESAME database (Community R&D programmes)

**EUROPEAN MOLECULAR BIOLOGY LABORATORY**

Coverage: all research projects and programmes of this institute

Source: group leaders' reports

**1.4 BIOREP on-line**

Since June 1989 BIOREP is on-line available. The database is hosted by ECHO, the European Commission Host Organisation in Luxemburg.

Novice users are kindly requested to apply to ECHO for all information regarding on-line access (subscriptions, password, technical information and services):

European Commission Host Organisation (ECHO)

Customer Service / Help Desk

177, Route d'Esch

P.O. Box 2373

L-1023 Luxembourg

Tel : + 352 488041

Telex: 2181 eurol lu

Fax : + 352 488040

NUA 270 448112

Contact persons for BIOREP: Mr. P. Cornelius and Mr. D. Milican

General information is given in the brochure ECHO Databases and Services. Manuals for the command language CCL and for the databases hosted by ECHO are available to the registered users in several Community languages. The newsletter ECHO News functions as an information source and communication channel for ECHO users.

Moreover, ECHO has several education facilities.

Since ECHO operates on a non-commercial basis and has a promotional function for information services resulting from projects sponsored by the Commission, the majority of databases is offered free of charge (telecommunication costs only).

In entering the BIOREP database one can look into some information fields: INFO BIOPROD (name of the producer), INFO BIOCONT (contents of BIOREP), INFO BIOFIELDS (fields used in BIOREP), INFO BIOTHES (structure of the BIOREP thesaurus) and INFO BIOQUICK (quick info on BIOREP aims).

BIOREP has two types of records, i.e. a project record (P) and an institute record (I), which are coupled by an identical institute code. In order to improve userfriendliness the generation of the database will be changed at short term in such a way that the institute data are automatically retrieved with the project data, so that the user will no longer be obliged to search separately in the institute file. In addition, the user will have the choice between standard and full data sets.

Full updating of the database will take place on an annual basis. Because the time schedules of the member states will differ, the practice will be that new information, mutations and deletions will be entered periodically throughout the year (quarterly or semi-continuous updating). Any change in the status of the database will be recorded in INFO BIOCONT.

As soon as the present database structure has been revised the management team will document the database in concertation with the ECHO staff. Moreover the thesaurus (see Chapter 2) will be revised periodically.

The BIOREP Newsletter and ECHO News will keep the users informed on new developments.

As a guide for reading Chapter 3 (full listing) the fields of the BIOREP records have been tabulated below.

**Table 2** BIOREP FIELDS

RT Record type			
RTYPE = P (project)		RTYPE = I (institute)	
RN	External reg. nr.	IN	Code of institute (= IC)
RS	Previous reg. nr.	RO	Research organization
ND	BIOREP reg. nr.	RU	Research unit
TI	Title (English)	AD	Address
OT	Original title	PB	Mailing address
AB	Abstract (English)	CP	Postcode member state
OA	Original abstract	PP	Postcode + 'placename
RL	Project leader	PC	Postcode address
RP	Supervisor	PL	City
RR	Other researchers	TL	Telephone number
IC	Institute code (= IN)	TX	Telex
CI	Collaboration code	FX	Fax number
CO	Collaboration	CY	Full name of country
SD	Starting date		
CD	Completion date		
PU	Publications (availability)		
BI	Bibliographical data		
EDBI	Entry date BIOREP		
PS	Project status		
EF	Entry date focal point		
IR	Short description institute		
PR	Research programme		
FI	Funding organization		
MO	Grant		
CT	Controlled terms		
LA	Language code		
MD	Modification date		

**1.5 Continuation of BIOREP: a preview**

Now that the launching phase has been completed the broad outlines for the further developments are being developed.

On the one side mechanisms have to be derived for better attuning, and, where possible, standardization, as well as enhancement of quality. On the other side a high degree of coverage (ideally completeness) and currency are being pursued. With respect to coverage also geographical extension is aimed at.

Association of the EFTA countries (Norway, Sweden, Finland, Iceland, Switzerland and Austria) would transform BIOREP into a (West) European database, through which the geographical limitations of the EEC would be alleviated. In the first stage of the project the Scandinavian countries have been observers via their collaboration group for scientific and technical information NORDINFO, in which also Denmark participates, which fulfils a bridge function between the EEC and the Nordic countries. Moreover the European Molecular Biology Laboratory (EMBL) at Heidelberg, FRG has joined.

But there are also new developments which have to be taken into account. During the last years we have observed that questions regarding ongoing research are increasingly being related to management and policy questions, particularly beyond the level of projects. Research projects are more and more embedded in programmes and research is strongly internationalizing. Reference is made here to stimulation from the "Laboratories Without Walls" philosophy of the European Commission, which is emphasized in the new biotechnology research and concertation programme BRIDGE. Collaboration in a research project between two or more partners on an equal basis is the first matter of importance. Therefore it will be increasingly important to be able to make relationships between projects and to place them hierarchically within programmes and special research topics, to visualize input and output, etcetera. The manipulation of related data and the ability to present these data in several ways, also e.g. in tabulated form or graphically, are becoming equally important as the answers to questions into "who does what where?" which traditionally have been the basis for current research information systems.

Also as a result of the outcome of a two-day workshop held in April last year during which all these aspects were discussed, the first steps have been made to arrive at realization. We agreed on collaboration with the AGREP management team (AGREP is the ongoing agriculture research information system sponsored by the Commission) in data collection and mutual data exchange, the implementation of the definite technical infrastructure with the national focal points and the introduction of new profiles in addition to the project outline, i.e. national, organization and expertise profiles, which will be coupled in a relational way to the project information. Owing to these characteristics the new system can also be used as a research management system. This will be a very attractive feature for the national authorities and the Commission of the European Communities.

Moreover, additional effort and elapsed time is needed to evaluate the revenue generating and cost recovery potential of BIOREP and draw up a detailed work plan for marketing and promotion of BIOREP and the framework under which commercial interests and national governments might participate in a concerted way. To streamline and optimize the marketing of BIOREP, Elsevier Science Publishers have assumed responsibility for the commercial management and product development.

So the expertise of three groups has combined.

BIOREP has broadly demonstrated the feasibility, both technically and in terms of international collaboration, of producing a European inventory of biotechnology research projects and as such has met its basic objectives, but much remains to be done to arrive at an information system that will meet all requirements for a variety of potential user groups. On the part of several groupings an appeal has been made to the Commission of the European Communities to further the establishment of an integrated bioinformatics infrastructure in Europe. A feasibility study into such infrastructure carried out by CEFIC, the Federation of the European Chemical Industries, the European Commission and a number of European publishers is in the stage of completion. In view of the positive attitude of all parties involved directly or indirectly in the project we are convinced that BIOREP will establish itself within the future infrastructure.

M.L.H. Lalieu

project manager BIOREP

## 2. BIOREP thesaurus

### 2.1 Introduction

In section 1.1 it was already pointed out that the thesaurus facility in addition to the free text facility is pre-eminently suited for making specific selections and cross-sections, particularly disciplines and applications areas. The thesaurus is hierarchically structured and contains broader terms (BT), narrower terms (NT) and related terms (RT). History and scope notes respectively give a formal description of the facet and a further definition. Moreover a system of references has been built in.

Hereinafter the present version of the systematic part is presented. It serves as a guide for searching, since it gives the classification in nine main groups (facets) under which all descriptor terms are arranged which can be used for searching (except for the facet names and the terms between round brackets). The descriptor terms can be freely combined.

The thesaurus does not claim completeness. Because biotechnology is a field in full development the thesaurus will be periodically updated in concertation with the staff of the GBF, who originally developed the thesaurus (see section 1.1), so that the German and English versions will run parallel.

### 2.2 Survey of facets

#### 1 Scientific areas

- 101 Biology
- 102 Chemistry
- 103 Medicine
- 104 Technological sciences
- 105 Physics
- 106 Agricultural sciences
- 107 Nutrition sciences
- 108 Environmental sciences

#### 2 Applications, branches

#### 3 Organisms, parts of organisms

- 301 Microorganism
- 302 Virus
- 303 Plant
- 304 Animal
- 305 Organ
- 306 Cell
- 307 Useful organism
- 308 Pest organism

#### 4 Services

- 401 According to institutions
- 402 According to activities
- 403 According to products

#### 5 Diseases, symptoms

- 501 Disease
- 502 Symptom

#### 6 Characteristics, conditions

- 601 Biological characteristic
- 602 According to developmental stage
- 603 According to way of feeding
- 604 According to existence conditions
- 605 According to sex
- 606 According to organism
- 607 According to product
- 608 Chemical characteristic
- 609 According to structural class
- 610 According to composition
- 611 Physical characteristic
- 612 According to application
- 613 According to way of production
- 614 According to process
- 615 According to specialism
- 616 According to way of action
- 617 Prefixes / Suffixes

#### 7 Processes, Methods

- 701 General processes
- 702 Biological processes
- 703 Chemical processes
- 704 Medical processes

- 705 Physical processes
- 706 Technical processes
- 707 Measuring methods, Analytical methods
- 708 Protection measures

#### 8 Substances

- 801 Mixture
- 802 Molecule
- 803 Isotope
- 804 Inorganic substance
- 805 Organic substance
- 806 Protein
- 807 Proteid
- 808 Enzyme
- 809 Exoenzyme
- 810 Isoenzyme
- 811 Biomass
- 812 Bioactive agent
- 813 Food
- 814 Kit

#### 9 Devices, accessories

- 901 Installation
- 902 Apparatus
- 903 Laboratory
- 904 Scale
- 905 Accessories

## 2.3 Systematic outline of facets

## 1 SCIENTIFIC AREAS

## 101 Biology

Anthropology  
 Biochemistry  
 Biotechnology  
 - *Enzyme technology*  
 - *Gene technology*  
 Botany  
 Cell biology  
 Cryobiology  
 Entomology  
 Enzymology  
 Genetics  
 - *Cytogenetics*  
 - *Human genetics*  
 - *Molecular genetics*  
 - *Population genetics*  
 Microbiology  
 Molecular biology  
 Neurobiology  
 Primatology  
 Radiation biology  
 Safety research  
 Taxonomy  
 Zoology

## 102 Chemistry

Histochemistry  
 Inorganic chemistry  
 Materials research  
 Natural substance chemistry  
 Organic chemistry  
 Petrochemistry  
 Pharmacy  
 Physical chemistry  
 Rheology  
 Technical chemistry

## 103 Medicine

Allergology  
 Andrology  
 Bacteriology  
 Cardiology  
 Endocrinology  
 Forensic medicine  
 Gynecology  
 Hematology  
 Histology  
 Human medicine  
 Immunology  
 Neurology  
 Nuclear medicine  
 Oncology  
 Parasitology  
 Pathology  
 Pharmacology  
 Physiology  
 Phytomedicine  
 Psychosomatics  
 Serology  
 Spermatology  
 Toxicology  
 Veterinary medicine  
 Virology

## 104 Technological sciences

Automation technology  
 Bioprocess engineering  
 Chemical engineering  
 Electronic engineering  
 Fermentation technology  
 Informatics  
 Mechanical engineering  
 Metallurgy  
 Mineralogy

## 105 Physics

Biophysics  
 Cybernetics  
 Electronics  
 Thermodynamics

## 106 Agricultural sciences

## 107 Nutrition sciences

Food chemistry  
 Food technology

## 108 Environmental sciences

Ecology  
 Environmental biotechnology  
 Environmental technology  
 Landscape protection

## 2 APPLICATION, BRANCHES

Agriculture  
 Analytical engineering  
 Energy supply  
 Environment  
 Forestry  
 Industry  
 - *Chemical industry*  
 - *Consumables industry*  
 - *Pharmaceutical industry*  
 - (*Mechanical engineering*, cf. *Fac. 1: Scientific areas*)  
 Nutritional branch

## 3 ORGANISMS

## 301 Microorganism

Prokaryote  
 - *Bacterium*  
 - *Archaeobacterium*  
 - *Halobacteriaceae*  
 Halobacterium  
 - *Methanobacteriaceae*  
 Methanobacterium  
 Methanococcus  
 Methanocorpusculum  
 Methanobolus  
 Methanosarcina  
 Methanothermus  
 - (*Thermoacidophilic bacteria*)  
 Archaeoglobus  
 Desulfurococcus  
 Desulfurolobus  
 Sulfolobus  
 Thermoplasma  
 Thermoproteus  
 Eubacterium  
 - *Actinomycetaceae*  
 Actinomycete  
 - *Azotobacteraceae*  
 Azotobacter  
 - *Bacillaceae*  
 Bacillus  
 Clostridium  
 Sporosarcina  
 - *Chlorobiaceae*  
 Chlorella  
 Chlorobium  
 Chloroflexus  
 - *Chromatiaceae*  
 Ectothiorhodospira  
 - *Corynebacteriaceae*  
 Arthrobacter  
 Brevibacterium  
 Corynebacterium  
 - *Enterobacteriaceae*  
 Enterobacter  
 Erwinia  
 Escherichia  
 Klebsiella  
 Proteus  
 Salmonella  
 Yersinia  
 - *Lactobacillaceae*  
 Lactobacillus

- *Micrococcaceae*  
 Micrococcus  
 Staphylococcus  
 - *Micromonosporaceae*  
 Thermoactinomyces  
 - *Mycobacteriaceae*  
 Mycobacterium  
 - *Mycoplasmataceae*  
 Mycoplasma  
 - *Myxobacterium*  
 - *Neisseriaceae*  
 Acinetobacter  
 - *Nitrobacteraceae*  
 Nitrobacter  
 Nitrosomonas  
 - *Nocardiaceae*  
 Nocardia  
 - *Pseudomonaceae*  
 Pseudomonas  
 Xanthomonas  
 - *Rhizobiaceae*  
 Agrobacterium  
 Rhizobium  
 - *Rhodospirillaceae*  
 Rhodobacter  
 Rhodocyclus  
 Rhodopseudomonas  
 Rhodospirillum  
 - *Spirillaceae*  
 Azospirillum  
 Spirillum  
 - *Streptococcaceae*  
 Streptococcus  
 - *Streptomycetaceae*  
 Streptomyces  
 - *Veillonellaceae*  
 Acidaminococcus  
 - *Vibrionaceae*  
 Aeromonas  
 Photobacterium  
 Vibrio  
 (Eubacteria not belonging to a particular family)  
 Acetobacter  
 Alcaligenes  
 Comamonas  
 Desulfobacterium  
 Desulfovibrio  
 Lactococcus  
 Legionella  
 Leptothrix  
 Paracoccus  
 Planctomycete  
 Rhodococcus  
 Thermus  
 Thiobacillus  
 Zymomonas  
 - *Cyanobacterium*

Eukaryote  
 - *Alga*  
 - *Brown alga*  
 - *Green alga*  
 - *Red alga*  
 - *Metazoon*  
 - *Fungus*  
 - *Ascomycete*  
 - *Mycelial fungus*  
 - *Trichoderma*  
 - *Yeast*  
 - *Basidiomycete*  
 - *Protozoon*

## 302 Virus

DNA virus  
 - *Adenovirus*  
 - *Bacteriophage*  
 - *Baculovirus*  
 - *Papilloma virus*  
 - *Parvovirus*  
 - *Polyomavirus*  
 - *SV40*

RNA virus  
 - *Retrovirus*  
 HIV  
 HTLV

## 303 Plant

Monocotyledon  
 - *Maize*  
 - *Palm*  
 - *Wheat*

Dicotyledon  
 - *Hops*  
 - *Potato*  
 - *Soybean*  
 - *Tobacco*

## 304 Animal

Vertebrate

(Species)  
 - *Amphibian*  
 - *Fish*  
 - *Reptile*  
 - *Snake*  
 - *Mammal*  
 - *Bovine animal*  
 - *Man*  
 - *Mouse*  
 - *Pig*  
 - *Primate*  
 - *Rabbit*  
 - *Rat*  
 - *Bird*

(Development form)  
 - *Chimaera*  
 - *Embryo*  
 - *Twin*

Invertebrate  
 - *Crustacean*  
 - *Shrimp*  
 - *Insect*  
 - *Drosophila*  
 - *Nematode*

## 305 Organ

Blood  
 - *Blood group*  
 - *Blood plasma*  
 - *Blood serum*  
 - *Bone marrow*

Cardiovascular system  
 - *Blood circulation*  
 - *Heart*  
 - *Vessels*

Digestive system  
 - *Gut*  
 - *Liver*  
 - *Spleen*  
 - *Stomach*

Gland  
 - *Hypophysis*  
 - *Lymph gland*  
 - *Pancreas*  
 - *Thymus*  
 - *Thyroid gland*

Immune system

Nervous system  
 - *Brain*  
 - *Nerve*

Respiratory system  
 - *Lung*

Skin  
 - *Hair*  
 - *Mucous membrane*

Tissue  
 - *Connective tissue*  
 - *Endothelium*  
 - *Epithelium*  
 - *Muscle*



Urogenital system - <i>Adrenal gland</i> - <i>Follicle</i> - <i>Kidney</i> - <i>Yellow body</i>	Contract research Economy stimulation Education Financing Immovables Information dissemination - <i>Online searching</i> - <i>Patent information</i> Installation construction Licence granting Market analysis Marketing Patent registration Projecting Research advancement Scholarship grant Strain development Systems analysis	Sterility Transgenic	- <i>Low-molecular</i> - <i>Macromolecular</i> Monomeric Multi-chain Multimeric Oligomeric Organic pH Polymeric Pure - <i>Ultrapure</i> Short-chain Smell Soluble Turbidity Unstable Volatile
306 Cell  (According to kind of cells)  Cardiocyte Erythrocyte Fibroblast Germ cell - <i>Egg cell</i> - <i>Sperm</i> Hybridoma Leukocyte Lymphocyte Macrophage Membrane biology Microsome Microspore Neuron Protoplast Receptor Reticulocyte Thrombocyte Trophoblast  Nucleus - <i>Chromatin</i> - <i>Chromosome</i> X-chromosome <u>Y-chromosome</u> - <i>Gene</i> - <i>Genome</i> - <i>Transposon</i> - <i>Vector</i> - <i>Xenogene</i>  Organelle - <i>Chloroplast</i> - <i>Mitochondrion</i> - <i>Peroxisome</i> - <i>Plasmid</i> - <i>Protoplasm</i> Cytoplasm - <i>Ribosome</i>  Cell wall	403 (According to products)  Antigen bank Biotechnical pilot plant Data base Expertise Gene bank Journal Organism collection Seed bank	602 (According to developmental stage)  Fetal Perinatal Postnatal Prenatal  603 (According to way of feeding)  Autotrophic Chemotrophic Diazotrophic Heterotrophic Litotrophic Methylotrophic Phototrophic  604 (According to existence conditions)  Acidophilic Aerobic Anaerobic Aquatic Barophilic Cryophilic Facultative Halophilic Hydrophilic Lipophilic Marine Mesophilic Submerged Terrestrial Thermophilic Tropical  605 (According to sex)  Female Male  606 (According to organism)  Animal Cellular - <i>Extracellular</i> - <i>Intercellular</i> - <i>Intracellular</i> Chromosomal Extracorporeal Human Microbial - <i>Bacterial</i> Parasitic Vegetable Viral	609 (According to structural class)  Alicyclic Aliphatic Aromatic Heterocyclic  610 (According to composition)  Nitrogen containing Oxygen containing Phosphorus containing Starch containing Sulphur containing  611 (Physical characteristic)  Activity Affinity Analogous Bubble-free Closed Conductivity Density Digital Dry Dynamics Elasticity Energy Fluorescence Gaseous Hard Heavy Humid Interface Kinetics Liquid Luminescence - <i>Bioluminescence</i> - <i>Chemoluminescence</i> Magnetic Nuclear Optical Particle Porosity Pressure Pressureless Radioactive Radiation - <i>Light</i> IR Laser UV Redox potential Safety Solid Stable Statics Structure - <i>Fine structure</i> Surface Temperature - <i>Cold</i> - <i>Heat</i> Waste heat Thermal Tolerance Vacuum
307 Useful organism  Useful plant Host Stock	5 DISEASES, SYMPTOMS  501 Disease  Allergy Cancer - <i>Leukemia</i> Cardiovascular disease - <i>Calcification</i> - <i>Heart infarction</i> Infection - <i>AIDS</i> - <i>Flu</i> - <i>Hepatitis</i> - <i>Herpes</i> - <i>Malaria</i> - <i>Tuberculosis</i> - <i>Yellow fever</i> Metabolic disease - <i>Diabetes</i> - <i>Multiple sclerosis</i> - <i>Necrosis</i> - <i>Rheuma</i>		
308 Pest organism  Parasite Pathogen Pest	502 Symptom  Fever Tumour		
4 SERVICES  401 (According to institutions)  Data base host Documentation department Library Publishing company  Service (all following items of these facets can be searched centrally with this term)  402 (According to activities)  Company establishment Consulting Contract analysis Contract fermentation Contract production	6 CHARACTERISTICS, CONDITIONS  601 (Biological characteristic)  Acquired Aftergrowing Anabolism Coding Congenital Deficiency Dominant Endocrine Fertility Gramnegative Grampositive Heterogeneous Homogeneous Immune - <i>Autoimmune</i> Infertility Living Monoclonal Oncogenic Polyclonal Recessive Resistance Sequence	607 (According to product)  Acetogenic Chromogenic Methanogenic Sulphidogenic  608 (Chemical characteristic)  Acidic Alkaline Allosteric Chiral Concentration Covalent Derivative Electrochemical Hydrophilic Hydrophobic Inorganic Ion Long-chain Molecular - <i>High-molecular</i>	

- <i>High-vacuum</i> Viscosity Volume Weightless Wet	Tertiary	Presentation Procreation Proliferation Recombination Regeneration Regulation - <i>Expression</i> - <i>Suppression</i> Replication Reproduction Resorption Respiration Restriction Secretion Selection Stimulation Symbiosis Transcription Transfection Transformation Translation Translocation Uptake	706 (Technical processes)
612 (According to application)	7 PROCESSES, METHODS  701 (General processes)	Abatement Action - <i>Counteraction</i> - <i>Interaction</i> - <i>Side-action</i> Biocomputing Data processing Degradation Determination Distribution Dosage Engineering Exchange Experiment Growth Interaction Mechanism Method Modelling Modification Monitoring - <i>Quality control</i> Optimization Origin Pollution Process Production Reaction Recognition Repair Research Risk assessment Proof Simulation Substitution Supplementation Supply Technology Test Transport	Activation Aquaculture Automation Breeding Calibration Cloning Coating Control - <i>Composition control</i> Coupling Cultivation Decontamination - <i>Composting</i> - <i>Emission</i> - <i>Immision</i> - <i>Recycling</i> - <i>Removal</i> - <i>Sanitation</i> Downstream processing - <i>Centrifugation</i> - <i>Concentrating</i> - <i>Crystallization</i> - <i>Drying</i> - <i>Enrichment</i> - <i>Evacuate</i> - <i>Evaporation</i> - <i>Exhaust</i> - <i>Extraction</i> - <i>Filtration</i> - <i>Flocculation</i> - <i>Freeze</i> <u>Deepfreezing</u> <u>Freeze-drying</u> - <i>Grinding</i> - <i>Homogenization</i> - <i>Precipitation</i> - <i>Purification</i> <u>Ultrapurification</u> - <i>Release</i> - <i>Separation</i> - <i>Thawing</i> Fermentation - <i>Aeration</i> - <i>Gasing</i> - <i>Leaching</i> - <i>Mixing</i> - <i>Stirring</i>
613 (According to way of production)	Artificial Natural Semi-natural Synthetic	703 (Chemical processes)	Autolysis Catalysis Combustion Corrosion Dehalogenation Deionization Denaturation Derivation Electrolysis Halogenation Hydration Hydrogenation Hydrolysis Hydroxylation Ionization Oxidation Polymerization Pyrolysis Reduction Renaturation
614 (According to process)	Batch Continuous Cyclic Heterogeneous Homogeneous Manual Multi-phase Multi-stage One-stage Serumfree Two-phase Two-stage	704 (Medical processes)	Animal experiment Diagnosis Dialysis - <i>Electrodialysis</i> Disinfection Early recognition Implantation In situ In vitro In vivo Injection Insemination Prophylaxis Sterilization reproduction Therapy - <i>Chemotherapy</i> - <i>Immunotherapy</i> Transplantation
615 (According to specialism) (cf. also Scientific areas facets)	Biochemical Biological Biotechnological Chemical Clinical Ecological Gene technological Genetic Interdisciplinary Medical Pharmaceutical Physical Physiological	702 (Biological processes)	Aberration Adaptation Agglutination Amplification Assimilation Biosynthesis Biotransformation Chemotaxis Clearance Clotting Coding Degeneration Denitrification Development Differentiation Evolution Excretion Fermentation Fertilization Fibrinolysis Fusion Glycosilation Hybridization Induction Inhibition Insertion Malformation Metabolism Metabolization Methylation Morphogenesis Mutation Nitrification Nodulation Nutrition Ovulation Phosphorylation Photosynthesis Polymorphism
616 (According to way of action)	Antibacterial Benign Enzymatic Lethal - <i>Sublethal</i> Load Malignant Non-specific Pathogenic Preventive Selective Specific Stereospecific Temperent Toxic - <i>Lytic</i> Virulent	705 (Physical processes)	Absorption Adhesion Adsorption Condensation Desorption Diffraction Diffusion Dispersion Distillation Fixation Flow Folding Osmosis Phase separation Refraction Reverse osmosis Rotation Torsion
617 (Prefixes / Suffixes)	Alpha Beta Gamma Lambda Primary Quaternary Secondary	707 (Measuring methods, Analytical methods)	Analysis - <i>Blotting</i> - <i>Electrofocusing</i> - <i>Electrophoresis</i> <u>TLE</u> - <i>Image analysis</i> - <i>Isotachophoresis</i>

- *Microscopy*
- *Structural analysis*
- Measurement
- *Biometry*
- *Calorimetry*
- *Chromatography*
- GC
- LC
- *FPLC*
- *HPLC*
- *MPLC*
- *TLC*
- *Colorimetry*
- Folliculometry
- Microtomy
- Photometry
- Polarimetry
- Spectrometry
- *AAS*
- *ER*
- *MS*
- *NMR*
- Tomography
  
- 708 (Protection measures)
- Environmental protection
- Plant protection
- Radiation protection
- Species protection
  
- 8 SUBSTANCES
  
- 801 Mixture
- Aerosol
- Air
- *Exhaust*
- Coal
- *Lignite*
- *Pit coal*
- Compost
- Crude oil
- Dust
- Emulsion
- Foam
- Fuel
- Gas
- *Biogas*
- *Waste gas*
- Flue gas
- Refuse dump gas
- Sewer gas
- Mash
- Molasses
- Resin
- Slops
- Sludge
- *Activated sludge*
- *Aerated sludge*
- Soil
- Steel
- Suspension
- Syrup
- Waste
- *Classified waste*
- Water
- *Fresh water*
- Drinking water
- Ground water
- Rain water
- Surface water
- *Ice*
- *Salt water*
- *Vapour*
- *Waste water*
- Industrial water
- Cooling water
- Process water
  
- 802 Molecule
  
- 803 Isotope
  
- 804 Inorganic substance
- Element
- *Arsenic*
- *Bromine*
- *Carbon*
- *Chlorine*
- *Fluorine*
- *Hydrogen*
- *Metal*
- Heavy metal
- *Chromium*
- *Copper*
- *Gold*
- *Iron*
- *Manganese*
- *Mercury*
- *Molybdenum*
- *Nickel*
- *Selenium*
- *Silver*
- *Tin*
- *Tungsten*
- *Uranium*
- *Vanadium*
- *Zinc*
- Light metal
- *Aluminium*
- *Calcium*
- *Cesium*
- *Magnesium*
- *Titanium*
- *Nitrogen*
- *Oxygen*
- *Phosphorus*
- *Potassium*
- *Silicon*
- *Sulphur*
- *Trace element*
  
- Inorganic compound
- *Ammonia*
- *Dioxide*
- *Hydroxide*
- *Monoxide*
- *Peroxide*
- *Salt*
- Ammonium
- Nitrate
- Nitrite
- Phosphate
- Sulphate
- Sulphite
  
- 805 Organic substance
- Alcohol
- *Alcohol*
- Benzyl alcohol
- Butanol
- Ethanol
- Methanol
- Terpene alcohol
- *Alcohol derivative*
- Ether
- Lipid
- *Ganglioside*
- *Glycolipid*
- *Lecithin*
- *Phospholipid*
- Tensid
  
- Alkaloid
- *Caffeine*
- *Ergotalkaloid*
- Betain
- Ergocornine
- Ergocristine
- Ergocryptine
- Ergotamine
- Ergoethrine
- Lysergic acid
- *Nicotine*
- *Quinine*
  
- Amine
- *Aminoalcohol*
- *Nitrosamine*
  
- Amino acid
- *Alanine*
- DOPA
- Phenylalanine
- *Arginine*
- *Aspartic acid*
- *Citrulline*
- *Cysteine*
- *Glutamine*
- *Glutamic acid*
- *Glutathione*
- *Histidine*
- *Homoserine*
- *Isoleucine*
- *Leucine*
- *Lysine*
- *Methionine*
- *Ornithine*
- *Proline*
- *Serine*
- *Threonine*
- *Tryptophan*
- *Tyrosine*
- *Valine*
  
- Carboxylic acid
- *Carboxylic acid*
- Acetic acid
- Adipic acid
- Benzoic acid
- Butyric acid
- Carbonic acid
- Citric acid
- Fatty acid
- *Stearic acid*
- Fumaric acid
- Galacturonic acid
- Gluconic acid
- Humic acid
- Itaconic acid
- Ketoglutaric acid
- Lactic acid
- Malic acid
- Malonic acid
- Nicotinic acid
- Pyruvic acid
- Salicylic acid
- Tartaric acid
- Urocanic acid
- *Carboxylic acid derivative*
- (see also Alcohol derivative)
- Ester
- Fat
- *Stearin*
- Lactone
- Oil
- PHB
- Uretic substance
  
- Hydrocarbon
- *Benzene*
- *Cresol*
- *Hexane*
- *Methane*
- *Phenol*
  
- Keto compound
- *Aldehyde*
- Formaldehyde
- *Ketone*
- Acetone
- Flavone
- Isoflavone
  
- Nucleobase
- *Nucleobase*
- Purine
- Pyrimidine
- *Nucleobase derivative*
- ATP
- Nucleic acid
- *DNA*
- cDNA
- rDNA
- *RNA*
- mRNA
- rRNA
  
- RNA
- Nucleoside
- *Oligonucleoside*
- *Polynucleoside*
- Nucleotide
- *Oligonucleotide*
- *Polynucleotide*
  
- Polyalcohol
- *Glycerol*
- *Glycol*
- PEG
- *Monosaccharide*
- Fructose
- Glucose
- Lactose
- Pentose
- Pyranose
- Sorbitol
- Xylose
- *Oligosaccharide*
- Maltose
- Saccharose
- *Polysaccharide*
- Agarose
- Alginate
- Cellulose
- *Lignocellulose*
- Chitin
- Dextran
- *Cyclodextran*
- Dextrin
- *Cyclodextrin*
- Gelatine
- Glucagon
- Lignin
- Pectin
- Scleroglucan
- Starch
- Xanthan
- Xylan
  
- Pyrrrole
- *Tetrapyrrole*
  
- Terpene
- *Steroid*
- Corticosteroid
- *Cortisone*
- *Hydrocortisone*
- Estrogen
- Progesterone
- Sterol
- *Cholesterol*
- Testosterone
- *Terpenoid*
- Carotene
  
- 806 Protein
- Albumin
- Collagen
- Fibrin
- Globulin
- *Immunoglobulin*
- Lectin
- Peptide
- *Dipeptide*
- *Polypeptide*
- *Tetrapeptide*
- *Tripeptide*
  
- 807 Proteid
- Chromoproteid
- *Chlorophyll*
- *Cytochrome*
- *Hemoglobin*
- *Rhodopsin*
- Glycoproteid
- Lipoproteid
- Metalloproteid
- Nucleoproteid
- Phosphoproteid

## 808 Enzyme

Hydrolase  
 - *Acyase*  
 - *Amidase*  
 - *Amylase*  
 Glucoamylase  
 - *Anticyanase*  
 - *Asparaginase*  
 - *Cellulase*  
 Hemicellulase  
 - *Chitinase*  
 - *Collagenase*  
 - *Dehalogenase*  
 - *Dextranase*  
 - *Esterase*  
 - *Galactosidase*  
 - *Glucanase*  
 - *Glucosidase*  
 Amyloglucosidase  
 Endoglucosidase  
 - *Glutininase*  
 - *Helicase*  
 - *Hydratase*  
 - *Lactamase*  
 - *Lactase*  
 - *Lactozyme*  
 - *Ligninase*  
 - *Lipase*  
 Esteraselipase  
 - *Lysozyme*  
 - *Mannanase*  
 - *Nuclease*  
 Endonuclease  
 Exonuclease  
 Ribonuclease  
 - *Pancreatin*  
 - *Pectinase*  
 Amylopectinase  
 - *Pentosanase*  
 - *Phosphatase*  
 - *Protease*  
 Papain  
 Pepsin  
 - *Pullulanase*  
 - *Renninase*  
 Trypsin  
 - *Chymotrypsin*  
 - *Urease*  
 - *Urokinase*  
 Isomerase  
 - *Glucose isomerase*  
 - *Invertase*  
 Ligase  
 - *Synthetase*  
 Lyase  
 - *Adenylate cyclase*  
 - *Carboxylase*  
 - *Citrate lyase*  
 - *Heparin*  
 Oxidoreductase  
 - *Glucose dehydrogenase*  
 - *Hydrogenase*  
 - *Hydroxylase*  
 - *Nitrogenase*  
 - *Oxidase*  
 Glucose oxidase  
 - *Oxygenase*  
 Lipoxygenase  
 Myoglobin  
 - *Peroxidase*  
 Catalase  
 Haloperoxidase  
 - *Reductase*  
 - *Uricase*  
 Transferase  
 - *Kinase*  
 Glucokinase  
 Hexokinase  
 Ribulokinase  
 - *Phosphorylase*  
 - *Polymerase*  
 - *Transaminase*  
 - *Transglycolase*

## 809 Exoenzyme

## 810 Isoenzyme

## 811 Biomass

Bioindicator  
 Food yeast  
 Mixed culture  
 Pure culture  
 SCP  
 Seed  
 Starter culture  
 - *Baking yeast*  
 - *Brewer's yeast*  
 - *Winelees*

## 812 Bioactive agent

Additive  
 Adhesive  
 Anabolic  
 Antibiotic  
 - *Adriamycin*  
 - *Ampicillin*  
 - *Bacitracin*  
 - *Cephalosporin*  
 - *Cyclosporine*  
 - *Daunorubicin*  
 - *Erythromycin*  
 - *Gentamycin*  
 - *Kanamycin*  
 - *Lasalocid*  
 - *Penicillin*  
 - *Rifamycin*  
 - *Streptomycin*  
 - *Tetracycline*  
 - *Validamycin*  
 Antimycotic  
 Antioxidant  
 Attractant  
 - *Pheromone*  
 Blood factor  
 - *Antithrombin*  
 - *Factor VIII*  
 - *TPA*  
 By-product  
 Carrier material  
 Cofactor  
 Colour  
 Copolymer  
 Cosmetic  
 Cytostatic  
 Detergent  
 Diagnostic agent  
 Disinfective agent  
 Drug  
 Extract  
 Fertilizer  
 Fine chemical  
 Flavour  
 - *Aromatic substance*  
 Feed  
 - *Substrate*  
 Herbicide  
 Hormone  
 - *Auxin*  
 - *Ecdysone*  
 - *Gibberellin*  
 - *Glucagon*  
 - *Gonadotropin*  
 - *Insulin*  
 - *Phthalocyanin*  
 - *Phytoalexin*  
 - *Prostaglandin*  
 Immune system agent  
 - *Antibody*  
 - *Antigen*  
 - *Antiserum*  
 - *BRM*  
 - *Lymphokine*  
 GMCSF  
 Interferon  
Interleukine  
 - *TNF*  
 Inhibitor  
 Intermediate  
 Natural substance  
 Noxious substance  
 Nutrient  
 - *Substrate*  
 Opiate

Pesticide  
 - *Fungicide*  
 - *Insecticide*  
 Pigment  
 Pyrogen  
 Raw material  
 Smelling substance  
 - *Perfume*  
 Toxin  
 - *Endotoxin*  
 - *Killer toxin*  
 - *Mycotoxin*  
 Transmitter  
 - *Neurotransmitter*  
 Vaccine  
 Vitamin  
 - *Ascorbic acid*  
 - *Cobalamin*  
 - *Folic acid*  
 - *Menaquinone*  
 - *Riboflavin*  
 Xenobiotic

## 813 Food

Cheese  
 Cocoa  
 Cocoa butter  
 Drink  
 - *Beer*  
 - *Fruit juice*  
 - *Wine*  
 Meat  
 Milk  
 - *Cream*  
 - *Whey*  
 Sweetener  
 Vinegar  
 Yoghurt

## 814 Kit

Assay  
 - *Immunoassay*  
 EIA  
 ELISA  
 FIA  
 RIA  
 Linker  
 Marker  
 Primer  
 Probes

## 9 DEVICES, ACCESSORIES

## 901 Installation

## 902 Apparatus

Air-lift  
 Biofilter  
 Bioreactor  
 - *Chemostat*  
 Biosensor  
 Biowasher  
 Cell sorter  
 Computer  
 - *Hardware*  
 Microprocessor  
 - *Software*  
 Detector  
 Electrode  
 Exhaustion hood  
 Fitting  
 - *Gasket*  
 - *Valve*  
 Membrane apparatus  
 Microscope  
 - *Electron microscope*  
 Oven  
 Probe  
 Pump  
 Reservoir  
 - *Cupboard*  
 Scales  
 Semiconductor  
 Sensor

## 903 Laboratory

## 904 Scale

Laboratory scale  
 Pilot scale  
 Production scale

## 905 Accessories

Chemicals  
 - *Adsorption means*  
 - *Carrier material*  
 - *Leading substance*  
 - *Precursor*  
 - *Reference substance*  
 - *Solvent*  
 Gel  
 Glass  
 Medium  
 - *Peptone*  
 Microcarrier  
 Natural fibre  
 Object slide  
 Packing  
 Plastic  
 - *Fibre glass*  
 - *Silicone*  
 - *Synthetic fibre*  
 Reagent

## 3. Full listing (examples)

This chapter aims at visualizing how the directory is built up and the records are physically stored in the database. The examples have been randomly chosen. For explanation of the field labels, see Chapter 1, section 1.4

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RTYPE: P
ND : BE014350
TI : Production of peptides and peptide-protein
      hybrids by genetic engineering
OT : Production de peptides et d'hybrides
      peptide-proteine par genie genetique
AB : The project aims finally at solving the
      problems of the structure-function relations
      in peptides and peptides associated with
      proteins. This particular subproject
      concerns the setting up of methods using
      recombinant microorganisms as hosts for
      synthetic peptide genes or for fused
      peptide-protein genes in order to synthesize
      large quantities of a panoply of variant
      peptides or hybrid peptide-proteins amenable
      to structural analysis and functional
      characterization
OA : L'objectif final du project est la
      comprehension des relations
      structure-fonction au sein des peptides
      seuls et lorsqu'il sont associes a des
      proteines.
      Ce sous-projet particulier vise a elaborer
      une methode utilisant des microorganismes
      recombinés comme hote pour l'expression de
      genes synthetiques de peptides ou de genes
      de fusion peptide-proteine aux fins de
      produire en masse une panoplie de peptides
      ou d'hybrides peptide-proteine se pretant a
      l'analyse structure fonction
RL : Vandenhoute, J.
IC : BE.U.NDN.GenMo
SD : 198801
CD : 199207
EDBI : 19890816
PS : N
EF : 19881220
IR : Namur, Facultes Universitaires Notre-Dame de
      la Paix, Faculte des Sciences, Laboratoire
      de Genetique Moleculaire, Unite de Genetique
CT : Gene technology; Protein; Recombination;
      Gene; Fusion; Mutation; Hybridization
LA : FRE
MD : 19890816

RTYPE: I
IN : BE.U.NDN.GenMo
RO : Facultes Universitaires Notre-Dame de la
      Paix
RU : Faculte des Sciences, Laboratoire de
      Genetique Moleculaire, Unite de Genetique
AD : Rue de Bruxelles 61
CP : B
PC : 5000
PL : Namur
TL : + 32 81 229061
CY : Belgium

TI : Genetic engineering, major project, Cologne
      - Molecular genetic engineering and cell
      technology
OT : Gentechnologisches Schwerpunktprojekt Koeln
      - Molekulare Gen- und Zelltechnologie
AB : Mechanism of recombination in mammalian
      cells. Development of alternative gene
      transfer systems.
      Molecular basis of potato resistance to
      Phytophthora infestans. Isolation of defined
      fragments of chromatin.
      DNA structure and function: examination of
      defined desoxyribonucleic acid. Recognition
      processes in the interaction between barley
      and Rhynchosporium secalis.
      In vitro culture and genetic manipulation
      with barley.
      Production of biologically active genetic
      products through chemical DNA synthesis.
      Fluorescently activated cell sorting and the
      analysis of transcription and recombination
      of Ig genes in activated B lymphocytes.
      Molecular biological examination of early B
      cell differentiation. In vitro construction
      and transfer of a plant minichromosome.
      Presentation of cytogenetic maps of the
      Solanum tuberosum chromosome aided by RFLP
      labels and their employment in productive
      and resistant cultivation of diploid
      potatoes. Identification of trans-effective
      factors which are involved in the
      quantitative and qualitative regulation of
      tissue specific genes in potatoes. Cloning
      and expression of nod-genes (nodule
      formation) from Rhizobium meliloti:
      Examination of the function of gene
      products. Mutation cultivation in plants.
      Model system of human muscle cells. Genetic
      engineering methods for elucidation of the
      function of the protein structure of myelin
      proteins and serum apolipoproteins as well
      as genetic engineering methods for therapy
      in genetically caused metabolic
      disturbances.
OA : Mechanismus der Rekombination in
      Saeugerzellen.
      Entwicklung von alternativen
      Genuebertragungssystemen.
      Molekulare Grundlagen der Resistenz von
      Kartoffeln gegen Phytophthora infestans.
      Isolation of defined fragments of chromatin.
      DNA-Struktur und Funktion: Untersuchungen an
      definierten Desoxyribonukleinsaeuren.
      Erkennungsprozesse in der Interaktion
      zwischen Gerste und Rhynchosporium secalis.
      In-vitro Kultur und genetische Manipulation
      bei Getreide. Produktion biologisch aktiver
      Genprodukte durch chemische DNS-Synthese.
      Fluoreszent-aktivierte Zellsortierung und
      die Analyse von Transkription und
      Rekombination der Ig-Gene in aktivierten
      B-Lymphozyten. Molekularbiologische
      Untersuchung der fruehen
      B-Zelldifferenzierung. In-vitro Aufbau und
      Uebertragung eines pflanzlichen
      Minichromosomes. Erstellung cytogenetischer
      Karten der Solanum tuberosum Chromosomen mit
      Hilfe von RFLP-Markern und deren Verwendung
      zur Ertrags- und Resistenzzuechtung

```

## 3. Full listing (examples)

diploider Kartoffeln. Identifizierung von trans-wirksamen Faktoren, die in der quantitativen und qualitativen Regulierung von gewebespezifischen Genen in Kartoffel involviert sind. Klonierung und Expression von nod-Genen (Knoellchenbildung) aus Rhizobium meliloti: Untersuchung zur Funktion der Genprodukte. Mutationserzeugung bei Pflanzen. Modellsystem menschliche Muskelzelle.

Gentechnologische Methoden zur Aufklaerung der Funktion von Proteinstrukturen von Myelinproteinen und Serum Apolipoproteinen sowie gentechnologische Methoden zur Therapie von genetisch bedingten Stoffwechselstoerungen.

RL : Schell  
 IC : DE.N.Kln.MPI1  
 CO : Institut fuer Gentechnik, Universitaet Koeln; Bayer AG  
 SD : 198711  
 CD : 199012  
 EDBI : 19890914  
 PS : N  
 EF : 19880901  
 IR : Koeln, Max-Planck-Institut fuer Zuechtungsforschung, (Erwin-Baur-Institut), Abteilung Genetische Grundlagen der Pflanzenzuechtung, Genzentrum Koeln  
 PR : Programm Angewandte Biologie und Biotechnologie / Jahresbericht 1987. - Karlsruhe: FIZ Energie Physik Mathematik, 1988  
 FI : Bundesminister fuer Forschung und Technologie (BMFT): Projekttraeger Biologie, Energie, Oekologie, Kernforschungsanlage Juelich  
 CT : Biochemistry; Molecular biology; Gene technology; Recombination; Cell; Animal; Transfer; Gene; Isolation; Chromatin; Action; Structure; DNA; Chemical; Lymphocyte; Breeding; Plant; Resistance; Cloning; Expression; Therapy ; Metabolism  
 LA : GER  
 MD : 19890914

RTYPE: I  
 IN : DE.N.Kln.MPI1  
 RO : Max-Planck-Institut fuer Zuechtungsforschung, (Erwin- Baur-Institut)  
 RU : Abteilung Genetische Grundlagen der Pflanzenzuechtung, Genzentrum Koeln  
 AD : Egelspfad  
 CP : D  
 FC : 5000  
 PL : Koeln  
 TL : +49 221 5062-350  
 TX : 8 881 028 mpiz d  
 CY : Federal Republic of Germany

RTYPE: P  
 ND : DK880159  
 TI : Human protein database for the study of cancer and other diseases  
 AB : Proteins which are accurately constructed from coded information contained in DNA, orchestrate most of the cell functions. The number of different proteins in the human body is large and is estimated to range from 20,000 to 30,000. There are hundreds of cell types in the body, each with differing protein compositions. With perhaps 2000 kinds of proteins contained in each cell, proteins have been identified and characterized in any reasonable detail, and very little is known as to the actual protein composition of any given cell type. Many human diseases, as well as degenerative aspects of ageing, entail changes in the amount, function and distribution of proteins. It is thus of paramount importance to develop the technology needed to separate, quantitate and compare proteins, and to identify those which are casually related to disease. The aim of this project is to establish a comprehensive database for information on human proteins relevant to the study of cancer and of other disease states. Computerized two-dimensional gel electrophoresis will be utilized. This database, together with efforts in other areas of biotechnology such as genetic engineering and hybridoma technology, will make possible the development of specific clinical tests for individual proteins. Besides having clinical implications, the development of data bases is a major area of interest in the human genome sequencing effort

OA : Proteiner, syntetiseret paa basis af den kodede information i DNA, er af altafgoerende betydning for cellens funktioner. Antallet af Forskellige proteiner i det menneskelige legeme er meget stort, idet man antager, at der findes mellem 20.000 og 30.000. Der er flere hundrede celletyper i legemet, og proteinsammensatningen er staerkt varierende, idet man regner med, at der forekommer ca. 20.000 slags proteiner i hver celltype. Paa nuvaerende tidspunkt har man kun identificeret og karakteriseret et lille antal af disse, og meget lidt vides om den aktuelle proteinsammensætning af de fleste celltyper. Mange sygdomme saavel som degenerative aldersforandringer medfoerer aendringer i maengde, funktionen og fordeling af proteiner. Det er derfor af stoerste betydning at videreudvikle teknologi til adskillelse, kvantitering og sammenligning af proteiner, og at identificere de, der har naer relation til sygdom. Formaalet med projektet er at oprette en database for humane proteiner med henblik paa studiet af cancer og andre sygdomstilstande. Denne database vil sammen med andre fremskridt inden for bioteknologiomaadet som genetik engineering og hybridoma teknologi muliggoere udviklingen af specifikke kliniske teste for et hvilket som helst protein, man er interesset i. Foruden den kliniske betydning er udviklingen af databaser af stor betydning i bestraebelserne paa at sekventere det humane genom

RL : Cellis, J.E. (professor); Kwee, S. (lektor); Madsen, P. (seniorstipendiat); Gesser, B. (cand.scient. stipendiat); Rasmussen, H.H. (cand.scient. stipendiat); Mueller, O. (stipendiat); Crueger, D. (stud.med. stipendiat); Nielsen, H.V. (stud.med. stipendiat)  
 IC : DK.U.AhU.MBk  
 SD : 198709  
 CD : 199012  
 EDBI : 19890927  
 PS : N  
 IR : Aarhus C, Aarhus Universitet, Institut for Medicinsk Biokemi  
 FI : Undervisningsministeriet  
 MO : DKK.23298  
 CT : Data base; Protein; Human; Disease; Research; Biochemistry; Informatics  
 LA : DAN  
 MD : 19891010

RTYPE: I  
 IN : DK.U.AhU.MBk  
 RO : Aarhus Universitet  
 RU : Institut for Medicinsk Biokemi  
 AD : Bygning 170, Universitetsparken  
 CP : DK  
 PP : 8000 Aarhus C  
 PC : 8000  
 PL : Aarhus C  
 TL : +45 6129399  
 FX : +45 6131160  
 CY : Danmark

RTYPE: P  
 RN : BIO88-0453  
 ND : ES880453

TI : Inorganic nitrogen metabolism and alginate production by Azotobacteraceae  
 OT : Metabolismo del nitrogeno inorganico y produccion de alginato por Bacteraceas  
 AB : The aim of this project is to study, at the molecular level, the regulatory mechanisms of atmospheric and nitric nitrogen assimilation in N<sub>2</sub>-fixing aerobic bacteria of the Azotobacteraceae family, the relationship between carbon and nitrogen assimilation and its effect on the biosynthesis of an industrially useful exopolysaccharide, alginate, by these microorganisms. Using batch and continuous cultures of species of Azotobacter and Beijerinckia genera, the effect of several environmental conditions on exopolysaccharide production and on the activity levels of the enzymes involved in its biosynthesis will be examined. Attention will be paid to the structural and molecular analysis of the obtained biopolymer as well as the measurements of its rheological properties. This project may elucidate the commercial feasibility of producing alginate by fermentation.

OA : El objetivo de este proyecto es el estudio, a nivel molecular, de los mecanismos de regulacion de la asimilacion del nitrogeno atmosferico y nitrico en bacterias aerobias fijadoras de nitrogeno de la familia de las Azotobacteraceas, la interrelacion entre la asimilacion del carbono y nitrogeno y su efecto en la biosintesis de un exopolisacarido de interes industrial alginato, por estos microorganismos, utilizando cultivos estatico y continuo de especies de los generos Azotobacter y Beijerinckia, se examinara el efecto de diversas condiciones ambientales sobre la produccion del exopolisacarido y sobre los niveles de actividad de los enzimas implicados en la biosintesis del mismo. Seran objeto de atencion el analisis estructural y molecular del biopolimero obtenido y la determinacion de sus propiedades rheologicas. Este proyecto puede dilucidar la factibilidad comercial de producir alginato por fermentacion.

RL : Paneque Guerrero, Antonio  
 RP : Losada Villasante, Manuel  
 RR : Cejudo Fernandez, Francisco Javier; Ruiz Perez, Maria Teresa; Garcia de la Vega, Maria Mercedes  
 IC : ES.N.Sev.CSIC-Bqvfv  
 CO : Universidad de Sevilla, Facultad de Biologia  
 SD : 198803  
 CD : 199111  
 EDBI : 19890510  
 PS : N  
 EF : 19890407  
 IR : Sevilla, Consejo Superior de Investigaciones Cientificas, Instituto de Bioquimica Vegetal y Fotosintesa Bioquimica, Facultad de Biologia  
 FI : Plan Nacional de Investigacion Cientifica y Desarrollo Tecnologico  
 CT : Azotobacteraceae; Nitrogen; Metabolism; Alginate; Production; Aerobic; Fermentation; Molecular biology; Microbiology  
 LA : SPA  
 MD : 19890711

RTYPE: I  
 IN : ES.N.Sev.CSIC-Bqvfv  
 RO : Consejo Superior de Investigaciones Cientificas  
 RU : Instituto de Bioquimica Vegetal y Fotosintesis Bioquimica Facultad de Biologia  
 AD : Av. R. Mercedes (Fac. Biologia) Ap. 1095  
 CP : E  
 PC : 41080  
 PL : Sevilla  
 TL : +34 54 617011  
 CY : Spain

RTYPE: P  
 ND : GB082653  
 TI : Regulation of gene expression during pea embryogenesis, with particular reference to the synthesis, structure and genetics of major seed proteins  
 RL : Casey, Dr.R.  
 RR : Dononey, Dr.C.A.M.; March, J.F.; Ealing, Dr.P.M.; North, Miss.H.; Leech, Dr.M.  
 IC : GB.N.Nwh.AFRC-BoAG  
 SD : 197600  
 CD : 199900  
 EDBI : 19891121  
 PS : N  
 IR : Norwich, AFRC Institute of Plant Science Research, Department of Applied Genetics  
 FI : NATO; Commission of the European Communities; Agrigenetics Advanced Research Co, USA; Agricultural Genetics Co Ltd  
 CT : Regulation; Gene; Expression; Germ cell; Protein; Molecular genetics; Useful plant; Agriculture  
 LA : ENG  
 MD : 19891121

RTYPE: I  
 IN : GB.N.Nwh.AFRC-BoAG  
 RO : AFRC Institute of Plant Science Research  
 RU : Department of Applied Genetics  
 AD : John Innes Institute, Colney Lane  
 CP : GB  
 PC : NR4 7UH  
 PL : Norwich  
 TL : + 44 603 52571  
 CY : United Kingdom

RTYPE: P  
 RN : ST-012-86  
 ND : IE000260  
 TI : Genetic engineering of the iron uptake system in fluorescent Pseudomonas involved in the biological control of phytopathogens  
 AB : Fluorescent Pseudomonas strains produce extracellular siderophores which efficiently complex iron and make it less available to other microorganisms, thus suppressing their development. Specifically focussing on the exploitation of these bacteria as potential biological control agents, it would seem logical to develop Pseudomonas strains that are able to synthesise siderophore and the related ferric ion uptake system constitutively and at high rates. This project aims to elucidate the control system of the iron uptake system. The organisation and regulation of the gene(s) involved in the synthesis of the outer membrane receptor proteins for the iron siderophore complex will be investigated using gene cloning and fusion technologies  
 RL : O'Gara, Dr.F.  
 IC : IE.U.UCC.DyFdMb  
 SD : 198600  
 CD : 999999  
 PU : articles planned  
 EDBI : 19880831  
 PS : N  
 EF : 19880614  
 IR : Cork, University College Cork, Department of Dairy and Food Microbiology  
 FI : EOLAS (Strategic Research Grant)  
 CT : Pseudomonas; Gene; Cloning; Iron; Uptake; Regulation; Microbiology; Genetic; Engineering  
 LA : ENG  
 MD : 19890126

RTYPE: I  
 IN : IE.U.UCC.DyFdMb  
 RO : University College Cork  
 RU : Department of Dairy and Food Microbiology  
 AD : Cork  
 CP : EIR  
 PC : Co. Cork  
 PL : Cork  
 TL : +353 21 276871  
 TX : 26050 UCC E1  
 FX : +353 21 275948

## 3. Full listing (examples)

CY : Ireland

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RTYPE: P  
 ND : IT000002  
 TI : Immunological analysis of ethanol metabolizing enzymes with monoclonal antibodies.  
 OT : Analisi immunologica con anticorpi monoclonali degli enzimi del metabolismo dell'etanolo.  
 AB : The aim of the project is to raise and characterize a panel of monoclonal antibodies to human alcohol (ADH) and aldehyde (ALDH) dehydrogenase isozymes with the view to identifying antibodies that recognize epitopes specific to a particular isozyme or common to other isoforms. The antibodies will be used to obtain information on the structural and evolutionary relationship of the two families of dehydrogenases and, in parallel as a tool in the analysis of the tissue-specific expression of ADH and ALDH in human tissues, cultured cell lines and human/rodent somatic cell hybrids.  
 OA : La ricerca prevede la preparazione e caratterizzazione di una batteria di anticorpi monoclonali contro isoenzimi dell'alcool (ADH) e dell'aldeide (ALDH) deidrogenasi umane, con lo scopo di identificare epitopi specifici per un particolare isoenzima e comuni ad altri isoenzimi. Gli anticorpi verranno utilizzati per studiare le relazione strutturali ed evolutive fra gli isoenzimi di queste famiglie di idrogenasi e, in parallelo, per lo studio dell'espressione dell'ADH e dell'ALDH in vari tessuti, linee cellulari ed ibridi somatici uomo/roditori.

RL : Adinolfi, Anna  
 IC : IT.N.Nap.CNR-IIGB  
 SD : 000000  
 EDBI : 19900201  
 PS : N  
 EF : 19891101  
 IR : Napoli, Consiglio Nazionale delle Ricerche, Istituto Internazionale di Genetica e Biofisica  
 CT : Immunology; Biochemistry; Monoclonal ; Antibody; Oxidoreductase; Isoenzyme  
 LA : ITA  
 MD : 19900201

---

RTYPE: I  
 IN : IT.N.Nap. CNR-IIGB  
 RO : Consiglio Nazionale delle Ricerche  
 RU : Istituto Internazionale di Genetica e Biofisica  
 AD : Via Guglielmo Marconi, 10  
 CP : I  
 PC : 80125  
 PL : Napoli  
 TL : +39 81 7257  
 FX : +39 81 636123  
 CY : Italy

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RTYPE: P  
 RN : CRP-SAN-88-003  
 ND : LU000001  
 TI : Study of cellular drug resistance  
 OT : Etude des resistances cellulaires aux drogues  
 AB : Study of drug resistance mechanisms at different cellular levels: (i) RFLP study of mdrl gene, (ii) study of the metabolic pathways involved in drug resistance on a model system (yeast *S. cerevisiae*), (iii) study of the protein P-170. The study of inhibiting substances is also the aim of the project  
 OA : Etude des mecanismes de la resistance aux medicaments differents a niveaux cellulaires: (i) etude RFLP du gene mdrl, (ii) sur un modele (levure *S. cerevisiae*), du corticage des voies metaboliques intervantant dans la resistance aux drogues, (iii) etude de la proteine P-170. L'intervention de produit sur cette resistance est aussi etudie

RL : Michels, Dr.J.-M.  
 RR : Pauly, Dr.M.  
 IC : LU.N.Leu.RCMS  
 CO : Karolinska Hospital, Stockholm, Sweden; Centre du Medicament, Nancy, France; Institut de Biologie Moleculaire, Universite Libre de Bruxelles, Rhode-St-Genese, Belgium  
 SD : 198910  
 CD : 199210  
 PU : article(s) planned; report(s) planned; internal report(s) planned  
 EDBI : 19890927  
 PS : N  
 EF : 19890911  
 IR : Leudelange, Societe pour la Recherche sur le Cancer et les Maladies du Sang asbl  
 PR : Drug resistance  
 FI : Centre de Recherche Public (CRP)  
 MO : 14.000.000 FLux  
 CT : Drug; Resistance; Restriction; Polymorphism; Gene; Metabolism; Yeast; Protein; Inhibition; Cell biology; Biochemistry; Pharmacology  
 LA : FRE  
 MD : 19890927

---

RTYPE: I  
 IN : LU.N.Leu.RCMS  
 RO : Societe pour la Recherche sur le Cancer et les Maladies du Sang asbl  
 AD : Z.I. Grasbusch  
 CP : L  
 PC : 3370  
 PL : Leudelange  
 TL : +352 483198  
 CY : Grand Duchy of Luxemburg

---

RTYPE: P  
 RN : TUD-BT 3011  
 ND : NBL084471  
 TI : Scaling-up of and mixing in bioreactors  
 OT : Schaalvergroting van en menging in bioreactoren  
 AB : In scaling-up of bioreactors mixing processes play an important part. Aim is a closer study into mixing processes and into usable scaling-up rules. Essential in this is the possibility of analysis mixing also in production-scale reactors. An important aspect of this research is the development of such measuring methods in cooperation with a fermentation industry  
 OA : Bij heet schaalvergroten van bioreactoren spelen mengprocessen een belangrijke rol. Doel van dit onderzoek is nader onderzoek aan mengprocessen en naar bruikbare schaalvergrotingsregels. Essentieel daarbij is de mogelijkheid menging te kunnen analyseren ook in productie-schaal reactoren. Een belangrijk aspect van dit onderzoek is de ontwikkeling van dergelijke meetmethoden in samenwerking met een fermentatie-industrie

RL : Luyben, Prof.Ir.K.Ch.A.M.  
 IC : NL.U.TUD.Bp  
 SD : 198801  
 CD : 999999  
 PU : article(s) planned; thesis(es) planned  
 EDBI : 19880727  
 PS : N  
 EF : 19880727  
 IR : Delft, Technische Universiteit Delft, Faculteit der Scheikundige Technologie, Vakgroep Bioprocestechnologie  
 PR : Biotechnology directed at industrial processes  
 FI : Ministry or State University  
 CT : Scale-up; Mixing; Bioreactor; Production scale; Fermentation technology; Industry; Measurement; Bioprocess engineering  
 LA : DUT  
 MD : 19890321

---

RTYPE: I  
 IN : NL.U.TUD.Bp  
 RO : Technische Universiteit Delft  
 RU : Faculteit der Scheikundige Technologie, Vakgroep Bioprocestechnologie  
 AD : Julianalaan 136



PB : P.O. Box 5045  
 CP : NL  
 PP : 2600 GA Delft  
 PC : 2628 BL  
 PL : Delft  
 TL : +31 15 783659, 784400  
 CY : Netherlands

AD : R. da Quinta Grande  
 CP : P  
 PC : 2781  
 PL : Oeiras  
 TL : 351 1 4431436  
 TX : 12345 GULBEN P  
 CY : Portugal

RTYPE: P  
 RN : NATO 090087  
 ND : PT000060  
 TI : Analysis of the control of "spoVE" expression  
 OT : Analise do controlo da expressao do operao "spoVE"  
 AB : Spore formation by "Bacillus subtilis" is a type of primitive cellular differentiation in which expression of a large number of genes is activated in a highly ordered temporal progression. A principal outstanding challenge is to understand how temporal control is exercised. We propose to investigate temporal control by analysing expression of the "spoVE" locus. Three overlapping lines of research will be pursued to analyse the control of "spoVE" expression. The first exploits manipulation of gene copy number in order to analyse how known genetic loci control "spoVE" expression. The second examines how carefully the time and level of "spoVE" expression must be controlled in order to obtain spores. The third proposes to identify and characterize genetic loci that determine the timing of "spoVE" expression by isolating mutations in them. These approaches are outlined in more detail below. Taken together, they should unravel "spoVE" control, identify the determinants of its temporal control, and relate "spoVE" expression to other sporulation events  
 OA : A formacao de esporos por "Bacillus subtilis" e um processo de diferenciacao celular no qual a expressao de um grande numero de genes e activada de uma forma altamente ordenada no tempo. Uma questao fundamental e a de entender como e exercido o controlo temporal o que se propoe fazer analisando a expressao do opearo "spoVE". Tres linhas de investigacao principais serao conduzidas simultaneamente: 1) manipulacao do numero de copias do "spoVE" por forma a analisar de que modo os outros loci geneticos conhecidos afectam a sua expressao; 2) analise do rogor com que o tempo e o nivel de expressao do gene devem ser controlados por forma a obterem-se esporos; 3) identificacao e caracterizacao de loci geneticos que determinam o tempo de expressao do "spoVE". Em conjunto estas tres linhas deverao permitir identificar os mecanismos de controlo que operam bo "spoVE", os determinantes do seu controlo temporal e ainda relacionar a expressao do "spoVE" em outros acontecimentos da esporulacao  
 RL : Lencastre, Prof.H.C.  
 RP : Lencastre, Prof.H.C.; Piggot, Prof.P.J.  
 RR : Henriques, Dr.A.  
 IC : PT.N.OER.IGC  
 CO : Department of Microbiology and Immunology, Temple University; School of Medicine, Philadelphia, USA  
 SD : 198803  
 CD : 199203  
 PU : Articles Available; Reports Available  
 EDBI : 19890510  
 PS : N  
 EF : 19890303  
 IR : Oeiras, Instituto Gulbenkian de Ciencia  
 FI : Instituto Gulbenkian de Ciencia; Centro de Tecnologia Quimica e Biologica  
 CT : Gene; Expression; Bacillus; Molecular genetics; Microbiology  
 LA : POR  
 MD : 19890831  
 RTYPE: I  
 IN : PT.N.OER.IGC  
 RO : Instituto Gulbenkian de Ciencia

RTYPE: P  
 RN : BAP\*004100  
 ND : EU000206  
 TI : Folding, assembly, stability and genetic modification of penicillin acylase and its precursor.  
 AB : Even though this search is far from being considered as appropriate model for protein design (no structural study is carried out) it tackles an important step in protein secretion and folding, namely the splitting of precursor protein into active subunits A and B. This processing which is carried out by proteases during release of the subunit into the periplasmic space is not fully understood today. It is important to elucidate this process in order to improve the secretion acylase and hopefully of other industrial enzymes produced by genetic engineering. Mechanism of folding of penicillin acylase and production of 7-amino-cephalosporic acid by enzymes produced by genetic engineering. In particular: 1. the gene(s) of interest will be cloned in different hosts in order to produce large quantities for the folding studies. 2. the mature and precursor penicillin acylase will be isolated and purified. 3. site directed mutagenesis will be carried out at DNA level. 4. the altered gene(s) will be cloned and sequenced. 5. the altered gene(s) will be expressed and the gene product will be analyzed.  
 RL : Schumacher, Dr.G.  
 IC : EU.I.Ger.Boehr  
 CO : Dr. R.H. Pain (The University of Newcastle-upon-Tyne, Newcastle-upon-Tyne, United Kingdom (BAP\*004200); Dr. A. Boeck (Ludwig-Maximilians-Universitaet Muenchen, Muenchen, BR Deutschland (BAP\*004000)  
 SD : 198710  
 CD : 199003  
 BI : See Biotechnology Action Programme, Progress Report 1988 (Vol. 1-4).  
 EDBI : 19891116  
 PS : N  
 EF : 19890529  
 IR : Penzberg, Boehringer Mannheim GmbH, Research Centre Penzberg  
 PR : Biotechnology (85-89)  
 CT : Penicillin; Acylase; Genetic; Engineering; Folding; Stable; Enzymology; Biochemistry; Gene; Cloning; Sequencing; Expression; Molecular genetics  
 LA : ENG  
 MD : 19891129  
 RTYPE: I  
 IN : EU.I.Ger.Boehr  
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 RU : Research Centre Penzberg  
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 CY : Bundesrepublik Deutschland



## BELGIUM

**National focal point: Diensten van de Eerste Minister, Programmatie van het Wetenschapsbeleid / Services du Premier Ministre, Programmation de la Politique Scientifique**

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Contact persons: Ms. Dr. M. Desmeth, Dr. J. de Brabandere

- **Voeding en Drink Nico Denrees - Alimentaires et Boissons Nico Denrees**  
Centre Technique et Scientifique de la Brasserie, de la Malterie et des Industries Connexes - 'C.B.M.'  
Grote Markt 10  
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Brussel  
☎ +32 2 5114987

**Study of the fermentation as function of the need for lipids**  
Studie van de gisting in functie van de behoeften aan lipiden  
Huygens, R.  
Fermentation / Brewer's yeast / Lipid / Beer / Nutritional branch / Industry / Food technology

**Acceleration of fermentation and ripening of beer**  
Versnelling van gisting en rijping van bier  
Blockmans, C.  
Beer / Nutritional branch / Fermentation / Ketone compound / Food technology / Industry

- **Hoger Technisch Onderwijs - Enseignement Supérieur Technique**  
Katholieke Industriële Hogeschool  
Antwerpen  
Salesianenlaan 1A  
2710  
Hoboken  
☎ +32 3 8281640

**Microbial removal of ionic pollutants from waste water**  
Microbiële verwijdering van ionische polluenten uit afvalwater  
Gerard, P.  
Environmental biotechnology / Pollution / Ion / Waste water / Microbial / Heavy metal / Radioactive / Detergent / Toxic / Organic substance / Optimization

- **Pasteur Instituut Provincie Brabant - Institut Pasteur Province de Brabant**  
Engelandstraat 642  
1180  
Brussel  
☎ +32 2 3733111

**Development of monoclonal antibodies against HIV (AIDS virus). Isolation of HIV virus from blood samples of AIDS patients**  
Developpement d'anticorps monoclonaux dirigés contre le virus HIV (SIDA). Isolement du virus HIV à partir d'échantillons de malades atteints du SIDA et propagation en coculture  
Leclerc, J.  
Monoclonal / Antibody / AIDS / HIV / Immunology / Fusion / Cloning / Cell / Gene

**Plasmids found in multi-resistant Staphylococcus aureus strains isolated in Belgium**  
Plasmides de souches belges de Staphylococcus aureus multi-resistances aux antibiotiques  
Godard, C.  
Plasmid / Staphylococcus / Resistance / Bacteriophage / Antibiotic / Molecular genetics

**Study of the mechanism of action of interferon**  
Studie van het werkingsmechanisme van interferon  
Content, J.  
Interferon / Protein / Induction / Immunology / Cloning / Gene / Monoclonal / Antibody

**Production of human gamma interferon with purified mycobacterial antigens in tbc patients.**  
Produktie van menselijk gamma interferon met gezuiverde mycobacteriele antigenen in tbc-patienten.  
Huygen, C.  
Interferon / Mycobacterium / Antigen / Tuberculosis / Immunology

**The interferon system in patients with ARC and AIDS**  
Het interferon systeem in patienten met ARC en AIDS  
Huygen, C.  
Interferon / AIDS / Blood / Leukocyte / Immunology

- **Privé-centra en Instellingen - Centres et Etablissements Privés**  
Fonds tot Bevordering van het Wetenschappelijk Onderzoek in het Dr. L. Willems-Instituut, V.Z.W.  
Universitaire Campus  
3610  
Diepenbeek  
☎ +32 11 226721

**Development of monoclonal antibodies to be used in medical diagnostic kits**  
Ontwikkeling van monoclonale antilichamen die kunnen aangewend worden in de medische diagnostiek  
Heyligen, H.  
Monoclonal / Antibody / Diagnosis / Kit / Medicine

**Development of chimaeric monoclonal antibodies**  
Ontwikkeling van chimaere monoclonale antilichamen  
Bosmans, E.  
Monoclonal / Antibody / Mouse / Human / Interleukine / TNF / Receptor / Gene technology

- **Centre de Recherches Agronomiques de Gembloux**  
Station des Cultures Fruitières et Maraîchères  
Chaussée de Charleroi 234  
5800  
Gembloux  
☎ +32 81 612935

**Research of interesting clones of industrial plum, cv common quetsche.**  
Recherche de clones intéressants de la prune d'industrie, cv quetsche commune.  
Monin, A.  
Agricultural sciences / Cloning / Cultivation / In vitro / Useful plant / Plant

**Tissue culture to propagate and store with sanitary improvements different woody forest and fruit and vegetable species, of temperate and tropical countries**  
Culture de tissus en vue de propager, conserver, améliorer du point de vue sanitaire, diverses espèces maraîchères, fruitières et forestières, tempérées et tropicales  
Boxus, P.  
Agricultural sciences / Cultivation / Tissue / Vegetable / Soil / Regeneration / Gene / Useful plant / Plant / Tropical

**Breeding of new strawberry varieties, based on potential productivity, large and regular fruits, resistance to root diseases**  
Création de nouvelles variétés de fraisières par hybridations basées sur la rentabilité, grosseur et régularité des fruits, résistance aux affections radiculaires  
Linden, N.  
Cultivation / Agricultural sciences / Artificial / Inoculation / Useful plant / Resistance / Plant

- **Centrum Landbouwkundig Onderzoek Gent**  
Rijksstation voor Plantenziekten  
Burg. Van Gansberghelaan 96  
9220  
Merelbeke  
☎ +32 91 522083

**Forestry pathology**  
Ziektebestrijding bij bomen  
Veldeman, R.  
Forestry / Trichoderma / Regulation

□ **Centrum Landbouwkundig Onderzoek Gent**  
Rijkszuivelstation Melle  
Brusselsesteenweg 370  
9230  
Melle  
☎ +32 91 521861

**Bacteriology of cheese**

Bacteriologie van kaas

Waes, G.

Bacteriology / Cheese / Food technology /

Clostridium / Lactobacillus / Milk / Nutritional branch

**Bacteriology of starters**

Bacteriologie van zuursels

Waes, G.

Bacteriology / Starter culture / Food technology /

Production scale / Nutritional branch

**The valorization of the ultrafiltration permeate**

De valorisatie van het permeaat bij ultrafiltratie

De vilder, J.

Food technology / Filtration / Lactic acid /

Hydrolysis / Lactose / Bioreactor / Immobilization /

Enzyme / Lactobacillus / Nutritional branch /

Bioprocess engineering / Membrane apparatus

□ **Centrum Landbouwkundig Onderzoek Gent**

Rijksstation voor Sierplantenteelt

Caritasstraat 21

9230

Melle

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**In vitro culture of ornamentals**

In vitro teelt van sierplanten

Mekers, O.

Cultivation / Useful plant / In vitro / Multiplication /

Agricultural sciences

□ **Centrum Landbouwkundig Onderzoek Gent**

Rijksstation voor Veevoeding

Scheldeweg 68

9230

Melle

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**Inoculants in silage making**

Inoculanten bij het inkuilen

Cottyn, B.

Inoculation / Lactobacillus

□ **Hoger Technisch Onderwijs - Enseignement Supérieur Technique**

Katholieke Industriële Hogeschool

Oost-Vlaanderen

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9000

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**Brewing experiments with**

proanthocyanidine-free malt. Examination

(checking) of a method for the evaluation of

taste stability. General investigation on brewing and

malting

Brouwproeven met onder andere

proanthocyanidine-vrij mout. Controle van een

methode voor evaluatie van smaakstabiliteit.

Algemeen brouwerij- en mouterijonderzoek

Van keer, C.

Beer / Industry / Nutritional branch / Food

technology

**Reuse of lignocellulose waste materials**

Hergebruik van lignocellulosehoudende

afvalstoffen

Hoozee, J.

Recycling / Waste / Lignocellulose / Microbiology /

Biomass / Production / Ligninase / Solid /

Fermentation / Cultivation / Hydrolysis / Cellulase /

Immobilization / Pentose / Environmental

biotechnology

□ **Rijks Technische- en Handelsschool Gent**

Industriële Hogeschool van het Rijk C.T.L.

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Gent

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**Optimization of plant micropropagation**

interspecific and intergeneric hybridization

followed by embryo culture.

Optimalisatie van de in vitro cultuur van planten;

embryocultuur na interspecifieke en intergenerieke

kruisingen

Maene, L.

Optimization / In vitro / Cultivation / Plant /

Hybridization / Tissue / Biology / Agricultural

sciences

**Fermentative processes in dairy technology**

Fermentatieve processen in de zuivelindustrie

Van assche, P.

Fermentation / Nutritional branch / Microbiology /

Industry / Clostridium / Cheese / Yersinia / Sulphite /

Starter culture / Food technology

**Study of several varieties of barley in the**

preparation of malt and beer

Mout- en brouwgeschiktheid van gerst

Baetsle, G.

Beer / Nutritional branch / Drying / Bioprocess

engineering / Industry

**Cell culture in different fermentor types**

Celkweek in verschillende fermentortypes

Poma, K.

Bioreactor / Cell / Cultivation / Enzyme / Bioprocess

engineering

□ **Studiecentrum voor Kernenergie - Centre d'Etude de l'Energie Nucléaire**

Admin-2

Boeretang 200

2400

Mol

☎ +32 14 311801

**Membranes and thin foils**

Poreuze substraten voor het incorporeren van

bio-actief materiaal voor diverse biomedische en

biochemische toepassingen

Blanchart, A.

Engineering / Membrane apparatus /

Fermentation / Separation

□ **Studiecentrum voor Kernenergie - Centre d'Etude de l'Energie Nucléaire**

Radiobiologie

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**Bacteria resistant to heavy metals**

Bacterien met resistentie tegen zware metalen

Mergeay, M.

Resistance / Bacterium / Heavy metal / Molecular

genetics / Plasmid / Environmental biotechnology /

Environment / Soil / Pollution

**Biological tools for sensing toxic pollutants in**

effluents

Biologisch materiaal voor detectie van toxische

polluenten in effluenten

Diels, L.

Biosensor / Pollution / Toxic / Heavy metal /

Immobilization / Environmental technology /

Environment

**Genetic transformation of grasses**

Genetische transformatie van grassen

Diels, L.

Transformation / Plant / Genetics

**Combined phytochemical and bacteriological**

treatment of pcb

Fytochemische en microbiële behandeling van pcb

Mergeay, M.

Chemistry / Plant / Microbial / Chemical /

Environmental biotechnology / Aromatic

**Genetic tools for bacteria of economic interest**

Outils génétiques pour les bactéries d'intérêt

économique

Mergery, M.

Alcaligenes / In vivo / Cloning / Plasmid / Gene /

Autotrophic / Metabolism / Sulphate / Molecular

genetics / Industry

□ **Nationaal Instituut Diergeneeskundig Onderzoek - Institut National de Recherches Vétérinaires**

Département Pathologie des Animaux de

Petit Elevage et Parasitologie, Service

Mycoplasmes

Groeselenberg 99

1180

Bruxelles

☎ +32 2 3754455

**Production of monoclonal antibodies against**

Newcastle disease virus

Production d'anticorps monoclonaux antivirux de la

maladie de Newcastle

Meulemans, G.

Monoclonal / Antibody / Veterinary medicine /

Protein / Virus / In vivo / In vitro / Test / Bird

**Production of a biogenetic vaccine against**

Newcastle disease

Production d'un vaccin biogenétique contre le virus

de la maladie de Newcastle

Meulemans, G.

Vaccine / Recombination / Expression / Protein /

Immunology / Test / Veterinary medicine / Bird

□ **Nationaal Instituut Diergeneeskundig Onderzoek - Institut National de Recherches Vétérinaires**

Département Pathologie des Grandes

Espèces Domestiques

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1180

Bruxelles

☎ +32 2 3754455

**Study of the organization and regulation of the**

F17 genome; development of a new generation

of vaccines

Studie van de organisatie en regulatie van het F17

genoom met het oog op biotechnologische vaccin

ontwikkeling

Bertels, A.

Genome / Vaccine / Cloning / Veterinary medicine /

Molecular genetics / Regulation / Bovine animal

**The use of antigen 60 for immunisation against**

mycobacterial diseases

Utilisation de l'antigène 60 dans la vaccination

contre les mycobactérioses

Desmecht, M.

Immunology / Veterinary medicine / Antigen /

Mycobacterium / Vaccine

□ **Nationaal Instituut Diergeneeskundig Onderzoek - Institut National de Recherches Vétérinaires**  
Département de Virologie, Service Virologie des Bovins  
Groeselenberg 99  
1180  
Bruxelles  
+ 32 2 3754455

**Development of an ELISA-technique to detect foot-and-mouth disease antibodies or antigen**  
Ontwikkeling van een ELISA-techniek voor de detectie van mond- en klauwzeer antistoffen of antigeen  
Strobbe, R.  
Immunology / Veterinary medicine / ELISA / Antigen / Antibody / Test

**Development of different monoclonal antibodies against three types of foot-and-mouth disease virus (o, a and C)**  
Ontwikkeling van verschillende monoklonale antistoffen tegen drie types mond- en klauwzeer virus (o, a en C)  
Strobbe, R.  
Virus / Veterinary medicine / Monoclonal / Antibody / Immunology / Mouse / Cultivation / Cell / Fusion / Bovine animal

**Contribution to the serodiagnosis of hog cholera with monoclonal antibodies**  
Bijdrage tot de serodiagnose van varkenspest met behulp van monoklonale antilichamen  
Van opdenbosch, E.  
Monoclonal / Antibody / Diagnosis / Virus / VACCINE / Assay / Differentiation / Veterinary medicine / Pig

□ **Hoger Technisch Instituut te Oostende**  
Katholieke Industriële Hogeschool  
West-Vlaanderen  
Zeedijk 101  
8400  
Oostende  
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**Molecular mechanism of ring closure by cyclose during penicillin biosynthesis**  
Studie op het ringsluitingssysteem bij de penicilline biosynthese door *Penicillium chrysogenum*  
Meesschaert, B.  
Biosynthesis / Penicillin / Molecular / Biochemistry / Bioreactor / Fermentation technology / Enzyme technology / Pharmaceutical industry

□ **Instituut voor Scheikundig Onderzoek - Institut de Recherches Chimiques**  
Département de Chimie Organique et de Biochimie  
Museumlaan 5  
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Tervuren  
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**Valorisation of agro-industrial raw materials through transformation via extractive fermentation**  
Valorisatie van grondstoffen uit landbouw- en voedingsnijverheid door transformatie via extractieve fermentatie  
Monseur, X.  
Agriculture / Raw material / Pilot scale / Transformation / Extraction / Fermentation / Lactic acid / Whey / Industry / Nutritional branch

**Chemical contribution to the study of the fermentation process**  
Contribution chimique à l'étude des fermentations  
Monseur, X.  
HPLC / Fermentation / Metabolism / Chemistry

**Biochemical studies in relation to the valorization of secondary substrates by fermentation**  
Etudes biochimiques en relation avec la valorisation des substrats secondaires par fermentation  
Decleire, M.  
Cell / Immobilization / Hydrolysis / Secondary / Substrate / Biochemistry / Organic / Fermentation

**Secondary metabolites production by means of tissue and plant cell cultures**  
Production de métabolites secondaires au moyen de culture de tissus et de cellules de plantes  
Decleire, M.  
Secondary / Cultivation / Plant / Protease / Pigment / Cell / Tissue / Cell biology / Biochemistry

□ **Faculté des Sciences Agronomiques de l'Etat à Gembloux**  
Unité de Bioindustries  
Passage des Déportés 2  
5800  
Gembloux  
+ 32 81 622309

**Agricultural diversification by biotechnology**  
Diversification agricole par voie biotechnologique  
Thonart, P.  
Agriculture / Industry / Food / Nutritional branch / Energy / Biotechnology

**Computer-aided management of fermentation units**  
Gestion informatisée de fermenteurs  
Thonart, P.  
Computer / Fermentation / Control / Bioreactor / Bioprocess engineering / Biocomputing / Biosensor / Industry

**Glycerin production, as energy product, by unicellular microalgae: *Dunaliella* sp.**  
Production de glycerol à usage énergétique par une algue unicellulaire: *Dunaliella* sp.  
Thonart, P.  
Glycerol / Energy / Alga / Production / Fermentation / Cultivation / Immobilization / Cell / Bioprocess engineering

**Biochemical study on the formation of bread flavour**  
Etude biochimique du processus de formation de la flaveur du pain  
Thonart, P.  
Biochemistry / Food / Nutritional branch / Flavour / Fermentation

**Vanillin reduction reactor by *Saccharomyces cerevisiae***  
Etude d'un réacteur de réduction de la vanilline par *Saccharomyces cerevisiae*  
Thonart, P.  
Bioreactor / Bioprocess engineering / Yeast / Biotransformation / Phenol / Industry

**Comparison of invertase excretion by different yeast species**  
Comparaison de l'excrétion de l'invertase chez différentes espèces de levure  
Thonart, P.  
Invertase / Excretion / Yeast / Cultivation / Microbiology / Industry

**Optimisation of biological starters from realco company**  
Optimisation des adjuvants biologiques de la firme realco  
Thonart, P.  
Optimization / Pollution / Environmental biotechnology / Environment / Reservoir / Storage

**Production of lipase through fermentation of hyperproducing mutants of *Candida paraliopolytica***  
Production de lipases par fermentation de mutants hyperproducteurs de *Candida paraliopolytica*  
Thonart, P.  
Lipase / Fermentation / Optimization / Cultivation / Scale-up / Bioreactor / Bioprocess engineering / Production scale / Industry

**Study of processes of recuperation of fermentation products (proteins and colloids)**  
Etude exploratoire de procédés de récupération de produits de fermentation (protéines et colloïdes)  
Thonart, P.  
Bioprocess engineering / Fermentation technology / Adsorption / Solid / Carrier material / Kinetics / Downstream processing / Lipase / Industry

□ **Faculté des Sciences Agronomiques de l'Etat à Gembloux**  
Unité de Biologie Moléculaire et Physiologie Animale  
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5800  
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**Study of rflp's and their relationship with zootechnical performances in dairy and beef cattle and in the pig**  
Etude des polymorphismes de restriction et de leurs relations avec des performances zootechniques chez le bovin laitier, le bovin à viande et le porc  
Burny, A.  
Veterinary medicine / Pig / Gene / Restriction / Polymorphism / Bovine animal

**Construction of a hybrid vector that is stable in plant cells**  
Construction d'un vecteur trihybride bactérie - levure - plante capable de se maintenir dans une cellule végétale  
Burny, A.  
Hybridization / Vector / Monocotyledon / Bacterium / Yeast / Plasmid / Transformation / Gene technology

**Biochemical study of bovine leukemia**  
Etude biochimique de la leucémie bovine  
Burny, A.  
Veterinary medicine / Bovine animal / Biochemistry / Leukemia / Viral / Protein / Immunology

**Active immunization against somatostatin on postnatal growth in the bulls. Effects on some hormonal and metabolic status**  
Incidence d'une immunisation active contre la somatostatine chez le bovin en croissance. Effets sur le statut hormonal et métabolique  
Burny, A.  
Hormone / Growth / Bovine animal / Metabolism / Endocrinology / Antibody / Muscle / Veterinary medicine

□ **Faculté des Sciences Agronomiques de l'Etat à Gembloux**  
Laboratoires de Microbiologie  
Avenue Maréchal Juin 27  
5800  
Gembloux  
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**Bioleaching of siderurgical residues containing heavy metals**  
La detoxification par biolessivage de déchets siderurgiques chargés de métaux lourds  
Culot, M.  
Leaching / Waste / Heavy metal / Ecology / Environmental technology

**Enhancement of plant growth by rhizobacteria**  
Rôle des microorganismes de la rhizosphère dans la stimulation de la croissance des plantes cultivées  
Bonnier, C.  
Plant / Growth / Inoculation / Rhizobiaceae / Microbiology

**Study of the regulation of the expression of the yeast *Saccharomyces cerevisiae* ph05 gene encoding acid phosphatase**  
Etude de la régulation de l'expression du gène de la phosphatase acide (ph05) dans la levure *Saccharomyces cerevisiae*  
Hilger, F.  
Regulation / Gene / Expression / Yeast / Phosphatase / Molecular genetics / Microbiology

**Characterization of *Saccharomyces cerevisiae* mutants affected in the cell division cycle and the camp metabolism**  
Etude de mutations de *Saccharomyces cerevisiae* affectant des gènes impliqués dans le contrôle de la division cellulaire et le métabolisme du camp  
Hilger, F.  
Yeast / Mutation / Cell / Metabolism / Molecular biology / Microbiology / Regulation

**Studies on the *Saccharomyces cerevisiae* cell division cycle *cdc33* gene; search for and studies on homologous genes in higher eukaryotes**  
Etude du gène *cdc33* implique dans le cycle de division cellulaire de *Saccharomyces cerevisiae*; recherche et étude de gènes homologues dans les organismes eucaryotes supérieurs  
Hilger, F.  
Yeast / Cell / Gene / Cloning / Sequencing / Molecular biology / Microbiology

**Cloning and molecular characterization of genes encoding aminoacyl-tRNA synthetases in *Saccharomyces cerevisiae***  
Clonage et caractérisation de gènes codant pour des aminoacyl-tRNA synthetases de *Saccharomyces cerevisiae*  
Hilger, F.  
Cloning / Gene / Synthetase / tRNA / Yeast / Mutation / Sequencing / Regulation / Amino acid / Biosynthesis / Molecular genetics / Microbiology

**Studies on the regulation of the expression of the ph05 gene which codes for the acid phosphatase in the yeast *Saccharomyces cerevisiae*. Studies on the ph080 gene**  
Etude de la régulation de l'expression du gène ph05 codant pour la phosphatase acide dans la levure *Saccharomyces cerevisiae*. Etude du gène ph080  
Hilger, F.  
Regulation / Gene / Expression / Phosphatase / Yeast / Microbiology / Molecular genetics

**Characterization by recombinant DNA techniques of genes that are useful in animal and plant improvement**  
Caractérisation par ingénierie génétique de gènes utilisables en amélioration animale et végétale  
Hilger, F.  
Recombination / DNA / Yeast / Gene / Optimization / Plant / Animal / Gene technology / Microbiology

**Construction of yeast host-vector systems allowing high expression of cloned genetic information and releasing of peptidic products in the culture medium**  
Construction de systèmes hôte-vecteur de levure permettant l'expression maximale d'une information génétique clonée et la libération dans le milieu de culture des produits peptidiques synthétisés  
Hilger, F.  
Yeast / Host / Vector / Expression / Gene technology / Protein / Excretion / Microbiology

**Development of an efficient vaccine to control bovine leukosis**  
Mise au point d'un vaccin contre la leucose bovine  
Portetelle, D.  
Veterinary medicine / Bovine animal / Recombination / DNA / Vaccine / Leukemia / Serology / Immunology

□ **Faculté des Sciences Agronomiques de l'Etat à Gembloux**  
Unité de Phytopathologie  
Avenue du Maréchal Juin 13  
5800  
Gembloux  
☎ +32 81 610126

**Technique of production and selection of plants resistant to pathogens**  
Techniques de production et de sélection de cultivars végétaux résistants aux agents pathogènes  
Semal, J.  
Plant / Tissue / Cultivation / Vegetable / Protoplast / Pathogen / Agriculture / Wheat / Potato / Agricultural sciences

□ **Faculté des Sciences Agronomiques de l'Etat à Gembloux**  
Unité d'Enseignement et de Recherche de Technologie des Industries Agro-alimentaires  
Passage des Déportés 2  
5800  
Gembloux  
☎ +32 81 622513

**Improvement of enzymatic lipolysis conditions of fats in reactors**  
Optimisation des conditions de la lipolyse enzymatique des matières grasses en réacteurs  
Deroanne, C.  
Fat / Lipid / Bioreactor / Optimization / Physical chemistry / Hydrophilic / Hydrophobic / Interface / Agriculture / Food / Nutritional branch / Transformation / Bioprocess engineering

□ **Katholieke Universiteit Leuven**  
Faculteit der Landbouwwetenschappen, Centrum voor Bodemvruchtbaarheid en Bodembioologie  
Kardinaal Mercierlaan 92  
3030  
Leuven-Heverlee  
☎ +32 16 220931

**Soil microbial and molecular genetic aspects of *Azospirillum rhizocoenose***  
Bodemmicrobiologische en moleculair-genetische aspecten van *Azospirillum rhizocoenosen*  
Vlassak, K.  
Soil / Microbiology / Molecular genetics / *Azospirillum* / Wheat / Nitrogen / Fixation / Inoculation

**Biological nitrogen fixation: *Azospirillum*-plant association**  
Biologische stikstofbinding: *Azospirillum*-plant associaties  
Vlassak, K.  
Agriculture / Botany / Nitrogen / Fixation / *Azospirillum* / Plant / Inoculation / Soil

**Dinitrogen fixation and soil fertility**  
Biologische stikstofbinding en bodemvruchtbaarheid  
Vlassak, K.  
Nitrogen / Fixation / Soil / Fertility / Inoculation / *Rhizobium* / Plant / Tropical / Agriculture / Botany

□ **Katholieke Universiteit Leuven**  
Faculteit der Wetenschappen, Laboratorium voor Chemische en Biologische Dynamica  
Celestijnenlaan 200D  
3030  
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☎ +32 16 200656

**Physical chemistry of lipid-protein interactions in biomembranes**  
Fysico-chemie van lipide-eiwit wisselwerking in biomembranen  
Heremans, K.  
Physical chemistry / Lipid / Protein / Interaction / Membrane biology / Spectrometry

**A physical chemical study of the assembly of microtubules**  
Biofysische studie van de tyrosinolerig en het vormingsmechanisme van microtubuli  
Engelborghs, Y.  
Biophysics / Protein / Cofactor / Dynamics / Biological

**Fast reaction kinetics of biological systems**  
Snelle reactie kinetiek van biologische systemen  
Engelborghs, Y.  
Reaction / Kinetics / Spectrometry / Fluorescence / Dynamics / Biological / Biophysics / Antibiotic / Ribosome / Monoclonal / Antibody / Drug / Receptor / Cytostatic

□ **Katholieke Universiteit Leuven**  
Instituut voor Farmaceutische Wetenschappen, Afdeling Farmaceutische Scheikunde  
Van Evenstraat 4  
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**Synthesis of 3-substituted nucleoside analogues as inhibitors of the reverse transcriptase**  
Synthese van 3-gesubstitueerde nucleoside-analogen als inhibitoren van het reverse transcriptase  
Vanderhaeghe, H.  
Nucleotide / Inhibitor / Pharmacy

**Synthesis of antiviral and antitumoral nucleosides**  
Synthese van antivirale en antitumorale nucleosiden  
Vanderhaeghe, H.  
Nucleoside / Pharmacy / Pharmaceutical industry

**Synthesis of oligonucleotides for isolation and expression of cloned genes**  
Synthese van oligonucleotiden als middel bij de opsporing en expressie van gecloneerde genen  
Vanderhaeghe, H.  
Oligonucleotide / Cloning / Gene / Expression / Pharmacy / Pharmaceutical industry

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Faculteit der Geneeskunde, Afdeling Farmacologie  
Minderbroedersstraat 17  
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**Development of a hormonesecreting hypophysis cell hybridoma line**  
Ontwikkeling van een hormoonsekreterende hypofysecel-hybridomalijn  
Denef, C.  
Pharmacology / Hormone / Secretion / Hypophysis / Hybridoma

- Katholieke Universiteit Leuven**  
Faculteit der Landbouwwetenschappen,  
Laboratorium voor Phytopathologie en  
Plantenbescherming  
Kardinaal Mercierlaan 92  
3030  
Leuven-Heverlee  
☎ +32 16 220931
- Research of the possible use of antagonistic Trichoderma isolates for the control of soil-borne fungi**  
Onderzoek naar gebruiksmogelijkheden van antagonistische Trichoderma isolaten als bestrijding van verschillende bodemschimmels  
Vanachter, A.  
Trichoderma / Soil / Inoculation / Plant / In vitro / In vivo / Agriculture / Parasitic
- Biological control of plant parasitic nematode**  
Biologische bestrijding van plant-parasitaire nematoden  
Coosemans, J.  
Plant / Parasitic / Nematode / Fungus / Agriculture / Biology
- Seed bacterisation and soil inoculation with Pseudomonas putida strains**  
Zaadbacterisatie en bodeminoculatie met Pseudomonas putida stammen  
Coosemans, J.  
Germ cell / Soil / Pseudomonas / Inoculation / Agriculture / Pathogenic / Fungus / Suppression
- Katholieke Universiteit Leuven**  
Faculteit der Geneeskunde, Afdeling Biochemie  
Herestraat 49  
3000  
Leuven  
☎ +32 16 215707
- Study of the control of the gene expression and the mechanism of gene transfer in higher eukaryotes**  
Studie over de controle van de genexpressie en de mechanismen van gentransfer bij hogere eukaryoten  
Rombauts, W.  
Regulation / Gene / Expression / Transfer / Eukaryote / Vector / Transcription / Translation / Interferon / TPA / Molecular genetics
- Construction of a cDNA expression library for human fibroblast genes**  
Constructie van een cDNA-bibliotheek voor de expressie van menselijke fibroblast-genen  
Rombauts, W.  
cDNA / Gene bank / Human / Expression / Fibroblast / Molecular genetics
- Regulation of the gene expression in mammals at the level of transcription: study of the influence of hormonal and tissue-specific factors**  
Regeling van de gen-expressie in mammalia op het niveau van de transcriptie: studie van de invloed van hormonale en weefsel-specifieke factoren  
Rombauts, W.  
Gene / Expression / Mammal / Transcription / Recombination / DNA / Molecular genetics
- Katholieke Universiteit Leuven**  
Faculteit der Geneeskunde, Afdeling Experimentele Geneeskunde en Endocrinologie  
Minderbroedersstraat 10  
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- Molecular biology of the androgen-dependent regulation of 2u-globulin**  
Moleculair biologische onderzoek van de androgeen dependente regulatie van alpha 2u-globuline  
Verhoeven, G.  
Molecular biology / Endocrinology / Globulin / Gene / Corticosteroid / Receptor / In vitro / Transfection
- Differentiation and regulation of the synthesis of androgen dependent proteins: molecular biology of the mechanism of action of steroid hormones**  
Differentiatie en regulatie van de synthese van androgeen-gevoelige eiwitten: een moleculair-biologische benadering van het aktiemechanisme van steroid-hormonen  
De moor, P.  
Differentiation / Regulation / Protein / Molecular biology / Steroid / Protease / Endocrinology
- Development of radioimmunoassays for 25-hydroxy- and 1,25-dihydroxyvitamin D by means of mono and polyclonal antibodies**  
Ontwikkeling van radioimmunologische dosage van 25-hydroxy- en 1, 25-dihydroxyvitamine D met behulp van mono- en polyclonale antistoffen  
Bouillon, R.  
RIA / Monoclonal / Polyclonal / Antibody / Vitamin / Immunology / Endocrinology
- Development of a radioimmunoassay for human transcortin using monoclonal antibodies**  
Ontwikkelen van een radioimmunologische dosering van menselijk transcortine, met gebruik van monoklonale antilichamen  
Bouillon, R.  
RIA / Human / Monoclonal / Antibody / Affinity / Chromatography / Globulin / Endocrinology / Immunology
- Katholieke Universiteit Leuven**  
Faculteit der Geneeskunde, Afdeling Mikrobiologie (Rega Instituut)  
Minderbroedersstraat 10  
3000  
Leuven  
☎ +32 16 228638
- Development and molecular genetics of universal vectors for gram-negative bacteria**  
Ontwikkeling en moleculaire genetica van universele vectoren van gram-negatieve bacterien  
Volckaert, G.  
Molecular genetics / Gramnegative / Sequencing / Nucleotide / Mapping / Expression / Replication / Gene
- Development of recombinant DNA cloning and expression systems for Streptomyces**  
Ontwikkeling van recombinant DNA klonerings- en expressiesystemen van Streptomyces  
Volckaert, G.  
Recombination / DNA / Cloning / Expression / Streptomyces / Plasmid / Escherichia / Translation / Induction / Secretion / Transcription / Molecular genetics / Gene technology / Mutation
- Synthesis of oligonucleotides for isolation and expression of cloned genes**  
Synthese van oligonucleotiden als middel van opsporing en expressie van gecloneerde genen  
Vanderhaeghe, H.  
Oligonucleotide / Cloning / Gene / Isolation / Expression / Hybridization / Transcription / mRNA / Plasmid / Molecular genetics
- Immunological and histopathological study of the allogenic transplantation in rat and mouse**  
Immunologische en histopathologische studie van de allogenetische transplantatie bij de rat en de muis  
Vandeputte, M.  
Immunology / Transplantation / Rat / Mouse / Immune / Suppression / Trophoblast / In vivo / In vitro / Lymphocyte / Bone marrow
- Expression of heterologous genes in Streptomyces: study of translation**  
Studie van de translatie bij expressie van heterologe genen in streptomyceten  
Eysen, H.  
Molecular genetics / Gene / Expression / Translation / Streptomyces / DNA / Cloning
- Genetic engineering of streptomycetes**  
Genetische manipulatie van streptomyceten  
Eysen, H.  
Gene technology / Streptomyces / Vector / Plasmid / Gene / Expression
- Study on phages from streptomycetes as cloning vehicles in genetic engineering studies**  
Genetische manipulatie van streptomycetes  
Eysen, H.  
Gene technology / Streptomyces / Cloning / Bacteriophage / Vector / Industry
- Study of antiviral activity of new nucleoside and nucleotide analogues**  
Studie van antivirale activiteit van nieuwe nucleoside- en nucleotide-analoga  
De clerq, E.  
Nucleoside / Nucleotide / Adenovirus / Retrovirus / Virology / AIDS / Pharmacology
- Molecular cloning of human proteins of clinical potential**  
Moleculaire klonering van klinisch beloftevolle menselijke eiwitten  
De clerq, E.  
Molecular / Cloning / Protein / Clinical / Gene / Expression / TPA / Vector / cDNA / Gene technology
- Molecular targets for the antiviral and antitumor activity of nucleoside analogues**  
Moleculaire targets voor de antivirale en antitumorale activiteit van nucleoside-analoga  
De clerq, E.  
Nucleoside / Nucleotide / Inhibition / Tumour / Cell / Virus / Replication / Molecular / Pharmacology / Virology
- Nucleoside, nucleotide, oligonucleotide and polynucleotide analogues as antiviral and antitumor compounds**  
Ontwikkeling van nucleoside, nucleotide, oligonucleotide en polynucleotide analoga met selectieve antivirale en antitumorale activiteit  
De clerq, E.  
Nucleoside / Nucleotide / RNA virus / DNA virus / In vitro / Cultivation / Cell / Tumour / In vivo / Inhibition / Pharmacology / Virology
- Cloning, identification and expression of a human plasminogen activator gene**  
Klonering, identificatie en expressie van een menselijk plasminogeen activator gen  
Billiau, A.  
Cloning / Gene / Expression / Recognition / Molecular genetics
- Cloning of cytokines playing a part in the defence of the body against infections with endogenous microorganisms and against cancer**  
Klonering van cytokines die een rol spelen in de verdediging van het lichaam tegen infecties met exogene micro-organismen en tegen kanker  
Billiau, A.  
Cloning / Interleukine / Infection / Cancer / Cell biology
- Cytokines**  
Cytokines  
Billiau, A.  
Isolation / Cloning / Molecular / Gene / Interleukine / Growth / Cell biology / Therapy / Pathology
- Role of interferons in cancer**  
De rol van interferon in kanker  
Billiau, A.  
Interferon / Cancer / Recombination / Mouse / Human / Monoclonal / Antibody / In vitro / In vivo / Regulation / Immunology

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Laboratorium voor Industriële  
Microbiologie en Biochemie  
De Croylaan 46  
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☎ +32 16 220931
- Bacterial cellulolysis**  
Bacteriele cellulolyse  
Verachtert, H.  
Aerobic / Cellulose / Hydrolysis / Feed / Industry /  
Microbiology
- Characterisation of lactic acid bacteria of  
interest to the brewing industry**  
Karakterisering van melkzuurbacterien nuttig voor  
de brouwerijsector  
Verachtert, H.  
Lactic acid / Beer / Industry / Microbiology
- Valorisation of brewery waste water active  
sludge as animal feed, especially fish feeding  
supplement**  
Onderzoekingen over de valorisatie in veevoeders  
van het afvalwaterzuiveringslib en van  
bijproducten van bierfabricatie  
Verachtert, H.  
Waste water / Feed / Fish / Activated sludge /  
Industry / Recycling / Bioprocess engineering /  
Environment
- Yeast amylases**  
Studie van extra-cellulaire gistenzymen  
Verachtert, H.  
Yeast / Amylase / Enzymology / Hydrolysis /  
Microbiology / Ethanol / Biomass / Industry /  
Nutritional branch
- Microbiology of spontaneous fermentations**  
Microbiologie van de spontane fermentatie  
Verachtert, H.  
Microbiology / Fermentation / Beer / Industry /  
Biochemistry
- **Katholieke Universiteit Leuven**  
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Laboratorium voor  
Levensmiddelentechnologie  
Kardinaal Mercierlaan 92  
3030  
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- Immobilized biocatalysts for lipids**  
Geïmmobiliseerde biocatalysatoren voor vetten  
Tobback, P.  
Food technology / Nutritional branch /  
Immobilization / Lipid / Kinetics / Lipase /  
Biological / Catalysis / Enzymatic
- Catalysis in multiphase systems with  
immobilized biocatalysts: the directed  
interesterification of lipids**  
Catalyse in multifase-systemen met behulp van  
geïmmobiliseerde biocatalysatoren: de gerichte  
omestering van lipiden  
Tobback, P.  
Food technology / Nutritional branch / Biological /  
Catalysis / Immobilization / Lipid / Lipase /  
Enzymatic
- The behaviour of biocatalysts under  
non-classical reaction conditions. Enzymatic  
hydrogenation of polyunsaturated fatty acids by  
immobilized bacterial cells in an organic solvent  
with varying water saturation**  
Het gedrag van biocatalysatoren onder  
niet-klassieke reactievoorwaarden. De  
enzymatische hydrogenatie van poly-onverzadigde  
vetzuren door geïmmobiliseerde bacteriele cellen  
in een organisch solvent met variërende  
waterverzadiging  
Tobback, P.  
Food technology / Nutritional branch / Biological /  
Catalysis / Hydrogenation / Enzymatic / Fatty acid /  
Immobilization
- **Katholieke Universiteit Leuven**  
Faculteit der Landbouwwetenschappen,  
Centrum voor Landbouweconomisch  
Onderzoek in de Ontwikkelingslanden  
Kardinaal Mercierlaan 92  
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Leuven-Heverlee  
☎ +32 16 220931
- Food and renewable natural resources. Analysis  
of the production system: study of the sectors of  
agro-energy and agro-chemistry**  
Voeding en hernieuwbare natuurlijke  
hulpbronnen. Analyse van het productiestelsel:  
studie van de sectoren agro-energie en  
agro-chemie  
Tollens, E.  
Food / Agriculture / Production / Industry / Energy /  
Chemistry / Natural / Accessories
- **Katholieke Universiteit Leuven**  
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F.A. Janssens Laboratorium voor Genetica  
Kardinaal Mercierlaan 92  
3030  
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- Directed manipulation of soil bacteria with  
plant growth promoting activity**  
Gerichte manipulatie van bodembacterien met  
plantgroei-stimulerende middelen  
Van gool, A.  
Soil / Bacterium / Plant / Growth / Agriculture /  
Gene technology
- Molecular-genetic research of Azospirillum-plant  
rhizocoenoses**  
Bodemmicrobiologische en moleculaire genetische  
aspecten van Azospirillum rhizocoenosen  
Vanderleyden, J.  
Molecular genetics / Agriculture / Azospirillum /  
Plant / Soil / Microbiology / Auxin
- Development of genetic tools for Azospirillum**  
Ontwikkeling van genetische werktuigen voor  
Azospirillum  
Vanderleyden, J.  
Azospirillum / Diazotrophic / Mutation / Origin /  
Transposon / Genome / Molecular genetics /  
Agriculture
- Study on the expression signals in Azospirillum  
spp.**  
Genexpressie in Azospirillum spp.:  
structuur-functieanalyse van expressiesignalen met  
behulp van lac Z genfusies  
Vanderleyden, J.  
Gene / Expression / Azospirillum / Fusion / Plant /  
Escherichia / Molecular genetics / Agriculture
- Integration mechanism of Ti DNA sequences in  
in vitro transformation of plant protoplasts with  
naked Ti-plasmid DNA**  
Studie van het integratiemechanisme bij  
horizontale gentransfer van Agrobacterium  
tumefaciens t-DNA naar het genoom van  
plantprotoplasten  
Vanderleyden, J.  
DNA / In vitro / Transformation / Plant / Protoplast /  
Plasmid / Genome / Agrobacterium / Molecular  
genetics / Agriculture
- Molecular genetic analysis of bacterial  
determinants involved in the process of  
bacteria-plant recognition**  
Moleculair-genetische analyse van bacterieel  
gecodeerde determinanten die tussenkomen in het  
proces van bacterie-plant herkenning  
Vanderleyden, J.  
Molecular genetics / Plant / Recognition /  
Interaction / Agrobacterium / DNA / Azospirillum /  
Agriculture
- Isolation and characterization of lectin genes  
from Solanum tuberosum**  
Isolatie en karakterisatie van lectine genen uit het  
genoom van Solanum tuberosum  
Van gool, A.  
Lectin / Genome / Potato / cDNA / Oligonucleotide /  
Molecular genetics / Agriculture
- In vitro transformation of plant protoplasts with  
naked Ti-plasmid DNA**  
In vitro transformatie van plant-protoplasten met  
Ti-plasmiede DNA  
Van gool, A.  
In vitro / Transformation / Dicotyledon / Protoplast /  
Plasmid / DNA / Agrobacterium / Gene technology /  
Agriculture
- Molecular genetic analysis of bacterial auxin  
synthesis as a determinant in  
Sorghum-Azospirillum rhizocoenoses**  
Moleculair-genetisch onderzoek van bacteriele  
auxine synthese als determinant in  
Sorghum-Azospirillum rhizocoenosen  
Van gool, A.  
Molecular genetics / Plant / Auxin / Azospirillum /  
Agriculture
- Conditioning of cell and tissue culture in  
Sorghum in relation to genetic transformation  
and regeneration**  
Conditionering van cel-en weefselkweek van  
Sorghum in functie van genetische transformatie  
en regeneratie  
Van gool, A.  
Cultivation / Cell / Tissue / Transformation /  
Regeneration / In vivo / Agrobacterium / Plant /  
Protoplast / Genetics / Agriculture
- Analysis of hormone specific regulatory DNA  
sequences and signal sequences involved in  
recombination processes and gene regulation**  
Studie van hormoon-specifieke regulatorische  
DNA-sekwenties en signaalsekwenties betrokken in  
recombinatieprocessen en genregulatie  
Van gool, A.  
Plant / Genetics / Recombination / Gene /  
Regulation / DNA / Plasmid / Chromatin / Mutation /  
Agriculture
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Faculteit der Geneeskunde, Afdeling  
Menselijke Erfelijkheid  
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- The X-oncogene connection**  
The X-oncogene connection  
Van den berghe, H.  
Chromosome / Gene / Human / Genetics /  
Differentiation



**Differences in the adhesive behaviour of clonal malignant human cells: identification and characterization of surface molecules involved**  
 Karakterisatie van de celoppervlakmodificaties verantwoordelijk voor abnormale groei, invasie en metastase van maligne cellen  
 Cassiman, J.  
 Human / Molecular biology / Cell / Surface / Tumour / Malignant

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 Laboratorium voor Plantenfysiologie  
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**Investigation into the function of the ras-oncogenes: study of the effect of the ras-oncogene on the regulation of metabolism in yeast. Regulatory mechanisms in camp-metabolism and protein phosphorylation in yeast**  
 Onderzoek naar de functie van de ras-oncogenen: studie van het effect van het ras-oncogen op de regulatie van het metabolisme in gist.  
 Regulatiemechanismen in het camp- metabolisme en de proteïnefosforilatie bij gist  
 Thevelein, J.  
 Regulation / Metabolism / Yeast / Protein / Phosphorylation / Biochemistry / Plant

**Cloning and characterization of rice lectin DNA. Study of the gene structure and developmental control**  
 Klonering en karakterisering van rijstlectine DNA - studie van de genstructuur en ontwikkelingscontrole  
 Peumans, W.  
 Cloning / DNA / Lectin / Vegetable / Gene / Useful plant / Agriculture

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 Laboratorium voor Tropische Plantenteelt  
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**Research on plantain production in Africa**  
 Onderzoek in verband met de teelt van bananen en plantanen in Afrika  
 Schoofs, J.  
 Cultivation / Plant / Tropical / In vitro / Agricultural sciences / Agriculture

**Somatic embryogenesis in cichorium intybus L. (witloof)**  
 Somatische embryogenese in vitro bij witloof (Chicorium intybus L.)  
 Schoofs, J.  
 In vitro / Plant / Cultivation / Agricultural sciences / Agriculture

**In vitro propagation of oak and willow**  
 In vitro vermenigvuldiging van eik en wilg  
 Schoofs, J.  
 In vitro / Cultivation / Plant / Agricultural sciences / Forestry

- **Katholieke Universiteit Leuven**  
 Faculteit der Geneeskunde, Afdeling Trombose en Vasculair Onderzoek  
 Herestraat 49  
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**Development of monoclonal antibodies against neoantigenic determinants in blood coagulation and fibrinolysis. Their application for the detection of thrombosis by means of in vitro tests and in vivo visualization**  
 Ontwikkelen van monoclonale antistoffen tegen neoantigene determinanten in de bloedstolling en fibrinolyse. Hun toepassing voor de detectie van thrombose met behulp van in vitro testen en in vivo visualisatie  
 Verstraete, M.  
 Monoclonal / Antibody / Clotting / Fibrinolysis / In vitro / In vivo / Hematology

**Development of tissue-type plasminogen activator as a new thrombolytic drug**  
 Ontwikkelen van weefsel plasminogeen activator als nieuwe thrombolytische stof  
 Verstraete, M.  
 TPA / Recombination / DNA / Hematology

**Thrombosis: basic and applied studies using recombinant DNA and hybridoma technology**  
 Thrombose: fundamentele en toegepaste studies gebruik makend van recombinant DNA en hybridoma technologie  
 Collen, D.  
 Recombination / DNA / Hybridoma / Clotting / Blood / Fibrinolysis / Hematology

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 Universitaire Campus Kortrijk,  
 Interdisciplinair Research-Centrum  
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 8500  
 Kortrijk  
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**Intra- and intermembrane interactions in model systems: fundamental study and biomedical applications**  
 Intra- en intermembranaire interacties in modelsystemen: fundamentele studie en biomedische toepassingen  
 Van cauwelaert, F.  
 Membrane biology / Modelling / Phospholipid / Electrophoresis / Lipid / Protein / Biochemistry

**Interaction of phospholipid vesicles with either proteins or membranes. Study of some regulatory factors**  
 Interactie van fosfolipide-vesikels, met proteïnen en membranen. Studie van enkele regulerende factoren  
 Joniau, M.  
 Membrane biology / Regulation / Protein / Phospholipid / Cell / Thermodynamics / Biochemistry / Physical chemistry

**Experimental cancer therapy (in mice) with immunotoxins on the basis of monoclonal antibodies and liposomes. Targeting of immunotoxins**  
 Experimentele kankertherapie (in muizen) met immunotoxinen op basis van monoklonale antilichamen en liposomen. Targeting van immunotoxinen  
 Joniau, M.  
 Cancer / Immunotherapy / Mouse / Toxin / Monoclonal / Antibody / Artificial / Membrane biology / Diagnosis / In vivo / In vitro / Immunology

- **Limburgs Universitair Centrum**  
 Onderzoeksgroep Biochemie  
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 ☎ +32 11 229961

**Development of an alternative cDNA cloning system. Application to the isolation and characterization of Streptomyces sp. Genes**  
 Ontwikkeling van een alternatief cDNA kloneersysteem. Toepassing bij de isolatie en karakterisatie van Streptomyces sp. Genen  
 Billiau, A.  
 cDNA / Cloning / Streptomyces / Gene / Vector / Hybridization / Transformation / Recombination / Molecular biology / Gene technology

- **Ekonomische Hogeschool Limburg**  
 Onderzoekscampus  
 Universitaire Campus  
 3610  
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**Perspective of the production system: impact of biotechnology on the food- industry, its production strategy and marketstructures**  
 Perspectieven van het produktiesysteem: weerslag van de biotechnologie op de voedingsindustrie, haar produktiestrategieën en marktstructuren  
 De meyer, M.  
 Industry / Nutritional branch / Production / Economic / Biotechnology

- **Limburgs Universitair Centrum**  
 Onderzoeksgroep  
 Endocrinologie-Immunologie  
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**Genetic construction and physiological analysis of tumour necrosis factor-antibody chimeraes**  
 Genetische constructie en fysiologische analyse van tumor necrosis factor-antilichaam chimereën  
 Raus, J.  
 TNF / Antibody / Immunology / Molecular genetics / Physiology

**Cloning of cell populations involved in the pathogenesis of multiple sclerosis and of chronic experimental allergic encephalomyelitis**  
 Klonering van celpopulaties betrokken bij de pathogenese van multiple sclerose en van chronische experimentele allergische encephalomyelitis  
 Raus, J.  
 Cloning / Cell / Disease / Origin / Multiple sclerosis / Immunology

**Production of monoclonal antibodies related to estrogen sensitive tissues**  
 Ontwikkeling van monoclonale antistoffen in verband met oestrogeen-gevoelige weefsels (borstklier, uterus)  
 Raus, J.  
 Monoclonal / Antibody / Estrogen / Tissue / Mouse / Immunology / Hybridoma / Spleen / Tumour

- **Facultés Universitaires Notre-Dame de la Paix**  
 Faculté des Sciences, Laboratoire de Biochimie Cellulaire, Département de Biologie  
 Rue de Bruxelles 61  
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**Use of luciferases as tool for detection in biochemical assays**  
 Utilisation des luciférase comme outils de detection applicables aux dosages biochimiques  
 Remacle, J.  
 Assay / Antibody / Bioluminescence / Biochemistry

**Study of the influence of the microenvironment of grafted peptides on the structure and properties of enzymes. Application to bioreactors using cofactor regeneration**  
Etude de l'effet du microenvironnement crée par des peptides greffés sur la structure et les propriétés des enzymes. Application aux bioreacteurs à régénération de cofacteurs.  
Remacle, J.  
Peptide / Enzyme / Bioreactor / Cofactor / Regeneration / Enzyme technology / Bioprocess engineering

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Faculté des Sciences, Laboratoire de Génétique Moléculaire, Unité de Génétique  
Rue de Bruxelles 61  
5000  
Namur  
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**Biochemical and genetic study of the functional role of RNA methylation in the yeast *Saccharomyces cerevisiae***  
Etude biochimique et génétique du rôle fonctionnel de la méthylation de l'ARN chez la levure  
*Saccharomyces cerevisiae*  
Vandenhaute, J.  
Yeast / Biochemistry / Molecular genetics / mRNA / Methylation / Mutation / Cloning / Sequencing / Gene / In vitro

**Production of peptides and peptide-protein hybrids by genetic engineering**  
Production de peptides et d'hybrides peptide-proteine par génie génétique  
Vandenhaute, J.  
Gene technology / Protein / Recombination / Gene / Fusion / Mutation / Hybridization

**Saccharification of malt**  
Versuikeren van mout  
Vandenhaute, J.  
HPLC / Bioprocess engineering / Polysaccharide

□ **Faculté Polytechnique de Mons**  
Chaire de Chimie et Biochimie Appliquées, Laboratoire Central d'Analyses, Atelier de Soufflage du Verre  
Rue de Houdain 9  
7000  
Mons  
☎ +32 65 338191

**Development of immobilized cells bioreactor**  
Développement d'un bioreacteur à cellules immobilisées  
Levert, J.  
Immobilization / Bioreactor / Carrier material / Yeast / Cultivation / Biomass / Protein / Fermentation / Bioprocess engineering

□ **Faculté Polytechnique de Mons**  
Service de Génie Chimique et Biochimique  
Rue de l'Épargne 57  
7000  
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**Scale-up and design of bioreactors (volume more than 100 cubic M.)**  
Projet d'un gros bioreacteur (volume supérieur à 100 M cube)  
Bruxelmann, M.  
Bioreactor / Scale-up / Industrial / Production scale / Bioprocess engineering / Optimization

□ **Rijksuniversiteit Gent**  
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Harelbekestraat 72  
9000  
Gent  
☎ +32 91 218951

**Carotenoids in biotechnology**  
Caroténoïdes in de biotechnologie  
De leenheer, A.  
LC / MS / Analysis / Metabolite / Fungus / Insect / Bacterium / Pharmaceutical industry

□ **Rijksuniversiteit Gent**  
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**Centre for the study of ornamental plants (section 2). Section II: phytopathology**  
Centrum voor de studie van de sierplantenteelt (sectie 2). Fytopathologie  
Welvaert, W.  
Useful plant / Fungicide / Growth

**Centre for the study of ornamental plants (section 2). Study of fungal diseases in the cultivation of ornamental plants**  
Centrum voor de studie van de sierplantenteelt (sectie 2). Studie van zwamziekten bij de sierplantenteelt  
Welvaert, W.  
Agricultural sciences / Agriculture / Useful plant / Fungus / Pathogenic / Symbiosis

**Research on macro-fungi - disease indexation and control on new commercial mushrooms, artificial fructification of *Hymenomyces***  
Onderzoek bij macro-fungi: ziekten-indexatie en bestrijding bij nieuwe handelskultuurzwammen, artificieel bevruchten van *Hymenomyces*  
Welvaert, W.  
Agricultural sciences / Agriculture / Fungus / Nutritional branch

**Serological virus detection with polyclonal and monoclonal antisera**  
Serologische virusdetectie met polyclonale en monoclonale antisera  
Welvaert, W.  
Virus / Polyclonal / Monoclonal / Antiserum / ELISA / Antibody / Plant / Agricultural sciences / Agriculture

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**Molecular study of genes involved in the development and differentiation of *Arabidopsis thaliana* heynh. Localization of mRNAs in plant cells by in situ hybridization**  
Moleculaire studie van genen betrokken bij de ontwikkeling en differentiatie van *Arabidopsis thaliana* heynh. Localisatie van mRNA's in plantecellen door middel van in situ hybridisatie  
Van montagu, M.  
Molecular genetics / Cloning / Gene / Mutation / Plant / In situ / mRNA

**Development, by genetic manipulation, of a brewer's yeast strain with increased alcohol yield**  
Ontwikkeling, door genetische manipulatie, van een biergiststam met verhoogde alcoholopbrengst  
Van montagu, M.  
Gene technology / Brewer's yeast / Alcohol

**Study of the symbiosis between *Rhizobium* and *Sesbania rostrata*, a leguminous plant with stem modulation**  
De studie van de symbiose tussen *Rhizobium* en *Sesbania rostrata*, een legumineus met stengelmodulatie  
Holsters-keppens, M.  
Symbiosis / Rhizobium / Tropical / Vegetable / Nodulation / Fixation / Agriculture / Production / Genetics

**Isolation and study of plant genes and their use for the genetic manipulation of higher plants**  
Isolatie en studie van plantegenen en hun gebruik bij de genetische manipulatie van hogere planten  
Simoens, C.  
Plant / Gene / Cloning / DNA / Mutation / Resistance / Pathogen / Marker / Reductase / Gene technology / Agriculture

**Study of the expression of plant genome by isolation and characterization of plant promoters from *Nicotiana tabacum***  
Studie van de expressie van het plantengenoom door isolatie en karakterisatie van plantepromotoren uit *Nicotiana tabacum*  
Herman, P.  
Molecular genetics / Gene / Expression / Plant / Transcription / Translation / DNA / Selection

**Transformation of monocotyledons**  
Transformatie van monocotylen  
Dekeyser, R.  
Transformation / Monocotyledon / Molecular genetics / Agriculture

**Isolation of plant genes by complementation**  
Isolatie van plantegenen door complementatie  
Inze, D.  
Molecular genetics / Plant / Gene / Cloning / DNA / Mutation / Resistance

**The study of the symbiosis between *Azorhizobium caulinodans* and the tropical legume *Sesbania rostrata***  
De studie van de symbiose tussen *Azorhizobium caulinodans* en de tropische legumineus *Sesbania rostrata*  
Holsters-keppens, M.  
Symbiosis / Nitrogen / Fixation / Tropical / Vegetable / Bacterium / Nodulation / Host / Plant / Gene / Expression / Fusion / Molecular genetics

**Study of bacterial DNA transfer to plant cells of *Agrobacterium*, crown gall induction and other plant-bacteria interactions**  
Studie van de transfer van bacterieel DNA naar plantecellen bij *Agrobacterium* "crown gall" infectie en andere plant-bacterie interacties  
Desomer, J.  
DNA / Transfer / Plant / Agrobacterium / Induction / Interaction / Host / Pathogenic / Molecular genetics

**Molecular biology of embryo-specific gene expression and genetic manipulation of the maturation process**  
Moleculaire biologie van vrucht-specifieke genexpressie en genetische manipulatie van het rijpingsproces  
Dhaese, P.  
Plant / Molecular biology / Gene / Expression / Gene technology / Development / DNA / Plasmid / Transformation / Agrobacterium

**Regulation of gene expression and compartmentalisation of gene products in plant cells**

Regulatie van de genexpressie en kopartmentalisatie van genproducten in plantecellen  
 Angenon, G.  
 Molecular genetics / Gene / Expression / Plant / Transcription / Translation / Nucleus

**Development of a generally applicable vector system allowing efficient and controlled expression of foreign genes in grampositive bacteria, using Bacillus subtilis as prototype**  
 Ontwikkeling van een algemeen toepasbaar vectorsysteem voor de efficiënte en de gecontroleerde synthese van vreemde genproducten in grampositieve bacteriën, met als prototype Bacillus subtilis  
 Van mierlo, H.  
 Vector / Grampositive / Bacillus / Gene / Expression / Gene technology

**Genetic engineering in plants**  
 Genetic engineering in planten  
 Schell, J.  
 Gene technology / Transfer / Gene / Agrobacterium / Plant / Marker / DNA / Expression / Regeneration

**Biotechnology in Flanders**  
 Biotechnologie in Vlaanderen: een verkennend onderzoek naar de maatschappelijke aspecten  
 Van montagu, M.  
 Biotechnology / Industry

**Molecular genetic study of the symbiosis between a Rhizobium and its host, Sesbania rostrata with particular attention on nitrogen fixation, root and stem nodulation**  
 Moleculair genetische studie van de symbiose tussen een Rhizobium en zijn gastplant Sesbania rostrata met de nadruk op stikstoffixatie, wortel- en stengelnodulatie  
 Van montagu, M.  
 Molecular genetics / Symbiosis / Rhizobium / Nitrogen / Fixation / Nodulation / Assimilation / Plant / Tropical / Vegetable

**Further application of the use of t-DNA vector for genetic engineering**  
 Verdere toepassing van het gebruik van t-DNA als vector voor genetic engineering  
 Schell, J.  
 Gene technology / DNA / Vector / Agrobacterium / Gene / Transfer / Dicotyledon / Monocotyledon

**Integration and gene expression of recombinant DNA in plant cells**  
 Integratie en genexpressie van rekombinant DNA in plantecellen  
 Van montagu, M.  
 Recombination / Gene technology / Expression / DNA / Plant / Chromosome / Regeneration / Transformation

**Development of new bacterial genetic techniques (site-specific mutagenesis)**  
 Ontwikkeling van nieuwe bacterieel genetische technieken (plaatsgerichte mutagenese)  
 Van montagu, M.  
 Gene technology / Mutation / Origin / Cloning / Plasmid / DNA / Gramnegative / Grampositive

**Antibiotic resistant plasmids**  
 Antibioticum resistente plasmiden  
 Van montagu, M.  
 Antibiotic / Resistance / Plasmid / Replication / Gramnegative / Grampositive / Gene technology

**Plant cell cultures**  
 Plantecelculturen  
 Van montagu, M.  
 Plant / Cultivation / DNA / Cloning / Gene technology / Vector / Mutation / Gene bank

**Molecular biology research of transposons and their role in plant cell transformation**  
 Moleculair biologische studie van transposons en hun rol bij transformaties van plantecellen  
 Van montagu, M.  
 Molecular biology / Transposon / Plant / Chromosome / Transformation / Insertion / DNA / Agrobacterium / Mutation / Origin / Differentiation

**Plant improvement by directed transformation with the Ti plasmid of Agrobacterium tumefaciens**  
 Plantenveredeling door gerichte transformaties met het Ti plasmide van Agrobacterium tumefaciens  
 Van montagu, M.  
 Plant / Transformation / Plasmid / Agrobacterium / Gene technology

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**Development and selection of yeast hybrids (nr. 3604)**  
 Ontwikkeling en selectie van gisthybriden (nr. 3604)  
 Vandamme, E.  
 Yeast / Hybridization / Fermentation / Bioprocess engineering / Baking yeast / Gene technology / Protoplast / Industry

**Microbial production of an industrial polysaccharide (xanthan)**  
 Microbiële productie van een industrieel polysaccharide (xanthaan)  
 Van loo, J.  
 Production / Microbial / Industry / Production scale / Xanthan

**In vitro enzymatic synthesis of oligopeptide antibiotics**  
 In vitro enzymatische synthese van oligopeptide antibiotica  
 Vandamme, E.  
 In vitro / Enzymatic / Synthesis / Peptide / Antibiotic / Microbiology / Bacterium / Toxin / Bioreactor / Biochemistry / Genetics / Pharmaceutical industry

**Microbial study of the production of biogas from agricultural wastes**  
 Microbiële studie van de biogasproductie uit landbouwafvalstoffen  
 Van assche, P.  
 Waste / Agriculture / Energy / Biogas / Microbial / Optimization / Fermentation / Bioprocess engineering

**Biosynthesis, characterization and immobilisation of microbial lipases**  
 Biosynthese, karakterisatie en immobilisatie van microbiële lipasen  
 Vandamme, E.  
 Biosynthesis / Immobilization / Microbial / Lipase / Industry / Biological / Catalysis

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**Regulation of hematopoiesis. Influence of lymphokines**  
 Regulatie van de hematopoïese. Invloed van lymfokines  
 Noens, L.  
 Lymphokine / Cultivation / Assay / Cloning / Hematology / In vitro / Proliferation / Differentiation

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**Introduction and development of recombinant DNA analysis in the study and diagnosis of human heredity disorders**  
 Invoeren en ontwikkelen van DNA-technologische methoden voor de studie van genetische afwijkingen van de mens  
 Leroy, J.  
 Recombination / DNA / Diagnosis / Disease / Gene / Prenatal / Human genetics / Molecular biology

**Prenatal diagnosis and carrier detection of Duchenne muscular dystrophy (DMD). A model of applied molecular biology in clinical diagnosis and prevention**  
 Prenatale diagnose van dystrophia musculorum van Duchenne (DMD) en detektie van de heterozygote toestand bij vrouwelijke verwanten aan de hand van DNA-restriktie-fragment-lengtepolymorfismen (rflp): model voor diagnose en preventie  
 Leroy, J.  
 Diagnosis / Prenatal / Muscle / DNA / Recombination / Molecular biology / Chromosome / Human genetics

**Chromosome studies in infants with congenital anomalies and/or psychomotor retardation**  
 Chromosomen studies van kinderen met congenitale anomalies en/of psychomotorische retardatie  
 Leroy, J.  
 Medicine / Chromosome / Congenital / Disease

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**Production of industrially important microbial products with immobilized biocatalysts**  
 Productie van industrieel belangrijke microbiële producten met geïmmobiliseerde biokatalysatoren  
 Huyghebaert, A.  
 Immobilization / Biological / Catalysis / Fermentation / Cell / Enzyme / Cofactor / Nutritional branch / Laboratory scale / Bioreactor

**Immobilized biocatalysts in fat technology**  
 Geïmmobiliseerde biokatalysatoren in de vetsector  
 Huyghebaert, A.  
 Immobilization / Biological / Catalysis / Fat / Food technology / Nutritional branch / Lipophilic / Substrate / Fatty acid

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**Study of Artemia biomass**  
 Studie van Artemia biomassa  
 Sorgeloos, P.  
 Biomass / Cultivation / Production

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 Toegepaste Microbiële Ecologie  
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**Microbial metabolism and biodegradation of recalcitrant organic phosphorous compounds of the type phosphonic acid and phytic acid**  
 Mikrobieel metabolisme en biodegradatie van rekalcitrante fosforhoudende organische molekulen van het type fosforzuur en fytinezuur  
 Verstraete, W.  
 Ecology / Water / Purification / Microbiology / Degradation / Organic substance / Phosphorus containing / Environment / Waste water / Environmental biotechnology

**Soil microbiological and biotechnological aspects of the valorisation of secondary raw materials in agriculture**  
 Bodemmikrobiologische en biotechnologische aspecten van de valorisatie van sekundaire grondstoffen in de landbouw  
 Verstraete, W.  
 Soil / Microbiology / Secondary / Raw material / Agriculture / Environment

**Development and study of polyurethane foams as a carrier material for microorganisms in biomethanisation reactors**  
 De ontwikkeling en bestudering van polyurethaanschuimen als dragermateriaal voor micro-organismen in biomethanisatie-reactoren  
 Verstraete, W.  
 Carrier material / Methane / Bioreactor / Bioprocess engineering

**Pilot installation dry anaerobic composting**  
 Piloottinstallatie droge anaerobe kompostering (dranco)  
 Verstraete, W.  
 Pilot scale / Compost / Anaerobic / Dry / Fermentation / Urban / Waste / Optimization / Organic / Bioprocess engineering / Microbiology / Environmental biotechnology / Environment

**Microbiological production of hydrogen gas**  
 H<sub>2</sub>-productie door middel van prokaryoten  
 Verstraete, W.  
 Microbial / Ecology / Bioreactor / Laboratory scale / Prokaryote / Hydrogen / Biogas / Microbiology / Energy

**Straw-whey fermentation**  
 Stro-wei fermentatie  
 Verstraete, W.  
 Whey / Fermentation / Lactic acid / Microbiology

**Seed bacterisation**  
 Zaadbacterisatie  
 Verstraete, W.  
 Agricultural sciences / Agriculture / Germ cell / Soil / Microbiology / Pilot scale

**Study of the pretreatment of organic solid wastes that are submitted to dry anaerobic fermentation**  
 Studie van de voorbehandeling van organische vaste afval dat anaeroob droog vergist wordt  
 Verstraete, W.  
 Organic / Solid / Waste / Dry / Fermentation / Anaerobic / Compost / Immobilization / Heavy metal / Bioprocess engineering

**Interspecies hydrogen transfer**  
 Interspecies waterstof transfer  
 Verstraete, W.  
 Hydrogen / Transfer / Fermentation / Microbiology / Bacterial / Industry

**Biomethanation of solid cellulose and lignocellulose containing substrates**  
 Biomethanisatie van vaste cellulose- en lignocellulosehoudende substraten  
 Verstraete, W.  
 Methane / Biogas / Cellulose / Lignocellulose / Solid / Substrate / SCP / Fermentation / Microbial / Bioprocess engineering

**Biogas production on the farm**  
 Biogaswinning op de boerderij  
 Verstraete, W.  
 Biogas / Energy / Waste / Anaerobic / Bioprocess engineering / Agriculture / Fermentation / Microbiology

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**Senescence of plants**  
 Senescentie van planten  
 De pooter, H.  
 Plant / Organic chemistry / Aromatic substance

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 Toegepaste Wiskunde en Biometrie  
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**Study and modelling of microbial transient processes aimed at raising product synthesis in biotechnology**  
 Studie en modelbouw van microbiele transient-processen voor verhoogde produktsynthese in de biotechnologie  
 Spriet, J.  
 Modelling / Bioprocess engineering / Production / Optimization / Microbiology

**Optimization of the cultivation of methanobacteria by system analytical techniques**  
 Optimalisatie van de kweek van methaanbacterien via systeemanalyse-technieken  
 Vandebroek, R.  
 Methanobacterium / Systems analysis / Optimization / Cultivation / Bioprocess engineering

**Development of host-vector systems and fermentation technology aimed at efficient expression of cloned genes**  
 Het ontwikkelen van gast-vectorsystemen en fermentatietechnologie om gekloneerde genen efficiënt tot expressie te brengen  
 Botterman, J.  
 Host / Fermentation technology / Cloning / Gene / Expression / Molecular genetics

**Development of general highly efficient systems for the synthesis of cloned gene products by a combination of gene manipulation and mathematical modelling in fermentation studies. Analysis and control of non-linear gradually continuous models**  
 Ontwikkeling van algemene hoog-efficiënte systemen van gecloneerde genproducten te synthetiseren door een combinatie van gen-manipulatie en mathematische modelbouw in fermentatie-studies. Analyse en controle van niet-lineaire stukgewijs continue modellen  
 Vansteenkiste, G.  
 Industry / Cloning / Gene technology / Modelling / Fermentation technology / Control

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**Functional role of interleukine-2 receptor and interleukine-2 in the differentiation and proliferation of thymocytes within the murine thymus**  
 Rol en functionele betekenis van de interleukine-2 receptor en van interleukine-2 in de differentiatie en proliferatie van de prothymocyten ter hoogte van de thymus bij de muis  
 Plum, J.  
 Interleukine / Growth / Hormone / Differentiation / Proliferation / Receptor / Thymus / Monoclonal / Antibody / Cell biology

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**Light-dependent formation of hydrogen gas by Rhodospirillaceae**  
 Lichtafhankelijke waterstofgasvorming bij de Rhodospirillaceae  
 Stevens, P.  
 Rhodospirillaceae / Microbiology / Hydrogen / Biogas / Energy

**Anaerobic production of hydrogen gas by saccharolytic Clostridia**  
 Anaerobe waterstofgasproductie door saccharolytische Clostridia  
 De ley, J.  
 Clostridium / Anaerobic / Biogas / Hydrogen / Energy / Microbiology

**Bacterial conversion of low-grade biomass polymers to high-energetic liquid fuels**  
 Bacteriele omzettingen van laagwaardige biomassa polymeren tot hoog-energetische vloeibare brandstoffen  
 De ley, J.  
 Biomass / Clostridium / Hydrolysis / Enzymatic / Ethanol / Zymomonas / Microbiology / Liquid / Fuel / Energy / Polymer / Vegetable

**Interspecies hydrogen transfer**  
 Interspecies waterstof-transfer  
 De ley, J.  
 Hydrogen / Transfer / Fermentation / Microbiology / Whey / Bacterial / Oxidation / Alcohol / Industry / Raw material

**Production of energy sources by bacteria: liquid fuel ethanol production by bacteria, gaseous fuel production by anaerobic bacteria and by photosynthetic bacteria**

Productie van energiebronnen door bacteriën: productie van vloeibare ethanol-brandstof door bacteriën, productie van gasbrandstof door anaerobe bacteriën en door fotosynthetische bacteriën  
De ley, J.  
Production / Anaerobic / Bacterium / Photosynthesis / Energy / Liquid / Fuel / Ethanol / Biomass / Bacterial / Microbiology

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**Expression of heterologous genes in different host cells of bacterial and eukaryotic origin: optimization of the expression levels and characterization of the engineered gene products**

Expressie van heterologe genen in diverse bacteriele systemen en in eukaryoten: optimalisatie van de expressieniveaus en karakterisatie van de geëxprimeerde genproducten  
Fiers, W.  
Gene / Expression / Molecular genetics / Host / Bacterium / Eukaryote / Antigen / Mutation / Origin

**Determination of the functional domains of the B-chain of the Ricinus communis toxin and construction, by genetic manipulation, of tumor cell-directed immunotoxin with high toxicity and improved cell penetration properties**

Bepaling van de functionele domeinen van de B-keten van het Ricinus communis toxine en constructie via genetische manipulatie en kankergerichte immunotoxinen met hoge toxiciteit en verbeterde celpenetratie-eigenschappen  
Fiers, W.  
Immunoglobulin / Toxin / Gene technology / Tumour

**Development of a highly efficient expression vector on the basis of a controlled teitha-pl transcription system cloned in a heteroimmune bacteriophage**

Ontwikkeling van een hoog efficiënte expressievector op basis van een gecontroleerd teitha-pl-transcriptiesysteem gekloond in een hetero-immune faag  
Vanmechelen, E.  
Expression / Vector / Cloning / Molecular biology / Transcription / Bacteriophage

**Molecular cloning of a human il2 gene; characterization and biochemical and cell biological study of the recombinant gene product**

Moleculaire klonering van een humaan il2 gen; karakterisatie, biochemisch en celbiologisch onderzoek van het recombinant gen-product  
Plaetinck, G.  
Molecular biology / Gene / Cloning / Recombination / Biochemistry

**Natural interleukine-2 antagonist: occurrence, detection and molecular cloning**

Natuurlijke interleukine-2 antagonist: voorkomen, detectie en moleculaire klonering  
Vanhaesebroeck, B.  
Interleukine / Molecular biology / Cloning

**Preparation of tumour antigen directed mouse-human hybrid immunoglobulins with cytotoxic properties by genetic manipulation techniques**

Bereiding van tumor-antigen gerichte muis-niëns hybride immunoglobulinen met cytotoxische eigenschappen via technieken van genetische manipulatie  
Feys, V.  
Molecular biology / Tumour / Antigen / Gene technology / Mouse / Human / Immunoglobulin

**Expression of the human fibroblast interferon gene in Saccharomyces cerevisiae**

Expressie van het menselijk fibroblast interferon gen in Saccharomyces cerevisiae.  
Kempnaers, W.  
Molecular biology / Human / Gene / Expression / Fibroblast / Interferon / Yeast / Gene technology

**Satellite tobacco necrosis virus as expression system in higher plants**

Satellietobacco necrosis virus als expressiesysteem in hogere planten  
Ameloot, P.  
Gene / Expression / Molecular biology / Plant / Virus

**Cloning and characterization of the dog-interferon gene and biological characterization of the dog-interferon protein**

Klonering en karakterisatie van de hond-interferon genen en biologische karakterisatie van de hond-interferon eiwitten  
Devos-vercauteren, K.  
Gene / Cloning / Interferon / Molecular biology

**Cloning and molecular characterization of the streptavidine gene in order to enable further applications of the streptavidine-biotin complex**

Klonering en moleculaire karakterisering van het streptavidine-gen om verdere toepassingen van het streptavidine-biotine complex mogelijk te maken  
Lesage, A.  
Gene / Cloning / DNA / Recombination / Molecular genetics / Regulation

**Study of the structure-function relationship of human interferons and interleukine-2**

Studie van de structuur-functie relatie van menselijke interferons en interleukine 2 door middel van gesupprimeerde nonsense-mutanten van de gekloneerde genen  
Gemoets, B.  
Molecular biology / Interferon / Interleukine / Structure / Protein / Gene / Cloning / Mutation / Suppression

**Study of the relation between structure and function of proteins by means of protein engineering**

Studie van het verband tussen structuur en functie van eiwitten door middel van "protein engineering"  
Verhoeven, M.  
Molecular biology / Protein design / Antigen / Flu / Gene / Cloning / Expression

**Genetic manipulation of fungi: elaboration of a dominant transformation system**

Genetische manipulatie bij schimmels: uitwerken van een dominant transformatiesysteem  
Fiers, W.  
Molecular biology / Gene technology / Dominant / Transformation / Fungus / Human / Protein / Synthesis / Transcription

**Characterization and molecular cloning of B-cell differentiation factors**

Karakterisatie en moleculaire klonering van B-cel differentiatiefactoren  
Vandenabeele, P.  
Molecular biology / Cloning / Lymphocyte / Differentiation

**Gene expression in eukaryotes: characterisation of secreted proteins and their corresponding genes in normal and transformed cells of human origin**

Eukaryotische genexpressie: karakterisatie van gesecreteerde eiwitten en hun overeenkomstige genen in normale en getransformeerde cellen van menselijke oorsprong  
Haegeman, G.  
Molecular genetics / Eukaryote / Gene / Expression / Protein / Transformation

**The use of plant RNA-viruses as vectors for expression of heterologous genes in plants**

Studiecomité voor biotechnologie (plantengenetica III). Het gebruik van plant RNA-virussen als vectoren voor expressie van heterologe genen in planten  
Fiers, W.  
Gene / Expression / Plant / RNA virus / Vector / Replication / Cloning / Molecular biology / Gene technology / Genome / Mutation / Nucleotide / Sequence

**Genetic engineering: expression of genes in heterologous systems**

Genetische engineering: expressie van genen in heterologe systemen  
Fiers, W.  
Molecular biology / Gene / Expression / Transcription / Translation

**Structure and expression of coding and regulating genetic material**

Struktur en expressie van coderend en van gereguleerd genetisch materiaal  
Fiers, W.  
Coding / Regulation / Gene / Expression / Molecular biology / RNA / Secretion / Flu / Eukaryote / Virus

**Expression and role of transformation-inducing and transformation-associated genes, molecular approaches specific chemotherapy**

Expressie en rol van transformatie-inducerende en transformatie-geassocieerde genen, moleculair-gestuurd, gerichte chemotherapie  
Fiers, W.  
Expression / Transformation / Chemotherapy / Molecular biology / Gene / Primate / Cancer / Human / Phosphatase / Medicine

**Control and functional expression of the human transformation-associated antigen P53**

Kontrol en functionele expressie van het menselijk transformatie-geassocieerd antigen P53  
Van roy, F.  
Regulation / Expression / Antigen / Transformation / Molecular biology / Protein / Virus / Cloning

**Functional analysis of planned reconstructions of macromolecules**

Funktionele analyse en geplande restrukturaties van makromolekulen  
Fiers, W.  
Gene technology / Expression / Molecular biology / DNA / Plasmid / Prokaryote / Eukaryote / Mutation / Origin / Modification / Replication / Transcription / Translation / Virus / Flu

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**Enzymatic retting of flax**

Het enzymatisch roten van vlas  
Van sumere, C.  
Enzymatic / Bioreactor / Bioprocess engineering / Cell wall / Vegetable / Optimization

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**Enzyme-catalysed labeling of some monoclonal antibodies with <sup>76</sup>Br and <sup>77</sup>Br positron emitters and the positron emission tomographic use of these labeled compounds in radioimmunosintigraphy of tumors**

Enzym gekatalyseerde merking van enkele monoclonale antilichamen met <sup>76</sup>Br en <sup>77</sup>Br positronstralers en de positron emissie-tomografische toepassing van deze gemerkte verbindingen bij radioimmunosintigrafie van tumoren.  
De schrijver, A.  
Monoclonal / Antibody / Tumour / Radiology / Tomography

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Faculteit der Landbouwwetenschappen, Leerstoel Tuinbouw, Laboratorium voor Tuinbouwplantenteelt met Proefbedrijf Coupure Links 653  
9000  
Gent  
☎ +32 91 236961

**Flower induction of ornamental plants**

Bloeiinductie bij siergewassen  
Boesman, G.  
Induction / Useful plant / Agricultural sciences / Agriculture / Hormone / Biology / Regulation

**Ornamentals and vegetables under glass.**

Control of growth and development  
Sierplantenteelt en groenteteelt onder glas.  
Groei-beheersing  
Boesman, G.  
Agricultural sciences / Agriculture / Useful plant / Regulation / Development / Growth / Vegetable / Induction

**Tissue culture, control of growth and development**

In vitro cultuur, groei-beheersing  
Boesman, G.  
Cultivation / Regulation / Growth / Development / In vitro / Useful plant / Agricultural sciences / Agriculture

**Rijksuniversiteit Gent**

Faculteit der Landbouwwetenschappen, Laboratorium voor Voeding en Hygiëne Proefhoevestraat 10  
9230  
Melle  
☎ +32 91 236961

**Rumen metabolism**

Pensmetabolisme (comite voor de studie van de voeding van het vee)  
Henderickx, H.  
Veterinary medicine / Bovine animal / Feed / Protein / Metabolism / Polyalcohol / Synthesis / Degradation / Microbial / Biochemistry

**Rijksuniversiteit Gent**

Faculteit der Wetenschappen, Laboratorium voor Biochemie Ledeganckstraat 35  
9000  
Gent  
☎ +32 91 227821

**Carbohydrate metabolising enzymes in the processing of bio-mass: depolymerisation and conversion of monosaccharides**

Carbohydraten-metaboliserende enzymen voor het nuttig gebruik van de biomassa: depolymerisatiereactie en omzetting van de monosacchariden  
De bruyne, C.  
Biochemistry / POLYALCOHOL / Metabolism / Biomass / Isomerase / Enzymology / Monosaccharide / Kinetics / Hydrolysis

**Université Catholique de Louvain**

Faculté des Sciences Agronomiques, Unité de Biochimie Physiologique  
Place Croix du Sud 1  
1348  
Louvain-la-Neuve  
☎ +32 10 473615

**In vitro cultivation of plants and transformation of the mitochondrial genetic make-up**

Culture in vitro" de plantes et transformation du patrimoine genetique mitochondrial  
Magnien, E.  
Cultivation / In vitro / Mitochondrion / Regeneration / Plant / Agricultural sciences / Agriculture / Genetics

**Molecular analysis of cytoplasmic male sterility aimed at the improvement of cultivated plants**

Analyse moleculaire de la sterilité male cytoplasmique dans un but d'amélioration des plantes cultivées  
Leterme, S.  
Sterility / Cytoplasm / Male / Plasmid / Mitochondrion / DNA / Cultivation / Plant / Agricultural sciences / Agriculture / Translation / Molecular biology

**Recombination and replication of mitochondrial DNA in the yeast *Saccharomyces cerevisiae***

Recombinaison et replication du DNA mitochondrial chez la levure *Saccharomyces cerevisiae*  
Genga, A.  
Recombination / Replication / DNA / Mitochondrion / Yeast / Cloning / Sequencing / Gene / Expression / Endonuclease / Polymerase / Molecular genetics / Cell biology

**Université Catholique de Louvain**

Faculté des Sciences Agronomiques, Unité de Chimie des Interfaces  
Place Croix du Sud 1  
1348  
Louvain-la-Neuve  
☎ +32 10 473589

**Immobilization of microorganisms and properties of the interface**

Immobilisation de microorganismes et propriétés d'interface  
Matta, A.  
Immobilization / Adhesion / Carrier material / Microorganism / Modelling / Adsorption / Ion / Yeast / Interface / Enzyme / Physical chemistry

**Université Catholique de Louvain**

Faculté des Sciences Agronomiques, Unité de Génie Biologique  
Place Croix du Sud 1  
1348  
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**Evaluation and design of depolluting bioconversion procedures (aerobic purification of waste water)**

Evaluation et conception de procedes de bioconversion depolluante (epuration aerobie d'eaux residuales)  
Monzambe, K.  
Waste water / Aerobic / Purification / Biotransformation / Quality control / Surface water / Biogas / Fermentation / Anaerobic / Bioreactor / Bioprocess engineering / Energy / Environment

**Development of energy bioconversion procedures (biomethanation) in development countries**

Developpement de procedes de bioconversion energetique (biomethanisation) dans les pays en voie de developpement  
Motte, D.  
Bioprocess engineering / Methane / Energy / Biotransformation / Bioreactor

**Technical and socio-economic evaluation and integration of biotechnology (biomethanation), particularly in the framework of agro-industry and rural environment**

Evaluation et integration technique et socio-economique de biotechnologies (biomethanisation) plus particulierement dans un cadre agro-industriel ou en milieu rural  
Demuyne, M.  
Industry / Agriculture / Environment / Methane / Bioprocess engineering / Biogas

**Design of new biomethanation procedures and development of pilot plants**

Conception et suivi de digesteurs methaniques classiques en grande taille  
De faveri, L.  
Methane / Pilot scale / Bioprocess engineering / Bioreactor / Biomass / Substrate / Industry / Agriculture

**Design and scientific study of large-scale classical methane fermenters**

Conception et suivi de digesteurs methaniques classiques en grande taille  
Verougstraete, A.  
Bioreactor / Methane / Industry / Production scale / Laboratory scale / Fermentation / Agriculture / Bioprocess engineering

**Modelling, control and automation of anaerobic bioreactors**

Modelisation, regulation et automation de reacteurs anaerobies  
Monzambe, K.  
Modelling / Control / Automation / Anaerobic / Bioreactor / Bioprocess engineering / Methane / Fermentation / Kinetics / Thermodynamics

**Evaluation of energetic bioconversion processes (biomethanation)**

Evaluation des processus de bioconversion energetique (biomethanisation)  
Van gansberghe, F.  
Biotransformation / Bioprocess engineering / Methane / Urban / Waste / Energy / Environment / Bioreactor

**Fermentation profiles in anaerobic septic fermentation**

Profils de fermentation en fermentation anaerobie septique  
Verougstraete, A.  
Fermentation / Anaerobic / Bioreactor / Methane / Biomass / Modelling / Substrate / Bioprocess engineering / Liquid

**Study of the laws governing microbial ecology in industrial processes**

Etude des lois gerant l'ecologie microbienne industrielle  
Poncelet, D.  
Ecology / Microbial / Industry / Methane / Bioprocess engineering / Immobilization / Bioreactor

**Metrology of bioconversion procedures, particularly of biomethanation**

Metrologie des procedes de bioconversion et plus particulierement de biomethanisation

Beckers, G.

Methane / Anaerobic / Waste / Urban / Bioprocess engineering / Biotransformation / Environment

- **Université Catholique de Louvain**  
Faculté des Sciences Agronomiques, Unité de Microbiologie  
Place Croix du Sud 3  
1348  
Louvain-la-Neuve  
☎ +32 10 473742

**Study of interactions in mixed populations of microorganisms**

Etude des interactions dans les populations mixtes de microorganismes

Decallonne, J.

Mixed culture / Microorganism / Microbiology / Food / Nutritional branch / Pollution / Interaction

**Alteration of industrial and food products by mushrooms, lichens, algae and bacteria**

Alteration des produits industriels et alimentaires par les champignons, lichens, algues et bacteries

Hennebert, G.

Food / Nutritional branch / Industry / Alga / Bacterium / Microbiology / Biotransformation

- **Université Catholique de Louvain**  
Faculté de Médecine, Unité de Biologie et de Pharmacologie Cellulaire  
UCL 75.50, Avenue Hippocrate 75  
1200  
Bruxelles  
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**Development of drug carriers of lipoprotein nature. In vitro biological studies of lipoproteins**

Developpement de transporteurs de medicaments de nature lipoproteiques. Etudes biologiques in vitro des lipoproteins

Gerin, Y.

Drug / Carrier material / Lipid / Protein / Pharmacology

**Control of anti-infectious drugs by coupling them covalently to macromolecular carriers**

Pilotage de medicaments anti-infectieux par couplage covalent a des transporteurs macromoleculaires

Ceulemans, F.

Drug / Covalent / Carrier material / Macromolecular / Pharmacology / Chemotherapy / Monoclonal / Antibody / Cancer

**Control of antitumour drugs by coupling them to carriers which are recognized specifically by cancer cells**

Pilotage de medicaments anti-tumoraux par couplage a des transporteurs reconnus specifiquement par les cellules cancreuses

Gerin, Y.

Drug / Recognition / Carrier material / Transport / Monoclonal / Antibody / Cancer / Antigen / Diagnosis / Pharmacology / Immunology / Cell

- **Université Catholique de Louvain**  
Faculté des Sciences, Unité de Botanique Générale  
Carnoy, Place Croix du Sud 4  
1348  
Louvain-la-Neuve  
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**Influence of several environmental factors on the biological reduction of nitrogen with the aim to increase the yield of proteins**

Influence de divers facteurs du milieu sur la reduction biologique du diazote dans le but d'accroitre le rendement en proteines

Okoronkwo, N.

Environment / Reduction / Nitrogen / Hydrogenase / Diazotrophic / Azotobacter / Cultivation / Nutritional branch / Plant / Botany / Protein / Agriculture

- **Université Catholique de Louvain**  
Faculté de Médecine, Laboratoire de Chimie Physiologique  
UCL 75.39, Avenue Hippocrate 75  
1200  
Bruxelles  
☎ +32 10 477647

**Multidisciplinary biochemical, morphological and immunological study of endocytosis in polymorphonuclear neutrophils**

Etude combinee biochimique, morphologique et immunologique de l'endocytose dans les polymorphonucleaires neutrophiles

Zenebergh, A.

Biochemistry / Immunology / Monoclonal / Antibody

**Development of antibiotics capable of acting on intracellular infections**

Mise au point d'antibiotiques capables d'agir dans les infections intracellulaires

Bottcher, P.

Intracellular / Infection / Antibiotic / Vector / Macrophage / Chemistry / Immunology

- **Université Catholique de Louvain**  
Faculté de Médecine, Laboratoire d'Hématologie  
UCL 30.52, Clos-Chapelle-aux-Champs 30  
1200  
Bruxelles  
☎ +32 10 477647

**Preparation and characterization of monoclonal antibodies of therapeutic interest in certain cancers**

Preparation et caracterisation d'anticorps monoclonaux d'interet therapeutique dans certains cancers (purgé d'autogreffe de moelle osseuse)

Michaux, J.

Cancer / Monoclonal / Antibody / Immunotherapy / Cell / Nerve / Tumour / Lung / Leukemia

- **Université Catholique de Louvain**  
Faculté de Médecine, Unité Hormones et Métabolisme  
UCL 75.29, Avenue Hippocrate 75  
1200  
Bruxelles  
☎ +32 10 477647

**Action mechanisms of steroid hormones and of their antagonists**

Mecanismes d'action des hormones steroides et de leurs antagonistes

Crepin, K.

Steroid / Gene / Expression / Receptor / DNA / Molecular genetics / Anabolic / Kinase / Endocrinology / Pharmacology

**Polypeptide hormone receptors**

Recepteurs des hormones polypeptidiques

Smal, J.

Hormone / Polypeptide / Receptor / Monoclonal / Antibody / Endocrinology / Immunology / Clinical / Diabetes

- **Université Catholique de Louvain**  
Faculté de Médecine, Unité d'Immunologie Expérimentale  
UCL 30.56, Clos-Chapelle-aux-Champs 30  
1200  
Bruxelles  
☎ +32 10 477647

**Purification of different wall proteins of Streptococcus mutans from monoclonal antibodies to which they give birth**

Purification des differentes proteines de paroi de Streptococcus mutance a partir d'anticorps monoclonaux auxquels ils donnent naissance

Ackermans-claes, F.

Monoclonal / Antibody / Immunology / Protein / Purification / Streptococcus

**Immunocytomas of rats of the Louvain strain**

Immunocytomes des rats de souche Louvain

Grognet, P.

Immunology / Hybridoma / Rat / Protein / Monoclonal / Antibody

- **Université Catholique de Louvain**  
Unité de Génétique Moléculaire  
UCL 74.49, Avenue Hippocrate 74  
1200  
Bruxelles  
☎ +32 10 477647

**Structure and function of viral genome. Genetic engineering**

Structure et fonction d'un genome viral. Genie genetique

Fadhy, R.

Viral / Genome / Gene technology / Restriction / Cloning / Expression / Gene

- **Université Catholique de Louvain**  
Faculté de Médecine, Unité de Microbiologie  
UCL 54.90, Avenue Hippocrate 54  
1200  
Bruxelles  
☎ +32 10 477647

**Experimental toxoplasmosis in the mouse**

La toxoplasmose experimentale chez la souris

Stadtsbaeder, S.

Mouse / Immunology

**Study of human parvoviruses**

Etude des parvovirus humains

Cornu, C.

Parvovirus / Antigen / Serology / Virology

**Study of virulence plasmids of Salmonella**

Etude des plasmides de virulence des Salmonella

Michiels, T.

Gene / Mapping / Plasmid / Salmonella / Bacteriology / Molecular genetics

**Application of the DNA-DNA hybridization technique for the diagnosis of bacterial infections**

Application de la technique d'hybridation ADN-ADN au diagnostic des infections bacteriennes (Campylobacter jejuni. Mycoplasma pneumoniae)

Derclaye-bouttefeux, I.

DNA / Hybridization / Diagnosis / Infection / Bacteriology / Mycoplasma

**Maintenance of two collections of bacterial strains**

Maintenance de deux collections de souches bacteriennes

Delmee, M.

Organism collection / Plasmid / Clinical / Bacteriology

**Resistance and metabolic plasmids and transposons**

Plasmides et transposons de resistance et metaboliques

Michiels, T.

Resistance / Plasmid / Transposon / Microbiology

**Université Catholique de Louvain**  
Faculté des Sciences, Laboratoire de Biochimie

Lavoisier, Place Louis Pasteur 1  
1348

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**Chemical synthesis of DNA and of modified nucleosides**

Synthèse chimique d'ADN et de nucleosides modifies

Ma, Y.

DNA / Nucleoside / Synthesis / Immobilization / Biochemistry

**Biotechnology of enzymes**

Biotechnologie des enzymes

Montaine, F.

Enzyme technology / Immobilization / Cofactor / Biosensor / Glucose / Industry

**Université Catholique de Louvain**

Faculté des Sciences, Unité de Génétique Carnoy, Place Croix du Sud 4  
1348

Louvain-la-Neuve

☎ +32 10 473435

**Cloning and molecular study of genes of the rrm It system of Salmonella typhimurium**

Clonage et étude moléculaire des genes du systeme rrm It de Salmonella typhimurium

Colson, C.

Cloning / Molecular genetics / Salmonella

**Study of the genetic factors influencing the stability of bacterial recombinant plasmids**

Etude de facteurs genetiques influencant la stabilité de plasmides bacteriens recombinants

Colson, C.

Recombination / Bacterial / Plasmid / Molecular genetics

**Production of lipases by cloning in Saccharomyces cerevisiae**

Production de lipases par clonage dans Saccharomyces cerevisiae

Van damme, E.

Lipase / Cloning / Yeast / Production / Gene technology

**Production of amylases by cloning in Bacillus subtilis**

Production d'amylases par clonage dans Bacillus subtilis

Lejeune, P.

Amylase / Cloning / Bacillus / Production / Gene technology

**Utilization of genetically engineered yeast strains**

Mise en oeuvre de souches de levures construites par genie genetique

Crahay, J.

Yeast / Gene technology

**Cloning and characterization of cDNA of crystallines**

Clonage et caracterisation du cDNA de cristallines

Verhaeghe-feron, C.

Cloning / cDNA / Gene technology

**Universitaire Instelling Antwerpen**

Departement Biologie

Universiteitsplein 1

2610

Wilrijk

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**Functional aspects of endogenous plant growth regulators in relation to the growth and the morphogenesis of tobacco crown gall tissues**

Functionele aspecten van endogene plantengroei-regulatoren bij de groei en de morfogenese van tabak crown gall-weefsel

De Greef, J.

Regulation / Morphogenesis / Tobacco / Vegetable / Tissue / Growth / Auxin / Cell biology / Gene technology

**Cyclic AMP and cyclic gmp metabolism in tobacco callus and crown gall tissues**

Camp en cgmp metabolisme in tabakcallus- en crown gall-weefsels

De Greef, J.

Nucleotide / Metabolism / Biochemistry / Tobacco / Tissue / Vegetable / Transformation / Differentiation / Cell biology / Growth

**Universitaire Instelling Antwerpen**

Departement Scheikunde

Universiteitsplein 1

2610

Wilrijk

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**Study of the primary action of light in photomorphogenetic processes by kinetic analysis of endogenous levels and mode of action of plant growth regulators**

Onderzoek van de primaire actie van het licht in fotomorfogenetische processen door kinetische studie van endogeen gehalte en werking van cyclisch AMP en plantengroeieregulatoren

De Greef, J.

Light / Morphogenesis / Plant / Growth / Hormone / Nucleotide / Tobacco / Transformation / Agrobacterium / Regeneration / DNA / Gene / Expression / Biochemistry / Molecular biology

**Universitaire Instelling Antwerpen**

Departement Geneeskunde, Afdeling

Interne Geneeskunde - Gen II

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2610

Wilrijk

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**Therapeutic application of monoclonal antibodies**

Therapeutische toepassing van monoclonale antilichamen

De Broe, M.

Immunotherapy / Monoclonal / Antibody / Immunology / Drug / Intracellular / Cell biology

**Biochemical and immunochemical studies of specific antigens by poly- and monoclonal antibodies in brain, skeletal muscles, blood and cerebrospinal fluid in neurological diseases with glial reaction, demyelination and epilepsy**

Biochemische en immunocytochemische studie van specifieke antigenen door poly- en monoclonale antilichamen in zenuw- en spierweefsel, bloed en cerebrospinaal vocht, in neurologische ziekten met gliale reactie, demyelinisatie en epilepsie

Lowenthal, A.

Biochemistry / Cell biology / Immune / Antigen / Polyclonal / Monoclonal / Antibody / Brain / Muscle / Nervous system / Neurology / Blood / Disease / Origin / Metabolism

**Universitaire Instelling Antwerpen**

Fakulteit der Wetenschappen,

Departement Biochemie

Universiteitsplein 1

2610

Wilrijk

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**Detection of a linked polymorphic DNA locus with Alzheimer disease**

Onderzoek naar een polymorfe DNA merker die genetisch geassocieerd is met de ziekte van Alzheimer

Vandenbergh, A.

Brain / Degeneration / Metabolic disease / DNA / Human genetics / Marker / Biochemistry / Molecular genetics

**Biotechnological research of genetic material in connection with familial inherited diseases**

Biotechnologisch onderzoek van erfelijk materiaal in verband met familiale erfelijke ziekten

Vandenbergh, A.

Human genetics / Biochemistry / Disease / Therapy / Molecular genetics

**(a) molecular evolution of 5 S ribosomal RNA (B) structure of ribosomal RNA and molecular evolution of rRNA genes**

(a) moleculaire evolutie van 5 S ribosomaal RNA (B) structuur van ribosomaal RNA en moleculaire evolutie van rRNA genen

Vandenbergh, A.

Biochemistry / Molecular biology / rRNA / Ribosome / Gene / Evolution / Cloning / Molecular / Sequence / Structure / Secondary / Origin

**Université Libre de Bruxelles**

Faculté des Sciences, Département de Biologie Moléculaire, Unité de

Conformation de Macromolécules Biologiques

Avenue P. Heger, Bât. Préf. No. 2

1050

Bruxelles

☎ +32 2 6422076

**Engineering of an extracellular ribonuclease by gene modification**

Ingenierie d'une endonuclease bacterienne par modification de gene

Wodak-goldstein, S.

Gene technology / Molecular / Modelling / Diffraction / Endonuclease / Ribonuclease / Protein design

**Knowledge base and inference algorithms applied to protein tertiary structure prediction**

Base de connaissance et algorithmes d'inference pour la prediction de structures tertiaires des proteines

Wodak-goldstein, S.

Protein / Structure / Tertiary / Data base / Chemistry

**Université Libre de Bruxelles**

Faculté des Sciences, Service de Biophysique et de Radiobiologie -

Département de Biologie Moléculaire CP 300

Rue des Chevaux 67

1640

Rhode-Saint-Genese

☎ +32 2 3583530

**Mechanism of oncosuppression by parvoviruses**

Mecanisme de l'action anticancereuse des parvovirus

Tuynder, M.

Parvovirus / Suppression / Transformation / Malignant / Cancer / Mammal / Lytic / Molecular biology / Cell



**Parvovirus-based linear animal vectors for production of vaccines and other useful proteins**  
Vecteurs parvoviraux lineaires pour la production de vaccins et autres proteines utiles dans des systemes animaux  
Brandenburger, A.  
Parvovirus / Vector / Cloning / Vaccine / Genome / Viral / Replication / Molecular genetics / Immunology / Mammal

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Faculté des Sciences, Laboratoire de Chimie Biologique CP300  
Rue des Chevaux 67  
1640  
Rhode-Saint-Genese  
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**Study of the mechanism of induction and action of interferons and other cyto- kines**  
Etude du mecanisme d'induction et d'action des interferons et autres cytokines  
Dellis, J.  
Induction / Interferon / Gene / Cloning / Sequence / Expression / Transfection / Cultivation / Molecular genetics

**Production of a recombinant vaccine against AIDS**  
Production d'un vaccin recombinant contre le SIDA  
Jacobs, D." S  
Vaccine / Recombination / Immunology / AIDS / Man

**Production of a recombinant vaccine against Newcastle disease virus**  
Production d'un vaccin recombinant contre le virus de la maladie de Newcastle  
Neyt, C.  
Veterinary medicine / Recombination / Vaccine / Cloning / Expression / Vector / Immunology / Virus / Bird

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Faculté des Sciences, Département de Chimie Physique des Macromolécules aux Interfaces CP 160  
Campus de la Plaine - Boulevard du Triomphe  
1050  
Bruxelles  
☎ +32 2 6400015

**Liposome technology**  
Potentialites biotechnologiques du liposome  
Vanhoorneweder, D.  
Artificial / Membrane biology / Vaccine / Bird / Man / Immunology / Lytic / AIDS / Immunoglobulin / Nuclear medicine / Drug

**Membrane protein structure and topology**  
Structure des proteines membranaires  
Cabiaux, V.  
Membrane biology / Biochemistry / Protein design

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Faculté des Sciences, Laboratoire de Chimie Générale (Chimie des Protéines) CP160  
Avenue F.D. Roosevelt 50  
1050  
Bruxelles  
☎ +32 2 6490030

**Study of the action of interferon**  
Etude de l'action de l'interferon  
Werenne, J.  
Interferon / Bovine animal / Modification / Cell / Virus / Veterinary medicine

□ **Université Libre de Bruxelles**  
Faculté des Sciences, Service de Génétique Appliquée  
Rue de l'Industrie 24  
1400  
Nivelles  
☎ +32 67 287760

**New plasminogen activators**  
Nouveaux activateurs du plasminogene  
Bollen, A.  
Gene technology / Hybridization / DNA

**Production by genetic engineering techniques of a human parasitic antigen**  
Production par genie genetique d'un antigene de parasite humain  
Bollen, A.  
Antigen / Human / Parasitic / Gene technology / Cultivation / Secretion / Genome / DNA / Recombination

**Production by genetic engineering techniques of viral antigens for human vaccination**  
Production par genie genetique d'antigenes viraux en vue de la vaccination humaine  
Bollen, A.  
Gene technology / DNA / Cultivation / Genome / Monoclonal / Antibody / Viral / Antigen / Recombination / Immunology / Vaccine

**Development of biotinylated DNA probes. Use in diagnostic**  
Developpement de sondes a ADN biotinylees. Usage en diagnostic  
Lenders, J.  
DNA / Diagnosis / Chemistry / Hybridization / Genetic / Viral / Pathogen / Medicine

**Production by genetic engineering of a human protein involved in fat transport**  
Production par genie genetique d'une proteine humaine impliquee dans le transport des graisses  
Bollen, A.  
Protein / Human / DNA / Expression / Escherichia / Recombination / Molecular genetics / Gene technology

□ **Université Libre de Bruxelles**  
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Rue des Chevaux 67  
1640  
Rhode-Saint-Genese  
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**Experimental and theoretical analysis of the mechanisms controlling replication, gene expression and differentiation**  
Etude experimentale et theorique des mecanismes de controle de la replication, de l'expression genetique et de la differenciation  
Roscam, J.  
Replication / Gene / Expression / Differentiation / Plasmid / Liver / Nervous system / Regulation / Cell / Molecular biology

□ **Université Libre de Bruxelles**  
Faculté de Médecine et Pharmacie, Laboratoire de Gynécologie et de Recherches sur la Réproduction Humaine Hôpital Saint Pierre CP404, Rue Haute 322  
1000  
Bruxelles  
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**Contribution to the study of in vitro fertilization, development and implantation of the mammalian egg**  
Contribution a l'etude de la fecondation in vitro, du developpement et de l'implantation de l'oeuf de mammifere  
Leroy, F.  
In vitro / Fertilization / Mammal / Implantation / Embryo / Gynecology

□ **Université Libre de Bruxelles**  
Institut Jules Bordet, Service de Médecine Interne, Clinique de Médecine et de Chirurgie CP 401/10  
Rue Heger Bordet 1  
1000  
Bruxelles  
☎ +32 2 5373328

**Study of tumor markers with enzymatic activity**  
Etude des marqueurs tumoraux a activite enzymatique  
Van der auwera, P.  
Marker / Tumor / Enzymatic / Alkaline / Phosphatase / Isoenzyme / Electrophoresis / Monoclonal / Polyclonal / Antibody / Cancer / Digestive system / Clinical / Enzymology

**In vivo production of human monoclonal antibody against CMV antigen**  
Production in vitro d'anticorps monoclonaux humains anti-CMV  
Bron, D.  
In vitro / Monoclonal / Antibody / Human / Lymphocyte / Fusion / Cell / Cloning / Hybridoma / Transfection / DNA virus / Immunology

**Elimination of undesirable cells from the bone marrow of patients with leukemia, using monoclonal antibodies coupled to magnetic particles**  
Elimination de cellules indesirables de la moelle osseuse de patients atteints de leucemie au moyen d'anticorps monoclonaux couples a des particules magnetiques  
Stryckmans, P.  
Bone marrow / Leukemia / Monoclonal / Antibody / Magnetic / Particle / Covalent / Immunology

**Use of liposomes as vectors for water-insoluble drugs in the antimitotic and supportive treatment of cancer patients**  
Utilisation de liposomes comme convoyeurs de medicaments insolubles dans l'eau pour le traitement antimitotique et supportif des cancers  
Coune, A.  
Artificial / Membrane biology / Drug / Cancer / Chemotherapy / Pharmacology

□ **Université Libre de Bruxelles**  
Faculté des Sciences, Laboratoire de Microbiologie, Département de Biologie Moléculaire CP 244  
Campus de la Plaine - Boulevard du Triomphe  
1050  
Bruxelles  
☎ +32 2 6400015

**Applied research. Construction of transformed yeast strains for agro-food applications**  
Recherche appliquee. Construction de souches transformees de levure pour l'industrie agroalimentaire  
Grenson, M.  
Agriculture / Food technology / Industry / Yeast / Production / Cloning / Gene technology

**Applied research. Overproduction of amino acids by yeast and control of their excretion. Development of an automated control system for yeast fermentation**

Recherche appliquée. Surproduction d'acides aminés par la levure et contrôle de leur excretion. Mise au point d'un système de pilotage automatique de la fermentation de la levure Urrestarazu, A.

Amino acid / Yeast / Fermentation / Excretion / Control / Automation / Bioprocess engineering

- **Université Libre de Bruxelles**  
Faculté des Sciences, Institut de Recherches, Laboratoire de Microbiologie Ceria-Coovi  
Avenue Emile Gryson 1  
1070  
Bruxelles  
☎ +32 2 5232080

**Actinomycetes as a new source of enzymes for lignocellulose bioconversion**  
Les Actinomycetes: une nouvelle source d'enzymes pour la bioconversion de la lignocellulose Penninckx, P.

Lignocellulose / Actinomycete / Enzyme / Biotransformation / Degradation / Biochemistry / Genetics

**Structure and evolution of control regions involved in the modulation of genetic expression: genes of the general metabolism in prokaryotes, lower eukaryotes and higher plants**  
Structure et evolution de regions de controle impliquees dans la modulation de l'expression genetique: genes du metabolisme general chez les procaryotes, les eucaryotes simples et les plantes superieures Glansdorff, N.

Prokaryote / Eukaryote / Plant / Evolution / Regulation / Gene / Expression / Transcription / Suppression / Escherichia / Yeast / Cloning / Enzyme / Biosynthesis / Arginine / Pyrimidine / Biochemistry / Molecular genetics

- **Université Libre de Bruxelles**  
Faculté des Sciences Appliquées, Groupe de Microbiologie des Milieux Aquatiques CP 160  
Solbosch-Préfabriqué II - Avenue F.D. Roosevelt 50  
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Bruxelles  
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**Study and modelling of the microbiological processes involved in the functioning of biological contactors in drinking water production**

Etude et modelisation du fonctionnement microbiologique des contacteurs dans le traitement de l'eau potable Servais, P.

Modelling / Microbiology / Drinking water / Production / Biomass / Microbial / Solid / Substrate / Environmental technology

- **Université Libre de Bruxelles**  
Faculté des Sciences, Laboratoire de Physiologie Animale CP300  
Rue des Chevaux 67  
1640  
Rhode-Saint-Genèse  
☎ +32 2 3583530

**Specific manipulation of the antitumor immune response in mice**

Manipulation spécifique de la réponse immunitaire antitumorale chez la souris Urbain, J.

Immunology / Immune system / Mouse / Tumour / Cancer

- **Université Libre de Bruxelles**  
Institut de Philosophie, Séminaire de Logique et de Philosophie des Sciences CP 188  
Avenue F.D. Roosevelt 50  
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Bruxelles  
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**Research in bioethics: (a) the topic of a national committee for ethics; (B) manipulation of human DNA**

Recherches en bioéthique: (a) la question d'un comité national d'éthique; (B) la manipulation du génome humain Susanne, C.

DNA / Human / Gene technology

- **Université de l'Etat à Liege**  
Faculté des Sciences, Département de Botanique, Ecologie Microbienne  
Institut de Botanique, Bât. B22 Sart Tilman 4000  
Liege  
☎ +32 41 563845

**Responses of freshwater microorganisms in the presence of heavy metals**

Activités de microorganismes dulcicoles en présence de substances toxiques (métaux lourds) Martin, P.

Bacterium / Toxic / Fresh water / Heavy metal / Ecology / Microbial / Pollution / Environment

- **Université de l'Etat à Liege**  
Faculté des Sciences, Département de Moléculaire et de Génétique des Microorganismes  
Institut de Botanique, Bât. B22 Sart Tilman 4000  
Liege  
☎ +32 41 563820

**Extrachromosomal genetics in microeukaryotes**  
Genétique extrachromosomique chez les microeucaryotes

Beckers, M.  
Alga / Chloroplast / Mitochondrion / Molecular genetics / Fusion

**Genetic control of resistance to heavy metals in photosynthetic microeukaryotes**

Contrôle génétique de la résistance aux métaux lourds chez les microeucaryotes photosynthétiques Collard, J.

Regulation / Heavy metal / Photosynthesis / Alga / Mutation / Biochemistry / Resistance / Molecular genetics

**Cloning of resistance towards phytopathogens in crop plants**

Introduction des résistances aux phytopathogènes dans les plantes de culture Sadouk, A.

Useful plant / Cloning / Molecular genetics / Plasmid / Bacterium / Toxin / Gene / Expression / Resistance / Agricultural sciences

**Genetic manipulations with plants**

Manipulations génétiques sur des plantes supérieures.

Diels, L.  
Gene / Modification / Tobacco / Cloning / cDNA / Molecular genetics / Growth / Human / RIA / Antigen / Expression / Plasmid / Resistance

**Genetic manipulations with unicellular organisms (bacteria, yeast, algae)**

Manipulations génétiques sur des organismes unicellulaires (bactéries, levures, algues) Dumont, F.

Bacterium / Yeast / Alga / Modification / Gene / Cloning / Molecular genetics / Sequence / Chloroplast / DNA / Nucleus / Phosphatase

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Faculté des Sciences, Département de Botanique, Hormonologie Fondamentale et Appliquée  
Institut de Botanique, Bât. B22 Sart Tilman 4000  
Liege  
☎ +32 41 563845

**Development of different techniques for the micropropagation of plants of industrial, agricultural and pharmaceutical interest**

Developpement de techniques de micropropagation pour des plantes d'intérêt agricole, industriel et pharmaceutique Gaspar, T.

Agriculture / Industry / Cultivation / Tissue / Plant / Botany / Vegetable

- **Université de l'Etat à Liege**  
Faculté des Sciences Appliquées, Département de Génie Chimique, Laboratoire de Génie des Réactions Chimiques  
Institut de Chimie, Bât. B6 Sart Tilman 4000  
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**Treatment and valorization via bacterial routes of industrial wastes containing heavy metals**

Traitement et valorisation par voie bactérienne des rejets industriels contenant des métaux lourds l'homme, G.

Bacterial / Heavy metal / Waste / Industrial / Chemical engineering

- **Université de l'Etat à Liege**  
Faculté des Sciences Appliquées, Département de Chimie Industrielle  
Institut de Chimie, Bât. B6 Sart Tilman 4000  
Liege  
☎ +32 41 561547

**Transformation of monosaccharides by enzymatic catalysis. Regeneration of cofactors**

Transformation des monosaccharides par catalyse enzymatique. Regeneration des cofacteurs Germain, A.

Transformation / Monosaccharide / Catalysis / Enzymatic / Regeneration / Cofactor / Chemical engineering

- **Université de l'Etat à Liege**  
Faculté des Sciences, Département de Cristallographie  
Institut de Physique, Bât. B5 Sart Tilman 4000  
Liege  
☎ +32 41 563618

**Enzymatic engineering: modification of the enzymatic function**

Ingenierie enzymatique: modification de la fonction enzyme Dideberg, O.

Enzyme technology / Protein / Microbiology / Genetics / Biochemistry / Chemistry

- **Université de l'Etat à Liege**  
Faculté de Médecine, Département de Dermatologie  
Boulevard de la Constitution 66, Bât. J8 4020  
Liege  
☎ +32 41 439372

- Artificial skin**  
Peau artificielle  
Lapiere, C.  
Skin / Artificial / Epithelium / Connective tissue / Protein / Toxicology / Transplantation
- Université de l'Etat à Liege**  
Faculté des Sciences, Département de Génie Génétique  
Institut de Chimie, Bât. B6 Sart Tilman  
4000  
Liege  
☎ +32 41 561371
- Development of diagnostic systems and of vaccines against poliomyelitis**  
Mise au point de systemes diagnostiques et de vaccins antigeniques pour la polyomyelite  
Martial, J.  
Diagnosis / Vaccine / Antigen / Disease / Immunology
- Development of diagnostic systems and of antigenic vaccines against mucosal disease in cattle**  
Mise au point de systemes diagnostiques et de vaccins antigeniques pour la maladie des muqueuses chez les bovins  
Schmetz, D.  
Veterinary medicine / Diagnosis / Vaccine / Antigen / Immunology
- Study of the 20K variant of human growth hormone and its production by genetic engineering**  
Etude du variant 20K de l'hormone de croissance humaine et de sa production par genie genetique  
Martial, J.  
Molecular genetics / Growth / Human / Hormone / Production
- Structure of the genes of prolactin and growth hormone: regulation of their expression, directed mutagenesis, expression plasmid**  
Structure des genes de la prolactine et de l'hormone de croissance: regulation de leur expression, mutagenese dirigee, plasmide d'expression  
Belayew, A.  
Gene / Hormone / Expression / Plasmid / Mutation / Origin / Molecular genetics / Growth
- Université de l'Etat à Liege**  
Faculté de Médecine, Département de Gynécologie Obstétrique  
Hôpital de la Citadelle, Boulevard du 12e de Ligne, Bât. J36  
4000  
Liege  
☎ +32 41 256111
- Treatment of human infertility**  
Traitement de l'infertilité humaine  
Sondag-thull, D.  
Infertility / Human / Cryobiology / Mouse / Embryo / Biology
- Study and treatment of female infertility, afferent gynecological microsurgery and in vitro fecondation and replacement of the embryo**  
Etude et traitement de l'infertilité féminine, microchirurgie gynécologique afferente et fecondation in vitro avec remplacement des embryons  
Lambotte, R.  
Infertility / Female / Gynecology / In vitro / Embryo / Fertilization
- Université de l'Etat à Liege**  
Faculté de Médecine, Département d'Hématologie Clinique  
Centre Hospitalier Universitaire, Bât. B33 Sart Tilman  
4000  
Liege  
☎ +32 41 565201
- Study of the transferrin receptor in the plasma. Treatment with recombinant human erythropoietin of patients with end-stage renal disease or with a myelodysplastic syndrome**  
Etude du recepteur de la transferrine dans le plasma. Traitement de l'anemie de l'insuffisance renale et des syndromes myelodysplasiques par erythropoietine humaine "recombinant"  
Beguin, Y.  
Receptor / Blood plasma / Recombination / Disease / Kidney / Hematology
- Allogeneic bone marrow transplantation for aplastic anemia and leukemia**  
Etude de la greffe de moelle osseuse pour le traitement de l'anemie aplastique et de la leucemie  
Bury, J.  
Hematology / Bone marrow / Transplantation / Leukemia / Blood / Disease
- Université de l'Etat à Liege**  
Centre Interfacultaire, Département de Microbiologie, Secteur Bactériologie Fondamentale et Laboratoire de Cristallographie des Protéines  
Institut de Chimie, Bât. B6 Sart Tilman  
4000  
Liege  
☎ +32 41 563396
- The dd-peptidases, beta-lactamases and peptidases of the trypsin family as models of enzyme catalysis. Protein engineering, molecular modelling and drug design**  
Les dd-peptidases, beta-lactamases et peptidases de la famille de la trypsine comme modeles de la catalyse enzymatique. Ingenierie proteique, modelisation moleculaire et conception d'agents therapeutiques nouveaux  
Ghuysen, J.  
Peptide / Lactamase / Trypsin / Enzymatic / Catalysis / Protein design / Modelling / Drug / Cloning / Gene / Sequencing / Mutation / Origin / Downstream processing / Industry / Microbiology / Genetics / Chemistry / Biochemistry / Enzymology
- Genetic and protein engineering applied to dd-peptidases and beta-lactamases**  
Genie genetique et ingenierie proteique des dd-peptidases et beta-lactamases  
Piron-fraipont, C.  
Cloning / Molecular genetics / Protein design / Expression / Gene technology / Sequence / Peptidase / Lactamase / Modification / Mutation / Amino acid / Structure / Primary
- Université de l'Etat à Liege**  
Faculté de Médecine, Département d'Immunohématologie  
Rue dos Fanchon 41, Bât. J17  
4020  
Liege  
☎ +32 41 439616
- Identification of classes and subclasses of blood group antibodies by an immuno-enzymatic method based on the utilization of monoclonal antibodies**  
Identification des classes et sous-classes d'anticorps de groupes sanguins par methode immuno-enzymatique basee sur l'utilisation d'anticorps monoclonal  
Andre, A.  
Monoclonal / Antibody / Immunology / Hematology / Blood group
- Université de l'Etat à Liege**  
Faculté de Médecine, Département de Biologie Cellulaire  
Institut de Pathologie, Bât. B23 Sart Tilman  
4000  
Liege  
☎ +32 41 562410
- Production of monoclonal antibodies against lymphocytic surface markers and against several tumour antigens**  
Production d'anticorps monoclonaux contre des marqueurs de surface lymphocytaires et contre divers antigenes cancéreux  
Firket, H.  
Monoclonal / Antibody / Lymphocyte / Surface / Antigen / Tumour / Cell biology
- Cytotoxic lymphocytes and suppressors, modifications during the evolution of experimental tumours and mechanisms of action**  
Lymphocytes cytotoxiques et supresseurs, modifications au cours de l'evolution des cancers experimentaux et mecanismes d'action  
Schaaf-lafontaine, N.  
Cell biology / Lymphocyte / Tumour / Suppression
- Université de l'Etat à Liege**  
Faculté de Médecine, Institut de Pathologie, Département d'Anatomie Pathologique  
Centre Hospitalier Universitaire, Bât. B35 Sart Tilman  
4000  
Liege  
☎ +32 41 562410
- Study of the mechanisms responsible for cancer development and of the immune response against cancer**  
Etude des mecanismes responsables de la formation des cancers et des reponses immunitaires de l'hote contre le cancer  
Baudrihay, M.  
Cancer / Immunotherapy / Immune system / Immunology / Biochemistry
- Université de l'Etat à Liege**  
Faculté des Sciences, Laboratoire de Photobiologie  
Institut de Botanique, Bât. B22 Sart Tilman  
4000  
Liege  
☎ +32 41 563803
- Chemical and thermal biopurification coupled to the intensive production of algal biomass rich in elaborate products**  
Biodepollution chimique et thermique couplee a la production intensive de biomasse algale riche en produits elabores.  
Bombart, P.  
Biological / Purification / Production / Biomass / Alga / Biology / Chemical / Thermal / Environmental biotechnology

**Research into the production of methane by anaerobic digestion of algae**  
 Recherches sur la production de methane par digestion anaerobie d'algues  
 Dujardin, E.  
 Production / Methane / Anaerobic / Alga / Biology

**Immobilization of biological systems with hydrogenase or nitrogenase activity. Fixation of atmospheric nitrogen of cyanobacteria**  
 Immobilisation de systemes biologiques porteurs d'activite hydrogenasique ou nitrogenasique. Fixation de l'azote atmospherique par les cyanobacteries  
 Brouers, M.  
 Immobilization / Hydrogenase / Nitrogenase / Fixation / Nitrogen / Cyanobacterium / Biology

**Research into the biological production of energy and of vegetable products rich in proteins**  
 Etudes sur la production biologique d'energie et de produits vegetaux riches en proteines  
 Dujardin, E.  
 Production / Energy / Biological / Vegetable / Protein / Biology

□ **Université de l'Etat à Liege**  
 Faculté des Sciences, Département de Biochimie  
 Institut de Chimie, Bât. B6 Sart Tilman  
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 ☎ +32 41 561341

**Directed mutagenesis and identification of odd paired bases**  
 Mutagenese dirigee et identification des bases mal appariees  
 Muller, M.  
 Biochemistry / Mutation / Origin / Recognition

□ **Universite' de l'Etat à Liege**  
 Faculté de Médecine Vétérinaire de l'ULG Cureghem, Département de Virologie, Immunologie et Pathologie des Maladies Virales  
 Rue des Vétérinaires 45  
 1070  
 Bruxelles  
 ☎ +32 2 5225825

**Production of monoclonal antibodies**  
 Production d'anticorps monoclonaux  
 Waxweiler, S.  
 Monoclonal / Antibody / Veterinary medicine / Virus / Diagnosis / Viral / Infection

□ **Vrije Universiteit Brussel**  
 Faculteit der Toegepaste Wetenschappen, Eenheid Chemische Ingenieurstechniek en Industriële Scheikunde  
 Pleinlaan 2  
 1050  
 Brussel  
 ☎ +32 2 6413250

**Gasification of Euphorbia turricali**  
 Vergassing van Euphorbia turricali  
 Buekens, A.  
 Tropical / Useful plant / Energy / Production / Methanol / Bioprocess engineering

**Computer aided analysis and control of biotechnological processes**  
 Computergesteunde analyse en automatisering van biotechnologische processen  
 Baron, G.  
 Computer / Control / Measurement / Simulation / Optimization / Bioprocess engineering / Industry / Biocomputing

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 Faculteit der Geneeskunde en Farmacie, Eenheid Hematologie en Immunologie  
 Pleinlaan 2  
 1050  
 Brussel  
 ☎ +32 2 6412111

**Idiotypes vaccines for B-cell malignancies**  
 Een "vaccin" als behandeling van B-lymfocied kankers  
 Thielemans,  
 Vaccine / Immunology / Lymphocyte / Lymph node / Tumour / Membrane biology / Marker / Mouse / Antibody / Immunoglobulin / Immune system

**Cell technology as a basis for early diagnosis, prevention and treatment of B-lymphoproliferative disorders**  
 Cel-techniek als basis van vroege diagnostiek, preventie en behandeling van B-lymphoproliferatieve ziekten  
 Vancamp, B.  
 Lymphocyte / Malignant / Proliferation / Immunoglobulin / Monoclonal / Marker / Tumour / Immunology / Hematology / Diagnosis / Prophylaxis / Therapy

**Labeling of monoclonal antibodies with immunocytochemical markers**  
 Koppeling van monoclonale antilichamen aan merkers voor immunocytochemie  
 De waele, M.  
 Marker / Monoclonal / Antibody / Cell biology / Immune / Lymphocyte / Microscopy / Immunology

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 Faculteit der Geneeskunde en Farmacie, Eenheid Radioimmunologie  
 Laarbeeklaan 103  
 1090  
 Brussel  
 ☎ +32 2 4774111

**Freezing and managing of embryos**  
 Invriezen en bestuderen van embryo's  
 Vansteirteghem, A.  
 Freeze / Mouse / Embryo / Fertility / Human / In vitro / Fertilization / Transfer / Biology

□ **Vrije Universiteit Brussel**  
 Faculteit der Toegepaste Wetenschappen, Eenheid Analytische Scheikunde  
 Pleinlaan 2  
 1050  
 Brussel  
 ☎ +32 2 6413263

**Biomass and energy saving**  
 Biomassa en terugwinning van energie  
 Elskens, I.  
 Biomass / Optimization / Bioreactor / Upstream processing / Substrate / Bioprocess engineering

□ **Vrije Universiteit Brussel**  
 Faculteit der Wetenschappen, Eenheid Anthropogenetica  
 Pleinlaan 2  
 1050  
 Brussel  
 ☎ +32 2 6413407

**Gene amplification in cancer**  
 Genamplificatie in kanker  
 Kirsch-volders,  
 Human genetics / Amplification / Cancer / rDNA / Recombination / Restriction / Translation / Molecular biology

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 Faculteit der Wetenschappen, Eenheid Biochemie  
 Paardenstraat 67  
 1640  
 Sint-Genesius-Rode  
 ☎ +32 2 3581913

**Fundamental aspects and biomedical applications of bio- and chemiluminescent reactions**  
 Fundamentele aspecten en biomedische toepassingen van bio- en chemiluminescente reacties  
 Schram, E.  
 Bioluminescence / Chemoluminescence / Biochemistry / Clinical / Instrumentation / Assay / Analysis / Kinetics

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 Faculteit der Wetenschappen, Eenheid Biofysica  
 Pleinlaan 2  
 1050  
 Brussel  
 ☎ +32 2 6413357

**The photosynthesis of cyanobacteria in combination with the production of hydrogen gas**  
 De fotosynthese van cyanobacterien (blauwvieren) in verband met de productie van waterstofgas  
 Sybesma, C.  
 Photosynthesis / Cyanobacterium / Hydrogen / Biogas / Energy / Biophysics

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 Faculteit der Wetenschappen, Eenheid Algemene Biologie  
 Paardenstraat 65  
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 ☎ +32 2 3583417

**Study of the immunobiology of the metastasis process. Analysis of tumor-host relations in generation of metastases molecular characterisation of metastasis associated membrane molecules.**  
 Navorsingen aangaande de immunobiologie van het metastase-proces. De analyse van tumor-gastheer relaties in de generatie van metastasen en de moleculaire karakterisatie van metastase-geassocieerde membraanmolekulen  
 Hamers, R.  
 Immunology / Tumour / Host / Membrane biology / Monoclonal / Antibody / DNA / Antigen

**Phylogenetic study of the complex allotypes of the Ig-chain in lagomorpha. Comparative genetic and phylogenetic studies. Interspecific cell hybridisation**  
 Fylogenetische studie van de complexe allotypen van de Ig-keten in de lagomorfen. Opstellen van bandenpatronen der chromosomen met oog op vergelijkend genetische en fylogenetische studies, alsmede interspecifieke celhybridisatie  
 Hamers, R.  
 Immunoglobulin / Origin / Genetics / Cell / Hybridization

**Analysis of macrophage activation by means of a chemiluminescence test system**  
 Analyse van makrofaagactivatie met behulp van een chemiluminescentie-teststelsysteem  
 Debaetselier, P.  
 Macrophage / Activation / Chemoluminescence / Test / Regulation / Monoclonal / Cell biology

**Genetic and cellular engineering**  
 Genetische en cellulaire engineering  
 Hamers, R.  
 Gene technology / Cell

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 Genetische Virologie  
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 ☎ +32 2 3582194

**Isolation of transposable elements from *Petunia hybrida***

Isolatie van transposeerbare elementen uit *Petunia hybrida*  
 Hernalsteens,  
 Plant / Cloning / Insertion / Mutation / Origin /  
 DNA / Transformation / Agrobacterium / Molecular  
 genetics

**Techniques for the identification and molecular cloning of plant genes by insertion mutagenesis**

Technieken voor de identificatie en moleculaire klonering van plantengenen door insertiemutagenese  
 Hernalsteens,  
 Molecular genetics / Cloning / Plant / Gene /  
 Insertion / Mutation / Origin

**Ti-plasmid as a vector for genetic engineering of monocotyledons**

Het Ti-plasmide als vector voor de genetische engineering van monocotylen  
 Neirinckx, L.  
 Gene technology / Plasmid / Vector /  
 Monocotyledon / Useful plant / Agriculture /  
 Nutritional branch

**Introduction in plant cells of a feedback insensitive Thr-a gene**

Introductie van een Thr-a gen in plantencellen dat ongevoelig is voor feed-back  
 Neirinckx, L.  
 Induction / Plant / Gene / Coding / Escherichia /  
 Expression / Plasmid / Vector / Amino acid /  
 Transformation / Molecular genetics / Gene  
 technology

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 Microbiologie  
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 1070  
 Brussel  
 ☎ +32 2 6413357

**Genetic study of the hereditary disease hyperargininemia: isolation and physical characterization of the cDNA and the genomic gene for arginase from normal individuals and from patients**

Genetische studie van de erfelijke ziekte hyperargininemie: afzondering en fysische karakterisering van het cDNA en het genomisch gen voor arginase uit normale individuen en uit patienten  
 Glansdorff, N.  
 Disease / Human genetics / cDNA / Medicine

**Construction of gene fusions in *Saccharomyces cerevisiae* and *Kluyveromyces lactis*: a model system for the study of eukaryotic promoters**

Uitwerking van genfusies bij *Saccharomyces cerevisiae* en *Kluyveromyces lactis*: een model-systeem voor de studie van eukaryotische promotors  
 Crabeel,  
 Gene / Fusion / Yeast / Regulation / Microbiology /  
 Genetics

**Development of fermentation processes by co-immobilization of living cells**

Ontwikkeling van fermentatieprocessen door co-immobilisatie van levende cellen  
 Masschelein,  
 Immobilization / Cell / Fermentation / Microbiology

**Development of expression vectors for foreign genes in the yeast *Saccharomyces cerevisiae***  
 Ontwikkeling van uitdrukkingsvectoren voor genen van vreemde oorsprong in de gist *Saccharomyces cerevisiae*  
 Glansdorff, N.  
 Expression / Vector / Gene / Yeast / Microbiology /  
 Molecular genetics

□ **Vrije Universiteit Brussel**  
 Faculteit der Wetenschappen, Instituut  
 voor Moleculaire Biologie  
 Paardenstraat 67  
 1640  
 Sint-Genesius-Rode  
 ☎ +32 2 3583417

**Goal: evaluation of immune resistance against coccidia and the framing of some monoclonal antibodies that can be used as reagents in diagnostic and in research on coccidiosis**

Evaluatie van de immune resistentie tegen coccidia en opstelling van een reeks monoclonale antilichamen die als reagentia kunnen gebruikt worden in de diagnostiek en in de research op coccidiose  
 Hamers, R.  
 Immunology / Resistance / Monoclonal / Antibody /  
 Diagnosis / Gut / Infection / Molecular biology

□ **Vrije Universiteit Brussel**  
 Faculteit der Wetenschappen, Eenheid  
 Plantengenetica  
 Paardenstraat 65  
 1640  
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 ☎ +32 2 3584547

**Molecular physiology: control of the cellular functions and the development of cellular engineering in plants**

Moleculaire fysiologie: controle van de celfuncties en ontwikkeling van cellulaire engineering bij planten  
 Jacobs, M.  
 Cell biology / Transfer / Genome / DNA / Plant /  
 Molecular genetics / Fusion

**Development of gene transfer techniques by use of cloned alcohol dehydrogenase and of *Arabidopsis thaliana* heynh**

Ontwikkeling van gentransfertechnieken door gebruik van het gecloneerde alcohol dehydrogenase en van *Arabidopsis thaliana* heynh  
 Jacobs, M.  
 Gene / Transfer / Cloning / Oxidoreductase /  
 Alcohol / Molecular genetics / Plant

**Gene expression in plant cells: study of processes that control differentiation and working of genes transformed in plants**

Genexpressie in plantencellen: studie van de processen die differentiatie en de werking van genen getransfereerd in planten controleren  
 Jacobs, M.  
 Gene / Expression / Plant / Differentiation /  
 Transformation / Marker / Cultivation / Transfer /  
 Gene technology / Molecular genetics

**Research on the continuation of the in vitro regeneration technique, improvement of the protoplast technology and protoplast fusion as well as estimation of the value of in vitro selection techniques for cultivation purposes**

Onderzoek over de voortzetting van de in vitro-regeneratietechnieken, het op punt stellen van de protoplasttechnologie en protoplastfusie, alsook over de waardebeoordeling van de in vitro technieken voor het dagelijks selectiewerk  
 Jacobs, M.  
 In vitro / Regeneration / Protoplast / Fusion /  
 Selection / Plant / Genetics / Cultivation

**Transfer, expression and inheritance of genes of the cells of higher plants**

Transfer, expressie en overerving van genen ingebouwd in cellen van hogere planten  
 Jacobs, M.  
 Transfer / Expression / Gene / Plant / Embryo /  
 Agriculture / In vitro / Induction / Genetics /  
 Agricultural sciences

## FEDERAL REPUBLIC OF GERMANY

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□ **GET - Gesellschaft fuer Entwicklungstechnologie mbH**  
Industriestrasse  
5173  
Aldenhoven

**Integral use of the rape plant for heating and for motor fuel substitutes in agriculture**  
Integrale Nutzung von Raps zur Brenn- und Treibstoffsubstitution in der Landwirtschaft  
Scharmer, K.  
Oil / Fuel / Vegetable / Raw material / Chemical

□ **Gemeinschaft zur Foerderung der privaten deutschen landwirtschaftlichen Pflanzenzuechtung e.V. (GFP)**  
5300  
Bonn

**Development of effective biotechnological methods of selection in the cultivation of genetically resistant culture plants**  
Entwicklung biotechnologischer Selektions- und Nutzungsmethoden zur Erstellung von Kulturpflanzen mit genetischer Resistenz  
Puetz / Meyer  
Tissue / Cell / Cultivation / Useful plant / Resistance / Potato / Protoplast / Fusion

**Joint proje**  
Cell cultures and cDNA for selection based on resistance and quality  
Verbundprojekt: Einsatz von Zellkulturen und cDNA zur Selektion auf Resistenz und Qualitaet  
Meyer / Puetz  
Tissue / Cell / Vegetable / Cultivation / cDNA / Useful plant / Disease / Resistance / Regeneration / Modification / Gene technological

**Accelerated cultivation through cell fusion**  
Einsatz von Zellfusionen zur Beschleunigung der Zuechtung  
Meyer / Puetz  
Cell / Vegetable / Cultivation / Hybridization / Fusion / Useful plant / Potato

□ **Biochrom Beteiligungs GmbH & Co. Produktionsgesellschaft**  
Leonorenstr. 2-6  
1000  
Berlin 46  
☎ +49 30 779906-0

**Development and use of processes leading to a reduction of animal experiments - partial project 5**  
Entwicklung und Nutzung von Verfahren, die zu einer Verminderung von Tierversuchen fuehren - Teilprojekt 5  
Frenzel, B.  
Pyrogen / Test / In vitro / Animal experiment / Reduction / Peptide / Chemoluminescence / Interleukine / Alpha / Beta / Animal / Mouse / Antiserum / EIA / RIA

□ **Gesellschaft fuer Biologische Chemie e.V.**  
Muellerstr. 170-178  
1000  
Berlin  
☎ +49 30 468257-0

**17th FEBS Meeting - Berlin (West)**  
17th FEBS-Meeting - Berlin (West)  
Kleinkauf, H. / Sachs, G. / Berkholz, K.  
Research / Biochemical

□ **Institut fuer Genbiologische Forschung Berlin GmbH, Genzentrum Berlin**  
Muellerstr. 170-178  
1000  
Berlin 65  
☎ +49 30 4684641

**Establishment of major research in molecular and cell biology of higher plants and fungi in Berlin**  
Einrichtung eines Forschungsschwerpunktes Molekular- und Zellbiologie von hoeheren Pflanzen und Pilzen in Berlin  
Bonas / Gatz / Graessmann / Kahmann / Schieder / Stahl / Wittig / Woestemeyer / Willmitzer  
Biochemistry / Molecular biology / Gene technology / Differentiation / Fungus / Pathogenic / Plant / Expression / Gene / Protein / DNA / Sequencing / Resistance / Transformation / Protoplast / Cell / Vegetable

□ **Herbst-Biotec GmbH**  
Haynauer Str. 47  
1000  
Berlin 46  
☎ +49 30 7796239

**Development of a process for the in situ purification of sandy soil, contaminated with polycyclic aromatic hydrocarbons, through surfactant-soil washing in a water circulatory system with biological sewage purification and biological in situ soil residual purification**  
Entwicklung eines Verfahrens zur in-situ-Reinigung von mit polycyclisch aromatischen Kohlenwasserstoffen kontaminierten Sandboeden durch Tensid- Bodenwaesche in einem Wasserkreislauf mit biologischer Abwasserreinigung und biologischer in-situ-Bodenrestreinigung  
Hennig  
Bioprocess engineering / Environmental biotechnology / Degradation / Hydrocarbon / Cyclic / Aromatic / Soil / In situ / Purification / Waste water / Tensid

**Development of a process for in situ purification of polycycl. aromatic hydrogen contaminated sandy soil by surface soil washing in a water circulatory system with biol. sewage purification and biol. in situ soil residue purification**  
Entwicklung eines Verfahrens zur in-situ-Reinigung von mit polycykl. aromat. Kohlenwasserstoffen kontaminierten Sandboeden durch Tensid-Bodenwaesche in einem Wasserkreislauf mit biol. Abwasserreinigung und biol. in-situ-Bodenrestreinigung  
Hennig  
Waste water / Soil / Purification / Biological / Hydrocarbon / Aromatic / Oxidation / Bioreactor / Tensid / Degradation

□ **International Botanical Congress e.V.**  
Koenigin-Luise-Str. 6-8  
1000  
Berlin 33

**Biotechnological symposium, concurrent with the XIV IBC**  
Biotechnologische Symposion im Rahmen des XIV IBC  
Esser, K.  
Financing / Biotechnological

□ **Versuchs- und Lehranstalt fuer Spiritusfabrikation und Fermentationstechnologie in Berlin (VLSF)**  
Institut fuer Gaerungsgewerbe und Biotechnologie (IGB)  
Seestr. 13  
1000  
Berlin 65  
☎ +49 30 4509-1

**Developmental work in the conversion of FERMEX processes to industrial application**  
Entwicklungsarbeiten zur Uebertragung des FERMEX - Verfahrens in die industrielle Praxis  
Dellweg, H.  
Bioreactor / Production scale / Fermentation / Cell / Activity / Photometry / Yeast / Measurement / IR

□ **Institut fuer Gaerungsgewerbe und Biotechnologie e.V. (IGB)**  
Seestr. 13  
1000  
Berlin 65  
☎ +49 30 4509-1

**Developmental research in the conversion of the FERMEX process for industrial use**  
Entwicklungsarbeiten zur Uebertragung des FERMEX-Verfahrens in die industrielle Praxis  
Dellweg, H.  
Fermentation technology / Bioprocess engineering / Fermentation / Yeast / Aerobic / Anaerobic / Production / Ethanol

□ **Schering AG**  
Muellersstr. 170-178  
1000  
Berlin  
☎ +49 30 4682812

**Production of proteohormones of the piturary gland with genetically modified E. coli bacteria**  
Herstellung von Proteohormonen der Hypophyse mit genetisch modifizierten E. coli-Bakterien  
Siewert  
Protein / Hormone / Hypophysis / Escherichia / Gramnegative / Facultative / Anaerobic / Modification / Gene technological

**Joint proje**  
metabolism studies of xenobiotica with liver cells and liver cell cultures and their comparison with corresponding in vivo experiments, partial project III  
Verbundprojekt: Metabolisierungsstudien von Xenobiotika mit Leberzellen und Leberzellkulturen und deren Vergleich mit entsprechenden in vivo-Versuchen, Teilprojekt III  
Huempel, M.  
Xenobiotic / Metabolization / Liver / Cell / Cultivation / Animal experiment / Supplementation / Biotransformation / Metabolite / Isolation / In vitro

□ **Deutsche Sammlung von Mikroorganismen GmbH (DSM)**  
Mascheroder Weg 1b  
3300  
Braunschweig  
☎ +49 531 6187-0

**Enlargement of the collection of microorganisms (DMS) 1. Expansion step: Enlargement of the microorganism collection and the establishment of two branches for plant cell cultures or plant viruses**  
 Erweiterung der Sammlung von Mikroorganismen (DSM) 1. Ausbaustufe: Erweiterung der Sammlung von Mikroorganismen und Einrichtung von zwei Aussenstellen fuer pflanzliche Zellkulturen bzw. Pflanzenviren  
 Schleifer, K.-H.  
 Microbiology / Organism collection / Cultivation / Virus / Plant / Vegetable

**Gesellschaft fuer Biotechnologische Forschung mbH (GBF)**  
 Bereich Genetik und Zellbiologie  
 Mascheroder Weg 1  
 3300  
 Braunschweig  
 ☎ +49 531 6181-200

**protein design: Designed alterations of the biological and technical properties of proteins**  
 Protein-Design: Gezielte Veraenderungen der biologischen und technischen Eigenschaften von Protein  
 Bloecker  
 Protein design / Protein / Modification / Biological / Technical

**Lohmann Tierzucht GmbH**  
 2190  
 Cuxhaven  
 ☎ +49 4721 505-0

**Studies in pathogenesis and the fight against an anaemia in chickens and the characterization of its cause, the "chicken anaemia agent" (CAA)**  
 Untersuchungen ueber die Pathogenese und Bekampfung einer Anaemie bei Huehnern und die Charakterisierung ihres Erregers, dem "chicken anaemia agent" (CAA)  
 Vielitz  
 Disease / Blood / Origin / Therapy / Vaccine / Immune / Antibody / Cell / Animal / Cultivation

**Abwasser-Abfall-Aquatechnik**  
 Heidelberger Landstr. 52  
 6100  
 Darmstadt

**Biogas shared system quickborn - scientific advisory program, extensive detailed planning and technical construction supervision**  
 Biogasmgemeinschaftsanlage Quickborn - wissenschaftliches Begleitprogramm, weitergehende Detailplanung und technische Baubetreuung  
 Loll, U.  
 Biogas / Bioreactor

**Operational evaluation and influence of toxic materials in the aerobic thermophilic sewage and sludge treatment**  
 Betriebswerte und Einfluss toxischer Substanzen bei der aerobthermophilen Abwasser- und Schlammbehandlung  
 Loll, U.  
 Waste water / Sludge / Purification / Aerobic / Thermophilic / Heavy metal / Toxic / Stable

**E. Merck**  
 Frankfurterstr. 250  
 6100  
 Darmstadt 1  
 ☎ +49 6151 72-0

**Cell cultures as replacement for animal experiments: Characterization of the reaction mechanism of tachykinin on nerve cell cultures, partial project 2**  
 Zellkulturen als Ersatz von Tierversuchen: Charakterisierung des Wirkungsmechanismus von Tachykininen an Nervenzellkulturen, Teilprojekt 2  
 Reuss, K.  
 Bone marrow / Neuron / Cultivation / Bioactive agent / Heart / Nerve / Animal experiment / Substitution

**Roehm GmbH, Chemische Fabrik**  
 Kirschenallee  
 6100  
 Darmstadt  
 ☎ +49 6151 18-1

**Genetic engineering and microbial techniques**  
 Gentechnologie und mikrobielle Techniken  
 Gottschalk  
 Gene technology / Microbiology

**Stabilization of enzymes: Improvement in the thermostability of amyloglucosidase**  
 Stabilisierung von Enzymen: Verbesserung der thermischen Stabilitaet von Amyloglucosidasen  
 Sproessler, B. / Fasold / Follmann / Pfeleiderer  
 Amyloglucosidase / Stable / Thermal / Polysaccharide / Modification / Chemical / Mycelial fungus / Mutation / Amylase / Bacterial

**Exoenzymes of anaerobic microorganisms**  
 Exoenzyme anaerober Mikroorganismen  
 Schuster, E.  
 Exoenzyme / Microbial / Microorganism / Anaerobic / Mesophilic / Thermophilic / Cultivation / Isolation / Technical / Fermentation / Laboratory scale / Pilot scale / Amylase / Lipase

**Biotechnological production of pure proteins such as immunoglobulins and their antibodies for therapeutic and diagnostical purposes**  
 Biotechnische Gewinnung von reinen Proteinen wie Immunglobulinen und ihren Antikoerpem zu therapeutischen und diagnostischen Zwecken  
 Kraemer, M.  
 Immunoglobulin / Protein / Antibody / Gene technological / Therapy / Diagnosis / Heparin / Stable / Chemical / Chromatography / Batch / Flow / Laboratory scale / Production scale

**Enka AG**  
 Forschungsinstitut Obernburg  
 8753  
 Obernburg  
 ☎ +49 6022 81-1

**Development of modules with membranes as support, dosage and separation elements for use in bioprocess technology**  
 Entwicklung von Modulen mit Membranen als Traeger-, Dosier- und Separationselemente fuer den Einsatz in der Bioverfahrenstechnik  
 Tretzel, J. / Reimerdes, E. H.  
 Bioprocess engineering / Membrane apparatus / Sterilization hygiene / Vapour / Dialysis / BIOREACTOR / Cultivation / Cell / Animal / Vegetable

**Specific surface modification of microfiltration membranes**  
 Spezifische Oberflaechenmodifizierung von Mikrofiltrationsmembranen  
 Sluma, H.-D.  
 Bioprocess engineering / Chemical engineering / Filtration / Surface / Membrane apparatus

**Development of modules with membranes as support, dosage and separation elements for utilization in bioprocess technology**  
 Entwicklung von Modulen mit Membranen als Traeger-, Dosier- und Separationselemente fuer den Einsatz in der Bioverfahrenstechnik  
 Tretzel, J.  
 Membrane apparatus / Technology / Carrier material / Dosage / Separation / Sterilization hygiene / Lactose / Hydrolysis / Enzymatic / Bioreactor / Cell / Animal / Cultivation / Antibody / Monoclonal / Plant / Breeding / In vitro / Membrane engineering / Interaction

**Specific surface modifications of microfiltration membranes**  
 Spezifische Oberflaechenmodifizierung von Mikrofiltrationsmembranen  
 Mueller  
 Membrane biology / Filtration / Surface / Modification

**Pfeifer & Langen**  
 Frankenstr. 25  
 4047  
 Dormagen  
 ☎ +49 2106 52-1

**Obtaining acetic acid through anaerobic homoacetate fermentation of starch hydrolysates**  
 Gewinnung von Essigsaeure mittels anaerober Homoacetatvergaerung von Staerkehhydrolysaten  
 Swyzen, W.  
 Acetic acid / Aliphatic / Fermentation / Anaerobic / Microbial / Starch / Hydrolysis / Bioreactor / Batch / Medium

**Henkel KGaA**  
 Henkelstr. 67  
 4000  
 Duesseldorf 1  
 ☎ +49 211 797-0

**Fatty acid derivatives from natural fats and oils from regenerable resources**  
 Fettsaeurederivate aus regenerierbaren, natuerlichen Fetten und Oelen  
 Piorr  
 Fatty acid / Aliphatic / Derivative / Synthesis / Fat / Oil / Natural / Regeneration / Oligosaccharide / Polysaccharide / NMR / GC / HPLC / Bioreactor / Degradation / Purification

**Properties of surfactant mixtures on the basis of ever growing resources**  
 Eigenschaften von Tensidmischungen auf Basis nachwachsender Rohstoffe  
 Schwuger, M.J.  
 Tensid / Raw material / Aftergrowing

**Associations between structure and properties with xanthan and new types of microbial polysaccharides**  
 Zusammenhaenge zwischen Struktur und Eigenschaften bei Xanthan und neuartigen mikrobiellen Polysacchariden  
 Rimando / Sahn, H.  
 Xanthan / Polysaccharide / Microbial / Structural analysis / Chromatography / Hydrolysis / Degradation / Fermentation / Enzymatic / Methionine / Metabolism / Regulation

**Fatty alcohols through the bioreduction of fatty acids**  
 Fettalkohole durch Bioreduktion von Fettsaeuren  
 Henkel KGaA  
 Lipid / Fatty acid / Aliphatic / Reduction / Biological / Synthetase / Biological / Pseudomonas / Gramnegative / Aerobic / Protein / Enrichment / Alga / Clostridium / Grampositive / Anaerobic / Fat / Aldehyde

□ **Deutsche Gelatine-Fabriken, Stoess & Co. GmbH**  
6930  
Eberbach

**Development of an enzymatic process for gelatine production from fresh bones**  
Entwicklung eines enzymatischen Verfahrens zur Gelatinegewinnung aus Frischknochen  
Deutsche Gelatine-Fabriken, Stoess & Co. GmbH  
Gelatine / Enzymatic

□ **Bioplant GmbH**  
Biotechnisches Forschungslabor  
Brueggerfeld 10  
3112  
Ebsdorf

**Establishment of original material in applied plant cultivation through the transmission of new scientific knowledge in the field of biotechnology**  
Erstellung von Ausgangsmaterial fuer die angewandte Pflanzenzuechtung durch Uebertragung von neuen wissenschaftlichen Erkenntnissen aus dem Bereich der Biotechnologie  
Schuchmann, R.  
Potato / Genome / Vegetable / Cultivation / Resistance / Breeding / Protoplast / Isolation / Regeneration / Selection / Fusion / Cell wall / Degradation / Enzymatic

□ **Planta, Angewandte Pflanzengenetik und Biotechnologie GmbH**  
3352  
Einbeck  
☎ +49 5561 311-1

**In vitro culture with woodland trees: research into the vegetative reproduction of oaks, beech and pine**  
In-vitro-Kultur bei Waldbaueumen: Untersuchungen zur vegetativen Vermehrung von Eiche, Buche und Tanne  
Barocka  
Agricultural sciences / Botany / Cultivation / Tissue / Vegetable / Breeding / Plant / Cloning

□ **Emsland-Staerke GmbH**  
Emslandstr. 85  
4459  
Emlichheim  
☎ +49 5943 810

**"Fermentative processing of by-products and overloaded drainage from the potato and wheat starch production by means of a bubble column reactor"**  
"Fermentative Aufbereitung von Nebenprodukten und hochbelasteten Abwaessern aus der Kartoffel- und Weizenstaerkeproduktion mittels eines Blasensaehlenreaktors"  
Seekamp, M.  
By-product / Process water / Load / Bioreactor / SCP / Ethanol / Aliphatic / Fermentation / Continuous / Upstream processing

□ **Lomapharm, Rudolf Lohmann GmbH KG**  
Langes Feld 5  
3254  
Emmerthal 1  
☎ +49 5155 6320-0 od. -3

**Isolation, structure analysis and standardization of immunologic, effective polysaccharides and other substances of vegetable origin for use in therapy, prophylaxis and diagnosis**  
Isolierung, Strukturauflaerung und Standardisierung immunologisch wirksamer Polysaccharide und anderer Inhaltsstoffe pflanzlicher Herkunft zur Anwendung in Therapie, Prophylaxe und Diagnostik  
Ott  
Polysaccharide / Vegetable / Action / Immune / Isolation / Structural analysis / Therapy / Prophylaxis / Diagnosis / Interferon / Gamma / Bioactive agent / Tumour / Filtration / Salt / Protein

□ **Rationalisierungs-Kuratorium der deutschen Wirtschaft e. V. (RKW)**  
Duesselder Str. 40  
6236  
Eschborn

**Economic potential of biotechnology**  
Potentialanalyse Biotechnologie  
Herzke, H.-M. / Rau, N.  
Biotechnology / Industry / Data base

□ **Robugen GmbH, Pharma Esslingen**  
7300  
Esslingen 1  
☎ +49 711 3660-16 od. -17 od. -18

**Curtailment of animal experiments through computer aided development of antiviral active substances, partial project 1**  
Einsparung von Tierversuchen durch computerunterstuetzte Entwicklung antiviraler Wirkstoffe, Teilprojekt 1  
Schloz, U. / Roth, H.J.  
Bioactive agent / Virus / Disease / Viral / Origin / Cell / Cultivation / Data processing / Data base / Animal experiment / Reduction

**Metabolizing studies of xenobiotica with liver cells and liver cell cultures and their comparison with corresponding in vivo experiments, partial project IV**  
Metabolisierungsstudien von Xenobiotika mit Leberzellen und Leberzellkulturen und deren Vergleich mit entsprechenden in vivo-Versuchen, Teilprojekt IV  
Schloz, U.  
Xenobiotic / Metabolization / Liver / Cell / Cultivation / Animal experiment / Supplementation / Modelling / In vitro / Biotransformation / Preparation / Transformation / Metabolism

□ **Bergbauforschung GmbH**  
Forschungsinstitut des Steinkohlenbergbauvereins, Fachabteilung Entsorgungstechnik  
Franz-Fischer-Weg 61  
4300  
Essen-Kray 13  
☎ +49 201 105-9387

**Development of a Biotechnical Process for the Treatment of Sewage Resulting from the Refinement of Coal**  
Entwicklung biotechnischer Verfahren zur Behandlung von Abwaessern aus der Kohleveredlung  
Pollart, Georg  
Waste water / Purification / Coal / Upstream processing / Noxious substance / Degradation / Microbial / Microorganism / Immobilization / Bioreactor

**Development of a Biotechnical Process for the Treatment of Acetic Sulfate-Containing Water**  
Entwicklung eines biotechnischen Verfahrens zur Behandlung saurer sulfathaltiger Waesser  
Klein, Juergen / Beyer, Michael  
Waste water / Acidic / Sulphur containing / Purification / Sulphate / Bacterium / Cultivation / Isolation / Growth / Nutrient / Bioreactor / Pilot scale

**Microbial desulfurization of coal**  
Mikrobielle Entschwefelung von Kohlen  
Ebner, H.C.  
Coal / Sulphur / Microbial / Continuous / Bacterium / Chemotrophic / Lithotrophic / Bioreactor / Multi-stage

□ **Asta Pharma AG**  
6000  
Frankfurt/Main 1  
☎ +49 69 4001-01

**Drugs in cancer therapy - Development and testing for efficacy**  
Arzneimittel fuer die Krebstherapie - Entwicklung und Wirkungspruefung  
Hilgard  
Human medicine / Therapy / Cancer / Test / Drug

**Joint proje**  
Development and testing of pharmaceuticals for cancer therapy - partial project 1  
Verbundprojekt: Arzneimittelentwicklung und -testung fuer die Krebstherapie - Teilprojekt 1  
Hilgard, P. / Grunicke, H. / Eibl / Nagel / Unger  
Drug / Cancer / Tumour / Therapy / BRM / Phospholipid

**Development and validation of in vitro test models as replacements for animal experiments for the pharmacological and toxicological testing of potential anticancer drugs**  
Entwicklung und Validierung von in vitro-Testmodellen als Ersatz zu Tierversuchen fuer die pharmakologische und toxikologische Pruefung potentieller Antikrebs-Arzneistoffe  
Hilgard, P. / Maurer, H.R.  
Cytostatic / Cancer / Test / In vitro / Animal experiment / Substitution / Cell / Gene / Action / Toxic / Immunoassay

□ **Battelle Institut e.V.**  
Department of Biological and Environmental Sciences, Abteilung Molekulare und Zellulaere Biologie  
Am Roemerhof 35  
6000  
Frankfurt/Main 90  
☎ +49 69 7908-1

**Studies of the behaviour of genetically modified microorganisms in the environment**  
Untersuchungen zum Verhalten gentechnisch modifizierter Mikroorganismen im der Umwelt  
Mieschendahl, M.  
Microorganism / Modification / Gene technological / Release / Environment / Isolation / Noxious substance / Waste water / Artificial / Natural / Degradation / Gene / Plasmid / Chromosome / Recognition / Transfer / Pure culture / Mixed culture / Growth / Bioreactor

**The use of animal models in pharmaceutical and chemical research**  
Der Einsatz von Tiermodellen in der pharmazeutischen und chemischen Forschung  
Siegemund, B.  
Animal experiment / Research / Drug / Chemical



**Biotest Pharma GmbH**

Flughafenstr. 4  
6000  
Frankfurt/Main 73  
☎ +49 69 6707-1

**Isolation, characterization and cloning of lymphokines and monokines associated with the production of mutines (muteines) with therapeutic use as objective**

Isolierung, Charakterisierung und Klonierung von Lymphokinen und Monokinen, verbunden mit der Herstellung von Muteinen, mit dem Ziel der therapeutischen Nutzung

Schwulera, U.

Biochemistry / Molecular biology / Gene technology / Isolation / Cloning / DNA / Lymphokine / Human / Therapy

**Production of lymphokines and antibodies against diagnosis and therapy by conventional and genetic engineering methods**

Herstellung von Lymphokinen und Antikörpern gegen Lymphokine fuer Diagnostik und Therapie auf konventionellem und gentechnologischem Wege

Sonneborn, H.-H.

Interleukine / Antibody / Monoclonal / Cloning / Gene technological / Diagnosis / Therapy / ELISA

**Specific human antibodies through immune adsorption treatment of cohn fraction III**

Spezifische humane Antikörper druch Immunadsorptionsbehandlung der Cohnfraktion III

Stephan, W.

Antibody / Human / Specific / Adsorption / Immune / Antigen / Bacterial / Immobilization

 **Biotest AG**

Landsteinerstrasse 5  
6072  
Dreieich  
☎ +49 6103 801-0

**Development of test processes for the identification of HIV I infections and antibody diversity aided by antigens produced by genetic engineering methods.**

Entwicklung von Testverfahren zum Nachweis von HIV I Infektionen und Antikörperdiversitaet mit Hilfe gentechnologisch hergestellter Antigene

Sonneborn, H.-H.

Biochemistry / Molecular biology / Gene technology / Test / Antibody / Antigen / Cloning / Expression / Protein / HIV / Diagnosis / Immune

**Monoclonal antibodies against small cell lung carcinomas**

Monoklonale Antikörper gegen kleinzelliges Lungenkarzinom

Sonneborn, H.-H. / Manke, H.G. / Falkenberg, F.W.  
Antibody / Monoclonal / Human / Lung / Cell / Diagnosis / Tumour

 **Karl-Winnacker-Institut der DECHEMA**

Theodor-Heuss-Allee 25  
6000  
Frankfurt/Main  
☎ +49 69 75640

**Gene expression of alpha-1-antitrypsin in dipterous and amphibian cell cultures**

Genexpression von alpha-1-Antitrypsin in Dipteren- und Amphibienzellkulturen

Driesel, A.J. / Braeutigam, S.

Gene / cDNA / Expression / Regulation / Viral / SV40 / Cell / Cultivation / Amphibian / Trypsin / Inhibitor / Gene bank / Drosophila / Transformation / Vector / Blotting / Gene technology

**Air pollution in the form of gas and dust and their effect on plants**

Gas- und staubfoermige Luftverunreinigungen und ihre Wirkung auf Pflanzen

Kirchner, K. / Bolouri, H.

Air / Pollution / Noxious substance / Plant / Interaction / Environmental biotechnology

**Soil decontamination through free and fixed microorganisms**

Bodendekontaminierung durch freie und fixierte Mikroorganismen

Kirchner, K. / Rehm, H.-J. / Schoepper, P.

Soil / Toxin / Purification / Biological / Pseudomonas / Immobilization / Bioreactor / Noxious substance / Degradation / Environmental biotechnology / Bioprocess engineering

**Cleaning of exhaust gases with fixed bacterial monocultures**

Abgasreinigung mit fixierten

Bakterienmonokulturen

Rehm, H.-J. / Kirchner, K. / Schlachter, U.

Bioreactor / Waste gas / Purification / Chlorine / Polyalcohol / Hydrocarbon / Aromatic / Noxious substance / Bacterium / Cultivation / Immobilization / Biofilter / Environmental biotechnology / Bioprocess engineering

**Reaction and process technical studies in the oxidation of offensive and dangerous work materials using biological systems, Part B: Studies of biocatalysts of semi-technical scale**

Reaktions- und verfahrenstechnische

Untersuchungen zur Oxidation von belaeastigenden und gefaehrlichen Arbeitsstoffen mit biologischen Systemen. Teil B: Untersuchungen zur Leistungsaehigkeit von Biokatalysatoren im halbtechnischen Masstab

Gossen, C.A. / Hauk, G. / Rehm, H.-J. / Kirchner, K.  
Bioreactor / Laboratory scale / Pilot scale / Noxious substance / Exhaust / Waste water / Purification / Bacterium / Cultivation / Suspension / Immobilization / Biofilter / Environmental biotechnology / Bioprocess engineering

**Reaction and process technical studies in the oxidation of offensive and dangerous work materials through use of biological systems. Part A: Purification of exhaust fumes with fixed bacterial cultures in the biological giant bed reactor**

Reaktions- und verfahrenstechnische Untersuchungen zur Oxidation von belaeastigenden und gefaehrlichen Arbeitsstoffen mit biologischen Systemen. Teil A: Abgasreinigung mit fixierten Bakterienkulturen im Biorieselbettreaktor.

Hauk, G. / Gossen, C.A. / Rehm, H.-J. / Kirchner, K.  
Bioreactor / Multi-stage / Laboratory scale / Pilot scale / Waste gas / Purification / Noxious substance / Biofilter / Bacterium / Cultivation / Suspension / Immobilization / Environmental biotechnology / Bioprocess engineering

**Reactions of redox systems with suspended algae**

Reaktionen von Redoxsystemen mit suspendierten Algen

Kreysa, G. / Driesel, A.J. / Koenig, F. / Kraemer, P. / Starzynski, K.

Cyanobacterium / Suspension / Redox potential / Measurement / Energy / Biological / Substrate / Chemical / Oxidation / Reduction / Biosensor / Glucose / Hydrolysis

**Development of electrochemical methods for the study of material transition between two liquid phases taking into account the lag phase behaviour of the material's exchange apparatus**

Erarbeitung elektrochemischer Methoden zur Untersuchung des Stoffueberganges zwischen zwei fluiden Phasen unter Beruecksichtigung des Verweilzeitverhaltens des Stoffaustauschapparates

Krysa, G. / Schaller, C.

Bioreactor / Organic substance / Inorganic substance / Dispersion / Stirring / Transport / Bioprocess engineering

**Joint proje**

DNA probes for the understanding of inherited human defects II

Verbundprojekt: DNA-Sonden zur Erfassung erblicher Defekte beim Menschen II

Driesel, A.J.

Gene / DNA / Probe / Malformation / Congenital / Human / Chromosome / Gene bank / Isolation / Cloning / Hybridization / Polymorphism / Blood / Clotting / Disease / Diagnosis

 **Degussa AG**

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Frankfurt/Main 11  
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**Joint proje**

Rational synthesis planning and optimization of principal substances in medicinal chemistry for the purpose of reducing animal experiments - partial project I

Verbundprojekt: Rationale Syntheseplanung und Leitsubstanzoptimierung in der medizinischen Chemie zum Ziele der Einsparung von Tierversuchen - Teilprojekt I

Engel, J.

Leading substance / Heterocyclic / Synthesis / Optimization / Screening / Animal experiment / Reduction / Data base

**Joint proje**

Synthesis of new precious metal tumor therapeutics in connection with replacement of animal experiments through in vitro test methods in the development of new cancer chemotherapeutics

Verbundprojekt: Synthese neuer Edelmetall-Tumortheraeutika im Rahmen des Ersatzes von Tierexperimenten durch in vitro-Testmethoden bei der Entwicklung neuer Krebs-Chemotherapeutika

Engel, J.

Tumour / Cell / Cultivation / In vitro / Animal experiment / Substitution / Drug / Cancer / Synthesis / Chemotherapy / Leading substance / Structure / Action

 **Henniger-Braeu AG**

Hainer Weg 37-53  
6000  
Frankfurt Main 70

**Technical testing of new yeast strains from the electrofusion of yeast protoplasts**

Technische Erprobung von neuen Hefestaemmen aus der Elektrofusion von Hefeprotoplasten

Sommer, G.

Biotechnology / Strain development / Selection / Yeast / Activity / Glucanase / Hybridization

 **Hoechst AG**

Brueningstr. 45  
6230  
Frankfurt/Main 80  
+49 69 305-1

**Application and further development of new continuous fermentation processes for the purification of heavily burdened industrial sewage (sewage fermentation)**

Anwendung und Weiterentwicklung neuer kontinuierlicher Fermentationsverfahren zur Reinigung hochbelasteter Industrieabwässer (Abwasserfermentation)  
 Praeve, P. / Lingens, F. / Winter, J.  
 Waste water / Industrial / Purification / Fermentation / Continuous / Bioreactor / Pure culture / Bacterial / Mixed culture

**Biological-chemical screening**  
 Biologisch-Chemisches Screening  
 Zack, A.

Screening / Biological / Chemical / Fungus / Streptomycete / Isolation / Cultivation / TLC / Fermentation / Structural analysis

□ **Ruetgerswerke AG**  
 Mainzer Landstrasse 217  
 6000  
 Frankfurt/Main 11  
 ☎ +49 69 7592-1

**Biotechnological synthesis of optically active amino acids and their derivatives from D,L-5-substituted hydantoin**

Biotechnologische Synthese enantiomerenreiner Aminosäuren und ihrer Derivate aus D,L-5-substituierten Hydantoinen  
 Hoeke, H.  
 Amino acid / Aromatic / Derivative / Synthesis / Enzymatic / Microbial / Bioactive agent / Heterocyclic / Mutation / Chemical / Bioreactor / Laboratory scale

□ **Dornier Systems GmbH**  
 7990  
 Friedrichshafen 1  
 ☎ +49 745 8-1

**Continuous short-term hydrolysis of old cellulose (used paper)**

Kontinuierliche Kurzzeit-Hydrolyse von Altpapier (Altpapier)  
 Staneff, Th.  
 Waste / Cellulose / Hydrolysis / Alcohol

□ **BCC Bio-Chem-Color, Spezialgeraete GmbH**  
 Wilhelm-Weber-Str. 44  
 3400  
 Goettingen  
 ☎ +49 551 53069

**Development of a continuous, stage bioreactor with automatic control systems for the Production of Viral Antigens, Partial Project I**  
 Entwicklung eines kontinuierlichen Stufenbioreaktors mit Mess- und Regelsystemen zur Gewinnung von viralem Antigen, Teilvorhaben I  
 Haep, H. / Seifert, H.S.H.  
 Bioprocess engineering / Automation technology / Bioreactor / Continuous / Control / Origin / Antigen / Viral

□ **Deutsches Primatenzentrum GmbH (DPZ)**  
 Kellnerweg 4  
 3400  
 Goettingen  
 ☎ +49 551 3851-0

**Neuropeptides**

Neuropeptide  
 Bauer, K. / Bickel, U. / Voigt, K. / Ebert, R. / Fehm, H.L. / Grimmelikhuijzen, C. / Hoeltt, V. / Kalbitzer, H.R. / Bodenmueller, H. / Laakmann, G. / Nitsch, C. / Trudrung, P.W. / Waldner, H. / Parvizi, N. / Pfeiffer, A. / Richter, D. / Schaller, Ch. / Schiebe, M. / Schusdziarra, V. / Seliger, H. / Unger, Th. / Voigt, K. / Weindl, A. / Lange, W. / Wuttke, W. / Zieglergaensberger, W.  
 Receptor / Interaction / Expression / Nervous system / Synthesis / Neuropeptide / Aliphatic / Degradation / Enzymatic / Action / Isolation / Gene / Neurotransmitter / Enzyme / Human

□ **Sartorius GmbH**  
 Weender Landstr. 94-108  
 3400  
 Goettingen  
 ☎ +49 551 380-590

**Development of a cross-flow-membrane-model-system (ultra- and microfiltration) for use in biotechnology - Partial project I**

Entwicklung von Cross-Flow-Membran-Modul-Systemen (Ultra- und Mikrofiltration) fuer den Einsatz in der Biotechnologie - Teilvorhaben I  
 Hoffmann, J. / Werner, U.  
 Bioprocess engineering / Membrane apparatus / Sterilization hygiene / Vapour / Downstream processing

**Joint proje**  
 Development of cross flow membrane module systems (ultra and microfiltration) for use in biotechnology  
 Verbundprojekt: Entwicklung von Cross-Flow-Membran-Modul-Systemen (Ultra- und Mikrofiltration) fuer den Einsatz in der Biotechnologie  
 Hoffmann, J. / Werner, U.  
 Medium / Membrane engineering / Filtration

□ **Krupp Industrietechnisches Werk Bueckau-Wolf**  
 Lindenstr. 43  
 4048  
 Grevenbroich 1  
 ☎ +49 21181 6020

**Isomerization of hydrolysates of agricultural raw materials to obtain fermentable pentoses**  
 Isomerisierung von Hydrolysaten landwirtschaftlicher Rohstoffe zur Gewinnung vergaerbarer Pentosen  
 Zeitsch, K.  
 Raw material / Hydrolysis / Pentose / Fermentation / Bioreactor / Ethanol / Aliphatic

**Pilot system for aerobic thermophilic sewage purification**  
 Pilotanlage zur aerob-thermophilen Abwasserreinigung  
 Grigoleit  
 Waste water / Purification / Aerobic / Thermophilic / Bioreactor / Pilot scale / Activated sludge / Activity

**Airlift reactor for the production of bakers' yeast**  
 Airlifreaktor fuer die Herstellung von Backhefe  
 Krupp Industrietechnisches Werk Bueckau-Wolf  
 Baking yeast / Fermentation / Bioreactor / Pilot scale

□ **BAT Cigarettenfabriken GmbH**  
 Forschung und Entwicklung  
 Bahrenfelder Chaussee 139  
 2000  
 Hamburg 36

**Development of methods for the biological use of plant tissue cultures on a technical scale**  
 Methodenentwicklung zur biotechnologischen Nutzung von pflanzlichen Zellkulturen im technischem Massstab  
 Deppe, K.  
 Cell / Vegetable / Cultivation / Polysaccharide / Action / Immune / Bioreactor / Multi-stage / Production scale / Sterilization hygiene / Continuous

□ **Beiersdorf AG (BDF)**  
 Zentrale Forschung  
 Unnastrasse 58  
 2000  
 Hamburg 20  
 ☎ +49 40 569-0

**Studies of cardiologically effective drugs on isolated heart muscle cells as a replacement for animal experiments, partial project I**  
 Untersuchung herzwirksamer Pharmaka an isolierten Herzmuskelzellen als Ersatz zu Tierversuchen, Teilprojekt I  
 Meyer-Ingold, W.  
 Drug / Heart / Cardiocyte / Isolation / Animal experiment / Substitution

□ **Biosyntech**  
 Biochemische Synthesetechnik GmbH  
 Stresemannstr. 268-280  
 2000  
 Hamburg 50  
 ☎ +49 40 8500051

**Tests for slow growing bacteria through hybridization techniques using rDNA probes**  
 Nachweis langsam wachsender Bakterien durch Hybridisierungstechniken unter Verwendung von rDNA-Proben  
 Biernat, J.  
 rDNA / Gene / Probe / Isolation / Sequencing / Diagnosis / Mycoplasma / Gramnegative / Hybridization

□ **Holsten-Brauerei AG**  
 Holstenstr. 224  
 2000  
 Hamburg 50

**Research into the production and biotechnological utilization of ADH- negative yeast deletion mutants**  
 Untersuchung zur Gewinnung und biotechnologischen Verwendung ADH-negativer Hefe-Deletionsmutanten  
 Dziondziaik, K.  
 Biotechnology / Biochemistry / Molecular biology / Yeast / Mutation / Screening / Ethanol / Oxidoreductase / Beer / Wine / Fruit juice

**Studies in the production and biological utilization of ADH-negative yeast deletion mutants**  
 Untersuchung zur Gewinnung und biotechnologischen Verwendung ADH-negativer Hefe-Deletionsmutanten  
 Dziondziaik, K. / Ciriacy-Wantrup  
 Yeast / Gene / Mutation / Ethanol / Aliphatic / Selection

**Studies of the suitability of local cereals or vegetative starch carriers for the production of high nutritional foodstuffs, specifically beverages, in countries of the Third World**  
 Untersuchung zur Eignung einheimischer Cerealien bzw. pflanzlicher Staerkeetraeger fuer die Herstellung von hochwertigen Nahrungsmitteln, speziell Getraenken, in Laendern der Dritten Welt  
 Dziondziaik, K.  
 Wheat / Maize / Raw material / Vegetable / Starch containing / Drink

□ **Kali-Chemie AG Hannover**  
Hans-Boeckler-Allee 20  
3000  
Hannover 1  
☎ +49 511 857-1

**Joint research anaerobic fermentation - partial project 3: Waste carbohydrate as fermentation raw materials**

Forschungsverbund Anaerobe Fermentation - Teilprojekt 3: Abfallkohlenhydrate als Fermentationsrohstoffe  
Wilke  
Lactose / Lactic acid / Aliphatic / Fermentation / Anaerobic / Microbial / pH / Raw material / Polyalcohol

**Preliminary investigations for the admission of surface physical methods of analysis for optimizing the immobilization of enzymes on anorganic supports as in the example of glucose isomerase**

Voruntersuchungen fuer den Einsatz grenzflaechenphysikalischer Analysenverfahren zur Optimierung der Immobilisierung von Enzymen an anorganischen Traegern am Beispiel Glucoseisomerase  
Weidenbach, G.  
Glucose isomerase / Immobilization / Carrier material / Inorganic

**Investigations for the stabilization of immobilized glucose isomerase and attempts to explain and optimize reaction steps - partial project I**

Untersuchungen zur Stabilisierung von immobilisierter Glucoseisomerase und Versuche zur Aufklaerung und Optimierung des Reaktionsablaufes - Teilprojekt I - Weidenbach, G.  
Glucose isomerase / Stable / Immobilization / Activity

□ **Kali-Chemie Pharma GmbH**  
Hans-Boeckler-Allee 20  
3000  
Hannover 1  
☎ +49 511 857 1

**Comparative pharmacological studies of the validation of an "In vitro heart model" for the screening of pharmaceuticals which act on the heart**

Vergleichende pharmakologische Untersuchungen zur Validierung eines "in-vitro-Herzmodells" fuer das Screening herzwirksamer Pharmaka  
Kuehl, H.G.  
Drug / Action / Heart / Screening / Computer / Blood circulation / Data processing / Membrane biology / Receptor / Action

□ **Orpegen, Medizinisch - Molekularbiologische Forschungsgesellschaft mbH (ehem. Organogen GmbH)**  
Czernyring 22  
6900  
Heidelberg  
☎ +49 6221 27082 od. -83 od. -84

**Production of a synthetic peptide vaccine for application in veterinary medicine against virus leukaemia with the objective of developing human medicinal drugs.**

Herstellung eines synthetischen veterinaermedizinisch verwendbaren Peptid-Impfstoffes gegen Virusleukaemie mit dem Ziel der Entwicklung humanmedizinischer Pharmaka  
Birr, C.  
Peptide / Synthetic / Vaccine / Leukemia / Viral / Drug / Retrovirus / Tumour / Antigen / Antiserum

□ **Progen Biotechnik GmbH**  
Im Neuenheimer Feld 519  
6900  
Heidelberg  
☎ +49 6221 4035-0

**Genetically engineered production of blood vessel growth factors**

Gentechnologische Gewinnung von Blutgefasswachstumsfaktoren  
Knoerzer, W.  
Biochemistry / Molecular biology / Gene technology / Cloning / Expression / Production / Bioactive agent / Growth / Vessels

□ **Dragoco, Gerberding & Co. GmbH**  
Dragocostr.  
3450  
Holzminden  
☎ +49 5531 7041

**Joint proje**

Plant and animal resistance substances - partial project 4: Chemical mammalian signals as new natural active substances or active substance models for control of certain harmful cervidae  
Verbundprojekt: Pflanzliche und tierische Abwehrstoffe - TP 4: Chemische Saeugetiersignale als neue natuerliche Wirkstoffe oder Wirkstoffmodelle zur Kontrolle bestimmter schaedlicher Cerviden  
Brunke  
Bioactive agent / Resistance / Vegetable / Animal / Attractant / Mammal / Natural / Isolation / Analysis / Synthesis / Technical / Pest / Plant protection

□ **Mannesmann Verfahrens- und Umwelttechnik GmbH**  
Suedstr. 41  
4690  
Herne 2  
☎ +49 2325 4300-1

**Development of an environment-friendly design for the elimination of slaughter wastes with simultaneous production of raw materials and energy**

Entwicklung einer umweltfreundlichen Konzeption der Beseitigung von Schlachtabfaellen unter gleichzeitiger Rohstoff- und Energiegewinnung  
Scholz, W.  
Waste / Organic / Raw material / Energy / Biogas / Installation / Two-stage / Anaerobic / Sludge / Purification / Fermentation / Mesophilic / Methane / Waste water / Bioreactor

□ **Boehringer Ingelheim AG**  
6507  
Ingelheim  
☎ +49 6132 772191

**Explanation of cell biological mechanisms with a causal high pressure therapy as objective Aufklaerung zellbiologischer Mechanismen mit dem Ziel einer kausalen Hochdrucktherapie**

Gaida, W.  
Neurobiology / Pharmacology / Biochemistry / Molecular biology / Gene technology / Biosynthesis / Isolation / Structural analysis / Cloning / Peptide / Nervous system / Interaction / Inhibitor / Pressure / Cardiovascular system / Drug

**Replacement of animal experiments and improvement of the transferability to humans through metabolic studies in human and animal liver cell cultures**

Ersatz von Tierversuchen und Verbesserung der Uebertragbarkeit auf den Menschen durch Metabolismusstudien in humanen und animalischen Leberzellkulturen  
Pollmann, W. / Oesch, F.  
Liver / Cell / Human / Animal / Cultivation / Transfer / Animal experiment / Substitution / Isolation / Metabolism / Analysis / EIA

□ **Kernforschungsanlage Juelich GmbH (KFA), Institut fuer Biotechnologie III**  
Stetternicher Forst  
5170  
Juelich  
☎ +49 2461 61-3073

**Biological Sewage Processing**

Biologische Abwasseraufbereitung  
Stengel, Eberhard  
Waste water / Downstream processing / Biological / Denitrification / Sulphur / Sulphate / Microbial / Bioreactor / Activated sludge / Green alga / Enzyme / Isolation

**Algae Bacterial Mixed Cultures for Sewage Treatment**

Algen-Bakterien-Mischkulturen zur Abfallbehandlung  
Groeneweg, Joost  
Waste water / Waste / Liquid / Purification / Aerobic / Microbial / Mixed culture / Alga / Bacterium

**Decomposition of Sewage Resulting from Carbonization**

Abbau von Kokereiabwasser  
Groeneweg, Joost  
Waste water / Purification / Coal / Noxious substance / Degradation / Microbial / Bioreactor / Bacterium

**Attempts at Sewage Purification with Activated Sludge Systems in which the Dosage of Waste Water Is Intermittently Increased**

Versuche zur Abwasserreinigung mit Belebtschlammanlagen, bei denen das Abwasser intermittierend zudosiert wird.  
Groeneweg, Joost  
Waste water / Purification / Microbial / Aerated sludge / Bioreactor / One-stage / Air / Dosage

□ **L. Eschweiler & Co., Medizinisch-technische Apparate**  
Holzkoppelweg 35  
2300  
Kiel

**Sterilizable polarographic measuring apparatus for in situ determination of cellular oxygen consumption in monolayer cultures**

Sterilisierbare, polarographische Messapparate zur in-situ-Ermittlung des zellulaeren Sauerstoffverbrauchs in Monolayerkulturen  
Eschweiler, B.  
Cell / Animal / Human / Cultivation / Measurement / In situ / Oxygen / Cellular

□ **Nattermann & Cie GmbH**  
Nattermannallee 1  
5000  
Koeln 30  
☎ +49 221 5090-1

**Exploration of a new technology for the isolation and standardization of natural and synthetic phospholipids for use in plant pest control and pharmacy**

Erforschung einer neuen Technologie zur Isolierung und Standardisierung von natuerlichen und synthetischen Phospholipiden zur Anwendung in Pflanzenschutz und Pharmazie  
Guenther  
Phospholipid / Natural / Synthetic / Additive / Isolation / Pesticide / Reduction

**Pharmacological examinations in vitro - alternatives to animal experiments**

Pharmakologische Untersuchungen in vitro - Alternativen zum Tierversuch  
Niemann, R.  
Test / In vitro / Animal experiment / Substitution / Inhibitor / Infection / Inhibition / Immune system / Regulation / Calcification / Parasite

**Plant cell cultures for the detection of new, therapeutic, relevant natural substances and their production through fermentation processes**

Pflanzenzellkulturen (PZK) zur Auffindung neuer, therapeutisch relevanter Naturstoffe und deren Gewinnung durch Fermentationsprozesse  
Ulbrich, B. / Stoeckigt  
Tissue / Cell / Vegetable / Cultivation / Screening / Natural substance / Fermentation / Therapy

- Schmidt & Reuter Ingenieurgesellschaft**  
Graeffstrasse 5  
5000  
Koeln 30

**Joint proje**

biological slaughter house disposal - phase I  
Verbundprojekt: Biologische Schlachthofentsorgung - Phase I  
Lorr., R.  
Waste / Organic / Animal / Decontamination / Bioreactor / One-stage / Mesophilic / Biogas / Sulphur / Degradation / Sludge / Fermentation

- Byk Gulden. Lomberg Chemische Fabrik GmbH**  
Byk-Gulden-Str. 2  
7750  
Konstanz  
☎ +49 7531 84-0

**Joint proje**

metabolizing studies of xenobiotica with liver cells and liver cell cultures and their comparison with corresponding in vivo experiments, part VI  
Verbundprojekt: Metabolisierungsstudien von Xenobiotika mit Leberzellen und Leberzellkulturen un deren Vergleich mit entsprechenden in vivo-Versuchen, Teil VI  
Ludwig / Simon  
Xenobiotic / Metabolization / Liver / Cell / Cultivation / Animal experiment / Supplementation / Test / Pharmacology / Metabolism / Pig / Human / Rat / Biotransformation / In vitro / Metabolization / Action / In vivo

**Joint proje**

examination and applicability of isolated and enriched cell populations of the stomach mucous membrane as a replacement to secretion studies on the whole animal - part II  
Verbundprojekt: Pruefung der Verwendbarkeit von isolierten und angereicherten Zellpopulationen der Magenschleimhaut als Ersatz von Sekretionsstudien am Ganztier - Teil II  
Heintze, K. / Sewing, K.-Fr.  
Cell / Animal / Cultivation / Isolation / Enrichment / Stomach / Mucous membrane / Secretion / Test / In vitro / Animal experiment / Substitution / Rat / Modification / Modelling / Inhibitor

- Chemische Fabrik Stockhausen GmbH**  
4150  
Krefeld

**Production of improved oils for the treatment of leather through the conversion of waste and excess fat by biological catalysts (lipase), phase I: basic principles**

Gewinnung von verbesserten Oelen fuer die Behandlung von Leder durch Umsetzung von Abfall- und Ueberschussfetten mit Biokatalysatoren (Lipasen), Phase I: Erarbeitung der Grundlagen  
Haselbach, J. / Spener, F.  
Oil / Technical / Enzymatic / Waste / Fat / Biocatalysis / Lipase

- Bioferon - Biochemische Substanzen GmbH & Co.**  
Erwin-Rentschler-Str. 21  
7958  
Laupheim 1  
☎ +49 7392 7007-0

**Production and testing of human**

**gamma-interferon**  
Produktion und Erprobung von humanem Gamma-Interferon  
Eichborn, V.  
Interferon / Gamma / Human / Recombination / Fermentation / Release / Purification / Quality control / Disease / Viral / Immune / Cancer / Immune system

- Bayer AG**  
5090  
Leverkusen  
☎ +49 214 301

**Systematic development of microbial polysaccharides with help of genetic engineering methods**

Systematische Entwicklung von mikrobiellen Polysacchariden mit Hilfe von gentechnologischen Methoden  
Koelbl, H. / Puehler  
Oligosaccharide / Polysaccharide / Industrial / Microbial / Transposon / Mutation / Cloning / Bioreactor / Biosynthesis

- BASF AG**  
6700  
Ludwigshafen  
☎ +49 621 601

**Development of a large technical practicable fermentation and processing system for glucans in the promotion of tertiary petroleum oil**

Entwicklung eines grosstechnisch durchfuehrbaren Fermentations- und Aufbereitungsverfahrens fuer Glucane zur tertiaeren Erdoelfoerderung  
Martischius, F.-D.  
Bioprocess engineering / Origin / Downstream processing / Structural analysis / Tensid / Polyalcohol / Microbial

**Microbial active substances - preparations based on bacillus thuringiensis for insect control**

Mikrobielle Wirkstoffe - Praeparate auf Basis von Bacillus thuringiensis zur Insektenkontrolle  
Krieg, W.  
Bioactive agent / Microbial / Bacillus / Grampositive / Aerobic / Recombination / Insecticide / Insect / Monitoring / Protoplast / Fusion / Toxin / Plant protection

- Knoll AG**  
Knollstr.  
6700  
Ludwigshafen  
☎ +49 621 5615-1

**Antiatherogenic matter in cell cultures and vascular walls**

Antiatherogene Stoffe in Zellkulturen und Gefaesswaenden, Teilprojekt 2  
Lenke, D. / Betz  
Cell / Cultivation / Vessels / Bioactive agent / Calcification / Heparin / Dextran / Derivative / Synthesis / Action / Blood plasma / Blood / Clotting / In vivo

**Anti-arteriogenic substances in cell cultures and in artery walls, part II**

Antiatherogene Stoffe in Zellkulturen und in Arterienwaenden, Teil II  
Lenke, D.  
Cell / Animal / Cultivation / Vessels / Inhibitor / Calcification / Animal experiment / Substitution / Calcium / Action / Selective / Inhibition / Muscle / Proliferation / Endothelium / Stimulation / Heparin / Dextran / Derivative

- Kartoffelzucht Boehm, Inh. Gebr. Boehm KG**  
Bernhard-Riemann Str. 1-3  
2120  
Lueneburg

**Introduction of modern methods of cell biology (cell culture) for the cultivation of pure hereditary winter rape plants (lines) and examination of the lines' fitness for practical plant cultivation**

Einsatz moderner Methoden der Zellbiologie (Zellkultur) zur Erzeugung von reinerbigen Winterrapspflanzen (Linien) u. Ueberpruefung der Brauchbarkeit dieser Linien fuer die praktische Pflanzenzuechtung  
Boehm, H.  
Cell / Vegetable / Cultivation / Protoplast / Cytoplasm / Fusion / Plant / Breeding / Hybridization

- Boehringer Mannheim GmbH**  
Sandhofer Str. 116  
6800  
Mannheim  
☎ +49 621 759-0

**Pharmacologically active substances in fungi**

Pharmakologisch aktive Wirkstoffe auf Pilzen  
Hansske, F.  
Pharmacology / Biochemistry / Screening / Bioactive agent / Ascomycete / Basidiomycete

**Development and testing of pharmaceuticals for cancer therapy - phase II: studies of BM 41**

Arzneimittelentwicklung und -testung fuer die Krebstherapie - Phase II: Studie zu BM 41  
Herrmann  
Drug / Cancer / Therapy / Cytostatic / Phospholipid / Bone marrow / Suppression / Kidney / Nervous system / Liver / Side-action / Toxic

**Subcellular test models for the discovery of new positive inotropic agents and for an explanation of their molecular motion mechanisms**

Subzellulaere Testmodelle zur Auffindung neuer positiv inotroper Wirkstoffe und zur Aufklaerung ihrer molekularen Wirkmechanismen  
Strein, K. / Rueegg, J.C.  
Drug / Action / Heart / Cell / Cultivation / In vitro

- Behringwerke AG**  
Emil-von-Behring Str.  
3550  
Marburg/Lahn  
☎ +49 6421 390 tx. 0 482 320

**Joint proje**

Development of a malaria vaccine - partial project 1

Verbundprojekt: Entwicklung eines Malaria-Impfstoffes - Teilprojekt 1  
Zwisler, O.

Malaria / Vaccine / Erythrocyte / Cultivation / In vitro / Parasite / Separation / Biochemical / Antiserum / Polyclonal / Antibody / Monoclonal / Inhibitor / Action / cDNA / Antigen / Specific / Cloning / Animal experiment / Expression / Purification / Enrichment

**Joint proje**

Development of a vaccine against viruses of the herpes group, partial project 1

Verbundprojekt: Entwicklung eines Impfstoffes gegen Viren der Herpesgruppe, Teilprojekt 1  
Kuepper

Virus / Herpes / Animal / Vaccine / Glycoprotein / Synthesis / DNA / Sequence / Vector / Expression / Protein / Extract / Yeast / Transformation / ELISA / Tissue / Cell / Cultivation

**Work in the development of a vaccine and immune therapy against AIDS**

Arbeiten zur Entwicklung einer Vaccine und Immuntherapie gegen AIDS  
Mauler, R.

AIDS / Vaccine / Therapy / Prophylaxis / Immune system / HIV / Antigen / Antibody / Induction

**□ Stiftung Liebenau, Musterhof Liebenau**

Siggenweilerstr. 11

7996

Meckenbeuren-Liebenau

**Demonstrational project, model farm Liebenau,****Partial proje**

Determination of the fertilizer value of degased liquid manure

Demonstrationsvorhaben Musterhof Liebenau, Teilprojekt: Bestimmung des Duengerwertes entgaster Guelle  
Suttor, Eichhorn, H.

Agricultural sciences / Fertilizer / Biological

**□ B. Braun Melsungen AG**

Geschaeftsbereich Biotechnik

3508

Melsungen

☎ +49 5661 71-0

**Development and applied technical**

interpretation of modular bioreactor concepts for the cultivation of adherent and non-adherent animal cells on a technical scale

Entwicklung und anwendungstechnische Auslegung modularer Bioreaktorkonzepte zur Kultivierung adhaerenter und nicht-adhaerenter tierischer Zellen in technischem Masstab  
Kuhlmann, W.

Bioreactor / Pilot scale / Cell / Animal / Cultivation / Adhesion / Test / Biological / Protein / Analysis

**□ Rheinisch-Westfaelisches Institut fuer Wasserchemie und Wassertechnologie GmbH**

Am Schloss Broich 1-3

4330

Muelheim a. d. Ruhr

☎ +49 208 4433-345

**Planning, Erection and Operation of a System for the Biological Removal of Nitrate from Ground Water**

Planung, Erstellung und Betrieb einer Anlage zur biologischen Entfernung von Nitrat aus Grundwasser

Overath, Horst

Ground water / Denitrification / Bacterial /

Bioreactor / Pilot scale / Thiobacillus / Isolation

**Treatment of Waste Water in Sewage Systems with Specially Processed Material from Marine Brown Algae**

Abwasserbehandlung in Kläranlagen mit besonders aufbereitetem Material aus marinen Braunalgen  
Wingender, J.

Waste water / Purification / Microbial / Bioreactor / Alga / Marine / Enzyme / Extracellular

**□ Schott Glaswerke**

Hattenbergstr. 10

6500

Mainz

☎ +49 6131 66-0

**Development of bioreactors based on open-pored, sintered materials as catalyst supports**

Entwicklung von Bioreaktoren auf der Basis von offenporigen Sintermaterialien als

Katalysatortraeger

Radke, M.

Biomass / Fermentation / Anaerobic / Carrier material / Microorganism / Cultivation / Isolation / Selection / Waste water / Industrial / Ethanol / Pentose / Aliphatic / Bioreactor / Pilot scale

**Development of support material for microorganisms in the development of raw materials**

Entwicklung von Traegermaterial fuer

Mikroorganismen zur Werkstoffentwicklung

Kiefer, W.

Carrier material / Glass / Bioactive agent / Metal /

Oxidation / Streptomycete / Grampositive /

Aerobic / Immobilization / Cultivation / Submerged

**□ Genzentrum**

Am Klopferspitz 18a

8033

Martinsried

☎ +49 89 8578-3941

**Oligonucleotide and peptide synthesis**

Oligonukleotid- und Peptidsynthese

Winnacker, E.-L. / Mertz, R. / Sprengel, G.

Oligonucleotide / Heterocyclic / Peptide / Synthesis /

Gene / Synthetic / Interleukine / Human / Mutation /

Expression / Escherichia / Receptor / Amino acid /

Exchange / Glycoprotein / cDNA / Cloning /

Cobalamin / Protein / Transport / Interaction

**Tumorigenesis, tumor suppression and cell differentiation**

Tumorigenese, Tumorsuppression und

Zelldifferenzierung

Westphal, K.-H. / Espen, J. / Kolbeck, C. /

Kurz-Szysko, J. / Mitreiter, R. / Mueller, K. /

Steinhilber, W.

Cancer / Tumour / Origin / Suppression / Immune

system / Cell / Differentiation / Transformation /

Microorganism / Organ

**Functional significance of proto-onco genes for embryo development, cell differentiation and tumor formation in Xiphophorus**

Funktionelle Bedeutung von Proto-Onkogenen fuer

Embryonalentwicklung, Zelldifferenzierung und

Tumorbildung bei Xiphophorus

Schartl, M. / Friedenreich, H. / Hannig, G. /

Maeueler, W. / Ottilie, S. / Raulf, F. / Robertson, S.M. /

Sterneck, E. / Wegner, H. / Wittbrodt, J.

Oncogenic / Embryo / Development / Cell /

Transformation / Proliferation / Differentiation /

Cancer / Tumour / Origin / Fish / Genome / Gene /

Sequence / Expression / Isolation / Regulation /

Hybridization / In situ

**Cloning and production of neurotrophic factors using biotechnological methods**

Klonierung und Produktion von Neurotrophinen

Faktoren mit biotechnologischen Methoden

Thoenen, H. / Barde, Y.-A. / Goetz, R. / Heumann, R. /

Leibrock, J.

Bioactive agent / Protein / Nervous system /

Isolation / Purification / Gel / Electrophoresis /

HPLC / Neuron / In vitro / Nerve / Growth

**Protein engineering: antibodies and enzymes**

Protein Engineering: Antikoerper und Enzyme

Plueckthun, A. / Ganter, Ch. / Glockshuber, R. /

Laminet, A. / Lindner, P. / Skerra, A. / Stadmueller, J. /

Steipe, B.

Protein design / Antibody / Synthesis / Gene /

Antigen / Modification / Steroid / Expression /

Purification / Catalysis / Enzymatic /

Oxidoreductase / Escherichia / Synthetase /

Mutation / Membrane biology / Transport /

Antibiotic

**Antigen receptors and cell interaction molecules of thymus derived lymphocytes**

Antigenrezeptoren und Zellinteraktionsmolekuele

Thymus-abgeleiteter Lymphozyten

Huenig, Th. / Abernethy, E. / Moencke, E. / Prowald, K. /

Tiefenthaler, G.

Antigen / Erythrocyte / Receptor / Lymphocyte /

Molecule / Interaction / Thymus / Cloning /

Antibody / Monoclonal

**Gene expression in yeast**

Genexpression in Hefe

Domdey, H. / Dinkel, D. / Duchene, M. / Scouras, Z. /

Thierack, J. / Thompson-Jaeger, S. / Koehrer, K. /

Loew, A. / Marget, M.

Gene / Expression / Protein / Splicing / mRNA /

Precursor / Yeast / Nucleotide / Heterocyclic /

Transcription / Regulation / Vaccine /

Pseudomonas / Pathogen / Bacterial / Isolation /

Membrane biology / cDNA / Cloning / Sequencing /

Modification / Antibody / Monoclonal / Vector

**Molecular structure and expression of Balbiani rings and other repeated regions in the genom of Drosophila auraria**

Molekulare Struktur und Expression der Balbiani

Ringe und anderer sich wiederholender Regionen

im Genom von Drosophila auraria

Domdey, H. / Kastritsis, C.

Genome / Expression / Structure / Molecular /

Drosophila

**□ Huels AG**

4370

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**Joint research anaerobic fermentation - partial project 1, Fermentative production of 2,3-Butanediol**

Forschungsverbund Anaerobe Fermentation -

Teilprojekt 1, Fermentative Herstellung von

2,3-Butandiol

Hill

Chemostat / Continuous / Two-stage / Acetone /

Alicyclic / Alcohol / Fermentation / Glucose / Cell /

Growth / Water

**□ Bender & Hobein GmbH**

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8000

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**Scale-up of the process and the technique of free flow electrophoresis for the purpose of purification of biopolymers from production-scale reactors. Partial project 2: Development/testing of the apparatus/systems**  
Scale-Up des Verfahrens und der Technik der Free-Flow-Elektrophorese zum Zwecke der Reinigung von Biopolymeren aus Reaktoren im Produktionsmassstab. Teilvorhaben 2: Entwicklung/Erprobung der Apparate/Systeme  
Weber, G. / Wagner, H.  
Bioprocess engineering / Scale-up / Apparatus / Electrophoresis / Purification / Polymer / Biological / Microbial

**Joint proje**

Scale-up of processes and the technique of free flow electrophoresis for the purpose of purification of biopolymers from reactors on a production scale - partial project II  
Verbundprojekt: Scale-up des Verfahrens und der Technik der Free-Flow- Elektrophorese zum Zweck der Reinigung von Biopolymeren aus Reaktoren im Produktionsmassstab - Teilprojekt II:  
Entwicklung/Erprobung der Apparate- Systeme  
Weber, G.  
Bioreactor / Production scale / Organic substance / Polymer / Purification / Scale-up / Electrophoresis / Separation

**Brunner Medizintechnik GmbH**  
Georg-Hallmaier-Str. 6  
8000  
Muenchen 70

**Joint proje**

Use of animal cell cultures as supplement to animal experiments - partial project 3  
Verbundprojekt: Anwendung tierischer Zellkulturen als Ergaenzung zu Tierversuchen - Teilprojekt 3  
Groebel, K.  
Sperm / Animal / Cultivation / Animal experiment / Supplementation

**von Heyden GmbH**  
Volkartstr. 83  
8000  
Muenchen 19  
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**Biotechnological production and characterization of antimicrobial peptide lactones and analogues**

Biotechnologische Produktion und Charakterisierung von antimikrobiellen Peptidlactonen und Analoga  
Breuer, H.  
Peptide / Modification / Chemical / In vivo / Amino acid / Analogous / Enzyme / Mutation / Origin / DNA / Scale-up / Fermentation / Laboratory scale / Production scale

**Synthesis of beta-lactam compounds by enzyme systems of bacterial origin**

Synthese von Beta-Lactam-Verbindungen durch Enzymsysteme bakteriellen Ursprungs  
Von Heyden GmbH  
Antibiotic / Synthesis / Enzymatic / Bacterium / Screening / Isolation / Cell / Bacterial / Glutamic acid / Alanine / Aliphatic / Gramnegative / Aerobic / Extract / Amino acid / ATP / TLC / Electrophoresis / Penicillin / Synthetase / Rabbit / Antibody / Reaction

**New antimicrobial agents of biological origin, from development to application**

Entwicklung neuer antimikrobieller Wirkstoffe biologischen Ursprungs bis zur Praxisnaehe  
Von Heyden GmbH  
Antibiotic / Antibacterial / Isolation / Therapy / Infection / Bacterial / Pseudomonas / Gramnegative / Aerobic

**SEP Gesellschaft fuer technische Studien, Entwicklung, Planung mbH**  
Kistlerhofstr. 168  
8000  
Muenchen 70

**Development and testing of a process for obtaining high-grade protein from rapeseed**  
Entwicklung und Erprobung eines Verfahrens zur Gewinnung von hochwertigem Protein aus Rapssaaten  
Huss, R. / Behlau, L.  
Bioprocess engineering / Isolation / Protein / Useful plant / Pilot scale

**Pektin-Fabrik, Hermann Herbstreith KG**  
7540  
Neuenbuerg  
☎ +49 7082 445

**Development of a fermentation method for the production of xanthan from apple molasses**  
Entwicklung eines Fermentationsverfahrens zur Herstellung von Xanthan aus Apfelmelasse  
Kratz, E.  
Xanthan / Fermentation / Microbial / Molasses / Substrate / Downstream processing / Analysis

**Gesellschaft fuer Strahlen und Umweltforschung mbH (GSF)**  
Ingolstaedter Landstr. 1  
8042  
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**Modulation of the interleukin 2-receptor by pterinsynthesis of lymphocytes**  
Modulation des Interleukin 2-Rezeptors durch hymphozytaere Pterinsynthese  
Ziegler, I.  
Interleukine / Receptor / Bioactive agent / Growth / Cellular / Lymphocyte / Proliferation

**Joint proje**

German-Israeli cooperative Work: Natural substances from biological material - phase III (DISNAT)  
Verbundprojekt: Deutsch-israelische Zusammenarbeit: Naturstoffe aus biologischem Material - Phase III (DISNAT)  
Gerzer, N.  
Natural substance / Microbial / Host / Vector / Microorganism / Synthesis / Enzymatic / Enzyme / Immobilization / Cofactor / Regeneration / Pest / Monitoring / Drug / Cell / Animal / Protein design / Mutation / Origin

**Heumann Pharma GmbH & Co.**  
Biochemische Forschung  
Heideloffstr. 18-28  
8500  
Nuernberg 30  
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**Metabolism studies of xenobiotica with liver cells and liver cell cultures and their comparison with corresponding in vivo experiments, Part V**  
Metabolisierungsstudien von Xenobiotika mit Leberzellen und Leberzellkulturen und deren Vergleich mit entsprechenden in vivo-Versuchen, Teil V  
Vergin, Hartmut  
Xenobiotic / Metabolization / Liver / Cell / Cultivation / Animal experiment / Supplementation / Biotransformation / In vitro / Metabolite

**Zuckerfabik Franken GmbH**  
8703  
Ochsenfurt

**Development and testing of a continuous process to a state of operational readiness for the industrial production of ethanol - Preliminary phase -**  
Entwicklung und Erprobung eines kontinuierlichen Verfahrens fuer die industrielle Ethanolgewinnung bis zur Praxisreife - Vorphase -  
Kammerer, F. X.  
Bioprocess engineering / Technology / Fermentation / Starch / Monosaccharide / Ethanol / Continuous / Industrial

**Zoogesellschaft Osnabrueck e.V.**  
4500  
Osnabrueck

**Model studies in the denitrification of sewage from water circulation systems with high water quality demands as exemplified by operations of salt and fresh water aquariums**

Modelluntersuchungen zur Denitrifikation von Abwasser aus Wasserkreislaeufen mit hohen Anspruechen an die Wasserqualitaet am Beispiel des Betriebes von Meer- und Suesswasseraquarien  
Pentermann, H.  
Waste water / SALT WATER / Fresh water / Denitrification / Filtration / Aerobic / Purification

**Institut fuer Umweltanalytik & Biotechnologie GmbH (IFU)**  
Bleichstr. 19  
7530  
Pforzheim  
☎ +49 7231 2802

**Microbiological research in heterotrophic nitrification in activated sludge systems with installed solid compounds. Part II: Semitechnical testing**

Mikrobiologische Untersuchungen zur heterotrophen Nitrifikation in Belebtschlammanlagen mit Festkoerpereinbauten. Teil II: Halbtechnische Erprobung  
Eberhardt, H.  
Environmental biotechnology / Bioprocess engineering / Nitrification / Degradation / Nitrogen / Microbial / Mixed culture / Starter culture / Pilot scale

**Microbiological investigations of heterotrophic nitrification in activated sludge systems with incorporated solid compounds**

Mikrobiologische Untersuchungen zur heterotrophen Nitrifikation in Belebtschlammanlagen mit Festkoerpereinbauten  
Dengler, D.  
Activated sludge / Bioreactor / Nitrification / Heterotrophic / Ammonium / Degradation / Bacterium / Cultivation / Isolation

**Boehringer Mannheim GmbH, Biochemie-Werk Penzberg**  
Im Nonnenwald  
8122  
Penzberg

**Expression of antibody derivatives in eukaryotic cells**

Expression von Antikoerper-Derivaten in Eukaryonten-Zellen  
Buckel, P.  
Molecular biology / Gene technology / Expression / DNA / Antibody / Human

**Ekato Ruehr- und Mischtechnik GmbH**  
7860  
Schopfheim  
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**fumigation from W/O emulsions (Xanthan fermentation)**

Begasen von W/O Emulsionen  
(Xanthan-Fermentation)

Franz  
Xanthan / Fermentation / Water / Oil / Emulsion /  
Aeration

 **Gebrueder Netzsch Maschinenfabrik GmbH & Co.**

Gebr.-Netzsch-Str. 19  
8672  
Selb  
☎ +49 9281 75-1, tx: 643 535

**Mechanically obtained information through microorganisms in stirred ball mills**

Mechanischer Aufschluss von Mikroorganismen in Rührwerkskugelmuehlen

Ott  
Apparatus / Grinding / Scale-up / Production scale /  
Microorganism / Cell / Release / Mechanical / Data  
processing / Process / Control

 **Gruenthal GmbH**

Steinfeldstr. 2  
5190  
Stolberg  
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**An alternative method of pharmacological random screening: computer controlled molecular modelling of selective inhibitors of enzymatic mediator formation**

Ein alternativer Weg zum pharmakologischen Random Screening: Computergestuetztes "Molecular Modelling" von selektiven Inhibitoren der enzymatischen Mediatorbildung

Floh, L.  
Inhibitor / Selective / Synthesis / Lipoxxygenase /  
Action / Inhibition / Lung / Cell / Leukocyte /  
Human / Isolation / Chemotaxis / BRM / Enzymatic

**Joint proje**

Genetic engineered synthesis of defined small molecular inhibitors or inhibitor domains with designed inhibitional action against proteolytic enzymes

Verbundprojekt: Gentechnologische Synthese von definierten kleinmolekularen Inhibitoren oder Inhibitoromaenen mit gezielter Inhibitionswirkung gegen proteolytische Enzyme  
Floh, L. / Frankus / Gassen, H.G.  
Inhibitor / Synthesis / Gene technological /  
Mutation / cDNA / Gene / Cloning / Expression /  
Isolation / Sequencing

**Joint proje**

Production, purification and pharmacological/clinical testing of human urokinase, cPUK through genetic engineering  
Verbundprojekt: Gentechnologische Gewinnung, Reinigung und pharmakologisch- klinische Erprobung von menschlicher Urokinase, cPUK  
Floh, L. / Gassen, H.G. / Hillen  
Urokinase / Human / Gene technological /  
Purification / Bioreactor / Pilot scale / RIA / ELISA

 **ETV Mahler GmbH, Gasanlagen**

Augsburger Str. 708  
7000  
Stuttgart 61

**Anaerobic processes for the recovery of process waste water (food production)**

Anaerobe Verfahren zur Aufarbeitung von Prozessabwaessern (Lebensmittelproduktion)  
Fischer, F.  
Bioprocess engineering / Environmental  
technology / Purification / Downstream processing /  
Waste water / Anaerobic / Origin / Methane

 **EVT Energie- und Verfahrenstechnik GmbH**

Johannesstr. 37-45  
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☎ +49 711 6694-1

**Anaerobic reconditioning of organic heavily loaded process water as exemplified by the process water from the production of dimethyl terephthalate (DMT)**

Anaerobe Aufarbeitung organisch hochbelasteter Prozessabwaesser am Beispiel des Prozesswassers aus der Produktion von Dimethylterephthalat (DMT)  
Reule, W.  
Process water / Purification / Anaerobic / Microbial /  
Methanobacteriaceae / Grampositive / Anaerobic /  
Immobilization / Bioreactor / Two-stage /  
Production scale

 **Boehringer Mannheim GmbH**

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8132  
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☎ +49 8158 22-1

**Polymer reagents for nucleotide synthesis**

Polymere Reagenzien fuer die Nucleotid-Synthese  
Batz / Seliger  
Reagent / Polymer / Nucleotide / Heterocyclic /  
Synthesis / Nucleoside / Immobilization

**Expression of antibody derivatives in eukaryotic cells**

Expression von Antikoerperderivaten in Eukaryonten-Zellen  
Buckel, P.  
Antibody / Monoclonal / Animal / Human /  
Derivative / Gene / Expression / cDNA / Isolation /  
Vector

**Human monoclonal antibodies in tumor therapy**

Humane monoklonale Antikoerper zur Tumorthapie  
Jungfer / Riethmueller, G. / Doerken  
Antibody / Monoclonal / Human / Tumour /  
Therapy / Lymphocyte / Hybridoma / Cloning /  
ELISA / Antibody / Cultivation / Bioreactor

**Thermophilic biological catalyst for the hydrolysis of raffinose in beet sugar production methods**

Thermophiler Biokatalysator zur Hydrolyse der Raffinose bei den Verfahren zur Ruebenzuckergewinnung  
Mattes  
Enzyme / Thermophilic / Hydrolysis / Polyalcohol /  
Gene / Transfer / Gene technological / Host /  
Isoenzyme / Bacterial / Expression / Cloning /  
Vector / Bacillus / Grampositive / Aerobic /  
Escherichia / Gramnegative / Facultative /  
Anaerobic

 **Bayer AG, Wuppertal**

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**Joint proje**

Products from animal and human cells - development of improved culture systems for mass cultures

Verbundprojekt: Produkte aus tierischen und menschlichen Zellen - Entwicklung verbesserter Kultursysteme fuer Massenzellkultur  
Hewlett, G.  
Cell / Animal / Human / Cultivation / Bioreactor /  
Control / Computer

 **Forschungsinstitut Borstel (FIB)**

Institut fuer Experimentelle Biologie und Medizin  
Parkallee 1-40  
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Borstel  
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**Joint proje**

Rational synthesis planning and optimization of principal substances in medical chemistry for the purpose of reducing animal experiments - partial project 5: Quantitative structure-effect(QSAR)-analysis  
Verbundprojekt: Rationale Syntheseplanung und Leitsubstanzoptimierung in der medizinischen Chemie zum Ziele der Einsparung von Tierversuchen - Teilprojekt 5: Quantitative Struktur-Wirkung(QSAR)-Analysen  
Seydel, J.  
Leading substance / Derivative / Synthesis /  
Optimization / Animal experiment / Reduction

**Joint proje**

Rational synthesis planning and optimization of leading substances in medicinal chemistry for purposes of reducing animal experiments - partial project 3: NMR spectroscopy  
Verbundprojekt: Rationale Syntheseplanung und Leitsubstanzoptimierung in der medizinischen Chemie zum Ziele der Einsparung von Tierversuchen - Teilprojekt 3: NMR-Spektroskopie  
Leibritz, D.  
Leading substance / Synthesis / Optimization /  
Animal experiment / Reduction / NMR

**Joint proje**

Development and use of processes leading to a reduction of animal experiments, partial project 3 and 4  
Verbundprojekt: Entwicklung und Nutzung von Verfahren, die zu einer Verminderung von Tierversuchen fuehren, Teilprojekt 3 und 4  
Flad / Seydel, J.  
Animal experiment / Reduction / Infection /  
Bacterial / Mycobacterium / Therapy / MS / Cell /  
Cultivation / Human / Action / Pyrogen /  
Interleukine / ELISA

 **Finnigan MAT**

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2800  
Bremen 14  
☎ +49 421 5493-0

**Development of a massspectrometer for use in biology/biotechnology and the development of processes for massspectroscopic peptide sequencing**

Entwicklung eines Massenspektrometers fuer Anwendungen in der Biologie/Biotechnologie und Entwicklung eines Verfahrens zur massenspektroskopischen Peptidsequenzierung  
Pesch, R. / Wollnik; Schaefer, W.  
Analytical engineering / Apparatus / MS /  
Sequencing / Peptide

**Development of a mass spectrometer for use in biology/biotechnology and development of a method for mass spectroscopic peptide sequencing**

Entwicklung eines Massenspektrometers fuer Anwendungen in der Biologie/Biotechnologie und Entwicklung eines Verfahrens zur massenspektroskopischen Peptidsequenzierung  
Pesch, Reinhold  
Peptide / Sequencing / MS / Purification /  
Preparation

 **Bundesgesundheitsamt, Max von Pettenkofer-Institut**

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1000  
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**New methods for the determination of acute chemical toxicity**

Neue Wege zur Bestimmung der akuten Toxizität von Chemikalien  
Roll, R.; Kayser, D.  
Toxicology / Determination / Chemicals / Toxic / Animal experiment

**Quick testing to check for embryonic toxicity aided by the differentiation of embryonic strain cell lines from blastocysts in vitro**

Kurzzeitstest zur Prüfung auf Embryotoxizität mit Hilfe der Differenzierung von embryonalen Stammzell-Linien aus Blastozysten in-vitro  
Spielmann, H.  
Cell biology / Toxicology / Biochemistry / Differentiation / Cultivation / Cell / Tissue / Embryo / Mouse / Fibroblast / Medium / Action / Toxic / Toxin

 **Robert von Ostertag-Institut, Bundesgesundheitsamt (BGA)**

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Berlin 33  
☎ +49 30 8308-0

**Pathogenetic studies of aeromonas hydrophila with cell cultures**

Pathogenitätsuntersuchungen an Aeromonas hydrophila mit Zellkulturen  
Bulling, E.  
Disease / Bacterial / Origin / Cell / Cultivation / Vector / Gene bank / Erythrocyte / Agglutination / Cloning / Expression / Transposon / Mutation

**Substituted animal experimentally produced antiserum for typing of salmonella by monoclonal antibodies**

Ersatz tierexperimentell gewonnener Antiseren zur Typisierung von Salmonellen durch monoclonale Antikörper  
Wor, R. H.  
Antiserum / Microbial / Salmonella / Antibody / Monoclonal / Cell / Animal / Human / Cultivation / Hybridoma / Fusion / Animal experiment / Substitution

**Experimental investigations into the substitution of mucous membrane irritation tests on rabbit eyes (Draize Test) to test harmless-to-health, painless substance cosmetic agents**

Experimentelle Untersuchungen zum Ersatz des Schleimhautreiztestes am Kaninchenaug (Draize-Test) zur Prüfung der gesundheitlichen Unbedenklichkeit kosmetischer Mittel durch nicht schmerzfaehige Materie  
Miels, W.  
Mucous membrane / Rabbit / Test / Animal experiment / Substitution / Cosmetic / Cell / Cultivation / Membrane biology

 **Max-Planck-Institut fuer Molekulare Genetik**

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Berlin  
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**Construction of a sequencer from component parts for the microsequencing of peptides and proteins and the development of sequencing programs. Partial project II**

Konstruktion eines Sequenzers im Baukasten-Prinzip zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen. Teilprojekt II  
Wittmann-Liebold, B. / Knauer, H. / Tschesche, H. / Machleidt, W.  
Analytical engineering / Apparatus / Sequencing / Peptide / Protein / Software

**Joint proje**

Construction of a sequencer using individual components for microsequencing of peptides and proteins and development of sequencing programs  
Verbundprojekt: Konstruktion eines Sequenzers im Baukastenprinzip zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen  
Wittmann-Liebold, B. / Knauer, H. / Tschesche, H. / Machleidt, W.  
Peptide / Protein / Sequencing / Software / Amino acid / Derivative / LC

**Joint proje**

construction of a sequencer with standardized units for the microsequencing of peptides and proteins and development of sequencing programmes  
Verbundprojekt: Konstruktion eines Sequenzers im Baukastenprinzip zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen  
Wittmann-Liebold, B. / Knauer, H. / Tschesche, H. / Machleidt, W.  
Peptide / Protein / Sequencing / Biocomputing / Software / Apparatus / Gas / Pressure / Control

 **Biologische Bundesanstalt fuer Land- und Forstwirtschaft (BBA)**

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**Glycoproteins as signale in spot-sick rice.**

Glycoproteine als Signale in fleckenkrankem Reis  
Stegemann, H. / Won Mok Park  
Glycoprotein / Disease / Vegetable

 **Bundesforschungsanstalt fuer Landwirtschaft (FAL), Institut fuer Bodenbiologie**

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3300  
Braunschweig  
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**Symbiotic interaction between microorganisms and culture plants: growth promoting bacteria, root colonization, specificity, and efficacy**

Symbiotische Wechselwirkungen zwischen Mikroorganismen und Kulturpflanzen: Wachstumsfoerdernde Bakterien, Wurzelbesiedelung, Spezifität und Wirkungen  
Jagnow, G.  
Microbiology / Biochemistry / Botany / Agricultural sciences / Symbiosis / Interaction / Microorganism / Useful plant / Induction / Growth / Vegetable / Bacterium / Fixation / Nitrogen

**Possibilities and risks of the agricultural use of genetically altered microorganisms**

Moeglichkeiten und Risiken der landwirtschaftlichen Nutzung gentechnologisch veraenderteter Mikroorganismen  
Domsch, FK. H.  
Safety research / Agricultural sciences / Microbiology / Taxonomy / Degradation / Xenobiotic / Symbiosis / Microorganism / Recognition / DNA / Probes

 **Bundesforschungsanstalt fuer Landwirtschaft (FAL)**

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**Creation of basis populations of beta-beets, sweet potatoes and chicory for the production of technical alcohols from raw matter aftergrowth**

Erstellung von Basispopulationen von Beta-Rueben, Topinambur und Zichorie fuer die Gewinnung technischer Alkohole aus nachwachsenden Rohstoffen  
Dambroth, M.  
Alcohol / Technical / Raw material / Vegetable / Aftergrowing / Plant / Breeding / Hybridization / Cloning

**Construction of basis populations of mandia oil, radish oil and sunflowers for the production of technical oils**

Aufbau von Basispopulationen von Oelmadie, Oelrettich und Sonnenblumen zur Gewinnung technischer Oele  
Dambroth, M.  
Oil / Technical / Vegetable / Plant / Breeding / Hybridization / GC / Fatty acid / Aliphatic

 **Fraunhofer-Institut fuer Holzforschung Wilhelm-Klauditz-Institut (WKI)**

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3300  
Braunschweig  
☎ +49 531 33909-0

**Use of spruce and pine bark extract for the production of wood glue**

Verwendung der Rindenextrakte von Fichte und Kiefer zur Herstellung von Holzleimen  
Dix, Dr.P. / Marutzky  
Adhesive / Vegetable / Natural / Raw material / Aftergrowing

**Precautions in cultivation to increase and secure production (a) and expanded Technical studies for the biomass production in forestal fast growth plantations (b).**

Zuechterische Massnahmen zur Steigerung und Sicherung der Produktion (a) und anbautechnische Untersuchungen zur Biomasseproduktion in forstlichen Schnellwuchsplantagen (b).  
Weisgerber, H. / Dimitri, L.  
Biomass / Vegetable / Breeding

**Gypsum-bound-masonite by the Semidried Process Including the Study of Modification Possibilities through the Addition of Puzzolana In Cooperation with The People's Republic of China**

Gipsspanplatte nach dem Halbtrockenverfahren einschliesslich der Untersuchung von Modifizierungsmoeglichkeiten durch den Zusatz von Puzzolanen - Kooperation mit der VR China  
Kossatz, G. / Sattler, H.  
Bioactive agent

**Advisory research for the optimization of properties of the new wood- gypsum-slabs, "sasmo X", through use of inevitable, industrial waste matter - cooperative work with Finland**

Begleitforschung zur Optimierung der Eigenschaften der neuen Holz-Gips-Platte "Sasmo X" unter Nutzung industrieller Zwangsabfallstoffe - Kooperation mit Finnland  
Sattler, H.  
Waste / Industrial / Recycling / Starting material

**Evaluation of lignocellulose in the production of slab-formed work materials (bilateral project with the people's Republic of China)**

Verwertung von Lignocellulosen zur Herstellung plattenfoermiger Werkstoffe (Bilaterales Vorhaben mit der Volksrepublik China)  
Mehlhorn, L.  
Lignocellulose / Starting material / Recycling



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Schaedlingsbekaempfung  
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**Biotechnological research - prerequisites for approval of insect virus preparations in pest control**

Biotechnologische Forschung -  
Zulassungsvoraussetzungen fuer Insektenvirus-  
Praeparate zur Schaedlingsbekaempfung -  
Versickerungsverhalten von Baculoviren  
Huber, J.  
Pest / Abatement / Baculovirus / Bacteriophage /  
Insect / Waste water / Soil

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Dortmund  
☎ +49 231 12061

**The significance of intracellular H<sup>+</sup> -ion concentration for the cell activity of human tumor cells in spheroidal bonding in regard to the improvement of existing forms of therapy**  
Die Bedeutung der intrazellulaeren H<sup>+</sup>-  
Ionenkonzentration fuer die Zellaktivitaet  
menschlicher Tumorzellen im Sphaeroidverband  
im Hinblick auf die Verbesserung bestehender  
Therapieformen

Acker, H.  
Oncology / Pharmacology / Therapy / Cancer / pH /  
Metabolism / Oxygen / Cell / Tumour

□ **Georg-Speyer-Haus (GSH)**  
Chemotherapeutisches Forschungsinstitut  
Paul-Ehrlich-Str. 42-44  
6000  
Frankfurt/Main 70  
☎ +49 69 636016

**Direct testing of the AIDS virus (LAV/HTLV III) - development of a sensitive virus test for LAV/HTLV III based on genetic engineering**  
Direkter Nachweis des Aids Erregern (LAV/HTLV III)  
- Entwicklung eines empfindlichen  
Erregernachweises fuer LAV/HTLV III auf  
gentechnologischer Basis  
Ruebsamen-Waigmann, H.  
AIDS / Diagnosis / HIV / Isolation / Cloning /  
Molecular / Probes

□ **Paul-Ehrlich-Institut, Bundesamt fuer Sera und Impfstoffe**  
Paul-Ehrlich-Str. 42-44  
6000  
Frankfurt/Main 70  
☎ +49 69 636016

**Immune prophylaxis in HTLV-III infections**  
Immunprophylaxe der HTLV-III Infektion  
Kurth, R.  
AIDS / Virus / Isolation / Cloning / Nucleotide /  
Sequence / Analysis / Prophylaxis / Gene /  
Insertion / Gene technological / Vector /  
Recombination / Replication / Protein / Viral /  
Synthesis / Purification / Tissue / Cultivation /  
Animal experiment / Immune system

□ **Forschungsanstalt fuer Weinbau, Gartenbau, Getraenketechnologie und Landespflege Geisenheim (FAG)**  
Von-Lade-Str. 1  
6222  
Geisenheim  
☎ +49 6722 502-1

**In vitro culture with woodland trees: investigations into clonal reproduction of forest woods from organ explantates through tissue culture**

In-vitro-Kultur bei Waldbaueen: Untersuchungen  
zur klonalen Vermehrung von Forstgehuelzen aus  
Organexplantaten durch Gewebekultur  
Reuther, G.  
Agricultural sciences / Botany / Cultivation / Tissue /  
Vegetable / Breeding / Plant

**Production of ethylcarbamate (urethane) in wine models, wine and mash.**

Bildung von Ethylcarbamat (Urethan) in  
Modell-Weinen, Weinen und Maischen  
Dittrich / Wucherpfennig  
Research / Production / Organic substance / Wine /  
Mash

**Relationships between genetic stability and regeneration potency in callus cultures of asparagus off.**

Beziehungen zwischen genetischer Stabilitaet und  
Regenerationspotenz in Kalluskulturen von  
Asparagus off.  
Reuther, G.  
Tissue / Vegetable / Cultivation / Cloning / In vitro /  
Regeneration / Useful plant / Selection /  
Hybridization

□ **Max-Planck-Institut fuer Biophysikalische Chemie, (Karl-Friedrich-Bonhoeffer-Institut)**  
Am Fassberg  
3400  
Goettingen-Nikolausberg  
☎ +49 551 201-1

**Specific sensors through planned cooperation in molecular organized systems**

Spezifische Sensoren durch geplante Kooperation in  
molekular organisierten Systemen  
Moebius  
Biosensor / Surface / Molecular

□ **Max-Planck-Institut fuer Experimentelle Medizin**  
Hermann-Rein-Str. 3  
3400  
Goettingen  
☎ +49 551 303 1

**Basis of Cellular Interaction and Signal Transmision**

Grundlagen zellulaerer Wechselwirkung und  
Signalvermittlung  
Althaus, H.-H. / Eibl, H. / Figura, K.v. / Gahr, M. /  
Gallwitz, P. / Goetze, O. / Gruss, P. / Jungermann, K. /  
Peters, J.-H. / Sakmann, B. / Soeling, H.-D. / Stadler,  
H. / Trube, G.  
Neuron / Interaction / Intercellular / Hormone /  
Neurotransmitter / Metabolism / Substrate /  
Nervous system / Membrane biology / Regulation /  
Lymphocyte / Human / Immune system /  
Phospholipid / mRNA / Splicing / Yeast

**Biochemistry of the Nervous System**

Biochemie des Nervensystems  
Beress, L. / Gassen, H.G. / Grimmelihuijzen, C. /  
Hucho, F. / Jakobs, K.H. / Lange, K. / Keller, K. /  
Richter-Landsberg, Ch. / Rommelspacher, H. /  
Sandhoff, K. / Schachner, M. / Schultz, G. /  
Rosenthal, W.  
Nerve / Transformation / Cell / Animal /  
Cultivation / Hybridization / Neurotransmitter /  
Analysis / Membrane biology / Simulation /  
Modelling / Heart / Toxin / Isolation / Invertebrate /  
Marine / Protein / Transport / Receptor / Marking

□ **Bundesforschungsanstalt fuer Forst- und Holzwirtschaft**  
Institut fuer Forstgenetik und  
Forstpflanzenzuechtung  
Leuschnerstr. 91  
2050  
Hamburg 80  
☎ +49 40 73962-1

**Use of agricultural areas for the biomass cultivation of fast growing varieties of trees**  
Nutzung von landwirtschaftlichen Flaechen zur  
Biomasseerzeugung mit schnell wachsenden  
Baumarten  
Muhs, H.-J.  
Biomass / Vegetable / Raw material / Aftergrowing /  
Breeding / Selection / Reproduction / Cloning /  
Regeneration

□ **Bundesforschungsanstalt fuer Forst- und Holzwirtschaft**  
Institut fuer Holzchemie und chemische  
Technologie des Holzes  
Leuschnerstr. 91  
2050  
Hamburg 80  
☎ +49 40 73962-1

**Biotechnological cultivation and utilization of industrial woods; Partial project III. Chemical cell material through enzymatic follow-up purification**  
Biotechnologische Erzeugung und Verwertung von  
Industrieholz; Teilvorhaben III. Chemiezellstoff  
durch enzymatische Nachreinigung  
Puls, J.  
Bioprocess engineering / Purification / Separation /  
Lignin / Hemicellulose / Enzymatic / Mycelial  
fungus / Bacillus

**Production of chemical cellulose from local raw materials with high DP values and alpha cellulose content**

Gewinnung von Chemiecellulosen aus  
einheimischen Rohstoffen mit hohem DP- Wert  
und alpha-Cellulosegehalt  
Patt, R.  
Natural substance chemistry / Organic chemistry /  
Upstream processing / Chemical / Enzymatic /  
Lignin / Hydrolysis / Hemicellulose

**Fermentative production of chemicals from hemicellulose (pentoses) in cooperation with the VTT, Helsinki, Finland**

Fermentative Gewinnung von Chemikalien aus  
Hemicellulosen (Pentosen) in Zusammenarbeit mit  
dem VTT Helsinki/Finnland  
Puls, J.  
Hemicellulose / Pentose / Fermentation / Bacterial /  
Pseudomonas / Gramnegative / Aerobic /  
Hydrolysis / Enzymatic / Chemicals

□ **Freie und Hansestadt Hamburg, Behoerde fuer Wirtschaft, Verkehr und Landwirtschaft**  
Alter Seinelweg 4  
2000  
Hamburg 11

**Investigations of a biogas system at a hamburg slaughter house of pilot scale (comparable investigation to model in Essen)**  
 Untersuchungen zu einer Biogasanlage am Hamburger Schlachthof am Technikumsmasstab (vergleichende Untersuchung zum Modell in Essen)  
 Dous / Stephan, B.  
 Biogas / Installation / Two-stage / Pilot scale / Waste water / Purification / Anaerobic / Noxious substance / Organic / Methane / Bioreactor / Hydrolysis

□ **Fraunhofer-Institut fuer Toxikologie und Aerosolforschung**  
 Institutsteil Hannover  
 Nikolai-Fuchs-Str. 1  
 3000  
 Hannover 61  
 ☎ +49 511 53500

**Biochemical and biological characterization as well as molecular cloning of macrophage activating factors. Partial projects 1 and 2**  
 Biochemische und biologische Charakterisierung sowie molekulare Klonierung des Makrophagen-aktivierenden Faktors. Teilprojekt 1 und 2  
 Lohmann-Matthes, M.-L. / Arnold  
 Biochemistry / Molecular biology / Gene technology / Cloning / Immune system agent / Macrophage / Activation

**Joint proje**  
 Development and use of processes leading to a reduction of animal experiments, partial projects 6 and 7  
 Verbundprojekt: Entwicklung und Nutzung von Verfahren, die zu einer Verminderung von Tierversuchen fuehren, Teilprojekte 6 und 7  
 Paul / Fahrig  
 Animal experiment / Reduction / Yeast / Cultivation / Tumour / Gene / Regulation / Cancer / Mutation / Liver / Cell / Animal / Mouse / Rat / Proliferation / Medium / Serumfree / Hydrocortisone / Insulin

**Protein design on the model of human gamma-interferon**  
 Protein Design am Modell des menschlichen Interferons Gamma  
 Otto, B.  
 Interferon / Gamma / Human / Protein design / DNA / Protein / Cell / Bacterial / Expression / Modification / Enzymatic / Therapy

**Gamma-interferon as immune therapy against causes of intercellular disease**  
 Interferon-Gamma als Immuntherapeutikum gegen intrazellulaere Krankheitserreger  
 Lohmann-Matthes  
 Interferon / Gamma / Therapy / Prophylaxis / Infection / Pathogen / Intracellular / Macrophage / Parasitic

□ **Hessische Forstliche Versuchsanstalt Prof.-Oelkers-Str. 6**  
 3510  
 Hannoversch-Muenden  
 ☎ +49 5541 1032

**In vitro culture with woodland trees: investigations of in vitro techniques for the cultivation and culture of woodland trees**  
 In-vitro-Kultur bei Waldbaeumen: Untersuchungen ueber in-vitro-Techniken zur Zuechtung und Anzucht von Waldbaeumen  
 Froehlich, H. J. / Weisgerber, H.  
 Agricultural sciences / Botany / Cultivation / Tissue / Vegetable / Breeding / Plant

□ **Bundesanstalt fuer Milchwissenschaft Institut fuer Mikrobiologie**  
 Hermann-Weigmann-Strasse 1  
 2300  
 Kiel 1  
 ☎ +49 431 6091

**Technological aspects of application of ultrafiltration to buffalo milk**  
 Technologische Aspekte bei der Anwendung der Ultrafiltration auf Buueffelmilch  
 Reuter, H.  
 Milk / Animal / Filtration

□ **Bundesforschungsanstalt fuer Fleischforschung, Institut fuer Mikrobiologie, Toxikologie und Histologie**  
 E.-C.-Baumann-Str. 20  
 8650  
 Kulmbach  
 ☎ +49 9221 8031

**Fermentation processes for the production of mycotoxins**  
 Fermentationsverfahren zur Herstellung von Mykotoxinen  
 Leistner, L.  
 Bioprocess engineering / Production / Toxin / Fungus / Fermentation

**Biotechnology in meat research**  
 Biotechnologie in der Fleischforschung  
 Leistner, L.  
 Food technology / Microbiology / Screening / Starter culture / Food / Fermentation

□ **Max-Planck-Institut fuer Zuechtungsforschung, (Erwin-Baur-Institut)**  
 Abteilung Genetische Grundlagen der Pflanzenzuechtung, Genzentrum Koeln  
 Egelspfad  
 5000  
 Koeln  
 ☎ +49 221 5062-350

**Genetic engineering, major project, Cologne - Molecular genetic engineering and cell technology**  
 Gentechnologisches Schwerpunktprojekt Koeln - Molekulare Gen- und Zelltechnologie  
 Schell  
 Biochemistry / Molecular biology / Gene technology / Recombination / Cell / Animal / Transfer / Gene / Isolation / Chromatin / Action / Structure / DNA / Chemical / Lymphocyte / Breeding / Plant / Resistance / Cloning / Expression / Therapy / Metabolism

**Genetic engineering central project cologne - molecular gene and cell technology**  
 Gentechnologisches Schwerpunktprojekt Koeln - Molekulare Gen- und Zelltechnologie -  
 Beyreuther / Doerfler / Gronenborn / Hahlbrock / Jack / Knogge / Loerz / Mueller-Hill, B. / Radbruch / Reth / Saedler / Salamini / Schell, J. / Schmidt / John / Starlinger / Willmitzer  
 Cell / Animal / Mammal / Recombination / Vector / Chromosome / Vegetable / Gene / Expression / Transfer / Transcription / Recombination / Potato / Resistance / Cultivation / In vitro / Modification / Genetic / Protein / Regulation / Isolation / Peptide / DNA / Synthesis

□ **Bundesanstalt fuer Fettforschung, Institut fuer Biochemie und Technologie**  
 Piusallee 68/76  
 4400  
 Muenster  
 ☎ +49 251 43510

**Biotechnology for the cultivation of oil producing plants: characterization and isolation of enzymes for the biosynthesis of unusual fatty acids in alternative oil seeds**  
 Biotechnologie fuer die Zuechtung von Oelpflanzen: Charakterisierung und Isolierung von Enzymen zur Biosynthese ungewoehnlicher Fettsauren in Alternativ-Oelsaaten  
 Mukherjee, K. D.  
 Biochemistry / Molecular biology / Botany / Isolation / Biosynthesis / Enzyme / Hydrolase / Fatty acid / Vegetable

□ **Max-Planck-Institut fuer Biochemie**  
 Am Klopferspitz 18a  
 8033  
 Martinsried  
 ☎ +49 89 8578-1

**Analysis of gene control through steroids, through development and through differentiation**  
 Analyse der Genkontrolle durch Steroide, durch die Entwicklung und durch die Differenzierung  
 Renkawitz, R. / Altschmied, J. / Baniahmad, A. / Cross, M. / Danesch, U. / Hafenrichter, R. / Muller, M. / Mangelsdorf, I. / Otsuka, H. / Schuele, R. / Schulz, K. / Steiner, Ch. / Wolf, D.  
 Tryptophan / Aliphatic / Oxygenase / Animal / Rat / Steroid / Alicyclic / Sequence / Regulation / Liver / Cell / Receptor / Transcription / Inhibition / Lysozyme / Gene / Macrophage / Differentiation / Expression / cDNA / Isolation / Sequencing

**Stage-specific and tissue-specific gene expression of the beta-tubulin gene in the development of Drosophila**  
 Stadien- und Gewebe-spezifische Genexpressionen der Beta-Tubulin-Gene in der Entwicklung von Drosophila  
 Renkawitz-Pohl, R. / Buttgerit, D. / Gasch, A. / Hinz, U. / Leiss, D. / Michiels, F.  
 Gene / Expression / Drosophila / Sequence / DNA / Regulation / Transcription / Protein / Embryo / Purification / Tissue

**Microsequencing**  
 Mikrosequenzierung  
 Lottspeich, F. / Eckerskorn, Ch. / Jochim, M. / Kellermann, J. / Mewes, W. / Traegler, M.  
 Amino acid / Sequence / Analysis / Sequencing / Protein / Isolation / Purification / Modification / Amine / Infection / Viral / Glycoprotein / Alpha / Structural analysis

**Genetic engineering central project Munich - foundation and utilization of genetic engineering in biology**  
 Gentechnologisches Schwerpunktprojekt Muenchen - Grundlagen und Anwendungen der Gentechnologie in der Biologie -  
 Domdey, H. / Fanning-Honneger, E. / Fritz, H.-J. / Hartmann, G. / Hofschneider, P.H. / Huenig, Th. / Kraeusslich / Lottspeich, F. / Neupert, W. / Plueckthun, A. / Renkawitz, R. / Renkawitz-Pohl, R. / Riethmueller, G. / Scharlt, M. / Thoenen, H. / Weiss, W. / Westphal, K.-H. / Zachau, H.G. / Zenk, M.H.  
 Gene / Viral / Vegetable / Expression / Yeast / Synthesis / Chemical / mRNA / Cloning / Regulation / Cell / Proliferation / Marking / Differentiation / Immune system / Human / Immunoglobulin / Stock / Transgenic / Sequencing / Enzyme technology / Protein design / Glycoprotein / Oncogenic / Cellular / Tumour / Origin

□ **Max-Planck-Institut fuer Biochemie, Abteilung Membranbiochemie**  
 Am Klopferspitz 18a  
 8033  
 Martinsried  
 ☎ +49 89 8578-1

Databank for protein sequences (MIPS)  
Datenbank fuer Proteinsequenzen (MIPS)  
Oesterhelt, D.  
Biocomputing / Data base / Protein / Vector /  
Sequence

□ **Max-Planck-Institut fuer Biochemie,  
Abteilung Virusforschung**  
Am Klopferspitz 18a  
8033  
Martinsried  
☎ +49 89 8578-1

Cloning of viral genes for the examination of  
the mechanism of persistent infections and as a  
probe for the genetic marking of cells  
Klonierung viraler Gene zur Untersuchung des  
Mechanismus persistierender Infektionen und als  
Probe zur genetischen Markierung von Zellen  
Hofschneider, P.H. / Kandolf, R. / Klump, W.  
Gene / Viral / Cloning / Infection / Cell / Marking /  
Genetic / RNA virus / RNA / Replication / cDNA /  
Protein / Expression / Host / Cell / Interaction /  
Genome / Vaccine

□ **Max-Planck-Institut fuer Biochemie,  
Abteilung Zellbiologie**  
Am Klopferspitz 18a  
8033  
Martinsried  
☎ +49 89 8578-1

Development of new and improved methods of  
chemical gene synthesis and the mutation  
construction objective  
Entwicklung neuer und verbesserter Methoden der  
chemischen Gensynthese und der gezielten  
Mutationskonstruktion.  
Fritz, H.-J. / Bieseler, B. / Friedrich, K. / Hauptmann,  
M. / Kramer, W. / Merkl, R. / Wippler, J.  
Gene / Synthesis / Chemical / Mutation / Origin /  
Immunoglobulin / Membrane biology / Protein /  
Bacterial / Archaeobacterium / Protein design

□ **Biologische Bundesanstalt fuer Land-  
und Forstwirtschaft (BBA), Institut fuer  
Resistenzgenetik**  
Graf-Seinsheim Str. 23  
8059  
Gruenbach  
☎ +49 8122 165-1

Experiments in the genetic diagnosis of  
commercially important genes in barley, part C:  
use of cell cultures and cDNA techniques  
Versuche zur genetischen Diagnose wirtschaftlich  
wichtiger Gene bei der Gerste Teil C: Einsatz von  
Zellkulturen und cDNA Techniken.  
Wenzel, G.  
Agricultural sciences / Botany / Analysis / Gene /  
Useful plant / cDNA / Probes / Transcription /  
Vector / Cultivation / Tissue

□ **Deutsche Gesellschaft fuer  
Zuechtungskunde, Ausschuss  
Biotechnologie, c/o Universitaet  
Muenchen (LMU), Institut fuer Tierzucht  
und Tierhygiene, Lehrstuhl fuer  
Tierzucht**  
Veterinaerstr. 13  
8000  
Muenchen 22  
☎ +49 89 2180-2548

Genetic transfer in pigs through DNA  
microinjection in the zygote pronucleus  
Gentransfer beim Schwein durch  
DNA-Mikroinjektionen in Zygotenvorkerne  
Brem, G. / Binder, St. / Brenig, B.  
Gene / Transfer / Cloning / DNA / Injection / Egg  
cell / Animal experiment / Hormone / Growth /  
Regulation / Action

□ **Fraunhofer-Institut fuer  
Lebensmitteltechnologie und  
Verpackung (ILV)**  
Schragenhofstr. 53  
8000  
Muenchen 50  
☎ +49 89 149009-0

Investigations of scale up and operation of a  
new bioreactor for the fermentative production  
of ethanol in a gas/solid fluidized bed with  
yeasts  
Untersuchungen zum Scale-up und Betrieb eines  
neuen Bioreaktors fuer die fermentative  
Gewinnung von Ethanol in einer mit Hefepartikeln  
beschickten Gas/Feststoff-Wirbelschicht  
Bauer, W.  
Glucose / Ethanol / Aliphatic / Fermentation /  
Scale-up / Yeast / Bioreactor

□ **Bayerische Landesanstalt fuer  
Bodenkultur und Pflanzenbau**  
Menzinger Str. 54  
8000  
Muenchen 19  
☎ +49 89 1799-1

Joint proje  
Plant and animal resistance material - partial  
project 5: Host plant recognition and egg laying  
behaviour of cherry fruit flies under the influence  
of plant signal substances  
Verbundprojekt: Pflanzliche und tierische  
Abwehrstoffe - TP 5 Wirtspflanzenerkennung und  
Eiablageverhalten der Kirschfruchtfliege unter dem  
Einfluss pflanzlicher Signalstoffe  
Haisch  
Bioactive agent / Resistance / Vegetable / Animal /  
Inhibition / Host / Recognition / Attractant / Insect /  
Reproduction / Plant protection

□ **Max-Planck-Institut fuer Limnologie**  
August-Thienemann-Str. 2  
2320  
Ploen  
☎ +49 4522 502-1

Microbiological structure analysis of bacterial  
biocoenosis aided by RNA chemotaxonomy  
Mikrobiologische Strukturanalyse bakterieller  
Biocoenosen mit Hilfe der RNA-Chemotaxonomie  
Overbeck, J.  
Environmental biotechnology / Microbiology /  
Determination / Mixed culture / RNA / Taxonomy

□ **Transferzentrum fuer nachwachsende  
Faserrohstoffe an der Fachhochschule  
Reutlingen**  
Pestalozzistr. 73  
7410  
Reutlingen

Development of processes for the  
quality-determining evaluation and  
classification of flax - Phase I -  
Entwicklung von Verfahren zur  
qualitaetsbestimmenden Beurteilung und  
Klassierung von Flachs - Phase I -  
Daul, D.  
Agricultural sciences / Botany / Test / Monitoring /  
Useful plant

□ **Deutsches Rotes Kreuz (DRK)  
Blutspendedienst Niedersachsen**  
Eldagsener Str. 38  
3257  
Springe 1  
☎ +49 5041 7720

Fermentation of human T lymphocytes in the  
production of lymphokines  
Fermentation of humanen T-Lymphozyten zur  
Gewinnung von Lymphokinen  
Mohr, H.  
Lymphocyte / Human / Fermentation /  
Interleukine / Interferon / Synthesis / Bioreactor /  
Stirring

Production of gamma-interferon for clinical  
purposes  
Erzeugung von Interferon-Gamma fuer klinische  
Zwecke  
Mohr, H.  
Lymphocyte / Activation / Polyclonal / Interferon /  
Synthesis / Therapy / Blood plasma /  
Centrifugation / Isolation / Suspension / Incubation /  
Purification / Gel / Adsorption / Chromatography /  
Affinity / Ion / Exchange

□ **Fraunhofer-Institut fuer Grenzflaechen-  
und Bioverfahrenstechnik**  
Nobelstr. 12  
7000  
Stuttgart 80  
☎ +49 711 686801

Investigations into product work-up through  
pervaporation in the biotechnological  
production of solvents  
Untersuchungen zur Produktaufarbeitung durch  
Pervaporation bei der biotechnologischen  
Herstellung von Loesungsmitteln  
Gudernatsch, W.  
Solvent / Biotechnological / Downstream  
processing / Polyalcohol / Selective / Carrier  
material / Membrane biology / Fermentation /  
Software

Evaluation and optimizing of biogas systems  
through specific types and quantitative  
determination of microbial composition as a  
means to immunological methods  
Beurteilung und Optimierung von Biogasanlagen  
durch artspezifische und quantitative Bestimmung  
der mikrobiellen Zusammensetzung mittels  
immunologischer Methoden - Phase I  
Trick  
Bioreactor / Biogas / Cultivation / Optimization /  
Pure culture / Bacterial / Methanobacteriaceae /  
Grampositive / Anaerobic / ELISA / Isolation

□ **Bundesforschungsanstalt fuer  
Viruskrankheiten der Tiere**  
Paul-Ehrlich-Str. 28  
7400  
Tuebingen  
☎ +49 7071 603-1

Molecular characterization of the classical hog  
disease (hog cholera virus, HVC)  
Molekulare Charakterisierung des Virus der  
Klassischen Schweinepest (Hog cholera virus, HCV)  
Thiel  
Biochemistry / Molecular biology / Gene  
technology / Cloning / Sequencing / RNA / Virus /  
Pathogenic / Pig / Antibody / Monoclonal

Joint proje  
Development of vaccines against viruses of the  
herpes group, partial project II  
Verbundprojekt: Entwicklung von Impfstoffen  
gegen Viren der Herpesgruppe, Teilprojekt II  
Fleckenstein, B.  
Virus / Herpes / Human / Animal / Vaccine / Gene  
technological

**Max-Planck-Institut fuer Biologie**

Spemannstr. 32  
7400  
Tuebingen  
☎ +49 7071 60-11

**Molecular parasitology and immune biology of parasites**

Molekulare Parasitologie und Immunbiologie von Parasiten

Cornelissen, A. W. C. A.

Parasitology / Biochemistry / Molecular biology / Gene technology / Immune / Parasite / Malaria

 **Albert-Ludwigs-Universitaet Freiburg im Breisgau**

Fakultaet fuer Biologie, Institut fuer Biologie II  
Schaenzlestr. 1  
7800  
Freiburg/Breisgau  
☎ +49 761 203-2662

**Structure, Function and Formation of Membranes of Phototrophal Prokaryotes**

Struktur, Funktion und Ausbildung von Membranen phototropher Prokaryonten

Beck, Christoph / Huedig, Hendri / Kreutz, Werner / Mueller, Matthias / Oelze, Juergen / Sandermann, Heinrich / Weckesser, Juergen

Membrane biology / Microbial / Bacterium / Phototrophic / Structure / Gene / Expression / Enzyme / Pigment / Isolation / Crystallization / Amino acid / Sequence

**Isolation of reserve protein genes of corn as preparation for a molecular genetic improvement of protein quality**

Isolierung von Vorratsprotein Genen des Mais als Vorbereitung einer molekularen genetischen Verbesserung der Proteinqualitaet  
Feix, G.

Gene / DNA / Protein / Vegetable / Maize / Isolation / Lysine / Tryptophan / Aliphatic / Sequencing / Regulation / Transformation

**Risk assessment in the transfer of artificial herbicide resistance**

Risiko-Bewertung der Uebertragung von kuenstlicher Herbizidresistenz

Wellmann, E. / Sandermann, H.

Herbicide / Metabolite / Resistance / Artificial / Transfer

 **Albert-Ludwigs-Universitaet Freiburg im Breisgau**

Forstwissenschaftliche Fakultaet, Institut fuer Forstbotanik und Holzbiologie  
Bertholdstr. 17  
7800  
Freiburg  
☎ +49 761 203-2307

**Treatment of trees with antibiotics in the woods of the southern Black Forest**

Behandlung erkrankter Waldbaume im suedlichen Schwarzwald mit Antibiotika  
Braun, H. / Wunn, Ch.

Plant / Therapy / Antibiotic

 **Albert-Ludwigs-Universitaet Freiburg im Breisgau**

Medizinische Fakultaet, Zentrum Innere Medizin Zentrallabor, Abt. Haematologie/Onkologie  
Hugenstaetter Str. 55  
7800  
Freiburg  
☎ +49 761 270-3316

**Joint proje**

Pharmaceuticals in cancer therapy; development and efficacy testing - partial project 6: In vitro, animal experimental and clinical testing of new cytostatica

Verbundprojekt: Arzneimittel fuer die Krebstherapie; Entwicklung und Wirkungspruefung - Teilprojekt 6: In vitro-, tierexperimentelle und klinische Pruefung von neuen Zytostatika  
Fiebig, H.H.

Drug / Cancer / Therapy / Cytostatic / Screening / Secondary / Test / In vitro / In vivo / Animal experiment / Tumour / Cell / Human / Cultivation / Transplantation

 **Albert-Ludwigs-Universitaet Freiburg im Breisgau**

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Stefan-Meier-Str. 8  
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**Joint proje**

Products from animal and human cells; Partial project III: Production and use of monoclonal antipeptide-antibodies as in the example of large T antigens of SV40

Verbundprojekt: Produkte aus tierischen und menschlichen Zellen; Teilprojekt III: Herstellung und Anwendung monoklonaler Antipeptid-Antikoerper am Beispiel des grossen T-Antigens von SV40  
Scheidtmann, H.

Cell / Animal / Human / Antibody / Monoclonal / Antigen / SV40 / Peptide / Synthetic / Antiserum / Induction / Hybridoma

 **Alberts-Ludwigs-Universitaet Freiburg im Breisgau**

Medizinische Fakultaet - Zentrum fuer Hygiene, Institut fuer Virologie  
Hermann-Herder Str. 11  
7800  
Freiburg/Breisgau  
☎ +49 761 203-2158

**Immunologic and molecular biologic characterization of natural epitopes of LAV/HTLVIII proteins**

Immunologische und molekularbiologische Charakterisierung von natuerlichen Epitopen der LAV/HTLV III-Proteine  
Mueller-Lantzsch, N.

AIDS / Retrovirus / Expression / Mapping / Blotting / DNA / Sequence / Analysis / Restriction / Enzyme / Antigen / Antibody / Monoclonal / Viral / Induction / Antiserum

 **Alberts-Ludwigs-Universitaet Freiburg im Breisgau, Zentrum fuer Hygiene, Institut fuer Virologie, SFB 31:**

**Medizinische Virologie (Tumorentstehung und -entwicklung)**  
Hermann Herder Str. 11  
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**Medical Virology (Tumor Formation and Development)**

Medizinische Virologie (Tumorentstehung und -entwicklung)

Bornkamm, G.-W. / Bauer, G. / Bauknecht, Th. / Doelken, G. / Gross, G. / Ikenberg, H. / Matz, B. / Mueller-Lantzsch, N. / Rak, B. / Scheidtmann, K. / Schmidt, O.

Cancer / Tumour / Origin / Development / Viral / Chemical / Interaction / DNA virus / Antigen / Transformation / Antibody / Monoclonal / DNA / Cloning / Expression / Mucous membrane / Human / Infection / Papilloma virus / Bioactive agent / Growth / Receptor / Host / Genome / Modification / Herpes / Chromosome / Translocation / Insertion / Bacterial

 **Bergische Universitaet-Gesamthochschule Wuppertal**

Fachbereich 9 - Naturwissenschaften II,  
Institut fuer Biologie  
Gausstr. 20, Geb. L  
5600  
Wuppertal  
☎ +49 202 439-2465

**On the Biotechnical Removal of Problem Substances: the Decomposition of Hydroxy and Aminonaphthalenesulfonic Acid as well as Azo Dyes**

Zur biotechnischen Entsorgung von Problemstoffen: Abbau von Hydroxy- und Aminonaphthalinsulfonsaeuren sowie von Azofarbstoffen  
Knackmuss, H.-J.  
Noxious substance / Colour / Carbonic acid / Degradation / Mixed culture / Bacterial / Bioreactor / Pilot scale

**Development of Biotechnical Processes for the Treatment of Sewage Resulting from Coal Refinement**

Entwicklung biotechnischer Verfahren zur Behandlung von Abwaessern aus der Kohleveredlung  
Knackmuss, H.-J.  
Process water / Purification / Microbial / Coal / Upstream processing / Microorganism / Cultivation / Metabolization / Noxious substance / Degradation / Bioreactor

**Construction and insertion of new bacterial strains for the complete decomposition of environmental endangering foreign matter**

Konstruktion und Einsatz neuer Bakterienstaemme fuer den vollstaendigen Abbau umweltgefahrdender Fremdstoffe  
Knackmuss, H.-J. / Timmis, K.  
Noxious substance / Degradation / Bacterial / Gene / Transfer / Hydrocarbon / Aromatic / Bioreactor / Fermentation

 **Christian-Albrechts-Universitaet zu Kiel**

Medizinische Fakultaet, 1entrum Klinisch-Theoretische Medizin I, Abteilung Immunologie  
Brunswikerstr. 2-6  
2300  
Kiel  
☎ +49 431 507-2551

**Complete in vitro production of monoclonal antibodies of human origin (hmAk)**

Vollstaendige in-vitro Produktion monoklonaler Antikoerper humaner Herkunft (hmAk)  
Mueller-Ruchholtz, W.  
Biochemistry / Molecular biology / Gene technology / Origin / Antibody / Monoclonal / Human / In vitro / Fusion / Cell

**Joint proje**

Products from animal and human cells; Part VI: Cell separation with new developed magnetic microspheres (MIMS): (2) further development and testing in cellular and subcellular systems  
 Verbundprojekt: Produkte aus tierischen und menschlichen Zellen; Teil VI: Zellseparation mit neuentwickelten magnetischen Microspheres (MIMS): (2) Weiterentwicklung und Erprobung in zellulaeren und subzellulaeren Systemen  
 Mueller-Ruchholtz  
 Cell / Animal / Human / Separation / Preparation / Antigen / Antibody

- **Christian-Albrechts-Universitaet zu Kiel**  
 Mathematisch-Naturwissenschaftliche Fakultae, Institut fuer Allgemeine Mikrobiologie und Biozentrum  
 Olshausenstr. 40-60  
 2300  
 Kiel  
 ☎ +49 431 880-4330 od. -4331

**Optimization of the mass reproduction of entomophagous nematodes for the biological fight against harmful insects in Soil**

Optimierung der Massenvermehrung entomophager Nematoden fuer die biologische Bekaeempfung von Schadinsekten im Boden  
 Wyss, U.  
 Pest / Insect / Abatement / Biological / Nematode / Multiplication / Isolation / Eubacterium / Gramnegative / Recognition / RNA / Probe / Symbiosis

- **Christian-Albrechts-Universitaet zu Kiel**  
 Medizinische Fakultae, Abteilung Allgemeine Pathologie und Pathologische Anatomie  
 Hospitalstr. 42  
 2300  
 Kiel  
 ☎ +49 431 597-4250

**Production of monokines (cytotoxins) from human macrophage hybrides through genetic engineering**

Gentechnologische Produktion von Monokinen (Cytotoxinen) aus humanen Makrophagenhybriden  
 Radzun, H.J.  
 Macrophage / Human / Hybridization / Cultivation / Cell / Toxin / Immune system agent / Tumour / Therapy

- **Christian-Albrechts-Universitaet zu Kiel**  
 Medizinische Fakultae, Zentrum Klinisch-Theoretische Medizin II, Abteilung fuer Toxikologie  
 Hospitalstr. 4-6  
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 Kiel 1  
 ☎ +49 431 597-2902

**Joint proje**

Utilization of animal cell cultures as supplement to animal experiments, partial project 1  
 Verbundprojekt: Anwendung tierischer Zellkulturen als Ergaenzung zu Tierversuchen, Teilprojekt 1  
 Wassermann, O.  
 Animal experiment / Supplementation / Environment / Chemicals / Industrial / Rat / Liver / Muscle / Cell / Sperm / Human / Animal / Cultivation / In vitro / Action / Toxic

- **Eberhard-Karls-Universitaet Tuebingen**  
 Fakultae fuer Biologie, Institut fuer Biologie II  
 Auf der Morgenstelle 28  
 7400  
 Tuebingen 1  
 ☎ +49 7071 29-2076

**Isolation, characterization, cloning and sequencing of squalen N-hopen- and epoxysqualen-sterol-cyclases from pro- and eukaryotes**

Isolierung, Charakterisierung, Klonierung und Sequenzierung von Squalen N- Hopen- und Epoxysqualen-Sterol-Cyclasen aus Pro- und Eukaryonten  
 Poralla  
 Biochemistry / Molecular biology / Gene technology / Isolation / Structural analysis / Sequencing / Cloning / Sterol / Enzyme / Prokaryote

**Microbial Basis of Biotechnology, Especially Prokaryotic Substances with an Effect on Eukaryotes**

Mikrobielle Grundlagen der Biotechnologie, insbesondere prokaryontische Stoffe mit Wirkung auf Eukaryonten  
 Braun, V. / Entian, K.-D. / Fiedler, H.-P. / Hamprecht, B. / Hantke, K. / Hoerner, Th. / Jung, G. / Plaga, A. / Schultz, J. / Zaehner, H.  
 Metabolism / Secondary / Microbial / Metabolite / Low-molecular / Downstream processing / Fermentation / Analysis / Peptide / Yeast / Eukaryote / Interaction / Regulation / Neuron / Antibiotic / BRM

**Development of fermentation processes with cell restraint for the production of microbial metabolites**

Entwicklung von Fermentationsverfahren mit Zellrueckhaltung zur Gewinnung mikrobieller Metabolite  
 Zaehner, H.  
 Metabolite / Antibiotic / Microbial / Fermentation / Streptomycete / Grampositive / Aerobic / Cultivation / Cell / Incubation / Medium / Filtration / Sterility / Bioreactor / Alginate / Immobilization

**Construction of strains of bacillus thuringienis with altered delta-endotoxines**

Konstruktion von Staemmen von Bacillus thuringienis mit veraenderten delta- Endotoxinen  
 Zaehner, H.  
 Bacillus / Grampositive / Aerobic / Mutation / Fermentation / Endotoxin / Glycoprotein / Isolation / Modification / Protoplast / Bacterial / PEG / Transformation / Fusion / Gene / Chromosome / Plasmid

- **Eberhard-Karls-Universitaet Tuebingen**  
 Fakultae fuer Chemie und Pharmazie, Pharmazeutisches Institut  
 Auf der Morgenstelle 8  
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 ☎ +49 7071 292-477

**Development of processes for the efficient production of antibodies and synthetic vaccines via new types of antigen-lipopeptide-conjugates**

Entwicklung von Verfahren zur effizienten Herstellung von Antikoerpem und synthetischen Vakzinen mittels neuartiger Antigen-Lipopeptid-Konjugate  
 Jung, G. / Bessler, W. G.  
 Biochemistry / Molecular biology / Origin / Antibody / Monoclonal / Vaccine / Artificial

**Biochemical and molecular biological basis of expression of secondary metabolism in association with morphological differentiation as exemplified by the biosynthesis of cardiac glycosides**

Biochemische und molekularbiologische Grundlagen der Expression des Sekundarstoffwechsels im Zusammenhang mit der morphologischen Differenzierung am Beispiel der Biosynthese der Herzglykoside  
 Reinhard, E.  
 Biochemistry / Molecular biology / Gene technology / Expression / Metabolism / Biosynthesis / Derivative / Pyranose / Heart

**Joint proje**

Curtaiment of animal experiments by computer aided development of antiviral agents - partial project 2  
 Verbundprojekt: Einsparung von Tierversuchen durch computergestuetzte Entwicklung antiviraler Wirkstoffe - Teilprojekt 2  
 Roth, H.J.  
 Bioactive agent / Virus / Structure / Action / Animal experiment / Reduction

**Optimizing of cell cultures for natural substance production and development of bioreactor technology for plant cell cultures**

Optimierung von Zellkulturen zur Naturstoffgewinnung und Entwicklung von Bioreaktortechnologien fuer pflanzliche Zellkulturen  
 Reinhard, E. / Chadha / Heble  
 Cell / Vegetable / Suspension / Cultivation / Optimization / Natural substance / Alkaloid / Heterocyclic / Nitrogen containing / Sterol / Heart / Pyranose / Derivative / Synthetic / Transformation / Bioreactor / Pilot scale

- **Eberhard-Karls-Universitaet Tuebingen**  
 Medizinische Fakultae (Theoretische Medizin), Physiologisches Institut I  
 Gmelinstr. 5  
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 Tuebingen  
 ☎ +49 7071 29-2194

**Antiatherogenic material in cell cultures and vascular walls**

Antiatherogene Stoffe in Zellkulturen und Gefaesswaenden, Teilprojekt I  
 Betz, E.  
 Endothelium / Cell / Cultivation / Vessels / Bioactive agent / Calcification / Membrane apparatus

**Investigations of anti-arteriogenic substances in cell cultures and in artery walls, part I**

Untersuchungen von antiatherogenen Stoffen in Zellkulturen und in Arterienwaende, Teil I  
 Betz, E.  
 Cell / Cultivation / Vessels / Calcification / Drug / Prophylaxis / Secondary / Action / Endothelium / Proliferation / Muscle / Filtration / Measurement

- **Eberhard-Karls-Universitaet Tuebingen**  
 Fakultae fuer Chemie und Pharmazie, Physiologisch-Chemisches Institut  
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 Tuebingen  
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**Joint proje**

Metabolism studies of xenobiotica with liver cells and liver cell lines and their comparison with corresponding in vivo experiments, partial project I and II: Perfusion cultures as system model  
 Verbundprojekt: Metabolisierungsstudien von Xenobiotika mit Leberzellen und Leberzellenlinien und deren Vergleich mit entsprechenden in vivo-Versuche, Teilprojekt I und II:  
 Perfusionskulturen als Modellsystem  
 Byk-Gulden (Konstanz) / Heumann (Nuernberg) / Robugen (Esslingen) / Schering (Berlin)  
 Xenobiotic / Metabolization / Liver / Cell / Cultivation / Cloning / Isolation / Animal experiment / Supplementation

**Regulation of intercellular proteolyse in hepatocyte cultures**

Regulation der intrazellulaeren Proteolyse in Hepatozytenkulturen  
 Mecke, D.  
 Protein / Marking / Radioactive / Isolation / Hydrolysis / Degradation / Amino acid / Injection

- **Eberhard-Karls-Universitaet Tuebingen, Medizinische Fakultae, Tropenmedizinisches Institut**  
 Wilhelmstr. 31  
 7400  
 Tuebingen  
 ☎ +49 7071 29-2365

**Examination of parasitic round worms in cell cultures as a replacement of animal experiments**

Untersuchungen parasitaerer Fadenwuermer in Zellkultursystemen als Ersatz zu Tierversuchen  
 Wenk, P.  
 Zoology / Cultivation / Cell / Animal / Invertebrate / Animal experiment / Parasite

- **Friedrich-Alexander-Universitaet Erlangen-Nuernberg**  
 Naturwissenschaftliche Fakultae II - Biologie und Chemie, Institut fuer Mikrobiologie und Biochemie, Lehrstuhl fuer Mikrobiologie  
 Egerlandstr. 7  
 8520  
 Erlangen  
 ☎ +49 9131 857825

**Analysis of the interdependence between bacterial and plant genotype in the symbiotic nitrogen fixation of rhizobium leguminosarum with facia faba and pisum sativum**

Analyse der Interdependenz zwischen bakteriellem und pflanzlichem Genotyp bei der symbiontischen Stickstoff-Fixierung von Rhizobium leguminosarum mit Facia faba und Pisum sativum  
 Lotz  
 Genome / Bacterial / Vegetable / Rhizobium / Gramnegative / Aerobic / Useful plant / Symbiosis

- **Friedrich-Alexander-Universitaet Erlangen-Nuernberg**  
 Naturwissenschaftliche Fakultae II - Biologie und Chemie, Institut fuer Organische Chemie  
 Henkestr. 42  
 8520  
 Erlangen  
 ☎ +49 9131 8525-45 od. -46

**Plant insecticides and repellents, extraction, fractioning and purification of plant contained substances as well as their examination for insecticidal and repellent effect**  
 Pflanzliche Insektizide und Repellentien.  
 Extraktion, Fraktionierung und Reingewinnung von Pflanzeninhaltsstoffen sowie deren Pruefung auf insektizide und repellente Wirkung  
 Bestmann, H.J.  
 Bioactive agent / Resistance / Insecticide / Vegetable / Extract / Extraction / Separation / Purification / Isolation / Synthesis / Plant protection

- **Friedrich-Alexander-Universitaet Erlangen-Nuernberg**  
 Naturwissenschaftliche Fakultae II - Biologie und Chemie, Institut fuer Pharmazie und Lebensmittelchemie  
 Schuhstr. 19  
 8520  
 Erlangen  
 ☎ +49 9131 852585

**Joint proje**

Studies in the metabolism of xenobiotics with liver cells and liver cell cultures and their comparison with corresponding in vivo experiments, part 7  
 Verbundprojekt: Metabolisierungs-Studien von Xenobiotika mit Leberzellen und Leberzellkulturen und deren Vergleich mit entsprechenden in-vivo-Versuchen, Teil 7  
 Achenbach, H.  
 Xenobiotic / Metabolization / In vitro / Liver / Cell / Cultivation / Animal experiment / Supplementation / Microsome / Deepfreezing / MS

- **Friedrich-Alexander-Universitaet Erlangen-Nuernberg**  
 Medizinische Fakultae, Institut fuer Klinische Virologie  
 Loschgestr. 7  
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 Erlangen  
 ☎ +49 9131 85-3563

**Production of AIDS antigens through genetic engineering - new methods of AIDS diagnosis and of vaccine development**  
 Gentechnologische Gewinnung von AIDS-Antigenen - Neue Wege zur AIDS- Diagnostik und zur Impfstoffentwicklung  
 Fleckenstein, B.  
 AIDS / Diagnosis / Vaccine / Gene / HIV / Fusion / Protein / Papilloma virus / Vector / Expression / Cell / Human / Cultivation / Cloning / Herpes / Regulation / Recombination / Antiserum / Lymphocyte

- **Fachhochschule Niederrhein, Abt. Krefeld, Fachbereich Chemie**  
 Adlerstr. 32  
 4150  
 Krefeld  
 ☎ +49 2151 770011

**Examination of the Effects of Toxic Sewage-Contained Substances on the Decomposition Capacity of Various Activation Systems**  
 Untersuchungen ueber die Auswirkung toxischer Abwasserinhaltsstoffe auf die Abbauleistung differenter Belebtschlammanlagen  
 Ewald, Manfred  
 Waste water / Purification / Metal / Degradation / Microbial / Activated sludge / Bacterium

**The Utilization of Activated Sludge for the Removal of Zink and Cadmium from Sewage**  
 Der Einsatz von Belebtschlaemmen zur Entfernung von Zink und Cadmium aus Abwaessern  
 Ewald, Manfred  
 Waste water / Purification / Zinc / Degradation / Microbial / Activated sludge / Bacterium

**The Influence of Sewage-Yielding Relevant Matter on Nitrification and Denitrification of Activation Systems**

Der Einfluss von abwasserabgaberelevanten Inhaltsstoffen auf die Nitrifikation und Denitrifikation von Belebtsanlagen  
 Ewald, Manfred  
 Waste water / Purification / Mercury / Hydrocarbon / Halogenation / Degradation / Microbial / Bacterium / Nitrification / Bioreactor

**Examination of the Application of Anaerobic and Aerobic Sewage Purification Systems for the Processing of Residues from Whiskey Distillation**  
 Untersuchungen ueber die Anwendung anaerober und aerober Abwasserreinigungsverfahren zur Aufarbeitung von Rueckstaenden der Branntweindestillation  
 Ewald, Manfred  
 Waste water / Purification / Anaerobic / Aerobic / Metal / Biogas / Bioreactor

- **Freie Universitaet Berlin**  
 Fachbereich Universitaetsklinikum Charlottenburg, Institut fuer Humangenetik  
 Heubnerweg 6  
 1000  
 Berlin 19  
 ☎ +49 30 3203376

**Analysis of the Human Genome by Molecular Biological Methods**

Analyse des menschlichen Genoms mit molekularbiologischen Methoden  
 Agarwal, Dh.P. / Goedde, H.W. / Surjit, S. / Alonso, A. / Arnold, H.-H. / Cremer, Ch. / Doenecke, D. / Epplen, J.Th. / Fahsold, R. / Rott, H.-D. / Gal, A. / Gutensohn, W. / Horsthemke, B. / Lehrach, H.R. / Lindenmaier, W. / Hauser, H. / Luehrmann, R. / Mayer, H. / Mueller, C.R. / Rahmsdorf, H.J. / Sperling, K. / Ropers, H.-H. / Schmidtke, J. / Schweiger, M. / Sperling, K. / Vogt, P. / Vosberg, H.-P. / Wienker, Th.F.  
 Gene / Genome / Human / Structure / Cloning / Regulation / Recombination / Mapping / Polymorphism / Diagnosis / Prenatal / Aldehyde / Oxidoreductase / Separation / Electrophoresis / Antigen / Receptor / Lymphocyte / Disease / Immune system / X-chromosome / Congenital / cDNA / Cloning / Sequence / Metabolism / Drosophila / Blood / Mutation

**Review of three symposiums (pharmacogenetics, gene replacement theory and developmental genetics) in form of the 7th International Congress on Human genetics**  
 Durchfuehrung dreier Symposien (Pharmacogenetics, Gene Replacement Therapy and Developmental Genetics) im Rahmen des 7. International Congress of Human Genetics  
 Sperling, K.  
 Development / Genetics / Gene technology / Gene / Therapy / Drug

- **Freie Universitaet Berlin, Fachbereich Veterinaermedizin, Institut fuer Lebensmittelhygiene, Fleischhygiene und -technologie**  
 Koserstr. 20  
 1000  
 Berlin  
 ☎ +49 30 838-4081

**Non-radioactive hybridization processes as a replacement of animal experiments for the identification of bacterial causes of food infections**  
 Nicht-radioaktives Hybridisierungsverfahren zum Ersatz von Tierversuchen beim Nachweis bakterieller Erreger von Lebensmittelinfektionen  
 Reuter, G.  
 Food technology / Biochemistry / Microbiology / Test / Toxin / Microorganism / Pathogen / DNA / Probes

□ **Freie Universitaet Berlin**  
 Fachbereich Chemie, Institut fuer  
 Organische Chemie  
 Takustr. 3  
 1000  
 Berlin  
 ☎ +49 30 8383357

**Transfection with amphiphil-coated nucleic acids and their application in the biotechnological production of a receptor protein**

Transfektion mit amphiphil-umhuelten Nukleinsauren und ihre Anwendung bei der biotechnologischen Herstellung eines Rezeptorproteins  
 Fuhrhop, J.-H.  
 Biochemistry / Molecular biology / Gene technology / Transfection / Cell / Eukaryote / DNA / Modification / Chemical

**Immobilization of multifunctional enzyme systems**

Immobilisierung multifunktionaler Enzymsysteme  
 Manecke, G. / Kleinkauf, H.  
 Enzyme / Immobilization / Phenylalanine / Aromatic / Proline / Heterocyclic / Nitrogen containing / Derivative / Inhibitor / Antibiotic / Synthetase / POLYALCOHOL / Aliphatic / Alicyclic / Affinity

□ **Freie Universitaet Berlin, Fachbereich Biologie, Institut fuer Pflanzenphysiologie, Zellbiologie und Mikrobiologie**

Koenigin-Luise-Str. 12-16a  
 1000  
 Berlin 33  
 ☎ +49 30 838-3107

**Development of biotechnical systems for the identification of harmful substances in gas form**

Entwicklung von biotechnischen Systemen zum Nachweis gasfoermiger Schadstoffe  
 Meyer, O.  
 Biochemistry / Analytical engineering / Analysis / Gas / Test / Kit / Enzymatic / Microbial

□ **Freie Universitaet Berlin**  
 Fachbereich Pharmazie, Institut fuer Pharmazie  
 Koenigin-Luise-Str. 2-4  
 1000  
 Berlin 33  
 ☎ +49 30 3265-4371, 753-1916

**Joint proje**

isolation, biochemical purification and testing of lymphocyte chalone; partial project II  
 Verbundprojekt: Isolierung, biochemische Reinigung und Testung des Lymphozyten-Chalons; Teilprojekt II  
 Maurer, H.R. / Vidic  
 Lymphocyte / Inhibitor / Purification / Thymus / Acetone / Extraction / Drying / Accessories / Laboratory / Gel / Ion / Exchange / Chromatography / Peptide / Ethanol / Aliphatic / Test / In vitro

□ **Freie Universitaet Berlin**  
 Fachbereich Universitaetsklinikum Charlottenburg, Institut fuer Pharmakologie  
 Thielallee 69-73  
 1000  
 Berlin 33  
 ☎ +49 30 838-3370

**Analysis of pharmacological effects on cells in culture. development of models for the understanding of the effects of drugs and cellular regulation mechanisms**  
 Analyse pharmakologischer Wirkungen an Zellen in Kultur. Entwicklung von Modellen zur Erfassung von Pharmakawirkungen und zellulaeren Regulationsmechanismen  
 Herken, H. / Merck, E.  
 Cell / Cultivation / Drug / Action

□ **Freie Universitaet Berlin**  
 Fachbereich Universitaetsklinikum Charlottenburg, Institut fuer Toxikologie und Embryonalpharmakologie  
 Garystr. 5  
 1000  
 Berlin 33  
 ☎ +49 30 838-3192

**Development and validation of in vitro systems of varied biological complexity for the assessment of embryo toxicity and cyto-toxicity**  
 Entwicklung und Validierung von in-vitro-Systemen verschiedener biologischer Komplexitaet zur Beurteilung von Embryotoxizitaet und Cytotoxizitaet  
 Neubert  
 Organ / Embryo / Cultivation / In vitro / Action / Toxic / Cancer / Origin

□ **Rheinische Friedrich-Wilhelms-Universitaet Bonn, Mathematisch-Naturwissenschaftliche Fakultae, Botanisches Institut und Botanischer Garten**  
 Kirschallee 1  
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 ☎ +49 228 732685

**"Regulatory Precursors in Plant Cell Cultures. Platelet Activating Factor as a Starting Point for the Objective Selection of Herbicides". Partial Project 3.**

"Regulationsvorgaenge bei pflanzlichen Zellkulturen. Platelet-Activating- Factor als Ansatzpunkt fuer gezielte Selektion von Herbiziden". Teilvorhaben 3.  
 Scherer, G. F.-L.  
 Biochemistry / Molecular biology / Regulation / Precursor / Cultivation / Cell / Vegetable / Screening / Herbicide

□ **Rheinische Friedrich-Wilhelms-Universitaet Bonn, Mathematisch-Naturwissenschaftliche Fakultae, Institut fuer Genetik**  
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**Examination of the production of root lectins in cell cultures of various cultivated pea lines**  
 Untersuchungen zur Produktion von Wurzelektinen in Zellkulturen verschiedener Zuchtlinien der Erbse  
 Mueller, H. P.  
 Biochemistry / Botany / Origin / Lectin / Cultivation / Cell / Vegetable

**Selection of monoclonal antibodies against soluble auxin receptors in peas**  
 Selektion monoklonaler Antikoerper gegen loesliche Auxinrezeptoren bei Erbsen  
 Jacobsen, H.-J.  
 Biochemistry / Molecular biology / Origin / Screening / Antibody / Monoclonal / Auxin / Receptor

**Regulatory precursors in plant cell cultures**  
 Regulationsvorgaenge bei pflanzlichen Zellkulturen  
 Jacobsen, H.-J.  
 Biochemistry / Bioprocess engineering / Regulation / Precursor / Cultivation / Cell / Vegetable

□ **Rheinische Friedrich-Wilhelms-Universitaet Bonn, Medizinische Fakultae, Institut fuer Medizinische Mikrobiologie und Immunologie**  
 Sigmund-Freud-Str. 25  
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 ☎ +49 228 2802522

**Mechanism of Pathogenesis in Medically Significant Bacteria**

Mechanismen der Pathogenitaet medizinisch bedeutsamer Bakterien  
 Bhakdi, S. / Wellensiek, H.-J. / Bitter-Suermann, D. / Brade, H. / Braun, V. / Goebel, U. / Hacker, J. / Hadding, U. / Heesemann, J. / Jann, K. / Koenig, W. / Kunstmann, G. / Laufs, R. / Loos, M. / Marre, R. / Meyer, Th. / Peters, G.  
 Disease / Origin / Expression / Lysine / Aliphatic / Antigen / Escherichia / Host / Cell / Immune system / Adhesion / Protein / Virulent / Surface / Mycoplasma / Human / Toxin / Bacterial / Purification / Action / Grampositive / Gramnegative / Membrane biology / Structure

□ **Rheinische Friedrich-Wilhelms-Universitaet Bonn Mathematisch-Naturwissenschaftliche Fakultae, Institut fuer Organische Chemie und Biochemie**  
 Gerhard-Domagk-Str. 1  
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 ☎ +49 228 732650

**Joint proje**

Plant and animal resistance material - partial project 2: Composition of highly evolved fungi as new active substances and active substance models in plant protection  
 Verbundprojekt: Pflanzliche und tierische Abwehrstoffe - Teilprojekt 2: Inhaltsstoffe von Hoeheren Pilzen als neue Wirkstoffe und Wirkstoffmodelle im Pflanzenschutz  
 Steglich, W.  
 Bioactive agent / Vegetable / Animal / Isolation / Resistance / Structural analysis / Screening / Derivation / Synthesis / Plant protection / Fungus / Cultivation

□ **Rheinische Friedrich-Wilhelms-Universitaet Bonn, Landwirtschaftliche Fakultae, Institut fuer Pflanzenbau**  
 Katzenburgweg 5  
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 ☎ +49 228 732871

**Cultivated Breeding of Flax for Commercial Production of Natural Strains**  
 Zuechterische Bearbeitung des Leins fuer eine wirtschaftliche Erzeugung von Naturfasern  
 Hoyland, Klaus-Ulrich  
 Plant / Cultivation / Optimization / Genetic / Natural fibre / Raw material / Aftergrowing

□ **Rheinische Friedrich-Wilhelms-Universität Bonn**  
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**Influence of Rhizosphere Growth and Attack by *Globodera pallida* in Various Potatoes Varieties**  
Einfluss von Rhizosphärenwachstum und Befall mit *Globodera pallida* bei verschiedenen Kartoffelsorten  
Sikora, R.-A.  
Nematode / Abatement / Biological / Bacterial / Bacterium

**Isolation and Examination of Nematophagous Fungi for Fighting the Potato Cyst Nematode, *Globodera pallida***  
Isolierung und Untersuchung nematophager Pilze zur Bekämpfung des Kartoffelzysten-Nematoden *Globodera pallida*  
Sikora, R.-A.  
Nematode / Abatement / Biological / Fungus

**Biological Struggle against Cabbage Pests, e.g. the Cabbage Fly, *Delia brassicae* and the Winter Seed Moth, *Agrotis segetum* with Entomophagous Nematodes of the Genera *Neoaplectana* and *Heterorhabditis***  
Biologische Bekämpfung von Kohlschädigungen am Beispiel der Kohlfly *Delia brassicae* und der Wintersaatmotte *Agrotis segetum* mit entomophagen Nematoden der Gattungen *Neoaplectana* und *Heterorhabditis*  
Sengonca, Cetin / Sikora  
Insect / Pest organism / Abatement / Biological / Nematode

**Biological Combat of Seed-Born Fungal Diseases in Fodder**  
Biologische Bekämpfung von samenbürtigen Pilzkrankheiten bei Nutzpflanzen  
Weltzien, Heinrich Carl  
Useful plant / Disease / Fungus / Abatement / Biological / Microbial / Microorganism / Pure culture / Substrate

**Compost Extracts as Pesticides**  
Kompostextrakte als Pflanzenschutzmittel  
Weltzien, Heinrich Carl  
Compost / Extract / Pesticide / Disease / Fungus

**Changes in protein patterns of virusinfected beech trees.**  
Veränderungen im Proteinmuster virusinfizierter Rotbuchen  
Nienhaus, F. / Winter, S.  
Plant / Infection / Viral / Protein / Modification

□ **Rheinische Friedrich-Wilhelms-Universität Bonn, Medizinische Fakultät, Institut fuer Strahlenbiologie**  
Sigmund-Freud-Str. 15  
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**DNA probes for an understanding of inherited defects in man-III**  
DNA-Sonden zur Erfassung erblicher Defekte beim Menschen-III  
Bergeder, Olek, K.  
Molecular biology / Gene technology / Human genetics / Analysis / DNA / Disease / Congenital / Diagnosis / Gene

□ **Georg-August-Universität Goettingen**  
Forstwissenschaftlicher Fachbereich,  
Institut fuer Forstbotanik  
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**Biotechnological production and utilization of industrial wood, partial project I**  
Biotechnologische Erzeugung und Verwertung von Industrieholz, Teilprojekt I  
Huettermann, A.  
Agricultural sciences / Botany / Expertize / Technology / Cellulose / Industrial

**Physiology of Trees**  
Physiologie der Bäume  
Agerer, R. / Beck, E. / Blechschmidt-Schneider, S. / Eschrich, W. / Grosse, W. / Hager, A. / Hampp, R. / Heyser, W. / Hock, B. / Hoell, W. / Langenfeld-Heyser, R. / Luettge, U. / Kramer, D. / Meyer, F.H. / Oberwinkler, F. / Rehfuess, K.-E. / Riederer, M. / Sauter, J.J. / Schmitz, K.J. / Strack, D. / Ziegler, H.  
Plant / Ecology / Physiology / Starch / Metabolism / Hormone / Vegetable / Amine / Biosynthesis / Expression / Ion / Transport / Membrane biology / Cell / Nutrient / Heavy metal / Metabolite / Preservation / Storage

**Studies of biological extermination of *Armillaria mellea* and *A. obscura* on *Picea abies***  
Untersuchungen zur biologischen Bekämpfung von *Armillaria mellea* und *A. obscura* an *Picea abies*  
Huettermann, A. / von Tiedemann, S.  
Insect / Abatement / Biological

□ **Georg-August-Universität Goettingen, Fachbereich Medizin, Zentrum Hygiene und Humangenetik, Abteilung fuer Humangenetik**  
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**Molecular Biological Studies in Germ Cell Differentiation and Early Embryonic Development in Mammals**  
Molekularbiologische Untersuchungen zur Keimzellendifferenzierung und fruehen Embryonalentwicklung beim Saeuger  
Guenther, Eberhard / Hansmann, Ingo / Leipoldt, Michael / Schmidtke, Joerg  
Germ cell / Differentiation / Embryo / Development / Animal / Human / Surface / Antigen / Gene / Y-chromosome

□ **Georg-August-Universität Goettingen, Fachbereich Medizin, Zentrum Innere Medizin**  
Robert-Koch-Str. 40  
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**Development of ether lipids and clinical testing of affinity for biological membranes**  
Entwicklung von Aetherlipiden und klinische Pruefung der Affinität fuer biologische Membrane  
Nagel, G.  
Human medicine / Pharmacology / Oncology / Drug / Cancer / Membrane biology / Lipid / Ether / Test / Clinical

□ **Georg-August-Universität Goettingen**  
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Grisebachstr. 8  
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**Major project, basis of bioprocessing, Goettingen, Braunschweig, Hannover**  
Schwerpunktprojekt Grundlagen der Bioproszess-technik Goettingen, Braunschweig, Hannover  
Gottschalk, G.  
Biotechnology / Microbiology / Biochemistry / Molecular biology / Gene technology / Modification / Genetic / Bacterium / Origin / Ethanol / PHB / Degradation / Starch / Polysaccharide / Enzymatic / Noxious substance / Hydrocarbon / Aromatic / Cyclic / Air / Soil / Crude oil / Upstream processing / Drinking water / Immobilization / Denitrification / Enrichment / Heavy metal / Microbial / Biotransformation / Control / Automation technology / Bioreactor

**Autotroph Bacteria**  
Autotrophe Bakterien  
Bowien, Botho / Friedrich, Cornelius / Mayer, Frank / Meyer, Ortwin / Reh, Michael / Schlegel, Hans G. / Steinbuechel, Alexander  
Bacterium / Autotrophic / Nutrient / Genetics / Biochemistry

**Joint research: Anaerobic fermentation, partial project 2: Fermentation raw materials and products**  
Forschungsverbund: Anaerobe Fermentationen, Teilprojekt 2: Fermentationsrohstoffe und -produkte  
Gottschalk, G.  
Raw material / By-product / Lactose / Fermentation / Anaerobic / Microbial / Lactic acid / Aliphatic / Whey

**Research association of bioprocess engineering - partial project II: Process engineering of biological production processes**  
Forschungsverbund Bioverfahrenstechnik - Teilprojekt II: Prozesstechnik biologischer Produktionsverfahren  
Gottschalk, G.  
Bioprocess engineering / Chemostat / Ethanol / Lactic acid / Aliphatic / Butanol / Bacterium / Anaerobic / Thermophilic / Isolation / Cultivation

□ **Georg-August-Universität Goettingen, Fachbereich Chemie, Institut fuer Organische Chemie**  
Tammanstr. 2  
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**Molecular basis of gene expression in normal and malignant cell systems; synthesis of cytotoxic agents: Partial project III**  
Molekulare Grundlagen der Genexpression bei normalen und malignen Zellsystemen; Synthese cytotoxider Agentien: Teilprojekt III  
Tietze, L. F.  
Molecular biology / Gene technology / Gene / Expression / Cultivation / Cell / Benign / Malignant / Tumour

□ **Georg-August-Universität Goettingen**  
Fachbereich Agrarwissenschaften, Institut fuer Pflanzenbau  
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**Biotechnology for the cultivation of oil producing plants. Use of various chain lengths and desaturation of fatty acids**

Biotechnologie fuer die Zuechtung von Oelpflanzen. Nutzung veraenderter Kettenlaenge und Desaturation von Fettsaeuren  
Roebbelen, G.

Biochemistry / Molecular biology / Gene technology / Botany / Breeding / Plant / Analysis / Gene / Fatty acid / Oil / Vegetable

**Symbiotic interaction between microorganisms and culture plants. Improving nodule formation and nitrogen fixation through selection based on the genetic compatibility of field beans and rhizobium leguminosarum**

Symbiontische Wechselwirkungen zwischen Mikroorganismen und Kulturpflanzen.

Verbesserung der Knoellchenbildung und Stickstoff-Fixierung durch Auslese auf genetische Kombinationsfaehigkeit von Ackerbohne und Rhizobium leguminosarum  
Roebbelen, G.

Microbiology / Biochemistry / Botany / Agricultural sciences / Symbiosis / Interaction / Microorganism / Useful plant / Plant / Fixation / Nitrogen

**Induction and selection of mutants from annual cuphea wild types for the production of fatty chemical raw materials**

Induktion und Selektion von Mutanten aus annuellen Cuphea-Wildarten fuer die Erzeugung von fettchemischen Rohstoffen  
Roebbelen, G.

Plant / Mutation / Origin / Chemical / Induction / Selection / Raw material / Vegetable / Fatty acid / Aliphatic / Synthesis / Analysis / Gene / Marking

**Georg-August-Universitaet Goettingen, Fachbereich Agrarwissenschaften, Institut fuer Pflanzenbau und Tierhygiene in den Tropen und Subtropen**

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**Development of a continuous staged bioreactor with automatic control systems for the production of viral antigen**

Entwicklung eines kontinuierlichen Stufenbioreaktors mit Mess- und Regelsystemen zur Gewinnung von viralem Antigen  
Seifert, H. S. H.

Bioprocess engineering / Bioreactor / Continuous / Cultivation / Cell / Animal / Origin / Vaccine / Virus

**Georg-August-Universitaet Goettingen Forstwirtschaftlicher Fachbereich, Institut fuer Zoologie**

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**Joint proje**

Plant and animal resistance matter - partial project 3: Suppression of egg laying by phytophage insects with help from their own marking substances  
Verbundprojekt: Pflanzliche und tierische Abwehrstoffe - TP 3: Hemmung der Eiablage von phytophagen Insekten mit Hilfe ihrer eigenen Markierungssubstanzen

Bombosch, S. / Schildknecht, H.

Bioactive agent / Resistance / Vegetable / Insecticide / Inhibition / Insect / Reproduction

**Johannes Gutenberg-Universitaet Mainz, Fachbereich 21 - Biologie, Institut fuer Allgemeine Botanik**

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**Arachidonic acid, eicosapentaenoic acid,  $\gamma$ -linolenic acid from moss cell cultures**

Arachidonsaeure, Eicosapentansaeure,

$\gamma$ -Linolensaeure aus Mooszellkulturen

Hartmann, E.

Biochemistry / Molecular biology / Origin / Fatty acid / Aliphatic / Vegetable / Transfer / DNA / Protoplast / Plant

**Johannes-Gutenberg-Universitaet Mainz Fachbereich 4 - Medizin, Institut fuer Immunologie**

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Mainz

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**Products from animal and human cells - partial project 7 + 8: Characterization and influence of cytokines on growth and differentiation of accessory cells of the immune system**

Produkte aus tierischen und menschlichen Zellen - Teilprojekt 7 + 8: Charakterisierung und Einfluss von Cytokinen auf Wachstum und Differenzierung akzessorischer Zellen des Immunsystems

Ruede, E.

Cell / Animal / Human / Lymphocyte / Mouse / Interleukine / Isolation / Development / Immune system

**Joint proje**

products from animal and human cells partial project 10: isolation of a T-lymphocyte-produced factor which maintains the continuous growth of a cell line of mice spleen

Verbundprojekt: Produkte aus tierischen und menschlichen Zellen TP 10: Isolierung eines von T-Lymphozyten produzierten Faktors, der das kontinuierliche Wachstum einer Zelllinie aus Mausemilz unterhaelt

Ruede, E.

Cell / Animal / Human / Cultivation / Bioactive agent / Growth / Lymphokine / Isolation / Lymphocyte

**Johannes Gutenberg-Universitaet Mainz, Fachbereich 4 - Medizin, Institut fuer Medizinische Mikrobiologie**

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**Products from animal and human cells: characterization and influence of cytokinins on growth and differentiation of accessory cells of the immune system; Partial project 8**

Produkte aus tierischen und menschlichen Zellen: Charakterisierung und Einfluss von Cytokinen auf Wachstum und Differenzierung akzessorischer Zellen des Immunsystems; Teilprojekt 8

Hadding, U.

Biochemistry / Molecular biology / Action / Interferon / Differentiation / Cell / Immune system

**Johannes-Gutenberg-Universitaet Mainz Fachbereich 19 - Chemie, Institut fuer Organische Chemie**

Johann-Joachim-Becher-Weg 18-20

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**Joint proje**

"Development of pharmaceuticals and testing in cancer therapy" - Partial project 5A: "Synthesis and characterization of support fixed cytostatica"  
Verbundprojekt: "Arzneimittelentwicklung und -testung fuer die Krebstherapie" - Teilprojekt 5A: "Synthese und Charakterisierung traegerfixierter Cytostatika"

Ringsdorf, H. / Przybylski, M.

Drug / Cancer / Therapy / Cytostatic / Low-molecular / Carrier material / Lipid / Antibody / Monoclonal / Daunorubicin

**Joint proje**

"Development of pharmaceuticals and testing in cancer therapy" - Partial project 5B: "Metabolic analysis and pharmacokinetics of cytostatica with mass spectrometric Methods"

Verbundprojekt: "Arzneimittelentwicklung und -testung fuer die Krebstherapie" - Teilprojekt 5B: "Metabolitenanalyse und Pharmakokinetik von Cytostatika mit massenspektrometrischen Methoden"

Przybylski, M. / Ringsdorf, H.

Drug / Cancer / Therapy / Metabolite / Ionization / Cytostatic / Structural analysis / MS / Chromatography

**Justus-Liebig-Universitaet Giessen Fachbereich 15 - Biologie, Institut fuer Mikrobiologie und Molekularbiologie**

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**Joint proje**

A flexible system of designed antigen variation with human influenza viruses for the production of vaccines

Verbundprojekt: Ein flexibles System zur gezielten Antigen-Variation bei humanen Influenza-Viren fuer die Herstellung von Vakzinen

Hobom, G.

Flu / Virus / Protein / Human / Expression / Vector / Transformation / Cell / Cultivation / Mutation / Replication / Antigen / Vaccine

**Justus-Liebig-Universitaet Giessen, Fachbereich 16 - Angewandte Biologie und Umweltsicherung, Institut fuer Pflanzenbau und Pflanzenzuechtung I**

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6300

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**Biotechnology for the cultivation of oil producing plants: attempts at extending the genetic variations of fatty acid patterns in flax**

Biotechnologie fuer die Zuechtung von Oelpflanzen: Versuche zur Erweiterung der genetischen Variation des Fettsaeure-Musters beim Lein

Friedt, W.

Biochemistry / Molecular biology / Botany / Breeding / Plant / Oil / Vegetable / Fatty acid / Cultivation / Cell / Tissue

**Justus-Liebig-Universitaet Giessen, Fachbereich 18 - Veterinaermedizin und Tierzucht, Ambulatorische und Geburtshilfliche Veterinaerklunik, Professur fuer Physiologie und Pathologie der Fortpflanzung II**

Frankfurter Strasse 106

630

Giessen

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**Development of an enzymatic immunological (EIA) or a luminescence immunological (LIA) analysis process for the determination of bovine growth hormone (bGH) in the trace region**  
Entwicklung eines enzymimmunologischen (EIA) bzw. Lumineszenzimmunologischen (LIA) Analyseverfahrens zur Bestimmung von bovines Wachstumshormon (bGH) im Spurenbereich  
Hoffmann, B.  
Analytical engineering / Biochemistry / Research / EIA / Luminescence / Determination / Hormone / Growth / Bovine animal

□ **Justus-Liebig-Universität Giessen, Fachbereich 18 - Veterinärmedizin und Tierzucht, Institut fuer Virologie**  
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6300  
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**Pathogenic Mechanism of Viruses**  
Pathogenitätsmechanismen von Viren  
Barnekow, A. / Bauer, H. / Becht, H. / Boschek, B. / Garten, W. / Geyer, H. / Geyer, R. / Habermann, E. / Herzog, S. / Hobom, G. / Klenk, H.-D. / Rott, R. / Schmidt, M. / Scholtissek, Ch. / Stirm, St. / Stitz, L. / Tamura, T. / Weiss, E. / Wengler, G.  
Infection / Viral / Origin / Metabolism / Modification / Virus / Animal / Reproduction / Host / RNA virus / Structure / Retrovirus / Analysis / Structural analysis / Chemical / Membrane biology / Biosynthesis / Lipid / Interaction / Cell / Transformation / Expression / Flu / Immune system / Nervous system

□ **Bayrische Julius-Maximilians-Universität zu Würzburg, Fakultät fuer Biologie, Institut fuer Genetik und Mikrobiologie**  
Roentgenring 11  
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**Electrofusion of yeast protoplasts: cultivation of technically relevant yeasts with new properties**  
Elektrofusion von Hefeprotoplasten: Zuechtung technisch relevanter Hefen mit neuen Eigenschaften  
Zimmermann, U.  
Molecular biology / Gene technology / Fusion / Yeast / Protoplast / Transfer / Gene

**Experimental New Combinations of Nucleic Acids (Genetic Engineering)**  
Experimentelle Neukombination von Nucleinsäuren (Gentechnologie)  
Esser, K. / Osiewacz, H.D. / Fritz, H.-J. / Hausmann, R. / Hobom, G. / Klein, A. / Koester, H. / Kroeger, M. / Mueller-Hill, B. / Niemann, H. / Philippsen, P. / Rdest, U. / Saenger, H.L. / Schnier, J. / Seliger, H. / Stahl, U.  
DNA / Cloning / Sequencing / Hybridization / Synthesis / Repair / Sequence / Analysis / Vector / Modification / Genetic / Transfer / Expression / Transcription / Selective / Bacteriophage / RNA / Polymerase / Archaeobacterium / Methanogenic / Host / Gene / Enzymatic / Mutation

□ **Bayrische Julius-Maximilians-Universität zu Würzburg**  
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**Mapping of the muscle dystrophy Duchenne gene**  
Genomische Kartierung des Gens fuer die Muskeldystrophie Duchenne  
Mueller, C.R. / Bettecken, Th.  
Gene / Recognition / Genome / Mapping / X-chromosome / Metabolic disease / Degeneration / Muscle

□ **Bayrische Julius-Maximilians-Universität zu Würzburg**  
Fakultät fuer Medizin, Institut fuer Pharmakologie und Toxikologie  
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8700  
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☎ +49 931 201-3980

**Development and testing of a short-term-assay for mutagenic and carcinogenic effects of chemicals in the same cell system for the reduction of animal tests.**  
Entwicklung und Pruefung eines Kurzzeittests zur Erfassung mutagener und karzinogener Wirkungen von Chemikalien im gleichen Zellsystem zur Einsparung von Tierversuchen  
Henschler  
Research / Analytical engineering / Analysis / Chemicals / Toxic / Degradation / Animal experiment

□ **Bayrische Julius-Maximilians-Universität Würzburg, Medizinische Fakultät, Physiologisches Institut**  
Roentgenring 9  
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Würzburg  
☎ +49 931 31-727

**Molecular Basis of Signal Transmission and of Substance Transport in Membranes**  
Molekulare Grundlagen der Signalübertragung und des Stofftransports in Membranen  
Arnold, W.M. / Benz, R. / Boenisch, H. / Buechler, W. / Buechner, K.-H. / Goebel, W. / Heber, U. / Helmreich, E.J.M. / Kaiser, G. / Pfeuffer, Th. / Scheer, U. / Schiltz, E. / Schreiber, U. / Silbernagl, St. / Simonis, W. / Trendelenburg, U. / Walter, L. / Walter, S. / Zimmermann, U.  
Lipid / Membrane biology / Vegetable / Transfer / Transport / Receptor / Hormone / Regulation / Neurotransmitter / Protein / Sequence / Analysis / Secretion / Bacterium / Gramnegative / Adenylate cyclase / Kinase / Transfer / Kidney / Epithelium / Photosynthesis / In vivo

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**Joint proje**  
Products from animal and human cells, partial project 1: cloning of lymphokine Genes  
Verbundprojekt: Produkte aus tierischen und menschlichen Zellen, Teilprojekt 1: Klonierung von Lymphokin-Genen  
Wecker, E.  
Cell / Animal / Human / Interleukine / Interferon / Gamma / Gene / mRNA / Expression / Cloning

□ **Bayrische Julius-Maximilians Universität zu Würzburg, Institut fuer Virologie und Immunologie, SFB 165: Genexpression in Vertebraten-Zellen**  
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Würzburg  
☎ +49 931 201-3951

**Gene Expression in Vertebrated Cells**  
Genexpression in Vertebraten-Zellen  
Aus, H. / Doerries, K. / Goebel, W. / Gross, H.-J. / Grummt, F. / Grummt, I. / Horak, I. / Ter Meulen, V. / Scheer, U. / Schimpl, A. / Serfling, E. / Siddell, St. / Wecker, E. / Zimmermann, U.  
Polymerase / Genome / tRNA / Gene / Animal / Viral / Expression / Tumour / Cell / Animal / Mouse / Human / Hybridization / Oncogenic / Cellular / Transposon / Transcription / Immunoglobulin / Interleukine / Gene / Transfer / Fusion / Nucleic acid / Protein / Sequence / Analysis

**Persistent Virus Infections: Molecular Mechanisms and Pathogenesis**  
Persistierende Virusinfektionen: Molekulare Mechanismen und Pathogenese  
Bruns, M. / Darai, G. / Diringer, H. / Domke, I. / Kirchner, H. / Gerlich, W. / Heermann, K. H. / Kaaden, O.-R. / Koschel, K. / Koszinowski, U. / Lehmann-Grube, F. / Ludwig, H. / Ter Meulen, V. / Neubert, W. / Opitz, I. / Kirchner, H. / Roggendorf, M. / Rziha, H.-J. / Wittmann, G. / Schneweis, K.-E.  
Viral / Origin / Herpes / Brain / Mouse / Interferon / Leukocyte / Gene / Hepatitis / Parvovirus / Reproduction / Regulation / Antibody / Resistance / Replication / Liver / Tumour / Cell / In vivo / In vitro

□ **Johann Wolfgang Goethe-Universität Frankfurt am Main**  
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**Joint proje**  
Pharmaceuticals for cancer therapy; development and testing for efficacy - partial project 2  
Verbundprojekt: Arzneimittel fuer die Krebstherapie; Entwicklung und Wirkungspruefung - Teilprojekt 2  
Hohorst, H.J.  
Drug / Cancer / Therapy / Derivative / Heterocyclic / Synthesis / DNA / Polymerase / Exonuclease / Screening / Transplantation / Tumour / Animal / Mouse / Human / Action / Toxic

□ **Johann Wolfgang Goethe-Universität Frankfurt am Main**  
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**In vitro culture with forest trees. Research into isolation and culture of protoplasts of various tree types (Fagus, Abies, Tilia, Ulmus, Prunus) research into the Regeneration of Plants**  
In-vitro-Kultur bei Waldbaueumen. Untersuchungen zur Isolierung und Kultur von Protoplasten verschiedener Baumarten (Fagus, Abies, Tilia, Ulmus, Prunus) und zur Regeneration von Pflanzen  
Kohlenbach, H. W.  
Agricultural sciences / Botany / Cultivation / Tissue / Cell / Protoplast / Vegetable / Breeding / Plant / In vitro

Transcription of tDNA in crown-gall-tumors of different states of development ab: Studies of chromatin structure, DNA-modification and expression of the ST-LS1 gene in a homologous and heterologous environment will be undertaken. oa: Zusammenhang zwischen Chromatinstruktur, DNA-Modifikation und Expression eines Gens in homo- und heterologer Umgebung sollem am ST-LS1-Gen durchgefuehrt werden.

Transkription der T-DNA in Crown-Gall-Tumoren verschiedener Entwicklungsstadien  
Kahl, G. / Schell, J. / Schilperoort, Prof.Dr.R.A.  
Transcription / Tumour / Gene / Chromatin / Structure / DNA / Modification / Expression

#### International symposium on "Chromatin structures of plant genes"

Internationales Symposium ueber "Chromatin Structures of Plant Genes"

Kahl, G.  
Chromatin / Vegetable / Cell / Animal / Human / Structure / Gene

#### □ Johann Wolfgang Goethe-Universitaet Frankfurt am Main

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#### Expression of homologous and heterologous genes in streptomycetes and excretion of the product

Expression homologer und heterologer Gene in Streptomyceten und Ausschleusung des Produktes  
Engels, J.  
Streptomycete / Grampositive / Aerobic / Gene / Expression / Peptide / Transport

#### Designed synthesis of biologically active substances

Gezielte Synthesen biologisch aktiver Wirkstoffe  
Quinkert, G.  
Bioactive agent / Activity / Biological / Synthesis / Optimization / Apparatus / Structural analysis / Radiology / NMR / Computer / Substrate / Receptor / Interaction

#### □ Ludwig-Maximilians-Universitaet Muenchen (LMU), Fakultae fuer Chemie und Pharmazie, Institut fuer Biochemie

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#### Cloning of type-specific promoters in Eubacteria

Klonieren artspezifischer Promotoren in Eubakterien  
Hartmann, G. / Katzameyer, M. / Obermaier-Skrobranek, B. / Rauschel, B. / Weiss, W.  
Vector / Bacterial / Expression / Cloning / Regulation / Escherichia / RNA / Polymerase / DNA / Sequence / Synthesis / Chemical / Transcription

#### Protein phosphorylation and the regulation of cell proliferation

Protein-Phosphorylierung und die Regulation der Zellproliferation  
Fanning-Honneger, E. / Arthur, A. / Hoess, A. / Schindewolf, C. / Schneider, J. / Schiele, B. / Vakalopoulou, E.  
Protein / Antigen / Phosphorylation / In vivo / Mutation / Origin / Expression / Bacterium / Cell / Proliferation / Regulation

#### □ Ludwig-Maximilians-Universitaet Muenchen (LMU), Institut fuer Biochemie, SFB 304: Organisation des Eukaryontengenoms

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#### Organization of Eukaryotic Genomes

Organisation des Eukaryotengenoms  
Feldmann, H. / Fittler, F. / Hartmann, G. / Hoerz, W. / Igo-Kemenes, T. / Klobeck, H.-G. / Krietsch, W. / Winnacker, E.-L. / Zachau, H.G.  
Genome / Gene / Animal / Viral / Yeast / tRNA / Chromatin / Expression / Replication / Human / Cloning / Leukemia / Antigen / Differentiation / Globulin / Immune / DNA virus / Reproduction

#### Virus Cell Interaction : Modulation through Viral and Cellular Control Elements

Virus-Zellwechselwirkungen: Modulation durch virale und zellulaere Kontrollelemente  
Deppert, Wolfgang / Von der Helm, Klaus / Kruczek, Ingeborg / Lipp, Martin / Will, Hans / Winnacker, Ernst-L. / Wolf, Hans  
Virus / Cell / Interaction / Regulation

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#### Attempts at genetically diagnosing commercially important genes in barley - Part B: Presentation of physical and morphological chromosomal maps of barley

Versuche zur genetischen Diagnose wirtschaftlich wichtiger Gene bei der Gerste - Teil B: Erstellung physikalischer und morphologischer Karten von Chromosomen der Gerste  
Herrmann, R. G. / Fischbeck, G. / Wenzel, G.  
Biochemistry / Molecular biology / Gene technology / Analysis / Gene / Chromosome / Useful plant / DNA / Probes

#### Experiments in the genetic diagnosis of commercially important genes in barley - Part A: Development and use of cytogenetic and RFLP techniques

Versuche zur genetischen Diagnose wirtschaftlich wichtiger Gene bei der Gerste - Teil A: Entwicklung und Einsatz von zytogenetischen und RFLP Techniken  
Fischbeck, G. / Herrmann, R. G. / Wenzel, G.  
Cytogenetics / Botany / Biochemistry / Molecular biology / Gene technology / Isolation / Gene / Useful plant / Cloning / Vector / Cultivation / Tissue / Marker / Recombination / Resistance

#### Joint proje

Plant and animal resistance material - partial project 7: Plant germination and growth inhibiting factors; development of new herbicides and growth regulators  
Verbundprojekt: Pflanzliche und tierische Abwehrstoffe - TP 7 Hemmstoffe von Keimung und Wachstum aus Pflanzen; Entwicklung neuer Herbizide und Wachstumsregulatoren  
Ruediger, W.  
Bioactive agent / Resistance / Animal / Herbicide / Vegetable / Growth / Inhibition / Regulation / Structure / Action / Plant protection

#### □ Ludwig-Maximilians-Universitaet Muenchen (LMU), Fakultae fuer Biologie, Institut fuer Anthropologie und Humangenetik

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#### Etiology and Pathogenesis of Genetic Diseases

Aetiologie und Pathogenes von Erbkrankheiten  
Assmann, G. / Bartholome, K. / Conzelmann, E. / Schwarzmann, G. / Figura, Kurt von Hasilik, A. / Gal, A. / Horst, J. / Przuntek, H. / Ropers, J.-H. / Schweiger, M. / Utermann, G. / Wieacker, P.F.  
Disease / Congenital / Origin / Malformation / Diagnosis / Prenatal / Therapy / Antibody / Monoclonal / Enzyme / Mutation / Differentiation / Gene / Nucleotide / Heterocyclic / Analysis / X-chromosome / Mapping / Polymorphism

#### □ Ludwig-Maximilians-Universitaet Muenchen (LMU)

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#### Interaction and Regulation in the Differentiation of Cells in the Human Immune System

Interaktion und Regulation in der Differenzierung von Zellen im humanen Immunsystem  
Weiss, E. / Bevec, D. / Hafn, A. / Hallfeldt, P. / Schlunck, T. / Schwaeble, W.  
Cell / Surface / Structure / Differentiation / Regulation / Interaction / Intercellular / Immune system / Human / Lymphocyte / Antigen / Rheumatism / Receptor / Leukemia / cDNA / Cloning / Expression / Isolation / Sequencing / Gene bank

#### Tissue-specific expression and function of CD4 and other T cell differentiation antigens

Gewebespezifische Expression und Funktion von CD4- und anderen T-Zell- Differenzierungantigenen  
Riethmueller, G. / Funke, I. / Hahn, A. / Tabaszewski, P. / Rieber, E.P.  
Antigen / Glycoprotein / Cell / Membrane biology / Differentiation / Expression / Tissue / Lymphocyte / Marking / Antibody / cDNA / Transfection / Neuropeptide / Aliphatic / Inhibition

#### Immunological control of interferon therapy

Immunologische Ueberwachung der Interferontherapie  
Eife, R.  
Interferon / Alpha / Gamma / Control / Immune system

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#### Cloning of physiologically relevant prokinase inhibitors

Klonieren von physiologisch relevanten Prokinaseinhibitoren  
Gebhard  
Protease / Inhibitor / Gene / Human / Cloning / Bacterium / Expression

□ **Ludwig-Maximilians-Universitaet Muenchen (LMU), Fakultae fuer Biologie, Institut fuer Genetik und Mikrobiologie**  
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#### **Methanogenic Bacteria**

Methanogene Bakterien  
Andreesen, J.R. / Bacher, A. / Boeck, A. / Conrad, R.; Diekert, G. / Fuchs, G. / Gottschalk, G. / Klein, A. / Klink, F. / Kraemer, R. / Pfennig, N. / Scherer, P. / Schoenheit, P. / Stackebrandt, E. / Stetter, K.O. / Thomm, M. / Thauer, R.K. / Winter, J.  
Methanogenic / Cultivation / Energy / Preservation / Amino acid / Reduction / Cofactor / Biosynthesis / Gene / Genome / Bacterial / Archaeobacterium / Structure / Expression / Translation / Transcription / ATP / Synthesis / Nucleotide / Ion / Transport / Membrane biology / DNA / Polymerase

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#### **Cell cultures**

Zellkulturen  
Stoeckigt, J.  
Biochemistry / Pharmacology / Botany / Cultivation / Cell / Vegetable / Origin / Biotransformation / Alkaloid / Drug

#### **Synthesis of natural substances with the help of genetic engineering**

Synthese von Naturstoffen mit Hilfe der Gentechnologie  
Wink, M. / Hauser, M.-Th. / Muehlbauer, P. / Perrey, R.  
Natural substance / Vegetable / Biosynthesis / Gene / Expression / Escherichia / Lyase / Ligase / Synthetase / Peroxidase / Isolation / Immobilization / Cell / Infection / Synthesis / cDNA / Gene bank / Isoenzyme / Sequence / Inhibition / RNA

#### **Expression of plant genes in microorganisms and vice versa**

Expression pflanzlicher Gene in Mikroorganismen und vice versa  
Zenk, M.H. / Pecher, A. / Grill, E. / Hampp, N. / Streber, W. / Muss, I.  
Gene / Vegetable / Metabolism / Secondary / Transfer / Regulation / Expression / Escherichia / Yeast / Synthetase / Oxidase / cDNA / Cloning / Alkaloid / Synthesis / Gene bank / Oligonucleotide / Heterocyclic / Hybridization / Isolation / Sequencing / Acetic acid / Aliphatic / Degradation / Heavy metal / Metabolism / Protein / Toxin

#### **Conventional preservation methods for plant cell cultures**

Stammkonservierungsmethoden fuer pflanzliche Zellkulturen  
Zenk, M.H.  
Cell / Vegetable / Cultivation / Preservation / Deepfreezing / Optimization / Natural substance

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**Construction of a sequencer from component parts for the microsequencing of peptides and proteins and the development of sequencer programs. Partial project I**  
Konstruktion eines Sequenzers im Baukastenprinzip zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen. Teilprojekt I  
Machleidt, W. / Knauer, H. / Tschesche, H. / Wittmann-Liebold, B.  
Analytical engineering / Apparatus / Sequencing / Peptide / Protein / Software

**Isolation, characterization and expression of immunoglobulin genes in man and in the mouse**  
Isolierung, Charakterisierung und Expression von Immunglobulingenen des Menschen und der Maus  
Zachau, H.G. / Huber, C. / Huber, E. / Klobeck, H.G. / Klopstock, T. / Loetscher, E. / Lorenz, W. / Meindl, A. / Mocikat, R. / Pargent, W. / Pohlenz, H.D. / Quenzel, M. / Schaeble, K. / Straubinger, B. / Thiebe, R. / Zimmer, F.J.  
Globulin / Immune / Gene / Human / Animal / Isolation / Expression / Regulation / Chromosome / Aberration / Mapping / Gel / Electrophoresis / Antibody / Origin / Cultivation / Cloning / Sequencing

**Molecular cloning of nuclear genes and messenger-RNAs from mitochondrial proteins: elucidation of protein import in the mitochondria through the use of genetically altered proteins**  
Molekulare Klonierung von Kern-Genen und Messenger-RNAs von mitochondrialen Proteinen: Aufklaerung des Proteinimports in die Mitochondrien durch den Einsatz gentechnisch veraenderter Proteine  
Neupert, W. / Tropschug, M. / Kleene, R. / Mueller, H. / Stuart, R.  
Gene / mRNA / Cloning / Protein / Transport / Modification / Gene technological / Synthesis / Translation / Membrane biology / Mitochondrion / Receptor / ATP

#### **Joint proje**

Construction of a sequencer using individual components for microsequencing of peptides and proteins and development of sequencing programs  
Verbundprojekt: Konstruktion eines Sequenzers im Baukastenprinzip zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen  
Machleidt, W. / Knauer, H. / Tschesche, H. / Wittmann-Liebold, B.  
Peptide / Protein / Sequencing / Software / Amino acid / Derivative / LC

#### **Synthesis of proteins - Partial proje**

cysteine proteinase - Inhibitors of human cells  
Synthese von Proteinen - Teilprojekt: Cysteinproteinasen - Inhibitoren menschlicher Zellen  
Machleidt, W.  
Protein / Synthesis / Chemical / Cysteine / Aliphatic / Protease / Inhibitor / Natural / Human / Structure / Gene / Vector / Expression / Escherichia / Isolation / Sequence / ELISA / Kit / Inhibition / Mechanism / Molecular

#### **Joint proje**

construction of a sequencer in standardized units for the microsequencing of peptides and proteins and development of sequencing programmes  
Verbundprojekt: Konstruktion eines Sequenzers im Baukastenprinzip zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen  
Machleidt, W. / Knauer, H. / Tschesche, H. / Wittmann-Liebold, B.  
Peptide / Protein / Sequencing / Biocomputing / Bioreactor / Apparatus / Gas / Pressure / Control / Dosage / Gel / Derivative

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Muenchen 80  
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**prerequisites and possibilities of wood harvesting in tree thinning of forests**  
Voraussetzungen und Moeglichkeiten der Holzernte in Durchforstungsbestaenden  
Loeffler, H.  
Bioactive agent / Forestry

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#### **Joint proje**

Pharmaceuticals in cancer therapy; development and testing of efficacy - partial project 9  
Verbundprojekt: Arzneimittel fuer die Krebstherapie; Entwicklung und Wirkungspruefung - Teilprojekt 9  
Schneider, B.  
Drug / Cancer / Therapy / Biometrics / Action / Analysis / Test / Animal experiment / Reduction

□ **Medizinische Hochschule Hannover (MHH)**  
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☎ +49 511 5322-577

**Testing of a measuring system for the pre-screening of cardioeffective drugs on material without inflicting pain**  
Erprobung eines Messsystems zum Prescreening herzwirksamer Pharmaka an schmerzfreier Materie  
Thiessen, G.  
Drug / Action / Heart / Screening / Apparatus / Measurement / Microscopy / Cardiocyte / Cultivation / In vitro

□ **Medizinische Hochschule Hannover (MHH)**  
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#### **Joint proje**

Development and use of processes leading to a reduction of animal experiments - partial project 1 and 2  
Verbundprojekt: Entwicklung und Nutzung von Verfahren, die zu einer Verminderung von Tierversuchen fuehren - Teilprojekt 1 und 2  
Gaertner, K. / Sewing, K.-Fr.  
Animal experiment / Reduction / Fibroblast / Animal / Mouse / Cultivation / Cancer / Tumour / RIA / Journal

**Testing and applicability of isolated and enriched cell populations of the stomach mucous membrane as replacement for secretion studies on the whole animal - part I**  
 Pruefung und Verwendbarkeit von isolierten und angereicherten Zellpopulationen der Magenschleimhaut als Ersatz von Sekretionsstudien am Ganztier - Teil I  
 Sewing, K.-Fr.  
 Cell / Cultivation / Isolation / Enrichment / Animal experiment / Substitution / Secretion

**Joint proje**  
 Products from animal and human cells; Partial Project II: T lymphocyte clones; development of test methods for immune drugs  
 Verbundprojekt: Produkte aus tierischen und menschlichen Zellen; Teilprojekt II: T-Lymphozyten-Klonen; Entwicklung von Testmethoden fuer Immunpharmaka  
 Resch, K.  
 Cell / Human / Lymphocyte / Cloning / Mouse / Interleukine

□ **Philipps-Universitaet Marburg, Fachbereich Biologie, Fachgebiet Mikrobiologie/Molekulargenetik**  
 Karl-von-Frisch-Str.  
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 ☎ +49 6421 2834-79

**Symbiotic interaction between microorganisms and culture plants: Improvement of the compatibility between microsymbionts and host plants**  
 Symbiotische Wechselwirkungen zwischen Mikroorganismen und Kulturpflanzen: Verbesserung der Kompatibilitaet von Mikrosymbionten und Wirtspflanzen  
 Werner, D.  
 Microbiology / Biochemistry / Botany / Agricultural sciences / Symbiosis / Interaction / Microorganism / Useful plant / Plant / Immunoassay / Rhizobium

□ **Philipps-Universitaet Marburg Fachbereich Pharmazie und Lebensmitteltechnologie, Institut fuer Pharmakologie und Toxikologie**  
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**Joint proje**  
 Cell cultures as suppelements to animal experiments; partial project 1: Examination of the effect of drugs on the cerebral energy metabolism  
 Verbundprojekt: Zellkulturen als Ergaenzung zu Tierversuchen; Teilprojekt 1: Untersuchung der Wirkung von Pharmaka auf den zerebralen Energiestoffwechsel  
 Krieglstein, J. / Merck, E.  
 Cell / Cultivation / Drug / Action / Animal experiment / Supplementation

□ **Philipps Universitaet Marburg Fachbereich Humanmedizin, Medizinisches Zentrum fuer Hygiene und Medizinische Mikrobiologie, Institut fuer Virologie**  
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 ☎ +49 6421 2843-00 od. 01

**Joint proje**  
 Products from animal and human cells, (9): Production of haemagglutinin from influenza viruses in insect cells with help of a baculovirus expression vector  
 Verbundprojekt: Produkte aus tierischen und menschlichen Zellen, (9): Produktion des Haemagglutinins von Influenza-Viren in Insektenzellen mit Hilfe eines Baculovirus-Expressions-Vektors  
 Klenk, H.-D.  
 Cell / Animal / Human / cDNA / Blood factor / Baculovirus / Gene / Expression / Vector / Flu / Isolation / Hybridization / Fluorescence / Cell / Insect

□ **Ruprecht-Karls-Universitaet Heidelberg, Institut fuer Immunologie und Genetik, SFB 136: Molekulare, zellulaere und immunologische Veraenderungen, und Abwehrmechanismen bei malignen Erkrankungen (Krebsforschung)**  
 Im Neuenheimer Feld 328  
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**Molecular, Cellular and Immunological Changes and the Defence Mechanism in Malignant Diseases (Cancer Research)**  
 Molekulare, zellulaere und immunologische Veraenderungen und Abwehrmechanismen bei malignen Erkrankungen (Krebsforschung)  
 Brossmer, R. / Droege, W. / Kinzel, V. / Roelcke, D. / Schirmacher, V. / Tilgen, W. / Werner, D.  
 Genome / Structure / Malformation / Repair / Tumour / Gene / Expression / DNA / Nucleus / Malignant / Antibody / Monoclonal / Antigen / Marking / Host / Therapy / Cytostatic / Derivative / Immune system

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**Genetically engineered manipulation of the human pathogenic hanta virus with the aim of vaccine development; Partial project**  
 Gentechnologische Bearbeitung des menschenpathogenen Hanta-Virus mit dem Ziel, einen Impfstoff zu entwickeln; Teilprojekt.  
 Darai, Gholamreza  
 Virology / Biochemistry / Molecular biology / Gene technology / Virus / Pathogenic / Human / Research / Vaccine

□ **Ruprecht-Karls-Universitaet Heidelberg Zentrum fuer Molekulare Biologie Heidelberg (ZMBH), Genzentrum Heidelberg**  
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**Genetic engineering central project Heidelberg - development and use of molecularbiological methods for problems in biotechnology**  
 Gentechnologisches Schwerpunktprojekt Heidelberg - Entwicklung und Anwendung molekularbiologischer Methoden fuer Probleme der Biotechnologie  
 Beck / Betz / Bodenmueller / Bujard / Franke / Ganten / Gruee / Herrmann / Klempnauer / Lusky / Nordheim / Schachner, M. / Schairer / Schaller / Schmidt / Sippel / Sures  
 Gene / Expression / Infection / Viral / Biosynthesis / Analysis / Protein / Recognition / Regulation / Escherichia / Gramnegative / Facultative / Anaerobic / Vaccine / Immune system / Yeast / Virus / Replication / Cell / Adhesion / Myxobacterium / Animal / Mammal / Cloning / Antibody / Monoclonal / Disease / Origin

□ **Ruprecht-Karls-Universitaet Heidelberg, Fakultaet fuer Biologie, Institut fuer Molekulare Genetik**  
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**Molecular Mechanism of Gene Expression and Differentiation**  
 Molekulare Mechanismen der Genexpression und Differenzierung  
 Bautz, Ekkehard K.F. / Bosch, V. / Dworniczak, B. / Franke, W.W. / Gehring, U. / Hovemann, B. / Keller, W. / Kessel, M. / Kloetzel, P.-M. / Kraemer, A. / Nordheim, A. / Pfaff, E. / Schaller, H. / Schuetz, G. / Sippel, A.E.  
 Gene / Expression / Differentiation / Structure / Chromosomal / DNA / mRNA / Protein / Chromatin / Analysis / Transcription / Lymphocyte / Action / Steroid / Hormone / Polymerase / Cloning / Drosophila / Hepatitis / Viral / Biosynthesis

□ **Ruprecht-Karls-Universitaet Heidelberg Fakultaet fuer Biologie, Institut fuer Neurobiologie**  
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**Cell cultures as replacement of animal experiments - electrophysiological investigations of cultivated neuroglia cells, partial project 1**  
 Zellkulturen als Ersatz von Tierversuchen elektrophysiologische Untersuchungen an kultivierten Neurogliazellen, Teilprojekt 1  
 Schachner, M.  
 Neuron / Cultivation / Animal experiment / Substitution / Ion / Transport / Membrane biology

**Joint proje**  
 Cell cultures as supplement to animal experiments - part II: Electrophysiological investigations of cultivated neuroglia cells  
 Verbundprojekt: Zellkulturen als Ergaenzung zu Tierversuchen - Teil II: Elektrophysiologische Untersuchungen an kultivierten Neurogliazellen  
 Schachner, M.  
 Cell / Animal / Cultivation / Animal experiment / Supplementation / Ion / Transport / Membrane biology / Nervous system / Neuron

□ **Ruprecht-Karls-Universitaet Heidelberg, Fakultaet fuer Biologie, Institut fuer Neurobiologie**  
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**Molecular Biology of Neural Mechanism and Interaction**

Molekularbiologie neuraler Mechanismen und Interaktionen  
Betz, H. / Bodenmueller, Faissner, A. / Fischer, G. / Ganten, D. / Kettenmann, H. / Lang, R. / Rehm, H. / Schachner, M. / Schaller, H.Ch.  
Mechanism / Cellular / Molecular / Interaction / Intercellular / Neuron / Receptor / Neurotransmitter / Cultivation / Gene / Expression / Brain

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**Joint proje**

Plant and animal resistance substances - partial project 8: Isolation structure elucidation and synthesis of insect repellents from animal and insecticides, molluscicides and herbicides of plant tissue  
Verbundprojekt: Pflanzliche und tierische Abwehrstoffe - Teil 8: Isolierung, Strukturaufklaerung und Synthese von Insektenrepellents aus tierischem und Insektiziden, Molluskiziden und Herbiziden aus pflanzlichem Gewebe  
Schildknecht, H.  
Bioactive agent / Resistance / Vegetable / Animal / Insecticide / Herbicide / Isolation / Structural analysis / Synthesis / Tissue / Cultivation / Reproduction / Inhibition / Insect / Plant protection

- **Ruprecht-Karls-Universitaet Heidelberg**  
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**Development of a highly effective bacillus thuringiensis strain against potato beetles and other leaf beetles**

Entwicklung eines hochwirksamen Bacillus thuringiensis-Stammes gegen Kartoffelkaefer und andere Blattkaefer  
Schnetter, W.  
Insecticide / Microbial / Bacillus / Grampositive / Aerobic / Mutation / Endotoxin / Release / Plant protection

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**An efficient host vector system for yeast**

An efficient host vector system for yeast  
Esser, K.  
Biochemistry / Molecular biology / Gene technology / Gene / Vector / Transformation / Yeast / Plasmid / Selection / Toxin / Marker / Expression

- **Ruhr-Universitaet Bochum, Abteilung fuer Biologie, Lehrstuhl fuer Biologie der Mikroorganismen**  
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**Biosynthesis and Decomposition of Bacterial Alginate. Potential Importance of Alginate in Medicine (e.g. as a Virus Factor) and in Biotechnology**

Biosynthese und Abbau von bakteriellem Alginat. Potentielle Bedeutung von Alginat fuer Medizin (z.B. als Virulenzfaktor) und Biotechnik  
Winkler, Ulrich  
Alginate / Polymer / Biosynthesis / Degradation / Bioactive agent / Virulent / Therapy

**Physiology, Biochemistry and Molecular**

Genetics of Bacterial Lipase  
Physiologie, Biochemie und Molekulargenetik bakterieller Lipasen  
Winkler, Ulrich  
Lipase / Bacterial / Physiology / Biochemistry / Molecular genetics

**Bioluminescence**

Biolumineszenz  
Winkler, Ulrich  
Bioluminescence / Water / Pollution / Toxic / Biomass / Coal / Sludge / Sulphur / Microbial

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**In vitro mass production of monoclonal antibodies for research purposes**

In vitro-Massenproduktion von monoklonalen Antikoepern fuer Forschungszwecke  
Falkenberg, F.W.

Antibody / Monoclonal / Degradation / In vivo / Hybridoma / Cultivation / In vitro / Dialysis / Filtration / Animal experiment / Substitution

**In vitro examinations of cellular immune reaction by humans - studies of immune activity under active immunization**

In vitro-Untersuchungen der zellulaeren Immunreaktion beim Menschen - Studien zur Immunaktivitaet unter der aktiven Immunisierung  
Koenig / Werchau  
Immune system / Human / Lymphocyte / Interaction / In vitro / Hepatitis / Viral

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**Isolation and structure elucidation of active substances from near and far eastern herbs which have proven pharmacological efficacy**

Isolierung und Strukturaufklaerung von Wirkstoffen aus Heilpflanzen des Nahen und Fernen Ostens mit nachgewiesener pharmakologischer Wirksamkeit.  
Snatzke, G.  
Natural substance chemistry / Isolation / Structural analysis / Bioactive agent / Vegetable

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**Electrofusion of yeast protoplasts for the cultivation of technically relevant yeasts possessing new properties**

Elektrofusion von Hefeprotoplasten zur Zuechtung von technisch relevanten Hefen mit neuen Eigenschaften  
Emeis, C.-Ch.  
Biochemistry / Molecular biology / Gene technology / Fusion / Yeast / Protoplast / Regeneration / Selection / Fermentation / Milk

**Joint proje**

electrofusion of yeast protoplasts: production of technical relevant yeasts with new properties  
Verbundprojekt: Elektrofusion von Hefeprotoplasten: Zuechtung technisch relevanter Hefen mit neuen Eigenschaften  
Emeis, C.C. / Zimmermann  
Yeast / Protoplast / Fusion / Breeding / Chromosome / Separation / Electrophoresis / Hybridization / Fusion / Plasmid / Transfer / Marker / Selection / Glucosidase / Electrofocusing / Lactase / Cell / Release / Fermentation

- **Rheinisch-Westfaelische Technische Hochschule Aachen (RWTH), Fakultae fuer Bauwesen, Fachabteilung fuer Bauingenieurwesen, Institut fuer Siedlungswasserwirtschaft**  
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**Treatment of Seeping Water from a Waste Disposal Area in an Uncovered, High-Loaded Activation Stage with Treatment of Foul Air through a Compost Filter Enabling the Odourless Raining of Seeping Water on the Disposal Area**

Behandlung von Deponiesickerwasser in einer abgedeckten hochbelasteten Belebungsstufe mit Abluftbehandlung in einem Kompostfilter zur geruchsarmen Verregnung des Sickerwassers auf dem Deponiekoeper  
Boehnke, Botho / Kobrow, Hans-Joachim  
Waste water / Waste gas / Activated sludge / Purification / Filtration / Bioreactor / Load / GC / MS / Smell

**Optimization of Adsorption Activation Processes with a View toward a Far Reaching Phosphorus and Nitrogengen Removal**

Optimierung des Adsorptions-Belebungs-Verfahrens im Hinblick auf eine weitgehende Phosphor- und Stickstoffentnahme  
Boehnke, Botho  
Bioreactor / Adsorption / Activated sludge / Fermentation / Aerobic / Anaerobic / Microorganism / Nitrification / Waste water / Denitrification / Phosphorus / Nitrogen / Sludge / Purification

**Follow-up Treatment of Biologically Treated Residential Sewage on Rice Fields in Tropical and Subtropical Regions**

Nachbehandlung von biologisch behandelten haeuslichen Abwaessern auf Reisfeldern in tropischen und subtropischen Gebieten  
Boehnke, Botho  
Waste water / Urban / Purification / Biological

**Utilization of Bacterial Sludge from the Sewage of Mass Animal Holdings for the Breeding of Fish**

Verwertung von Bakterienschlaemmen aus den Abwaessern der Massentierhaltung zur Fischzucht  
Boehnke, Botho  
Activated sludge / Bacterium / Waste water / Industrial / Animal / Fish / Breeding / Sludge / Biological / Biomass / Water / Pelleting / Feed / Side-action / Development / Fertility

**Characterization of Activated Sludge of Heavily Loaded Processes according to Sludge Activity due to the Effect of Exoenzymes**

Charakterisierung des Belebtschlammes des Hochstlastverfahren nach der Schlammmaktivitaet anhand der Wirkung der Exoenzyme  
Boehnke, Botho  
Activated sludge / Exoenzyme / Action / Activity / Microbial / Enzyme / Flocculation / Bioreactor / Laboratory scale / Installation / Purification

**Trial and Optimization of a One and Two-Stage Biological Sewage Purification Process under Mediterranean Conditions**

Erprobung und Optimierung ein- und zweistufiger biologischer Abwasserreinigungsverfahren unter mediterranen Bedingungen  
Boehnke, Botho  
Waste water / Purification / Bioreactor / One-stage / Two-stage / Carbon / Degradation / Nitrification / Biological / Denitrification / Phosphate

**Acquisition of Biological Engineering Basic Data from Various Heavily Loaded Activated Sludge Processes with a View toward an Optimal Sewage Purification Technology**

Erstellung von ingenieurbioologischen Grunddaten von unterschiedlich hoch belasteten Belebtschlammverfahren im Hinblick auf eine optimierte Abwasserreinigungstechnologie  
Boehnke, Botho  
Activated sludge / Bacterium / Waste water / Purification / Bioreactor / Laboratory scale / Biomass / Polysaccharide / Concentration / Enzyme / Activity / Measurement / Flocculation

**Development of a Process Combination Consisting of High Load, or of Peak Load Activation Stages, and Biological Filtration**

Entwicklung einer Verfahrenskombination bestehend aus hoch- bzw. hoehchstbelasteten Belebungsstufen und biologischer Filtration  
Boehnke, Botho  
Bioreactor / Oxygen / Supply / Nitrification / Filtration / Biofilter

**Renovation of Sewage Systems**

Sanierung von Klaeranlagen  
Boehnke, Botho / Jochims, Theo  
Bioreactor / Multi-stage / Installation / Purification / Sanitation / Filtration

**Acquisition of Biological Engineering Basic Data from Various Heavily Burdened Activated Sludge Processes with a View toward an Optimal Sewage Purification Technology**

Erstellung von ingenieurbioologischen Grunddaten von unterschiedlich hoch belasteten Belebtschlammverfahren im Hinblick auf eine optimale Abwasserreinigungstechnologie  
Boehnke, Botho / Schuermann, Bettina  
Activated sludge / Bacterium / Biomass / Waste water / Purification / Bioreactor

**Rheinisch-Westfaelische Technische Hochschule Aachen, Mathematisch-Naturwissenschaftliche Fakultae, Institut fuer Technische Chemie und Petrochemie**

Worringer Weg 1  
5100  
Aachen  
☎ +49 241 80-6480

**Intensification of research in the field of aliphatic chemistry; 2.1 Metathesis; 2.2 Hydrogenation; Oxidation**

Intensivierung der Forschung auf dem Gebiet der Fettchemie: 2.1 Metathese; 2.2 Hydrierung; 2.3 Oxidation  
Warwell, S. / Fell, B.  
Organic chemistry / Catalysis / Chemical / Fatty acid / Hydration / Oxidation

**Technische Hochschule Darmstadt Fachbereich 9 - Organische Chemie und Makromolekulare Chemie, Institut fuer Organische Chemie und Biochemie**

Petersenstr. 22  
6100  
Darmstadt  
☎ +49 6151 16-2176 od. -3655 od. -5157

**Cloning and heterologous expression of glucose-oxidase from aspergillus niger - Production of a food stabilizer**

Klonierung und heterologe Expression der Glucose-Oxidase aus Aspergillus niger - Produktion eines Lebensmittelstabilisators  
Gassen, H. G.  
Biochemistry / Molecular biology / Gene technology / Cloning / Expression / Gene / Glucose oxidase / Mycelial fungus / Yeast / Gene bank / cDNA / Production scale

**Cloning systems for secretory proteins in fungi**

Kloniersysteme fuer sekretorische Proteine in Pilzen  
Piepersberg, W.  
Molecular biology / Gene technology / Cloning / Protein / Vector / Host / Mycelial fungus / Yeast

**Cloning systems for streptomycetes**

Kloniersysteme fuer Streptomyceten  
Piepersberg, W.  
Streptomycete / Gene / Cloning / Restriction / Protease / Plasmid / Mutation / Origin / Transformation / Actinomycete / Grampositive / Aerobic / Screening / Vector / Protein / Extracellular

**Joint proje**

Use of in vitro DNA recombination methods for effective preparation of diagnostic enzymes in microorganisms  
Verbundprojekt: Anwendung von in-vitro-DNA-Rekombinationsmethoden zur effektiven Praeparation diagnostischer Enzyme in Mikroorganismen  
Gassen, H.G.  
DNA / Recombination / In vitro / Oxidoreductase / Protease / Preparation / Cloning / Plasmid / Expression / Bacterial / Oligonucleotide / Synthesis

**Technische Hochschule Darmstadt Fachbereich 7 - Physikalische Chemie und Chemische Technologie, Institut fuer Physikalische Chemie**

Petersenstr. 20  
6100  
Darmstadt  
☎ +49 6151 16-2198

**Joint proje**

Rational synthesis planning and optimization of principal substances in medical chemistry for the purpose of reducing animal experiments - partial project 2: interactive computer simulation  
Verbundprojekt: Rationale Syntheseplanung und Leitsubstanzoptimierung in der medizinischen Chemie zum Ziele der Einsparung von Tierversuchen - Teilprojekt 2: Interaktive Computersimulation  
Brickmann, J.  
Leading substance / Synthesis / Optimization / Computer / Simulation / Biocomputing / Molecule / Data base / Animal experiment / Reduction

**Technische Hochschule Darmstadt Fachbereich 10 - Biologie, Institut fuer Zoologie**

Schnittspahnstr. 3  
6100  
Darmstadt  
☎ +49 6151 163103

**Studies in the development of a chemically defined nutrition medium for animal cell cultures**

Untersuchungen zur Entwicklung chemisch definierter Naehrmedien fuer tierische Zellkulturen  
Miltenburger, H.G.  
Cell / Cultivation / Nutrient / Chemical / Mammal / Cell / Analysis / Genome / Monitoring

**Technische Universitaet Berlin Fachbereich 6 - Physikalische und Angewandte Chemie, Institut fuer Biochemie und Molekulare Biologie**

Franklinstr. 29  
1000  
Berlin 10  
☎ +49 30 314-4205

**Analysis of beta-lactam-biosynthesis genes. Development of a transformation system for penicillium chrysogenum**

Analyse von Beta-Lactam-Biosynthese Genen. Entwicklung eines Transformationsystems fuer Penicillium chrysogenum  
Doehren, H.v.  
Biochemistry / Molecular biology / Gene technology / Isolation / Gene / Biosynthesis / Antibiotic / Enzyme / Mycelial fungus / Transformation / Expression / Prokaryote / Eukaryote

**Immobilization of multifunctional enzyme systems**

Immobilisierung multifunktionaler Enzymsysteme  
Kleinkauf, H. / Manecke, G.  
Enzyme / Immobilization / Phenylalanine / Aromatic / Proline / Heterocyclic / Antibiotic / Synthetase / POLYALCOHOL / Aliphatic / Alicyclic / Aromatic / Affinity

**Technische Universitaet Berlin Fachbereich 13 - Lebensmitteltechnologie und Biotechnologie, Institut fuer Fermentation und Brauwesen**

Seestr. 12-15  
1000  
Berlin 65  
☎ +49 30 45091

**Development of an instrument for the interpretation of filtration properties of bio-suspensions and for the coupling of analysis automats in industrial fermentation processes**

Entwicklung einer Apparatur zur Erfassung der Filtrationseigenschaften von Biosuspensionen und zur Ankkopplung von Analysenautomaten bei industriellen Fermentationsprozessen  
Reuss, M.  
Suspension / Biological / Filtration / Analysis / Penicillin / Fermentation / Industrial / Software / HPLC / Glucose / Measurement / Yeast / Streptomycete / Grampositive / Aerobic / Growth / Bioreactor / Production scale

**Technische Universitaet Berlin, Fachbereich 6 - Physikalische und Angewandte Chemie, Institut fuer Biochemie und Molekulare Biologie, SFB 9: Struktur, Funktion und Biosynthese von Peptiden und Proteinen**

Franklinstr. 29  
1000  
Berlin 10  
☎ +49 30 314-4205

**Structure, Function and Biosynthesis of Peptides and Proteins**

Struktur, Funktion und Biosynthese von Peptiden und Proteinen  
 Bauer, K. / Brimacombe, R. / Dijk, J. / Erdmann, V. / Fehrenbach, F. / Gualerzi, C. / Keller, U. / Kleinkauf, H. / Marahiel, M. / Nierhaus, K. / Palacz, Z. / Reinhardt, R. / Saenger, W. / Salnikow, J. / Tesche, B. / Vater, J. / Wagner, R. / Wittmann-Liebold, B.  
 Peptide / Protein / Structure / Biosynthesis / Bacterial / Archaeobacterium / Antibiotic / Synthetase / Nucleic acid / Analysis / Radiology / Electron microscope / Ribosome / Isolation / Crystallization / Escherichia / RNA

- **Technische Universitaet Carolo-Wilhelmina zu Braunschweig**  
 Fachbereich 3 - Chemie, Pharmazie und Biowissenschaften, Institut fuer Biochemie und Biotechnologie  
 Bueltenweg 17  
 3300  
 Braunschweig  
 ☎ +49 531 3913786

**Intensification of research in the field of aliphatic chemistry; 1.2 Glycolipids (Partial project 2)**

Intensivierung der Forschung auf dem Gebiet der Fettchemie; 1.2 Glykolipide (Teilprojekt 2)  
 Wagner, F.  
 Microbiology / Biotechnology / Biotransformation / Biosynthesis / Glycolipid / Fatty acid / Esterase

**Intensification of research in the field aliphatic chemistry; 1.1 Lipolytic enzymes (Partial project 1)**

Intensivierung der Forschung auf dem Gebiet der Fettchemie; 1.1 Lipolytische Enzyme (Teilprojekt 1)  
 Wagner, F.  
 Microbiology / Biotechnology / Screening / Microorganism / Biosynthesis / Lipase / Isolation / Interaction

**Extracellular polysaccharides, biosynthesis, characterization and process technology**  
 Extracellulaere Polysaccharide, Biosynthese, Charakterisierung und Prozesstechnik  
 Wagner, F.  
 Polysaccharide / Extracellular / Biosynthesis / Fungus / Screening / Hemicellulose / Enzyme / Purification / Enrichment / Regulation

- **Technische Universitaet Carolo-Wilhelmina zu Braunschweig**  
 Fachbereich 3 - Chemie, Pharmazie und Biowissenschaften, Institut fuer Technische Chemie  
 Hans-Sommer-Str. 10  
 3300  
 Braunschweig  
 ☎ +49 531 3915360

**Joint project bioprocess engineering-partial project III: Method development and testing for macromolecular characterization of exopolysaccharides**

Verbundprojekt Bioprozesstechnik-Teilprojekt III: Methodenentwicklung und -erprobung zur makromolekularen Charakterisierung von Exopolysacchariden  
 Klein, J.  
 Polysaccharide / Fermentation / Bioreactor / Laboratory scale / Viscosity / Temperature / pH

**Anaerobic fermentation partial project 4: Technical reaction problems in the biological utilization of cellulose-containing residues - production of ethanol by immobilized cells**  
 Anaerobe Fermentation Teilprojekt 4: Reaktionstechnische Probleme bei der biologischen Verwertung von cellulosehaltiges Rueckstaenden - Produktion von Ethanol mit immobilisierten Zellen  
 Klein, J.  
 Cellulose / Waste / Degradation / Ethanol / Fermentation / Continuous / Bacterial / Zymomonas / Gramnegative / Facultative / Anaerobic / Cell / Immobilization / Carrier material / Enzyme / Bioreactor

- **Technische Universitaet Carolo-Wilhelmina zu Braunschweig**  
 Fachbereich 3 - Chemie, Pharmazie und Biowissenschaften, Institut fuer Landwirtschaftliche Technologie und Zuckerindustrie  
 Langer Kamp 5  
 3300  
 Braunschweig  
 ☎ +49 531 391-8520

**Joint proje**

bioprocess engineering-partial project III: Technical reaction investigations of anaerobic fermentation of beet shavings and isolation and analysis of highly molecular products  
 Verbundprojekt: Bioprozesstechnik-Teilprojekt III: Reaktionstechnische Untersuchungen zur anaeroben Fermentation von Ruebenschnitzeln und Isolierung und Analyse von hochmolekularen Produkten  
 Buchholz, K.  
 Bioreactor / Two-stage / Laboratory scale / Pilot scale / Fermentation / Anaerobic / Mixed culture / Enzyme / Methane

- **Technische Universitaet Muenchen**  
 Fachbereich Landwirtschaft und Gartenbau, Institut fuer Bodenkunde, Pflanzenernaehrung und Phytopathologie, Lehrstuhl fuer Bodenkunde  
 Amalienstr. 52  
 8000  
 Muenchen 40

**Advisory studies as to location and nutrition in the use of agricultural areas for the biomass cultivation of fast growing tree varieties**  
 Standorts- und ernaehrungskundliche Untersuchungen zur Nutzung landwirtschaftlicher Flaechen fuer die Erzeugung von Biomasse mit schnellwachsenden Baumarten  
 Rehuess, K.E.  
 Biomass / Vegetable / Breeding

- **Technische Universitaet Muenchen**  
 Fakultae fuer Brauwesen, Institut fuer Lebensmitteltechnologie und Analytische Chemie, Lehrstuhl fuer chemisch-technische Analyse, und Chemische Lebensmitteltechnologie  
 8050  
 Freising-Weihestephan  
 ☎ +49 8161 71-283

**Photosynthetic active cell cultures. 3. Substance production**  
 Photosynthetisch aktive Zellkulturen. 3. Stoffproduktion  
 Drawert, D.  
 Bioprocess engineering / Biochemistry / Molecular biology / Botany / Cultivation / Cell / Vegetable / Photosynthesis / Chloroplast / Origin / Metabolite / Enzymatic / Biotransformation

**Expansion of a developed system with heat recovery and vacuum distillation for study and for the fermentation of starch-containing raw materials of mixed substrates**  
 Ausbau einer entwickelten Anlage zum Aufschluss und zur Vergaerung von staerkehaltigen Rohstoffen fuer Mischsubstrate mit Waermerueckgewinnung und Vakuumdestillation  
 Drawert, F.  
 Bioreactor / Raw material / Starch containing / Release / Fermentation / Mixed culture / Heat / Recycling / Vacuum / Distillation / Cellulase / Inhibition / Reduction / Ethanol / Aliphatic / Glucose / Lactose / Xylose / Anaerobic / Yeast

**Construction of a developed system with heat recovery and vacuum distillation for study and for fermentation of well preserved raw materials**

Ausbau einer entwickelten Anlage zum Aufschluss und zur Vergaerung von staerkehaltigen Rohstoffen mit Waermerueckgewinnung und Vakuumdestillation  
 Drawert, F.  
 Bioreactor / Raw material / Starch containing / Release / Fermentation / Continuous / Heat / Recycling / Vacuum / Distillation / Cellulose / Lactose / Xylose / Degradation / Alcohol / Mash

- **Technische Universitaet Muenchen, Fakultae fuer Chemie, Biologie und Geowissenschaften, Institut fuer Organische Chemie und Biochemie, SFB 145: Biologische, chemische und technische Grundlagen der Biokonversion**  
 Lichtenbergstr. 4  
 8046  
 Garching  
 ☎ +49 89 3209-3336

**Biological, Chemical and Technical Basis of Bioconversion**

Biologische, chemische und technische Grundlagen der Biokonversion  
 Boeck, A. / Goetz, F. / Kresze, G. / Maerkl, H. / Mersmann, A. / Schleifer, K.-H. / Schmidt, H.-L. / Schmpf, H. / Simon, H. / Staudenbauer, W. / Stoeckigt, J. / Tiltcher, H. / Ugi, I. / Vortmeyer, D. / Zenk, M. / Zillig, W.  
 Biotransformation / Enzyme / Cofactor / Optimization / Genetic / Immobilization / Regulation / Amino acid / Marking / Sensor / Cell / Vegetable / Animal / Cultivation / Bioreactor / Control / Biogas / Gasing / Fermentation / Bacterial / Vector / Eukaryote / Anaerobic / Thermophilic / Archaeobacterium / Cloning / Streptomycete / Genetic / Unstable / Catalysis / Reduction / Stereospecific / Alkaloid / Biosynthesis / Nerve / Cell / Vegetable / Peptide / Oligonucleotide / Synthesis / Chemical

- **Technische Universitaet Muenchen, Fakultae fuer Landwirtschaft und Gartenbau, Lehrstuhl fuer Physiologie der Fortpflanzung und Laktation**  
 Voettinger Str. 45  
 8050  
 Freising  
 ☎ +49 8161 71508



**Biology and Clinical Study of Reproduction**

Biologie und Klinik der Reproduktion  
 Aumueller, G. / Beier, H. / Mootz, U. / Bidlingmaier, F. / Claus, R. / Denker, H.-W. / Engel, W. / Fischer, B. / Henschen, A. / Hilscher, W. / Haider, S.G. / Passia, D. / Hohn, H.-P. / Mettler, L. / Mueller, U. / Mueller-Esterl, W.P. / Pakzad, R. / Schill, W.-B. / Schlegel, W. / Schulze, W. / Schweikert, H.-U. / Tunn, U.W. / Seitz, J. / Tamm, J. / Tschesche, H.;  
 Wartenberg, H.  
 Biology / Reproduction / Andrology / Sperm / Origin / Differentiation / Embryo / Development / Extracorporeal / Incubation / In vitro / Preservation / Steroid / Alicyclic / Biosynthesis / Regulation / Prenatal / Postnatal / Estrogen / Prostaglandin / Nucleus / Protein / Structural analysis

 **Technische Universitaet Muenchen**

Fakultaet fuer Chemie, Biologie und Geowissenschaften, Institut fuer Radiochemie  
 Walther-Meissner-Str. 3  
 8046  
 Garching  
 ☎ +49 89 3209-2202

**Activity analytic studies in the frame of efficiency tests of new cancer chemical therapies and trace element accumulation in tumor cells - minimizing of animal experiments**

Aktivierungsanalytische Untersuchungen im Rahmen des Wirkungsnachweises neuer Krebschemotherapeutika und ueber die Spurenelementgehalte von Tumorzellen - Minimierung von Tierexperimenten  
 Lux, F.

Tumour / Cell / Activation / Analysis / Trace element / Action / Drug / Cancer / Chemotherapy / Animal experiment / Reduction

 **Universitaet Bielefeld**

Fakultaet fuer Chemie, Lehrstuhl fuer Biochemie  
 Universitaetsstr. 25  
 4800  
 Bielefeld  
 ☎ +49 521 106-2912

**Construction of a sequencer in component form for the microsequencing of peptides and proteins and the development of sequencer programs. Partial project II**

Konstruktion eines Sequenzers im Baukasten-Modell zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen. Teilprojekt II  
 Tschesche, H.  
 Analytical engineering / Apparatus / Sequencing / Peptide / Protein / Software

**Joint proje**

Construction of a sequencer on the model of module blocks for the microsequencing of peptides and proteins and development of sequencing programs  
 Verbundprojekt: Konstruktion eines Sequenzers im Baukasten-Modell zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen  
 Tschesche, H.  
 Protein / Peptide / Sequencing / Software

**Joint proje**

construction of a sequencer on the model of building blocks for the microsequencing of peptides and proteins and development of sequencing programs; partial project II  
 Verbundprojekt: Konstruktion eines Sequenzers im Baukasten-Modell zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogramme; Teilprojekt II  
 Tschesche, H.  
 Peptide / Protein / Sequencing / Software

**Joint proje**

construction of a sequencer according to the building-block principle for the microsequencing of peptides and proteins and the development of sequencing programmes  
 Verbundprojekt: Konstruktion eines Sequenzers im Baukasten-Prinzip zur Mikrosequenzierung von Peptiden und Proteinen und Entwicklung von Sequenzierungsprogrammen  
 Tschesche, H. / Knauer, H. / Wittmann-Liebold, B.  
 Apparatus / Sequencing / Protein / Amino acid / Synthesis / Nucleotide / Solvent / Reagent

 **Universitaet Bielefeld**

Fakultaet fuer Biologie, Lehrstuhl fuer Genetik  
 Universitaetsstrasse  
 4800  
 Bielefeld  
 ☎ +49 521 106-1 od. -4756

**Symbiotic interaction between microorganisms and culture plants: genetic optimization of nodule symbiosis for Luzerne and field beans**

Symbiotische Wechselwirkungen zwischen Mikroorganismen und Kulturpflanzen: Genetische Optimierung der Koellchensymbiose fuer Luzerne und Ackerbohne  
 Puehler, A.  
 Microbiology / Biochemistry / Molecular biology / Gene technology / Symbiosis / Interaction / Microorganism / Useful plant / Plant / Fixation / Nitrogen / Gene / Vector / Rhizobium

**Pathobiology of Cellular Interaction**

Pathobiologie zellulaerer Wechselwirkungen  
 Burkhardt, H. / Dorfmueller, Th. / Eichenlaub-Ritter, U. / Fritzsich, B. / Heimann, P. / Jockusch, B.M. / Jockusch, H. / Neumann, E. / Puehler, A. / Rauterberg, J. / Robenek, H. / Schoeffl, F. / Tschesche, H.  
 Nerve / Muscle / Cell / Interaction / Intracellular / Egg cell / Development / Modification / Malformation / Congenital / Infection / Collagen / Synthesis / Regulation / Ion / Receptor / Transport / Membrane biology / Inhibitor / Cloning / Enzymatic / Leukocyte / Human / Antibody / Monoclonal / Polyclonal

**Construction of a vector system for the analysis of expression as well as transposition of streptomyceten**

Konstruktion eines Vektorsystems zur Analyse der Expression sowie der Transposition bei Streptomyceten  
 Wohlleben, W.  
 Vector / Analysis / Streptomycete / Grampositive / Aerobic / Expression / Transfer / Regulation / Bacterial / Host / Protein / Transposon / Mutation / Origin / Gene / Escherichia / Gramnegative / Facultative / Anaerobic / Plasmid

**Molecular genetic analysis of N2-fixation genes from klebsiella pneumoniae, rhodopseudomonas capsulata and rhizobium leguminosarum**

Molekulargenetische Analyse von N2-Fixierungsgenen aus Klebsiella pneumoniae, Rhodopseudomonas capsulata und Rhizobium leguminosarum  
 Puehler, A. / Verma, D.P.  
 Gene / Bacterial / Enterobacteriaceae / Gramnegative / Facultative / Anaerobic / Pseudomonas / Rhizobium / Aerobic / Nitrogen / Fixation / Nucleotide / Heterocyclic / Glutamine / Aromatic / Synthetase / Sequencing / Mapping / Regulation

 **Universitaet Bremen**

Fachbereich 2 - Biologie, Chemie, Fachrichtung Biologie  
 Leobener Str.  
 2800  
 Bremen  
 ☎ +49 421 218-2866 od. -2865

**Kinetically controlled synthesis of beta-lactam antibiotics with support-bound penicillin amidase; investigations into the optimization of significant influences**

Kinetisch kontrollierte Synthese von Beta-Lactam Antibiotika mit traegergebundener Penicillin Amidase; Untersuchung der fuer die Optimierung bedeutsamen Einflussgroessen  
 N.N.  
 Antibiotic / Synthesis / Enzymatic / Penicillin / Amidase / Immobilization / Escherichia / Gramnegative / Facultative / Anaerobic

 **Universitaet Bayreuth**

Fakultaet fuer Chemie, Biologie und Geowissenschaften, Lehrstuhl fuer Genetik  
 Universitaetsstr. 30  
 8580  
 Bayreuth  
 ☎ +49 921 55-2701

**Genetic engineering experiments on atmospheric nitrogen-fixing soil bacteria**

Genetchnologische Versuche an Luftstickstoffbindenden Bodenbakterien  
 Klingmueller, W.  
 Soil / Azospirillum / Gramnegative / Aerobic / Nitrogen / Fixation / Mutation / Release / Useful plant / Wheat / Maize / Hormone / Vegetable / Growth / Gene / Malformation

 **Universitaet Dortmund**

Abteilung Chemietechnik, Lehrstuhl fuer Technische Chemie B  
 Emil-Figge-Str. 70  
 4600  
 Dortmund 50  
 ☎ +49 231 755-2361 od. -2362

**Biological Reactor Steeping of Sulfidic Coloured and Precious Metal Concentrates**

Biologische Reaktorlaugung von sulfidischen Bunt- und Edelmetall- Konzentraten  
 Onken, U.  
 Metal / Leaching / Microbial / Bioreactor / Mixed culture / Bacterium

**Fermentations with immobilized cells**

Fermentation mit immobilisierten Zellen  
 Onken, U.  
 Cell / Immobilization / Fermentation

 **Universitaet Dortmund**

Abteilung Chemietechnik, Lehrstuhl fuer Mechanische Verfahrenstechnik  
 Emil-Figge-Str. 70  
 4600  
 Dortmund  
 ☎ +49 231 755-1 od. -2361 od. -2362

**Development of cross flow membrane module systems (ultra- and microfiltration) for use in biotechnology - Partial project II**

Entwicklung von Cross-Flow-Membranmodul-Systemen (Ultra- und Mikrofiltration) fuer den Einsatz in der Biotechnologie - Teilvorhaben II  
 Werner, U.  
 Bioprocess engineering / Membrane apparatus / Surface / Downstream processing / Separation

**Soil Restoration/Decontamination**

Bodensanierung/-dekontamination  
 Werner, Udo  
 Soil / Sanitation / Toxin / Purification / Thermal / Separation

**Biofiltration**

Biofiltration  
 Werner, Udo  
 Waste gas / Filtration / Purification / Biological / Microorganism / Immobilization

**Joint proje**

Development of cross flow membrane module systems (ultra and microfiltration) for use in biotechnology  
 Verbundprojekt: Entwicklung von Cross-Flow-Membranmodulsystemen (Ultra- und Mikrofiltration) fuer den Einsatz in der Biotechnologie  
 Werner, U.  
 Membrane engineering / Filtration / Industrial

- **Universitaet Duesseldorf, Mathematisch-Naturwissenschaftliche Fakultae, Institut fuer Botanik, Lehrstuhl IV**  
 Universitaetsstr. 1  
 4000  
 Duesseldorf 1  
 ☎ +49 211 311-2338

**Biochemistry, molecular biology, phytopathology and biotechnology of photosynthetically active cell cultures of higher plants. II Biochemistry and biotechnology**  
 Biochemie, Molekularbiologie, Phytopathologie und Biotechnologie photosynthetisch aktiver Zellkulturen hoeherer Pflanzen. II Biochemie und Biotechnologie.  
 Allermann, A. W.  
 Biochemistry / Molecular biology / Biotechnology / Bioprocess engineering / Cultivation / Cell / Vegetable / Photosynthesis / Biotransformation / Derivative / Pyranose / Steroid / Metabolism / Secondary

- **Universitaet Duesseldorf Mathematisch-Naturwissenschaftliche Fakultae, Institut fuer Mikrobiologie**  
 Universitaetsstr. 1, Geb. 26.12  
 4000  
 Duesseldorf  
 ☎ +49 211 3114720

**Construction of a xylose fermenting yeast strain for the production of alcohol**  
 Konstruktion eines Xylose fermentierenden Hefestammes fuer die Alkoholherstellung  
 Hollenberg, C. P.  
 Biochemistry / Molecular biology / Gene technology / Cloning / Gene / Bacterial / Enzyme / Xylose / Ethanol / Expression / Yeast

**Construction of an xylose fermenting yeast strain for the production of alcohol**  
 Konstruktion eines Xylose fermentierenden Hefestammes fuer die Alkoholherstellung  
 Hollenberg, C.P. / Sahn, H.  
 Yeast / Xylose / Fermentation / Alcohol / Structure / Gene / Bacterial / Isomerase / Coding / Cloning / Expression / Reductase / Purification / Analysis / DNA / Sequencing / Vector / Transcription

**Construction of an xylose fermenting yeast strain for the production of alcohol**  
 Konstruktion eines Xylose fermentierenden Hefestammes fuer die Alkoholherstellung  
 Hollenberg, C.P. / Sahn, H.  
 Yeast / Xylose / Fermentation / Alcohol / Structure / Gene / Bacterial / Isomerase / Coding / Cloning / Expression / Reductase / Purification / Analysis / DNA / Sequencing / Vector / Transcription

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 Universitaetsstr. 1  
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 ☎ +49 211 3114840

**Biophysics of Cell Organization**

Biophysik der Organisation der Zelle  
 Clore, G.M / Gronenborn, A.M. / Fromherz, P. / Gersonde, K. / Hillen, W. / Hinz, H.-J. / Holmes, K.C. / Jaenicke, R. / Rudolph, R. / Jovin M.D., Th.M. / Klump, H. / Leibfritz, D. / Mandelkow, E. / Mayer, F. / Mayer-Heinricy, A. / Neumann, E. / Nordheim, A. / Parak, F.G. / Peters, R. / Roesch, P. / Rueterjans, H. / Sackmann, E. / Saenger, W. / Trendelenburg, M.  
 Protein / Nucleotide / Heterocyclic / Glycoprotein / Interaction / Cellular / DNA / Torsion / Elasticity / Cell / Tissue / Structure / NMR / Calorimetry / Animal / Blood / Human / Phosphate / Metabolism / Enzyme / Bacterial / Membrane biology / Photosynthesis / Oncogenic / Structure / Nucleus / Cytoplasm / Transport

- **Universitaet - Gesamthochschule - Duisburg, Fachbereich 6, Fachgebiet Angewandte Chemie**  
 Lotharstr. 65  
 4100  
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**New possibilities for the use of native oils and fats as chemical raw material 2.4 Heterogeneous catalysis for acidic or basic reactions in the aliphatic chemistry**  
 Neue Einsatzmoeglichkeiten nativer Oele und Fette als Chemierohstoffe 2.4 Heterogene Katalyse fuer saure oder basische Reaktionen in der Fettchemie  
 Saus, A.  
 Organic chemistry / Derivation / Oil / Natural / Fat / Catalysis / Chemical

- **Universitaet-Gesamthochschule-Essen Fachbereich 14 - Medizin, Institut fuer Molekularbiologie (Tumorforschung)**  
 Hufelandstr. 55  
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**Joint proje**  
 Molecular basis of gene expression in normal and malignant cell systems - partial project 1  
 Verbundprojekt: Molekulare Grundlagen der Genexpression bei normalen und malignen Zellsystemen - Teilprojekt 1  
 Esche, H. / Rajewsky / Tietze  
 Gene / Expression / Sequencing / Cloning / Cell / Malignant / Differentiation / Vector / Viral / Adenovirus / Retrovirus

- **Universitaet-Gesamthochschule Essen Fachbereich 14 - Medizin, Innere Universitaetsklinik und Poliklinik (Tumorforschung), Westdeutsches Tumorzentrum**  
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**Pre clinical and clinical investigations in pharmacokinetics, myelotoxicity and overcoming resistance on newly developed antineoplastic modes of treatment**  
 Praeklinische und klinische Untersuchungen zur Pharmakokinetik, Myelotoxizitaet und Resistenzueberwindung an neuentwickelten antineoplastischen Behandlungsmodalitaeten  
 Schmidt, C.G.  
 Cancer / Tumour / Therapy / Cytostatic / Adriamycin

- **Universitaet-Gesamthochschule Essen, Fachbereich 14 - Medizin, Institut fuer Zellbiologie (Tumorforschung)**  
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 ☎ +49 201 7991-2802

**Molecular basis of gene expression in normal and malignant cell systems; Partial project II**  
 Molekulare Grundlagen der Genexpression bei normalen und malignen Zellsystemen; Teilprojekt II  
 Rajewsky, M. F. / Tietze, L. F. / Esche, H.  
 Molecular biology / Gene technology / Expression / Gene / Cell / Tumour / Cytogenetics

**Experimental and Clinical Leukaemia and Tumor Research**

Experimentelle und klinische Leukaemie- und Tumorforschung  
 Alberti, W. / Bamberg, M. / Becher, R. / Cevc, G. / Doxiadis, I. / Esche, H. / Grosse-Wilde, H. / Kindler-Roehrborn, A. / Nehls, P. / Osieka, R. / Rajewsky, M. / Schaefter, U. / Scheulen, M. / Schmidt, C.G. / Schmidt, W. / Tamulevicius, P. / Willecke, K.  
 Leukemia / Tumour / Malignant / Origin / Diagnosis / Chemotherapy / Neuron / Transformation / Rat / DNA / Repair / Enzymatic / Differentiation / Proliferation / Antigen / Viral / Adenovirus / Expression / Structural analysis / Cell / Animal / Membrane biology / Metabolism / Lipid / Fusion / Bone marrow / Transplantation / In vivo / Animal experiment

**Molecular and Classic Tumor Cytogenetics**  
 Molekulare und klassische Tumorcytogenetik  
 Anders, F. / Anders, A. / Bartram, C.-R. / Becher, R. / Passarge, E. / Rajewsky, M. F. / Blin, N. / Zang, K.D. / Bornkamm, G.W. / Bullerdiek, J. / Diedrich, U. / Fanning-Honegger, E. / Feller, A.Ch. / Griesser, H.H. / Schlegelberger, B. / Fonatsch, Ch. / Diehl, V. / Rehder, H. / Friedrich, R. / Gateff, E. / Gebhart, E. / Hameister, H. / Hansmann, I. / Hoehn, H. / Hossfeld, D. / Weh, H.-J. / Kaina, B. / Kovacs, G. / Krone, W. / Lampert, F. / Lipp, M. / Mechler, B. / Royer-Pokora, B. / Scharf, M. / Schleiermacher, E. / Schwab, M. / Siegert, W. / Unteregger, G. / Zabel, B.U. / Gutjahr, P. / Hohenfellner, K. / Ziegler, A. / Feller, A.Ch. / Zoll, B.  
 Cytogenetics / Cancer / Tumour / Human / Origin / Modification / Chromosomal / Genome / Chromatin / Chromosome / DNA / Repair / Cloning / Oncogenic / Recognition / Expression / Aberration / Translocation / Gene / Suppression / Replication / Virus / Leukemia / Mouse / Transgenic / Malignant / Transformation / Hybridization / Lymphocyte / Receptor / Analysis

- **Universitaet Hamburg Fachbereich Chemie, Institut fuer Biochemie und Lebensmittelchemie**  
 Martin-Luther-King-Platz 6  
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**Studies of cardiologically effective drugs on isolated heart muscle cells as a replacement for animal experiments - partial project 2**  
 Untersuchung herzwirksamer Pharmaka an isolierten Herzmuskelzellen als Ersatz zu Tierversuchen-Teilprojekt 2  
 Gercken, G.  
 Drug / Heart / Cardiocyte / Isolation / Cultivation / Polyalcohol / Structural analysis / Membrane biology / Antibody / Lectin / Marking / Fluorescence

□ **Universitaet Hamburg**  
 Fachbereich Biologie, Institut fuer  
 Allgemeine Botanik und Botanischer  
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 Ohnhorststr. 18  
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**Molecular biology Hamburg - Applied molecular biology of plants**

Molekularbiologie Hamburg - Angewandte Molekularbiologie der Pflanzen  
 n.n.

Botany / Biochemistry / Uptake / Nutrient / Resistance / Cold / Plant / Biosynthesis / Fatty acid / Oil / Useful plant / Tolerance

**Biological conversion, detoxification and decomposition of dioxin-type compounds**

Biologische Umwandlung, Entgiftung und Abbau dioxinartiger Verbindungen  
 Fortnagel, P.

Environmental biotechnology / Biochemistry / Molecular biology / Screening / Microorganism / Degradation / Noxious substance / Hydrocarbon / Cyclic / Chlorine

**Summary on the topic "setting free genetically altered organisms - security aspects"**

Workshop zum Thema "Freisetzung gentechnisch veraenderteter Organismen - Sicherheitsaspekte"  
 Weber, A.

Microorganism / Modification / Gene technological / Clearance / Safety research

□ **Universitaet Hamburg**

Fachbereich  
 Medizin/Universitaetsklinikum Eppendorf,  
 Institut fuer Humangenetik  
 Martinistr. 52  
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 Hamburg 20  
 ☎ tel.(040 468-2120

**Joint proje**

Application of cloned gene and DNA fragments for study and diagnosis of genetically caused diseases  
 Verbundprojekt: Anwendung klonierter Gene und DNA-Fragmente zur Erfassung und Diagnostik genetisch bedingter Erkrankungen  
 Goedde, H.W.

Gene / DNA / Sequence / Human / Cloning / Diagnosis / Disease / Congenital / Mutation / Chromosome / Genome

□ **Universitaet Hamburg**

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 Technische und Makromolekulare Chemie  
 Bundesstr. 45  
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 Hamburg 13  
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**Joint project bioprocess engineering partial proje**

Viscoelasticity of fermentation mediums - on-line measuring, reactor control, production optimizing  
 Verbundprojekt Bioprozesstechnik Teilprojekt:

Viskoelastizitaet von Fermentationsmedien - on-line-Messung, Reaktorsteuerung, Produktoptimierung

Kulicke, W.-M.

Xanthan / Viscosity / Elasticity / Temperature / pH / Medium / Fermentation / Bioreactor / Control

□ **Universitaet Hamburg, Fachbereich Medizin/Universitaetsklinik Eppendorf, Institut fuer Zellbiochemie und klinische Neurobiologie**  
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 Hamburg 54  
 ☎ +49 40 468-3344

**Protein Biosynthesis: Mechanism and Regulation**

Proteinbiosynthese: Mechanismen und Regulation  
 Arnold, Hans-Henning / Breindl, Michael / Koch, Gebhard / Kruppa, Joachim / Nobis, Peter / Schmale, Hartwig

Protein / Biosynthesis / Expression / Gene / Structure / Cell

□ **Universitaet Hohenheim**

Fakultaet I - Allgemeine und Angewandte Naturwissenschaften, Institut fuer Biologische Chemie und Ernaehrungswissenschaft  
 Garbenstr. 30  
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**Application of molecular genetic and cell biological processes in plant cultivation - Phase I**

Anwendung molekulargenetischer und zellbiologischer Verfahren in der Pflanzenzuechtung - Phase I -  
 Geiger, H. H.

Biochemistry / Molecular biology / Gene technology / Breeding / Useful plant / Plant / Transfer / Gene / Resistance / Cultivation / Tissue / Vegetable

**Microcalorimetric studies in direct measuring of the energy metabolism of animal and human cell cultures**

Mikrokalorimetrische Untersuchungen zur direkten Messung des Energiestoffwechsels an Zellkulturen aus tierischen und menschlichen Zellen  
 Fuerst, P.

Cell / Animal / Human / Cultivation / Calorimetry / Energy / Nucleotide / Amino acid / Metabolism / Bioactive agent / Cancer / Hormone / BRM / Therapy

□ **Universitaet Hohenheim**

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 Otto-Sander Str. 5  
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**Symbiotic interaction between microorganisms and culture plants: installation of fluorescent Pseudomonas for maintaining the health of culture plants**

Symbiontische Wechselwirkungen zwischen Mikroorganismen und Kulturpflanzen: Einsatz fluoreszierender Pseudomonaden zur Gensunderhaltung von Kulturpflanzen  
 Grossmann, F.

Microbiology / Biochemistry / Botany / Agricultural sciences / Symbiosis / Interaction / Useful plant / Plant / Pseudomonas / Infection / Parasite

**Joint proje**

Plant and animal resistance substances - partial project 11: Examination of plant-contained substances for their phytotoxic and growth regulating properties

Verbundprojekt: Pflanzliche und tierische Abwehrstoffe - TP 11: Pruefung von Pflanzeninhaltsstoffen auf ihre phytotoxischen und wachstumregulierenden Eigenschaften  
 Hurle, K.

Bioactive agent / Resistance / Vegetable / Animal / Action / Toxic / Growth / Regulation / Isolation / Recognition / Plant protection

□ **Universitaet Hannover, Fachbereich Biologie, Institut fuer Botanik**  
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 ☎ +49 511 762-2631

**Photosynthetic active cell cultures. 5. Molecular biology of chloroplast differentiation**

Photosynthetisch aktive Zellkulturen. 5.

Molekularbiologie der Chloroplastendifferenzierung  
 Richter, G.

Botany / Biochemistry / Molecular biology / Gene technology / Cultivation / Cell / Photosynthesis / Differentiation / Chloroplast

□ **Universitaet Hannover, Fachbereich Gartenbau, Institut fuer Angewandte Genetik**

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 ☎ +49 511 762-2670

**Genetic Mechanisms for Hybrid Cultivation**

Genetische Mechanismen fuer die

Hybridzuechtung

Abel, W.O. / Brennicke, A. / Wricke, G. / Friedt, W. / Zetsche, K. / Grunewaldt, J. / Hesemann, C.-U. / Oettler, G. / Jacobsen, H.-J. / Michaelis, G. / Odenbach, W. / Reimann-Philipp, R. / Roebbelen, G. / Tatlioglu, T. / Thompson, R. / Tudzynski, P. / Geiger, H.H. / Weber, G. / Wehling, P.

Useful plant / Sowing-seed / Hybridization / Infertility / Male / Cytoplasm / Genome / Induction / Analysis

□ **Universitaet Hannover**

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 Mikrobiologie  
 Schneiderberg 50  
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**Cooperative research bioprocess technology - partial project 1: Process technology of biological product processes - measurement and automatic Control technology and modelling**

Forschungsverbund Bioprozesstechnik - Teilprojekt 1: Prozesstechnik biologischer

Produktionsverfahren - Messtechnik, Regelungstechnik und Modellierung  
 Diekmann

Penicillin / Bacterial / Fermentation / Bioreactor / Microprocessor / Control

□ **Universitaet Hannover, Fachbereich Gartenbau, Institut fuer Pflanzenkrankheiten und Pflanzenschutz**

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**Symbiotic interaction between microorganisms and culture plants: promotion of the health and performance of commercial plants through control of VA mycorrhiza formation and rhizo-spheric flora**

Symbiontische Wechselwirkungen zwischen Mikroorganismen und Kulturpflanzen: Foerderung der Gesundheit und Leistungsfaeigkeit von Nutzpflanzen durch Steuerung der VA Mykorrhizierung und der Rhizospharenflora  
 Schoenbeck, F.

Microbiology / Biochemistry / Botany / Agricultural sciences / Symbiosis / Interaction / Microorganism / Useful plant / Fungus / Plant / Bacterium / Hormone / Vegetable / Soil

- Universitaet Hannover**  
 Fachbereich Elektrotechnik, Institut fuer  
 Regelungstechnik  
 Appelstr. 11  
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 ☎ +49 511 762-4512

**Technical reaction problems with the biological utilization of cellulose- containing residues - studies in automatic control techniques**  
 Reaktionstechnische Probleme bei der biologischen Verwertung von cellulosehaltigen Rueckstaenden - Untersuchung der Mess- und Regeltechnik - Thoma, M.  
 Cellulose / Waste / Degradation / Bacterial / Enzymatic / Glucose / Trichoderma / Automation technology / Bioreactor / Multi-stage / Enzyme / Fermentation / Ethanol / Aliphatic / Zymomonas / Gramnegative / Facultative / Anaerobic / Bioreactor / Optimization / Monitoring

- Universitaet Hannover**  
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 Technische Chemie  
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 ☎ +49 511 762-2253

**Research cooperative bioprocess technology - partial project 1: Process technology in biological production processes - measurement and automatic control technology and modelling**  
 Forschungsverbund Bioprozesstechnik - Teilprojekt 1: Prozesstechnik biologischer Produktionsverfahren - Messtechnik, Regelungstechnik und Modellierung  
 Schuegerl, K.  
 Insect / Cell / Animal / Human / Cultivation / Proliferation / Bioreactor / Laboratory scale / Enzyme / Intracellular

**Technical reaction problems with the biological utilization of cellulose- containing residues - microbiological studies**  
 Reaktionstechnische Probleme bei der biologischen Verwertung von zellulosehaltigen Rueckstaenden - mikrobiologische Untersuchungen  
 Schuegerl, K.  
 Cellulose / Waste / Degradation / Microbial / Enzymatic / Mycelial fungus / Cellulase / Concentration / Extracellular / Ethanol / Aliphatic / Biotransformation / Bioreactor / Multi-stage / Laboratory scale / Filtration / Amylase / Pectinase / Substrate / Cultivation / By-product / Feed / Automation technology / Microprocessor / Control / Bioprocess engineering

- Universitaet Kaiserslautern**  
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 Biotechnologie  
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 ☎ +49 631 205 2423

**Ways to New Products and Processes in Biotechnology**  
 Wege zu neuen Produkten und Verfahren der Biotechnologie  
 Anke, T. / Brauer, H. / Henning, R. / Diekmann, H. / Effenberger, F. / Germerdonk, R. / Gilles, E.D. / Stephan, K. / Gunkel, W. / Kuball, H.-G. / Kula, M.-R. / Munack, A. / Onken, U. / Sahn, H. / Bringer-Meyer, St. / Steglich, W. / Thoma, M. / Troesch, W. / Wagner, F. / Wandrey, Ch. / Wolf, G. / Zeeck, A.  
 Biosynthesis / Microbial / Basidiomycete / Regulation / Bioreactor / Chitinase / Bacterial / Streptomycete / Cultivation / Fermentation / Viscosity / Elasticity / Cell / Growth / Metabolism / Transport / Tensid / Biological / Action / Marine / Metabolite / Actinomycete / Differentiation / Pelleting / Fungicide / Inhibitor / Derivation

**Joint proje**  
 Plant and animal resistance material - 1. Metabolites of basidiomycetes and other highly evolved fungi as new active substances or active substance models in plant protection  
 Verbundprojekt: Pflanzliche und tierische Abwehrstoffe - 1. Inhaltsstoffe von Basidiomyceten und anderen Hoeheren Pilzen als neue Wirkstoffe oder Wirkstoffmodelle im Pflanzenschutz  
 Anke, T.  
 Bioactive agent / Resistance / Vegetable / Animal / Basidiomycete / Plant protection / Isolation / Screening / Metabolite / Action / Toxic / Antibacterial / Fungus / Cultivation / Fermentation

- Universitaet Kaiserslautern**  
 Fachbereich Chemie, Fachrichtung  
 Lebensmittelchemie und  
 Umwelttoxikologie  
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 ☎ +49 631 205-1

**Partial proje**  
 pharmaceuticals for cancer therapy - Development and testing of effects - Partial project 3  
 Teilprojekt: Arzneimittel fuer die Krebstherapie - Entwicklung und Wirkungspruefung - Teilprojekt 3  
 Eisenbrand, G.  
 Drug / Cancer / Therapy / Cytostatic / Tumour / Selective / Steroid / Hormone / Adriamycin / Receptor / Mutation / Origin

**Joint proje**  
 Rational synthesis planning and optimization of principal substances in medical chemistry for the purpose of reducing animal experiments - partial project 4: Determination of conformation in crystal condition  
 Verbundprojekt: Rationale Synthesepaltung und Leitsubstanzoptimierung in der medizinischen Chemie zum Ziel der Einsparung von Tierversuchen - Teilprojekt 4: Bestimmung der Konformation in kristallinem Zustand  
 Sheldrick  
 Leading substance / Synthesis / Optimization / Animal experiment / Reduction / Drug / Structural analysis / Radiology / Receptor / Biological

- Universitaet zu Koeln,**  
**Mathematisch-naturwissenschaftliche**  
**Fakultaet, Institut fuer Biochemie**  
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 ☎ +49 221 311331

**Brown Algae Pheromone**  
 Braunalgen-Pheromone  
 Jaenicke, Lothar / Boland, W.  
 Pheromone / Attractant / Chemical / Alga

- Universitaet zu Koeln**  
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 Fakultaat, Botanisches Institut  
 Gyrhofstr. 15  
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 Koeln 41  
 ☎ +49 221 470-1 od. -2473 od. -2484

**Symbiotic interactions between microorganisms and culture plants. Interactions in the area of phytohormones and anorganic nitrogen**  
 Symbiontische Wechselwirkungen zwischen Mikroorganismen und Kulturpflanzen.  
 Wechselwirkungen im Bereich der Phytohormone und des anorganischen Stickstoffs  
 Bothe, H.  
 Microbiology / Biochemistry / Botany / Agricultural sciences / Symbiosis / Interaction / Microorganism / Useful plant / Fixation / Nitrogen

**Studies in nitrogen metabolism in the association between bacteria of the genus azospirillum and culture plants**  
 Untersuchungen zum Stickstoff-Stoffwechsel der Assoziation zwischen Bakterien der Gattung Azospirillum und Kulturpflanzen  
 Bothe, H.  
 Soil / Azospirillum / Gramnegative / Aerobic / Nitrogen / Fixation / Symbiosis / Interaction / Useful plant / Wheat / Maize / Metabolism / Hormone / Vegetable / Tryptophan / Aliphatic / Auxin / Denitrification / Growth / Nitrite / Nitrate / Reductase

**Investigations of nitrogen metabolism in association with bacteria genus asospirillum and culture plants**  
 Untersuchungen zum Stickstoff-Stoffwechsel der Assoziation zwischen Bakterien der Gattung Azospirillum und Kulturpflanzen  
 Bothe, H.  
 Nitrogen / Metabolism / Bacterium / Useful plant / Interaction / Wheat / Maize / Fixation / Hormone / Vegetable / Denitrification / Nitrate / Nitrite / Reductase / Tryptophan / Aliphatic / Auxin

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**Products from animal and human cells. Partial project 8: Lymphokine and B cell differentiation**  
 Produkte aus tierischen und menschlichen Zellen.  
 Teilprojekt 8: Lymphokine und B-Zelldifferenzierung  
 Rajewsky, K.  
 Biochemistry / Molecular biology / Gene technology / Cultivation / Cell / Human / Animal / Differentiation / Leukocyte / Interleukine

**Products from animal and human cells. Partial project 4: Expression vectors**  
 Produkte aus tierischen und menschlichen Zellen.  
 Teilprojekt 4: Expressionsvektoren  
 Doerfler, W.  
 Biochemistry / Molecular biology / Gene technology / Cloning / Vector / Expression / Enzyme / Cultivation / Cell / Human / Animal

**Molecular Biology of Higher Plants**  
 Molekularbiologie der hoeheren Pflanzen  
 Brennicke, A. / Feix, G. / Herrmann, R. / Koessel, H. / Link, G. / Muehlbach, H.-P. / Piennig, N. / Schell, J. / de Bruijn, F.J. / Subramanian, A.R.  
 Gene / Genome / Vegetable / Structure / Replication / Transcription / Translation / Regulation / rRNA / Cloning / Analysis / Chloroplast / Mutation / Origin / Transport / Intracellular / Bacterium / Anaerobic / Metabolism / Symbiosis / Intracellular

**Studies of the Alzheimer-receptor**

Untersuchung des Alzheimer-Rezeptors  
Mueller-Hill, B.  
Metabolic disease / Receptor / Protein /  
Metabolism / Regulation / Degeneration / Brain

**Joint proje**

products from animal and human cells, partial  
project 8: development of a eucaryotic vector with  
high capacity for foreign DNA  
Verbundprojekt: Produkte aus tierischen und  
menschlichen Zellen, Teilprojekt 8: Entwicklung  
eines eukaryontischen Vektors mit hoher  
Kapazitaet fuer fremde DNA  
Doerfler, W.  
Cell / Animal / Human / Eukaryote / Vector / DNA /  
Insect / Expression / Insertion / Mammal / Genome /  
Sequence / Cellular / Transcription / Viral / RNA /  
Adenovirus / Transformation / Recognition

**Joint proje**

products from animal and human cells - partial  
project 4: characterization of lymphokines which  
influence B-cell differentiation and proliferation  
Verbundprojekte: Produkte aus tierischen und  
menschlichen Zellen - Teilprojekt 4:  
Charakterisierung von Lymphokinen, die die  
B-Zelldifferenzierung und -Proliferation  
beeinflussen  
Rajewsky, K.  
Cell / Animal / Human / Lymphokine /  
Differentiation / Multiplication / Interleukine /  
Cloning / Cultivation / Serumfree / Separation /  
Biochemical / Action / Lymphocyte / Purification /  
cDNA / EGG CELL

 **Universitaet zu Koeln**

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**Joint proje**

Pharmaceuticals for cancer therapy; development  
and testing of efficacy -partial project 7  
Verbundprojekt: Arzneimittel fuer die  
Krebstherapie; Entwicklung und Wirkungspruefung  
- Teilprojekt 7  
Klein, H.O.  
Drug / Cancer / Therapy / Metabolite / BRM /  
Tumour

 **Universitaet Koeln, Institut fuer  
Genetik, SFB 74: Molekularbiologie der  
Zelle**

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**Molecular Biology of Cells**

Molekularbiologie der Zelle  
Beyreuther, K. / Campos-Ortega, J.A. / Cramer, M. /  
Doerfler, W. / Doering, H.- P. / Ehring, R. /  
Hahlbrock, K. / Jack-Berek, C. / Jaenicke, L. / Kemper,  
B. / Krawinkel, U. / Mueller-Hill, B. / Rajewsky, K. /  
Saedler, H. / Saumweber, H. / Schell, J. / Starlinger,  
P. / Stoffel, W.  
Genome / Gene / Expression / Mutation / Immune  
system / Recombination / Cell / Animal / Bacterial /  
Surface / Interaction / Organic substance / Polymer /  
Protein / Peptide / Antibody / Analysis / DNA /  
Modification / Globulin / Immune / Lymphocyte /  
Receptor / Alga / Differentiation / Morphogenesis /  
Transposon / Vegetable / Lipoproteid

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Fakultaet, Institut fuer Organische  
Chemie**

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 **Siderophores from Bacteria**

Siderophore aus Bakterien  
Budzikiewitz, Herbert  
Pseudomonas / Trace element / Iron / Isolation /  
Structural analysis / Action / Antibiotic / Useful  
plant

 **Universitaet Oldenburg, Fachbereich 9 -  
Chemie**

Carl-von-Ossietzky-Str. 9-11  
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 **Intensification of research in the field of  
aliphatic chemistry, 3.3 Endogonic and  
exergonic reactions. 4.3 Amphiphils - Partial  
projects 3 and 4**

Intensivierung der Forschung auf dem Gebiet der  
Fettchemie 3.3 An- und En- Reaktion. 4.3  
Amphiphile - Teilvorhaben 3 und 4  
Koell, P. / Metzger, J. O.  
Organic chemistry / Derivation / Oil / Natural / Fat /  
Catalysis / Chemical

 **Universitaet-Gesamthochschule  
Paderborn, Fachbereich 13 - Chemie  
und Chemietechnik, Fach Technische  
Chemie und Chemische  
Verfahrenstechnik**

Warburger Str. 100  
4790  
Paderborn  
☎ +49 5251 602597

 **Biological Decomposition of Persistent  
Sewage-Contained Substances Resulting from  
Industrial Processes**

Biologischer Abbau von persistenten  
Abwasserinhaltsstoffen aus industriellen Prozessen  
Hempel, D.C.  
Noxious substance / Waste water / Industrial /  
Decontamination / Degradation / Microbial /  
Biological / Bioreactor / Pilot scale / Nitrification /  
Denitrification / Bacterium / Cultivation / Carrier  
material / Quartz / Immobilization

 **On-line Sampling for Process Observation and  
Control**

On-line Probenahmeeinheit zur  
Prozessueberwachung und -steuerung  
Hempel, D.C.  
Apparatus / Sampling / Fermentation / Control /  
Bioreactor / Degradation / Biological / Filtration /  
HPLC / Sterilization hygiene / Biomass /  
Immobilization

 **Universitaet Regensburg  
Naturwissenschaftliche Fakultaet III,  
Biologie und Vorklinische Medizin, Institut  
fuer Biochemie, Genetik und  
Mikrobiologie**

Universitaetsstr. 31  
8400  
Regensburg  
☎ +49 941 9432833

 **Microbiology of anaerobic decomposition of  
halogen organic compounds in industrial  
sewage**

Mikrobiologie des anaeroben Abbaus  
halogenorganischer Verbindungen in  
Industrieabwaessern  
Winter, J.  
Waste water / Industrial / Hydrocarbon / Aromatic /  
Degradation / Anaerobic / GC / HPLC / Bioreactor /  
Laboratory scale / Fermentation / Purification

 **Universitaet Regensburg  
Naturwissenschaftliche Fakultaet IV -  
Chemie und Pharmazie, Institut fuer  
Pharmazie**

Universitaetsstr. 31  
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**Joint proje**

Pharmaceuticals for cancer therapy: development  
and efficacy testing - partial project 6  
Verbundprojekt: Arzneimittel fuer die  
Krebstherapie; Entwicklung und Wirkungspruefung  
- Teilprojekt 6  
Schoenenberger, H.  
Drug / Cancer / Therapy / Estrogen / Receptor /  
Nucleus / Tumour / Marking / Radioactive /  
Metabolism

**Joint proje**

Replacement of animal experiments through in  
vitro test methods (cell culture technology,  
biochemical analysis) in the development of new  
cancer chemical therapeutics  
Verbundprojekt: Ersatz von Tierexperimenten  
durch in vitro-Testmethoden (Zellkulturtechnik,  
biochemische Analyse) bei der Entwicklung neuer  
Krebsschemotherapeutika  
Schoenenberger, H.  
Cell / Cultivation / Analysis / Biochemical / In vivo /  
Drug / Cancer / Chemotherapy / Estrogen /  
Receptor / Tumour / Growth / Action / Animal  
experiment / Substitution

 **Universitaet Stuttgart**

Fakultaet 7 - Geo- und Biowissenschaften,  
Biologisches Institut  
Ulmer Str. 227  
7000  
Stuttgart 60  
☎ +49 711 42-4001

 **The effect of shock waves on vertebral cells in  
culture**

Effekt von Stosswellen auf Vertebratenzellen in  
Kultur  
Huelser, D. F.  
Biochemistry / Action / Pressure / Cultivation / Cell /  
Animal

 **Molecularbiological characterisation and studies  
of the biology of infection of a virus associated  
with the beech tree (Fagus sylvatica L.)**

Molekularbiologische Charakterisierung und  
Untersuchungen zur Biologie der Infektion ein mit  
der Buche (Fagus sylvatica L.) assoziierten Virus  
Mundry, K.-W. / Ungibauer-Kremp, H.  
Host / Vegetable / Virus / Interaction / Disease /  
Viral

 **Cell cultures as supplement to animal  
experimenting part III: Three- dimensional cell  
growth cultures**

Zellkulturen als Ergaenzung zu Tierversuchen Teil  
III: Dreidimensional wachsende Zellkulturen  
Huelser, D. F.  
Cell / Animal / Cultivation / Animal experiment /  
Supplementation / Cell / Malignant / Interaction /  
Intercellular / Tumour

□ **Universitaet Stuttgart, Fakultae 13 - Verfahrenstechnik, Institut fuer Chemische Verfahrenstechnik**  
Boebling Str. 72  
7000  
Stuttgart 1  
☎ +49 711 64651

**Central project, Bioprocessing Technology, Stuttgart**  
Zentrales Schwerpunktprojekt  
Bioverfahrenstechnik Stuttgart  
n.n.  
Bioprocess engineering / Biology / Waste water / Starter culture / Immobilization / Biotransformation

□ **Universitaet des Saarlandes**  
Fachbereich 13 Anorganische und Physikalische Chemie, Fachrichtung Anorganische Analytik und Radiochemie  
St. Johanner Stadtwald  
6600  
Saarbruecken  
☎ +49 681 302-2421

**Scale-up of the technical process of free flow electrophoresis for the purpose of purification of biopolymers of productional scaled bioreactors: Partial project I separation systems and separation conditions**  
Scale-Up des Verfahrens der Technik der Free-Flow-Elektrophorese zum Zwecke der Reinigung von Biopolymeren aus Bioreaktoren im Produktionsmassstab: Teilvorhaben I Trennsysteme und -bedingungen  
Wagner, H.  
Bioprocess engineering / Electrophoresis / Purification / Polymer / Biological / Downstream processing

**Joint proje**  
Scale-up of processes and the technique of free flow electrophoresis for the purpose of purification of biopolymers from bioreactors on a productional scale, partial project I  
Verbundprojekt: Scale-up des Verfahrens und der Technik der Free-Flow- Elektrophorese zum Zwecke der Reinigung von Biopolymeren aus Bioreaktoren im Produktionsmassstab, Teilprojekt I  
Wagner, H.  
Bioreactor / Production scale / Cytoplasm / Protein / Bacterial / Purification / Scale-up / Electrophoresis / Amylase / Mycelial fungus / Separation

□ **Universitaet Ulm**  
Fakultae fuer Theoretische Medizin, Abteilung fuer Immunologie (Mikrobiologie II)  
Oberer Eselsberg M23-M24  
7900  
Ulm  
☎ +49 731 176-3371

**Function, specificity and analysis of clones of infiltrating T-lymphocytes from immunologically mediated skin diseases**  
Klonale Analyse von Funktion und Spezifitaet infiltrierender T-Lymphozyten bei immunologisch bedingten Hauterkrankungen  
Fleischer, B.  
Lymphocyte / Cloning / Skin / Diagnosis / BRM / Cell / Antibody

**Joint proje**  
Products from animal and human cells - partial project 4 and 5: Humoral and cellular effector mechanisms  
Verbundprojekt: Produkte aus tierischen und menschlichen Zellen - Teilprojekte 4 und 5: Humorale und zellulaere Effektormechanismen  
Wagner, H.  
Cell / Animal / Human / Organ / Transplantation / Diagnosis

□ **Westfaelische Wilhelms-Universitaet Muenster, Fachbereich 17 - Chemie, Anorganisch-Chemische Institut**  
Wilhelm-Klemm-Str. 8  
4400  
Muenster  
☎ +49 251 83-3141

**Biosensors as Integrating Pollution Sensors**  
Bio-Sensoren als integrierende Schadstoff-Sensoren  
Cammann, Karl  
Biosensor / Immobilization / Noxious substance / Enzyme / Activity / Measurement

□ **Westfaelische Wilhelms-Universitaet Muenster**  
Fachbereich 17 - Chemie, Institut fuer Biochemie  
Wilhelm-Klemm-Str. 2  
4400  
Muenster  
☎ +49 251 83-3200

**Investigations for the stabilization of immobilized glucose isomerase and attempts to explain and optimize reaction steps - partial project II**  
Untersuchungen zur Stabilisierung immobilisierter Glucoseisomerase und Versuche zur Aufklaerung und Optimierung des Reaktionsablaufs - Teilprojekt II -  
Witzel, H.  
Glucose isomerase / Stable / Immobilization / Activity / Streptomycete / DNA / Restriction / Nuclease / Plasmid / Insertion / Escherichia / Cloning / Vector / Oligonucleotide / Hybridization

□ **Westfaelische Wilhelms-Universitaet Muenster**  
Fachbereich Vorklinische und Theoretische Medizin, Institut fuer Humangenetik  
Vesaliusweg 12-14  
4400  
Muenster  
☎ +49 251 835401

**DNA probes for an understanding of inherited defects in man; Partial project 1**  
DNA-Sonden zur Erfassung erblicher Defekte beim Menschen; Teilprojekt 1  
Grzeschik, K.-H.  
Molecular biology / Gene technology / Human genetics / Analysis / DNA / Disease / Congenital / Diagnosis / Gene

**Joint proje**  
DNA probes for the understanding of inherited human defects I  
Verbundprojekt: DNA-Sonden zur Erfassung erblicher Defekte beim Menschen - I  
Grzeschik, K.-H.  
Gene / DNA / Probe / Malformation / Human / Congenital / Chromosome / Gene bank / Isolation / Cloning / Hybridization / Polymorphism / Blood / Clotting / Disease / Diagnosis

□ **Westfaelische Wilhelms-Universitaet Muenster, Fachbereich 18 - Biologie, Institut fuer Mikrobiologie**  
Corrensstr. 3  
4400  
Muenster  
☎ +49 251 833398

**Microbial Foul Air Elimination**  
Mikrobielle Abluftentsorgung  
Rehm, H.J.  
Waste gas / Decontamination / Microbial / Microorganism / Immobilization / Bioreactor / Pilot scale

**Disposal of Old Waste**  
Altlastenentsorgung  
Rehm, H.J.  
Waste / Hydrocarbon / Long-chain / Aromatic / Soil / Degradation / Microorganism

**Sewage Purification of Xenobiotics**  
Abwasserreinigung von Xenobiotika  
Rehm, H.J.  
Xenobiotic / Waste water / Purification / Microbial / Chlorine / Hydrocarbon / Aromatic / Microorganism / Immobilization

**Microbial Decomposition of Problem Substances**  
Mikrobieller Abbau von Problemsubstanzen  
Rehm, H.J.  
Chlorine / Hydrocarbon / Long-chain / Aromatic / Degradation / Microbial / Microorganism / Immobilization

□ **Westfaelische Wilhelms-Universitaet Muenster, Fachbereich 17 - Chemie, Organisch-Chemisches Institut**  
Orleans-Ring 23  
4400  
Muenster  
☎ +49 251 83-3210

**Intensification of research in the field of aliphatic chemistry, 3.1 Functionalization 3.2 Addition and kolbe-electrolysis**  
Intensivierung der Forschung auf dem Gebiet der Fettchemie 3.1 Funktionalisierung 3.2 Addition und Kolbe-Elektrolyse  
Schaefer, H. J.  
Organic chemistry / Derivation / Oil / Natural / Fat / Catalysis / Chemical

□ **Westfaelische Wilhelm-Universitaet Muenster, Fachbereich 18 - Biologie, Lehrstuhl fuer Biochemie der Pflanzen**  
Hindenburgplatz 55  
4400  
Muenster  
☎ +49 251 83-4790

**Photosynthetic active cell cultures. 4. Studies in the replication and pathogenicity of viroids**  
Photosynthetisch aktive Zellkulturen. 4. Studien zur Replikation und Pathogenitaet von Viroiden  
Muehlbach, H.-P.  
Biochemistry / Molecular biology / Botany / Cultivation / Cell / Vegetable / Photosynthesis / Origin / Metabolite / Secondary / Infection / Virus

**Photosynthetic active cell cultures of higher plants - Basis for establishment and application possibilities in biochemistry, photopathology and biotechnology**  
Photosynthetisch aktive Zellkulturen hoeherer Pflanzen - Grundlagen zur Etablierung und Anwendungsmoeglichkeiten fuer Biochemie, Phytopathologie und Biotechnologie  
Barz, W. / Huesemann, W.  
Biochemistry / Biotechnology / Bioprocess engineering / Molecular biology / Cultivation / Cell / Vegetable / Photosynthesis / Biotransformation / Metabolism / Metabolite

□ **Westfaelische Wilhelms-Universitaet Muenster**  
Vorklinische und Theoretische Medizin, Institut fuer Physiologische Chemie und Pathobiochemie  
Waldeyerstr. 15  
4400  
Muenster  
☎ +49 251 83-5570 od. -5571

**Intracellular and Intercellular Recognition Systems**

Intra- und interzelluläre Erkennungssysteme  
Goertz, H.-D. / Hasilik, A. / Heckmann, K. / Koelsch, E. / Kresse, H. / Robenek, H. / Sorg, C. / Spener, F.  
Recognition / Intercellular / Intracellular / Mechanism / Molecular / Translation / Modification / Translocation / Gene / Enzymatic / Cloning / Receptor / Specific / Recycling / Activity / Transport / Fatty acid / Aliphatic / Protein / Lymphocyte / Human / Leukocyte / Macrophage / Suppression / Immune system / Tumour / Origin

**The use of cell cultures as replacement for animal experiments; partial project, Dr. Schmitz**

Der Einsatz von Zellkulturen als Ersatz von Tierversuchen; Teilprojekt Dr. Schmitz  
Schmitz, G.  
Macrophage / Human / Cultivation / In vitro / Bioactive agent / Calcification / Animal experiment / Substitution / Lipid / Metabolism / Hybridoma / Cultivation / Antibody / Monoclonal / Polyclonal / FIA

**The use of cell cultures as replacement for animal experiments; partial project Prof. Buddecke**

Der Einsatz von Zellkulturen als Ersatz von Tierversuchen; Teilprojekt Prof. Buddecke  
Buddecke, E.  
Muscle / Cell / Cultivation / Proliferation / Therapy / Inhibitor / Calcification / Animal experiment / Substitution

## DENMARK

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□ **Rigshospitalet**  
FinsenInstitutet  
Strandboulevarden 49  
2100  
København Oe  
☎ +45 1396638

**Extracellular proteolysis and tissue destruction in cancer**  
Ekstracellulær proteolyse og vævsdestruktion ved cancer  
Danoe, K. / Behrendt, N. / Ellis, V. / Hoeyer-Hansen, G. / Kristensen, P. / Lund, L. / Roenne, E. / Stacey, S.  
Hydrolysis / Extracellular / Cancer / Tissue / Degradation / Biochemistry / Immune / Histochemistry / Molecular biology / Enzyme / Diagnosis / Therapy

□ **Rigshospitalet**  
Medicinsk Afdeling TTA. Epidemifdeling M  
Tagensvej 20  
2200  
København N  
☎ +45 1386633

**Biological characterization of human cytokines and natural and synthetic cytokine agonists and antagonists**  
Molekylærbiologisk karakteristik af humane cytokiner samt naturlige og syntetiske cytokin-agonister og -antagonister  
Svenson, M. (cand.scient.) / Bendtzen, K. (professor)  
Molecular biology

□ **Rigshospitalet**  
Medicinsk Afdeling TTA. Laboratoriet for Medicinsk Allergologi  
Tagensvej 20  
2200  
København N  
☎ +45 1386633

**Molecular biology of eosinophil cationic proteins**  
Reimert, C.M. (cand.scient.)  
Molecular biology / Protein / Purification / Antibody / Production / Immunoassay / Immunology

**Biomolecular regulation of the human immunoglobulin E (IgE) synthesis**  
Biomolekylær regulering af den humane immunoglobulin E (IgE) syntese  
Poulsen, L.K. (M.sc.) / Bendtzen, K. (prof.)  
Immunoglobulin / Biosynthesis / Regulation / Antibody / Allergy / Antigen / Lymphocyte / Immune system / Immunology / Cell biology / Cellular

□ **Rigshospitalet**  
Vægstypelaboratoriet. Afsnit 7631  
Tagensvej 20  
2200  
København N  
☎ +45 1386633

**Analysis of HLA region genes by means of synthetic oligonucleotide probes**  
Analyse af HLA-regionens gener med syntetiske oligonucleotid probes  
Svejgaard, A. (overlæge) / Morling, N. (1.res.læge) / Fugger, L. (lic.stud.) / Ryde, L.P. (cand.scient.)  
Immune system / Gene / Oligonucleotide / Probes / Immunology / Genetics

□ **Danmarks Fiskeri- og Havundersøgelser**  
Charlottenlund Slot  
2920  
Charlottenlund  
☎ +45 1628550

**Quantification of growth and digestive capacity in marine fish larvae by means of advanced biochemical technology**  
Kvantificering af marine fiskelarvers vækst og fordøjelseskapacitet ved hensyn til avanceret biokemisk teknologi  
Hedegaard Pedersen, B. (lic. scient.) / Olesen Larsen, L. (lektor) / Korsgaard, B. (lektor) / Boerresen, T. (lektor) / Bratholm, P. (cand.scient.)  
Fish / Marine / Growth / Analysis / Biochemistry / Development / Metabolism / Physiology / Agriculture

□ **Danisco Bioteknologi a/s**  
Plantecelleafdeling  
Fabriksparken 58  
2600  
Glostrup  
☎ +45 2452266

**Production of berry flavour by plant tissue cultures**  
Produktion af baeraroma i plantecellekulturer  
Flenoe, B. (afd.chef) / Enevoldsen, K. (lic.stud.) / Ahrenkiel, F. (afd.chef) / Plum, I. (cand.scient.) / Rye, C. (cand.scient.)  
Vegetable / Tissue / Cultivation / Biosynthesis / Flavour / In vitro / Botany / Biochemistry

□ **ALK Laboratorierne**  
Forskningsafdelingen RnD  
Boege Alle 10-12  
2970  
Høersholm  
☎ +45 2767777

**The allergen specific B-cell response in mite allergic patients during immunotherapy**  
Kortlægning af det allergenspecifikke B-celler respons hos mideallergikere under hyposensibilisering  
Sparholt, S. (vid.ass.) / Mulvad, N. (lab)  
Immune system / Allergy / Immunotherapy / Antigen / Immunology

□ **Chr Hansens Laboratorium**  
Genetisk Afdeling  
Boege Alle 10-12  
2970  
Høersholm  
☎ +45 2767676

**DNA replication of phage P1**  
Fagen P1's DNA replikation  
Bech Hansen, E. (afd.leder) / Hald Andersen, B. (stud.lic) / Svendsen, T. (stud.scient.)  
DNA / Replication / Bacteriophage / Regulation / Microbiology / Molecular genetics

□ **Vandkvalitetsinstitutet**  
Sektion for Mikrobiologi og Bioteknologi  
Ager Alle 11  
2970  
Høersholm  
☎ +45 2865211

**Methods of detection and ecological testing - aquatic systems**  
Analysemetoder og økologiske testsystemer - akvatisk miljø  
Laake, M. (section leader) / Kandel, A. (graduate student) / Prahm, M.B. (technician) / Rasmussen, O.F. (senior scientist, GSP)  
Aquatic / Environment / Gene / Transfer / Plasmid / Recombination / Microbiology / Genetics / Safety research / Growth / Ecology

**Horizontal gene transfer in the environment**  
Genoverførsel i miljøet  
Laake, M. (section leader) / Simonsen, L. (graduate student) / Levin, B.R. (professor, UM)  
Gene / Transfer / Plasmid / Risk assessment / Pseudomonas / Aquatic / Environment / Genetics / Microbiology / Safety research

□ **Københavns Forskerby, Symbion**  
Thrombosis Group  
Haraldsgade 68  
2100  
København Oe  
☎ +45 1270120

**Intracellular calcium homeostasis and cell function ; Mechanistic studies with the novel molecular probe, thapsigargin**  
Intracellulær calcium homeostase og cellefunktion ; Mekaniske studier med den nye molekylære probe, thapsigargin  
Thastrup, O (lab.leder) / Nielsen, M.D. (kandidatstip.) / Moerch, M.M. (scholarstip.) / Christensen, S.B. (lektor) / Christensen, G.H. (laborant)  
Calcium / Concentration / Stable / Intracellular / Molecular / Probe / CELL BIOLOGY / Molecular biology

□ **Bioteknisk Institut**  
Afdeling for Foderstofteknologi  
Holbergsvej 10  
6000  
Høersholm  
☎ +45 5520433

**Immunological characterization of mycotoxins in nutritives**  
Immunologisk karakterisering af mycotoxiner i levnedsmidler  
Jensen, T. (cand.scient.) / Hansen, A.M. (akad.ing.) / Fisker, H. (akad.ing.)  
Immune / Analysis / Mycotoxin / Nutrition / Antibody / Polyclonal / Monoclonal / Food technology / Nutritional branch

□ **Fiskeriministeriets Forsøgslaboratorium**  
c/o Danmarks Tekniske Højskole,  
Bygning 221  
2800  
Lyngby  
☎ +45 2884066

**Biopreservation of fish and fish products**  
Biokonservering af fisk og fiskevarer  
Huss, H.H. (Dr.med.vet.) / Wolstrup, J. (lektor) / From, V. (stud.lic.)  
Fish / Preservation / Biological / Bacterium / Marine / Selection / Food technology / Microbiology / Nutritional branch



- Fish oil**  
Fiskeolie  
Farstrup, K. (projektleder) / Adler-Nissen, J. / Larsen, S. / Andersen, L.K.  
Fish / Oil / Fatty acid / Upstream processing / Enzymatic / Preservation / Nutritional branch / Food technology
- Biotechnological processes in the fish meal industry**  
Biotechnologiske processer i fiskemelsindustrien  
Jensen, N.C. (projektleder) / Kristjansson, M. (Ph.D.) / Poulsen, B. (stud.lic.tech.) / Reimers, K. (laborant)  
Fish / Nutritional branch / Protein / Feed / Aquaculture / Production / Bioactive agent / Bioprocess engineering
- In vitro microsomal assay for the investigation of impacts of lipid oxidation on nutrition**  
In vitro mikrosomassay til undersøgelse af ernæringsmæssige konsekvenser af levendensmidlers lipidoxidation  
Boerresen, T. (dr. ing.) / Hoelmer, G. (civ.ing.)  
Microsome / Assay / Lipid / Oxidation / Nutrition / Physiology / Biochemistry / Food chemistry
- Gensplejningsgruppen**  
c/o Danmarks Tekniske Højskole,  
Bygning 227  
2800  
Lyngby  
☎ +45 2876699
- Virulence factors of *Listeria monocytogenes***  
Identifikation af virulensfaktorer hos *Listeria monocytogenes*  
Rasmussen, O.F. (lic.agro.) / Olsen, J.E. (adjunkt) / Christensen, G. (laborant)  
Corynebacteriaceae / Gene / Virulent / Transposon / Mutation / Origin / Sequence / Expression / Microbiology / Genetics
- Population genetic analysis of fish stocks by RFLP analysis using mitochondrial and genomic probes**  
Populationsgenetisk analyse af fiskebestande ved RFLP analyse ved brug af mitochondrielle og genomiske prober  
Persson, B. (stipendiat) / Christiansen, C. (dr.med.)  
Fish / Population genetics / Probe / Mitochondrion / Genome / Restriction / Polymorphism / Molecular genetics
- Host/vector interaction analysis of the activity mechanisms of the hok-protein**  
Vaert/vektor interaktion analyse af hok-proteinets virkningsmekanisme  
Andersson, P. / Molin, S. (professor)  
Host / Vector / Interaction / Stable / Molecular biology
- Forskningscenter Risø**  
Landbrugsafdelingen  
Roskilde  
☎ +45 2371212
- Molecular analysis and cloning of peroxidases from barley**  
Peroxidase fra byg  
Rasmussen, S.K. (cand.polyt.)  
Cloning / Molecular / Analysis / Peroxidase / Dicotyledon / Molecular genetics
- Molecular analysis of barley powdery mildew**  
Giese, H. (videnskabelig ass.) / Berenstein, D. (videnskabelig ass.) / Rossen, L. (videnskabelig ass.) / Rasmussen, S.K. (stud.lic.)  
Dicotyledon / Disease / Molecular / Analysis / Molecular biology / Botany / Agriculture
- Chitinase activity in barley and rape seed**  
Giese, H. (videnskabelig ass.) / Kragh, K.M. (stud.lic.) / Rasmussen, U. (stud.lic.)  
Chitinase / Activity / Dicotyledon / Enzymology / Botany / Agriculture
- Analysis of molecular embryo markers by means of monoclonal antibodies**  
Schou, O. (forskningsstipendiat) / Koeie, B. (videnskabelig assistent) / Pedersen, L.H. (specialestuderende)  
Molecular / Marker / Embryo / Monoclonal / Antibody / Biochemistry
- Induction of embryogenesis in cell cultures of barley**  
Induktion af embryogenese i cellekulturer af byg  
Bagger Joergensen, R. (videnskabl.medarb.) / Koloed Petersen, K. (videnskabel.medarb.) / Nielsen, K.A. (lic.stud.)  
Embryo / Origin / Cell / Vegetable / Cultivation / Dicotyledon / CELL BIOLOGY / Botany
- Statens Hysdyrbrugsforsøeg**  
Forsøegsanlaeg Foulum.  
Biotechnologigruppen  
Tjele  
☎ +45 6652500
- Regulation of expression of the genes of somatotropin and functionally related peptides**  
Regulering af peptidhormongeneres ekspresion  
Sejrsen, K. (ph.d., vid.ass.) / Agergaard, N. (dr.med.vet., forsoegsled.) / Nielsen, V. (lic.scient., vid.ass.) / Tang Soerensen, M. (lic.agro., vid.ass.) / Purup, S. (cand.scient., vid.ass.) / Larsen, N.J. (cand.scient., vid.ass.)  
Expression / Gene / Growth / Hormone / Genetics
- Statens Hysdyrbrugsforsøeg**  
Forsøegsanlaeg Foulum. Afdelingen for Dyrfysiologi og Biokemi  
Tjele  
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- Monoclonal antibodies against animal red cell and MHC antigens**  
Monoklonale antistoffer imod blod- og vævstypeantigener hos dyr  
Larsen, B. (forsøegsled.) / Skou Hoenberg, L. (vid.ass.)  
Monoclonal / Antibody / Erythrocyte / Antigen / Hybridoma / Production / Immunology
- Statens Hysdyrbrugsforsøeg**  
Forsøegsanlaeg Foulum. Afdelingen for Forsoeg med Svin og Fjerkrae  
Oerum-Soenderlyng  
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- Influence of major histocompatibility complex in pigs and poultry on immune response, disease resistance and production**  
Major histocompatibility complexets betydning for immunsvaer, sygdomsresistens og produktion hos svin og fjerkrae  
Kruse, P.E. (lic.agro., vis.ass.) / Arnull, M. (cand.scient., vid.ass.) / Coenen, G.J. (cand.agro, M.sc., vid.ass.) / Johansen, Aa.B. (cand.scient., vid.ass.) / Soerensen, P. (dr.agro., forsoegsleder)  
Immune system / Infection / Pig / Bird / Resistance / Lymphocyte / Antibody / Production / Antigen / Immunology / Veterinary medicine / Agriculture
- Forsoegsdambruget Broens**  
Moellevej 7  
6780  
Skaerbaek  
☎ +45 4753234
- Major histocompatibility complex in rainbow trout, identification of genes and determination of their roles in disease resistance and development of infection resistant strains**  
Vævstyper hos regnbueørred, identifikation af baade gener og genprodukter og bestemmelse af vævstypernes rolle i sygdomsresistens og fremav af infektionsresistente stammer  
Hoerlyck, V. (dambrugskonsulent) / Kaastrup, P. (stipendiat) / Mohr, A. (tap) / Pedersen, B. (tap)  
Fish / Immune system / Infection / Resistance / Virus / Immunology / Veterinary medicine / Agriculture / Genetics / Immune / Antiserum / Antibody
- Statens Mejeriforsøeg**  
Biologisk Afdeling  
Roskildevej 56  
Hillerød  
☎ +45 2262525
- The genetics of bifidobacterium for use in milk products**  
Genetikken af slægten bifidobacterium med henblik paa anvendelse i mælkprodukter  
Jensen, H. (afdelingsleder) / Busk, H. (vid.medarb.)  
Protease / Gene / Transfer / Genetic / Engineering / Cloning / Actinomycetaceae / Milk / Molecular genetics / Microbiology / Nutritional branch
- Levnedsmiddelstyrelsen**  
Centrallaboratoriet Afdeling A  
Moerkhoej Bygade 19  
2860  
Soeborg  
☎ +45 1696600
- Methods of detection and ecological testing ; Terrestrial systems**  
Analysemetoder og oekologiske testsystemer ; Terrestrisk miljø  
Pedersen, J.C. (senior.scient.) / Suhr Jacobsen, C. (graduate.stud.) / Nielsen, H. (tekn.) / Rasmussen, O.F. (senior.scient.)  
Gene / Transfer / Plasmid / Growth / Ecology / Environment / Microorganism / Test / Ecological / Recombination / Vector / Microbiology / Safety research
- Statens Planteavlforsoeg**  
Plantevaernscenteret  
Lottenborvej 2  
Lyngby  
☎ +45 2872510
- Establishment of virus resistance in plants by genetic transformation**  
Etablering af virus-resistens ved genetisk transformation  
Heide, M. (projektleder) / Borkhardt, B. / Johansen, E. / Albrechtsen, M. / Brunsted, J. (DDS) / Henningsen, K.W. (DDS) / Hoff, T. (KVL) / Guldager Petersen, S. (KVL)  
Plant / Virus / Resistance / Genetic / Transformation / Transgenic / Gene / Cloning / Gene technology / Microbiology / Agricultural sciences
- Diagnostic methods for detection of plant pathogenic microorganisms**  
Diagnostiske metoder til paavinsning af plantesygdomme  
Heide, M. (projektleder) / Borkhardt, B. / Johansen, E. / Albrechtsen, M.  
Pathogenic / Microorganism / Plant / Microbiology / Agricultural sciences

□ **Statens Seruminstitut**  
Det Centrale Hybridomlaboratorium  
Amager Boulevard 80  
København Ø  
☎ +45 1952817

**The role of the humoral complement system for disease resistance in the rainbow trout**  
Det humorale komplementsystem hos regnbueørrød og dets betydning for sygdomsresistens

Koch, C. (afdelingsleder) / Bjerring Jensen, L. (stipendiat) / Kjalke, M. (stud. scient.)  
Fish / Immune system / Infection / Resistance / Immunology / Virus / Veterinary medicine / Agriculture

□ **Statens Seruminstitut**  
Mycoplasmalaboratoriet. Neisseria Afdeling  
Amager Boulevard 80  
København S  
☎ +45 1952817

**Development of new diagnostic methods for detecting Mycoplasma pneumoniae infections by characterization and production of Mycoplasma pneumoniae antigens**

Udvikling af nye diagnostiske metoder til paavising af Mycoplasma pneumoniae infektion ved karakterisering og fremstilling af Mycoplasma pneumoniae antigener  
Soendergaard-Andersen, J. (cand. scient.) / Lind, K. (overlaeje) / Koch, C. (overlaeje)  
Diagnosis / Mycoplasma / Antigen / Infection / Immunology

□ **Statens Seruminstitut**  
Treponematoaseafdelingen  
Amager Boulevard 80  
København S  
☎ +45 1952817

**Structure and function of the human gastrin gene**

Vuust, J. (overlaeje) / Bundgaard, J. (kandidatstipendiat) / Kallesøe, T. (laborant)  
Human / Gene / Structure / Polypeptide / Hormone / Cloning / Expression / Molecular genetics

**Structure of some genes from Plasmodium falciparum and their products**

Vuust, J. (overlaeje) / Dziegiel, M. (reservelaeje) / Borre, M. (stipendiat) / Rosenstadt, I. (laborant) / Dannemann, T. (laboratorietekniker)  
Malaria / Parasite / Genome / Gene / Sequencing / Antigen / Structure / Therapy / Prophylaxis / Diagnosis / Molecular genetics / Microbiology

**Borrelia burgdorferi antigens used in serodiagnosis of Lyme-borreliosis**

Borrelia burgdorferi antigeners anvendelse til serodiagnostik af Lyme-Borrelia  
Hansen, K. (laeje, stipendiat) / Strandberg Pedersen, N. (overlaeje) / Hindersson, P. (laeje, stipendiat)  
Assay / Diagnosis / DNA / Cloning / Microorganism / Infection / Expression / Antigen / Gene / Molecular genetics / Immunology

**Treponema pallidum antigens used in serodiagnosis of syphilis**

Pallesen, L. (lic.stip.) / Strandberg Pedersen, N. (overlaeje) / Hindersson, P. (laeje stipendiat) / Vuust, J. (overlaeje)  
Assay / Diagnosis / Infection / DNA / Cloning / Expression / Antigen / Gene / Molecular genetics / Immunology / Microorganism

□ **Statens Seruminstitut**  
Treponematoaseafdelingen. Laboratorium for Molekylær Biologi  
Amager Boulevard 80  
København S  
☎ +45 1952817

**Structure and function of the human genes for ubiquitin**

Vuust, J. (overlaeje) / Cowland, J. (kandidatstipendiat) / Storai, B. (laboratorietekniker) / Andersen, P. (laborant)  
Gene / Structure / Human / Cloning / Protein / Expression / Plasmid / Vector / Molecular genetics

□ **Statens Seruminstitut**  
Vaccineafdelingen  
Amager Boulevard 80  
København S  
☎ +45 1952817

**Characterization of the cellular immuneresponse to pertussis vaccination**

Karakterisering af det cellulaere immunrespons ved pertussis vaccination  
Westphal Petersen, J. (forskningsstipendiat)  
Immune system / Cellular / Immunology / Vaccine

□ **Statens Veterinære Institut for Virusforskning**  
Kemisk Afdeling  
Lindholt  
4771  
Kalvehave  
☎ +45 3814523

**Bovine viral diarrhoea virus. Characterization of immunogenic peptides for potential use as vaccines ; Further characterization of the immunological adjuvant Quil A**

Bovin virus diarrhoea virus. Karakterisering af immunogene peptiders anvendelse som vaccinegrundlag ; Yderligere karakterisering af den immunologiske adjuvant Quil A  
Dalsgaard, K. (Dr.pharm.) / Siig Christensen, L. (cand.polyt.) / Kamstrup, S. (cand.polyt.) / Roensholt, L. (lic.med.vet.)  
Virus / Polypeptide / Vaccine / Immune / Biochemistry / Sequencing / Viral / Genome

□ **Statens Veterinære Serumlaboratorium**  
Hangøvej 2  
8200  
Aarhus N  
☎ +45 6167900

**Development of biotechnological methods for prevention of viral haemorrhagic septicaemia of rainbow trout**

Udvikling af bioteknologiske metoder til forebyggelse af regnbueørrødens virusseptikæmi  
Joergensen, P.E.V. (forsoegsleder) / Olesen, N.J. (videns. assistent) / Lorenzen, N. (stipendiat) / Etzerodt, M. (stipendiat)  
Fish / Vaccine / Virus / Protein / Monoclonal / Antibody / rDNA / Probes / Diagnosis / Immunology / Agriculture / Genetics / Veterinary medicine

□ **Statens Veterinære Serumlaboratorium**  
Buelovsvej 27  
1503  
København V  
☎ +45 1354544

**Atrophic rhinitis in pigs caused by Pasteurella multocida**

Nysesygge hos svin fremkaldt af Pasteurella multocida  
Pedersen, K.B. (dir.) / Lyng Frandsen, P. (vid.ass.) / Taekker Foged, N. (vid.ass.)  
Disease / Pig / Bacterium / Biochemistry / Immune / Gene technology / Vaccine / Diagnosis / Prophylaxis / Veterinary medicine

**Characterization of the biotype of bovine viral diarrhoea virus by the hybridoma technique**

Karakterisering af bovin virusdiarrhoe virus biotypen ved hybridom teknikken  
Qvist, P. (vid.ass.)  
Virus / Hybridoma / Viral / Antigen / Monoclonal / Antibody / Microbiology

□ **Carlsberg Laboratorium**  
Fysiologisk Afdeling  
Gamle Carlsberg Vej 10  
2500  
Valby  
☎ +45 1221022

**Genetic transformation of barley**

Genetisk transformation af byg  
Wettstein, D. von (prof.) / Holm, P.B. (dr.scient.) / Knudsen, S. (lic.stud.) / Lok Olsen, F. (lic.stud.)  
Transformation / Genetic / Dicotyledon / Gene / Injection / DNA / Molecular genetics

**Storage proteins in barley**

Lagerproteiner i byg  
Wettstein, D. von (prof.) / Madrid, S. (stud.lic.) / Entwistle, J. (stud.lic.) / Brandt, A. (lic.scient.) / Cameron-Mills, V. (Ph.D.)  
Gene / Dicotyledon / Protein / Storage / Biosynthesis / Expression / Molecular genetics

**Studies of mutants in the synthesis of proanthocyanidins in barley**

Studier af mutanter i syntesen af proanthocyanidiner i byg  
von Wettstein, D. (professor) / Kristiansen, K.N. (stud.lic.) / Jende-Strid, B. (stud.lic.) / Melgaard, M. (stud.lic.)  
Gene / Regulation / Mutation / Monocotyledon / Molecular genetics

□ **Carlsberg Laboratorium**  
Gaergenitisk Afdeling  
Gamle Carlsbergvej 10  
2500  
Valby  
☎ +45 1221022

**Overproduction of carboxypeptidase Y**

Hojeekspression af gaerger, carboxypeptidase Y  
Kielland-Brandt, M.C. (professor) / Holmberg, S. (lektor) / Nilsson-Tillgren, T. (lektor) / Piskur, J. (ph.d.) / Bank, G. (laborant)  
Peptidase / Gene / Expression / Transport / Microbiology / Molecular biology

□ **Aarhus Universitet**  
Biofysik Institut  
Ole Worms Alle 185  
8000  
Aarhus C  
☎ +45 6129588

**Structure and reaction mechanism of the Na,K-Pump**

Na,K-pumpens struktur og reaktionsmekanisme  
Skou, J.C. (professor) / Cornelius, F. (lektor) / Esmann, M. (lektor) / Klodos, I. (lektor) / Noerby, J.G. (lektor) / Plesner, L. (lektor)  
Potassium / Transport / ATP / Hydrolase / Structure / Kinetics / Energy / Transformation / Ion / Molecular biology / Biophysics

**Membrane transport and function in peripheral resistance vessels**

Membrantransport og funktion i perifere modstandskar

Mulvany, H.J. (lektor) / Aalkjaer, C. (adjunkt) / Nielsen, H. (kand.stip.)

Membrane biology / Transport / Vessels / Resistance / In vitro / Medicine / Biophysics

**Aarhus Universitet**

Fysiologisk Institut. Neurofysiologisk Afdeling

Bygning 160, Universitetsparken 8000

Aarhus

☎ +45 6129955

**Cell membrane receptors for proteinases (thrombin, urokinase) and proteinase inhibitors (ALPHA2-macroglobin, pregnancy zone protein)**

Cellemembran receptorer for proteinaser (thrombin, urokinase) og proteinase inhibitorer (ALPHA2-macroglobulin, pregnancy zone protein)

Gliemann, J. (professor) / Sonne, O. (lektor)

Protease / Urokinase / Inhibitor / Receptor / Molecular / Structure / Kinetics

**Structure and molecular mechanism for Na,K and Ca transport proteins using molecular biology and recombinant gene technology ; Mechanisms for regulation of active Na,K and Ca transport in kidney and muscle**

Struktur og molekylær mekanisme for Na,K og Ca transport proteiner ; Mekanismer bag regulering af aktiv Na, K og Ca transport i nyre og muskler

Leth Joergensen, P. (lektor) / Andersen, J.P. (adjunkt) / Vilsen, B. (adjunkt)

Potassium / Calcium / Transport / Protein / Structure / Molecular biology / Gene technology / Recombination / Kidney / Muscle / Ion / rDNA / Gene / Molecular / Mechanism / Molecular genetics / Expression

**Studies on transport ATPases by ligand interactions and immuno-techniques**

Undersøgelser over transport-ATPaser ved ligandinteraktioner og ved immunoteknikker

Hansen, O. (lektor) / Brogren, H. (adjunkt) / Jensen, J. (afd.leder)

Transport / ATP / Hydrolase / Biochemistry / Immune / Chemistry

**The structure and function of the sodium and the calcium pump evaluated from ligand binding studies and radiation inactivation**

Na,K-pumpens og Ca-pumpens struktur og funktion belyst ved ligandbindingsstudier og radiationsinaktivering

Noerby, J.G. (afdelingsleder) / Jensen, J. (afdelingsleder)

Calcium / Transport / ATP / Hydrolase / Molecular biology / Physiology / Ion

**Regulation of cation transport in skeletal muscle and its significance for energy metabolism and contractile function**

Regulation af kationtransport i muskelvæv og dens betydning for energiomsætning og funktion

Clausen, T. (professor) / Hansen, O. (lektor) / Kjeldsen, K. (reservelæge) / Everts, M.E. (seniorstipendiat) / Doerup, I. (kandidatstipendiat)

Calcium / Potassium / Transport / Muscle / Energy / Metabolism / Physiology / Diagnosis / Disease / Ion

**Electrophysiological studies of nerve cells in brain slices and tissue culture**

Elektrofysiologiske undersøgelser af nerveceller i hjemmesnit og vævskultur

Lambert, J.D.C. (lektor) / Skovgaard Jensen, M. (forsk.ass.) / Nathan, T. (stud.med.) / Andreasen, M. (stud.med.)

Brain / Neuron / Cultivation / Receptor / Amino acid / Activity / Neurology

**Aarhus Universitet**

Institut for Genetik og Oekologi

Ny Munkegade

8000

Aarhus C

☎ +45 6127188

**Oxygen dynamics, denitrification and transport processes in biofilms**

Ildynamik, denitrifikation, og stoftransport i biofilm

Joergensen, B.B. (forskningsprofessor) / Revsbech, N.P. (lektor) / Dalsgaard, T. (stipendiat) / Kuehl, M. (stipendiat) / Thomsen, E. (laborant)

Artificial / Membrane biology / Oxygen / Dynamics / Denitrification / Transport / Process / Sulphate / Reduction / Methane / Origin / Sensor / Electrode / Physical chemistry / Biochemistry

**Aarhus Universitet**

Kemisk Institut, Afdeling for Biostrukturkemi

Bygning 510, Langelandsgade 140 8000

Aarhus C

☎ +45 6124633

**Protein engineering of G-binding proteins**

Protein engineering af G-bindende proteiner

Clark, B.F.C. (professor) / la Cour, T. (lektor) / Nyborg, J. (lektor) / Petersen, H.U. (lektor)

Protein design / Biochemistry / Organic chemistry / Crystallization / Membrane biology / Protein

**Aarhus Universitet**

Institut for Medicinsk Mikrobiologi Bartholin in Bygningen

8000

Aarhus C

☎ +45 6139711

**Diagnostics of microorganisms by DNA probes**

Diagnostik af mikroorganismer ved hjælp af DNA prober

Christiansen, G. (lektor) / Klemm, P. (lektor)

DNA / Probes / Diagnosis / Microorganism / Bacteriology

**Analysis of the antigen variability of mycoplasma and chlamydia to illustrate issues of importance for production of vaccine from microorganism subcomponents or recombinant products.**

Analyse af mycoplasma og chlamydiers antigen variabilitet med henblik på belysning af forhold af betydning for fremstilling af vaccine ud fra mikroorganisme subkomponenter el.

gensplejnings produkter

Christiansen, G. (lektor, dr.med.) / Lundemose, A. (centerstipendiat, cand.med.) / Birkelund, S. (seniorstipendiat, cand.med.)

Vaccine / Production / Antigen / Mycoplasma / Expression / Microbiology / Gene technology

**Aarhus Universitet**

Institut for Medicinsk Biokemi Bygning 170, Universitetsparken

8000

Aarhus C

☎ +45 6129399

**Human protein database for the study of cancer and other diseases**

Celis, J.E. (professor) / Kwee, S. (lektor) / Madsen, P. (seniorstipendiat) / Gesser, B. (cand.scient. stipendiat) / Rasmussen, H.H. (Cand.scient. stipendiat) / Mueller, O. (stipendiat) / Crueger, D. (stud.med. stipendiat) / Nielsen, H.V. (stud.med. stipendiat)

Data base / Protein / Human / Disease / Research / Biochemistry / Informatics

**Aarhus Universitet**

Institut for Medicinsk Cellebiologi, De

Anatomiske Institutter

Bygning 230, Universitetsparken

8000

Aarhus C

☎ +45 6128333

**Functional ultrastructure of cell membranes and transport proteins analyzed by electron microscopy and computerized image analysis**

Cellemembranens og dens transportproteiners funktionelle ultrastruktur analyseret ved elektronmikroskopi og EDB-baseret billedanalyse

Maunsbach, A.B. (professor) / Skriver, E. (lektor) / Hebert, H. (docent, KI)

Fine structure / Transport / Protein / Electron microscope / Image analysis / Cell / ATP / Hydrolase / Cell biology / Molecular biology / Computer

**Membrane binding, endocytosis and intracellular transport of macromolecules**

Membranbinding, endocytose og intracellulær transport af makromolekyler

Ilsoe Christensen, E. (lektor) / Kidney / Protein / Peptide / Hormone / Transport / Physiology / Cell biology

**Aarhus Universitet**

Institut for Molekylær Biologi og Plantefysiologi

C F Moellers Alle 130

DK-8000

Aarhus C

☎ +45 6125177

**Induction of specific proteins by interferons**

Interferon induktion af dannelsen af specifikke proteiner

Justesen, J. (lektor) / Kjeldgaard, N.O. (professor)

Induction / Protein / Interferon / Molecular biology

**Transcriptional control and tissue specificity of murine retroviruses**

Kontrolmekanismer og vævsspecificitet i retrovira fra mus

Skou Pedersen, F. (lektor, lic.scient.) / Joergensen, P. (lektor, lic.scient.) / Kjeldgaard, N.O. (professor, Dr.phil.)

Retrovirus / Oncogenic / Nucleotide / Sequence / Transcription / Regulation / Vector / Molecular genetics / Microbiology

**Regulation of nodule-specific plant genes**

Regulation af knoldspecifikke plantegener

Marcker, K.A. (professor) / Poulsen, C. (lektor) / Oestergaard Jensen, E. (adjunkt) / Stougaard Jensen, J. (videnskabelig medarbejder)

Gene / Vegetable / Structure / Expression / Molecular genetics

**Transformation and regeneration of soybean, pea and rape from cell cultures**

Transformation og regeneration af soya, aert og raps planter fra celle kulturer

Wyndaele, R. (lektor) / Rasmussen, O. (lektor) / Truelsen, T. (lektor) / Xue Zhongtien (post-doc) / Christiansen, J. (lic.stud.) / Damgaard, O. / Borup, B. (spec.stud.) / Rasmussen, J. / Madsen, M. (spec.stud.)

Vegetable / Cell / Cultivation / Regeneration / Soybean / Gene / Transfer / Expression / Transformation / Differentiation / Botany / Cell biology / Molecular genetics / Agriculture

**Aarhus Universitet**

Neurobiologisk Institut Universitetsparken

8000

Aarhus C

☎ +45 6128066

**Neuronal degeneration and regeneration studied by organotypic tissue culture and neural transplantation**

Neuronal degeneration og regeneration undersøgt ved organotypisk vævskultur og nerveaævetransplantation  
Zimmer, J. (lektor) / Soerensen, T. (adjunkt) / Finsen, B. (kandidatstipendiat)  
Neurology / Nervous system / Degeneration / Regeneration / Neurobiology / Tissue / Cultivation / Transplantation / Growth / Bioactive agent

□ **Danmarks Farmaceutiske Højskole**  
Bilologisk Institut  
Universitetsparken 2  
2100  
København Oe  
☎ +45 1370850

**The route of infection of retrovirus**

Infektionsvejen for retrovirus  
Bahl Andersen, K. (lektor) / Rasmussen, K. (laborant)  
Retrovirus / Infection / Viral / Surface / Protein / Cell / Fusion / Protease / Transfection / Microbiology / Molecular biology / Virology

□ **Danmarks Farmaceutiske Højskole**  
Biokemisk Laboratorium  
Universitetsparken 2  
2100  
København Oe  
☎ +45 1370850

**Transmembrane signaltransduction and the formation of phospholipid-derived second messengers**

Membranreceptor-medieret signaltransduction med henblik paa dannelse af phospholipid-afledte second messengers  
Hansen, H.S. (lektor) / Jensen, B. (lektor) / Nielsen, J.R. (stipendiat) / Linnebjerg, H. (stipendiat) / Christiansen, J. (laborant)  
Phospholipid / Derivation / Pharmacology / Intracellular / Calcium / Concentration / Kinase / pH

□ **Danmarks Farmaceutiske Højskole**  
Farmakognostisk Laboratorium  
Universitetsparken 2  
2100  
København Oe  
☎ +45 1370850

**Production of plant metabolites by in vitro methods**

Produktion af komplicerede organiske stoffer ved hjælp af plantecellekulturer  
Brimer, L. (seniorstipendiat) / Nyman, U. (professor) / Smitt, U.W. (lektor) / Gudiksen, L. (lektor) / Thomsen, S. (kandidatstipendiat)  
Metabolite / Plant / Cell / Cultivation / Production / Botany / Biochemistry / Industry

□ **Danmarks Farmaceutiske Højskole**  
Kemisk Institut AD  
Universitetsparken 2  
2100  
København Oe  
☎ +45 1370850

**Design of prodrugs**

Udvikling af prodrugs  
Bundgaard, H. (professor) / Buur, A. (lektor) / Moerk, N. (adjunkt) / Drustrup Larsen, J. (kandidatstipendiat) / Moess, J. (kandidatstipendiat) / Steffansen, B. (scholarstipendiat)  
Pharmacy / Drug / Synthesis / Pharmacology / Pharmaceutical industry

□ **Danmarks Farmaceutiske Højskole**  
Kemisk Institut BC  
Universitetsparken 2  
2100  
København Oe  
☎ +45 1370850

**Neurodegenerative disorders ; Stereoselective biotransformations - applications of enzymes and chiral HPLC**

Neurodegenerative sygdomme ; Stereogenerative biotransformationer - anvendelse af enzymer og chiral HPCL  
Hansen, J.J. (lektorvikar) / Krogsgaard Larsen, P. (forsk.professor) / Nielsen, B. (stud.lic.pharm.) / Reinhardt, A. (stud.lic.pharm.) / Andersen, J.V. (stud.lic.pharm.)  
Nervous system / Degeneration / Stereospecific / Biotransformation / HPLC / Chiral / Enzyme / Receptor / Biochemistry / Neurology

**Computer graphics and X-ray crystallographic methods in drug research**

Computergrafik og roentgenkystallografiske metoder i lægemiddelforskning  
Joergensen F.S. (lektor) / Jensen, B. (lektor) / Kjoeller Larsen, I. (lektor) / Pettersson, I. / Byberg, J.R.  
Pharmacy / Drug / Research / Computer / Modelling / Molecular / Structure / Activity / Pharmaceutical industry

**Application of modern NMR methods in drug research**

Anvendelse af moderne NMR-spektroskopiske metoder i biokemisk og lægemiddelkemisk forskning  
Jaroszewski, J.W. (lektor) / Cornett, C. (adjunkt)  
Drug / Research / Pharmacy / NMR / Pharmaceutical industry

**Drug design and basic drug research in neurodegenerative diseases**

Design og udvikling af potentielle lægemidler og eksperimentelle modelstoffer inden for omraadet neurodegenerative sygdomme  
Krogsgaard-Larsen, P. (professor) / Brehm, L. (lektor) / Falch, E. (lektor) / Hansen, J.J. (lektor) / Hjeds, H. (lektor)  
Pharmacology / Neurology / Degeneration / Neuron / Brain / Metabolic disease / Drug / Engineering / Receptor / Stereospecific / Transformation / Pharmaceutical industry / Pharmacy

□ **Danmarks Farmaceutiske Højskole**  
Organisk Kemisk Institut  
Universitetsparken 2  
2100  
København Oe  
☎ +45 1370850

**Synthesis and structure activity relationships of thapsigargin analogues; tools for investigation of intracellular regulation of the cytoplasmic calcium ion concentration**

Syntese og struktur-aktivitets korrelation af analoger til thapsigargin med henblik paa fremstilling af modelstoffer til undersøgelser over den intracellulære regulation af den cytoplasmatiske calciumionconcentration  
Christensen, S.B. (lektor) / Moldt, P. (adjunkt) / Lauridsen, A. (scholarstipendiat) / Thastrup, O. (afdelingsleder) / Braad, K. (laborant)  
Cytoplasm / Calcium / Ion / Concentration / Structure / Activity / Receptor / Pharmacology / Pharmaceutical industry

□ **Danmarks Tekniske Højskole**  
Afdelingen for Biokemi og Ernæring  
Bygning 224  
2800  
Lyngby  
☎ +45 2884066

**Immunsorbent chromatography with monoclonal antibodies**

Immunsorbentchromatografi med monoklonal antistoffer  
Hejgaard, J. (lektor) / Kyhse-Andersen, J. (seniorstipendiat) / Djurtoft, R. (professor) / Froekjaer, H. (civ.ing., stud.lic.tech.) / Bonde, M. (civ.ing., stud.lic.tech.)  
Monoclonal / Antibody / Antigen / Coupling / Chromatography / Immune / Adsorption / Purification / Protein / Biochemistry

□ **Danmarks Tekniske Højskole**  
Institutet for Bioteknologi  
Bygning 221-223  
2800  
Lyngby  
☎ +45 2884066

**Aroma development from the bacterial starter cultures in fermented meat products**

Aromadannelse fra starterkulturer i fermenterede koedprodukter  
Zeuthen, P. (lektor, dyrlaege) / Olsen, A. (civ.ing., stud.lic.tech.)  
Meat / Fermentation / Aromatic substance / Starter culture / Microbiology / Food technology / Nutritional branch

**Fungal metabolites as an indicator of food quality**

Skimmelsvampemetabolitter som indikatorer for levnedsmiddelkvalitet  
Frisvad, J.C. (lektor) / Thrane, U. (post doc.) / Filtenborg, O. (assoc.prof) / Svendsen, A. (Ph.D. student)  
Food / Quality control / Fungus / Mycotoxin / Metabolite / Microbiology / Food chemistry / Nutritional branch

**Growth and mycotocin production by specific food spoilage fungi as affected by the interplay of environmental factors**

Miljøfaktorers indflydelse paa skimmelsvampes vækst og toxindannelse  
Filtenborg, O. (lektor) / Vaeggemose Nielsen, P. (stud.lic.tech.) / Aabye, H. (civ.ing.) / Kampp, J. (cand.brom)  
Growth / Mycotoxin / Production / Fungus / Food / Microbiology / Nutritional branch

**Genetically determined enzyme secretion**

Genreguleret sekretion  
Biedermann, K. (forskningsleder) / Jepsen, P.K. (civ.ing.)  
Secretion / Nuclease / Recombination / Escherichia / Microbiology / Fermentation technology

**Yeast membranes**

Interaktioner mellem gaercellemembraner og omgivelserne  
Mathiasen, T.E. (forskningsadjunkt) / Steen Thomsen, A. (lic.stud.)  
Yeast / Lipid / Fatty acid / Optimization / Fermentation / HPLC / Analysis / Microbiology / Biochemistry / Membrane biology / Industry

**Oxidoreductases for foods**

Oxidoreductaser til levnedsmidler  
Adler-Nissen, J. (professor) / Christiansen, C. (direktoer) / Meyer, A. (stud.lic.techn.)  
Oxidoreductase / Food / Fatty acid / Oil / Preservation / Antioxidant / Microbial / Production / Glucose / Catalase / Oil / Food chemistry / Genetics / Cloning / Selection / Nutritional branch

**Structured models for a biological system ;**

Lactic acid fermentation modellering  
Strukturerede modeller for et biologisk system ; Maelkesyrefermentering  
Villadsen, J. (professor) / Nikolajsen, K. (stud.lic.) / Nielsen, J. (stud.lic.)  
Automation / Lactic acid / Fermentation / Bacterium / Kinetics / Growth / Modelling / Fermentation technology / Analysis / Measurement / Industry

**Cultivation of mammalian cells in different fermenter systems**

Dyrkning af mammale celletyper i fermentorskala  
 Emborg, C. (civ.ing., lektor) / Persson, B. (cand.scient.) / Rasmussen, B. (civ.ing.)  
 Mammal / Hybridoma / Cultivation / Fermentation / Antibody / Production / Monoclonal / Continuous / Bioreactor / Fermentation technology / Industry

**Enzymatic modification of dietary fiber**

Enzymatisk modifikation af kostfibre  
 Adler-Nissen, J. (professor, dr.techn.) / Kofod, L. (civ.ing., stud.lic.tech.) / Reuss, M. (cand.scient.)  
 Enzymatic / Modification / Food / Natural fibre / Degradation / Food technology / Nutritional branch

**Fermentation in a system of coupled bioreactors**

Fermentering i et system af koblede bioreaktorer  
 Emborg, C. (lektor) / Strudsholm, K.B. (stud.lic.tech.)  
 Fermentation / Bioreactor / Temperature / Coupling / Batch / Continuous / Escherichia / Plasmid / Amplification / Gene / Expression / Optimization / Fermentation technology / Industry

 **Danmarks Tekniske Højskole**

Instituttet for Kemiteknik  
 Bygning 229  
 2800  
 Lyngby  
 ☎ +45 2883288

**Adaptive and optimizing control**

Adaptiv regulering og optimerende styring  
 Bay Joergensen, S. (prof.) / Andersen, M.Y. (civ.ing.) / Hald Pedersen, N. (civ.ing.)  
 Control / Automation / Bioprocess engineering / Adaptation / Optimization / Software / Fermentation technology / Industry

**Monitoring of ions in fermenter broths**

Ionanalyser  
 Soeberg, H. (lektor) / Moeller Pedersen, K. (stud.lic.tech.)  
 Monitoring / Ion / BIOREACTOR / Automation / Analysis / Measurement / Nitrate / Nitrite / Ammonium / Phosphate / Concentration / Fermentation / Dynamics / Fermentation technology / Industry

 **Danmarks Tekniske Højskole**

Laboratoriet for Mikrobiologi  
 Bygning 221  
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 Lyngby  
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**Chromosomal replication in bacteria**

Kromosom replikation i bakterier  
 Hansen, F.G. (lektor) / Atlung, T. (lektor) / Skovgaard, O. (adjunkt) / Ingmer, H. (Lic. stud.)  
 DNA / Replication / Grampositive / Bacterium / Microbiology / Chromosomal / Regulation

**Structure and function of the a-subunit of the proton translocating ATP synthase from Escherichia Coli**

Struktur- og funktionsanalyse af Escherichia Coli's protontranslokerende ATP syntases protonledende a-underenhed  
 Michelsen, O. (lektor) / Rudahl Jensen, P. (stipendiat)  
 ATP / Synthetase / Escherichia / Amino acid / Protein / Membrane biology / Enzymology / Microbiology

**Chromosomal replication in bacteria**

Kromosom replikation i bakterier  
 Hansen, F.G. (lektor) / Atlung, T. (lektor) / Skovgaard, O. (adjunkt)  
 Chromosome / Replication / Bacterium / Origin / Protein / DNA / Probe / Microbiology / Taxonomy / Nucleotide / Sequence

**Growth phase regulated genes in enterobacteria**

Vækstfaseregulerede gener i enterobakterier  
 Atlung, T. (lektor) / Hansen, F.G. (lektor) / Nellemann, L. (stip.) / Holm, F. (stip.)  
 Gene / Expression / Growth / Escherichia / Cloning / Sequencing / Oxygen / Concentration / Genetics / Microbiology / Industry

**Vaccine production based on fusions into a natural bacterial translocation system**

Vaccinefremstilling baseret paa fusionsprodukter af naturlige bakterielle translokations systemer  
 Klenm, P. (lektor) / Hedegaard, L. (stip.) / Amstrup Pedersen, P. (stip.)  
 Vaccine / Production / Protein / Fusion / Antigen / Translocation / Bacterial / DNA / Insertion / Microbiology / Molecular genetics / Gene technology

**Biological containment by conditional suicide system. ; Tests in vivo and in environmental models.**

Biologisk indeslutning ved konditionelt selvmordssystem. ; Afprøvning i vivo og i miljømodeller.  
 Molin, S. (professor) / Biehl, H. (stipendiat)  
 Microbiology / Environment

**Characterization of the gene expression systems for Serratia exoenzymes**

Karakterisering af genekspressionssystemerne for Serratia enzymer  
 Molin, S. (professor) / Givskov, M. (videnskabelig medarb.)  
 Gene / Expression / Exoenzyme / Molecular genetics / Vector / Enterobacteriaceae / Microbiology

**Gene regulation in gram positive organisms**

Genregulation i gram-positive organismer  
 Jacobs, M. (adjunkt)  
 Grampositive / Bacillus / Gene / Regulation / Protease / Synthesis / Transport / Microbiology / Genetics

**Analysis and cloning of a mutant in the DNA metabolism of Saccharomyces cerevisiae**

Analyse og kloning af en DNA metabolisme mutant fra Saccharomyces cerevisiae  
 Stampe Villadsen, I. (lektor) / Harming, D. (stipendiat)  
 Cloning / DNA / Metabolism / Mutation / Yeast / Gene / Blotting / Expression / Molecular genetics / Microbiology

**Mechanism of regulation by translational control in Saccharomyces cerevisiae**

Regulations mekanismer ved translations kontrol i Saccharomyces cerevisiae  
 Stampe Villadsen, I. (lektor) / Rasmussen, P. (stipendiat)  
 Yeast / Translation / Expression / Pigment / Gene / Soybean / Molecular genetics / Microbiology

**Transport of exoenzymes in Serratia spp.**

Transport af exoenzymer i Serratia spp.  
 Molin, S. (professor) / Givskov, M. (videnskab.medarb.)  
 Exoenzyme / Transport / Enterobacteriaceae / Microbiology / Protein

**Protein design: DEOR Repressor from E.coli.**

Protein design: DEOR repressor fra E.coli.  
 Hammer, K. (professor) / Mortensen, L. (cand.scient.) / Hansson, C. (stud.scient.)  
 Protein design / Escherichia / Molecular biology / Structure

 **Danmarks Tekniske Højskole**

Laboratoriet for Oekologi og Miljølaere  
 Bygning 224  
 2800  
 Lyngby  
 ☎ +45 2884066

**Genotoxicity in the aquatic environment assessed by aquatic cytogenetic assays**

Genotoksikologisk karakterisering af spildevand udledt til det akvatiske miljø  
 Wrisberg, M.N. (civ.ing., stud.lic.) / Bro-Rasmussen, F. (professor)  
 Waste water / Toxicology / Monitoring / Cytogenetics / Assay / Aquatic / Environmental sciences / Environment

 **Danmarks Tekniske Højskole**

Instituttet for Organisk Kemi  
 Bygning 201  
 2800  
 Lyngby  
 ☎ +45 2882566

**Biosynthesis of secondary metabolites in plants**

Biosyntese af sekundære metabolitter i planter  
 Rosendahl Jensen, S. (lektor) / Juhl Nielsen, B. (lektor) / Jensen, J.S. (stud.lic.) / Rickelt, L.F. (stud.lic.) / Hector, A. (laborant)  
 Biosynthesis / Secondary / Metabolite / Plant / Botany / Biochemistry

 **Koebenhavns Universitet**

Institut for Biologisk Kemi A  
 Blegdamsvej 3C  
 2200  
 København K  
 ☎ +45 1357900

**Molecular mechanisms involved in nuclear differentiation**

Engberg, J. (lektor) / Nielsen, H. (senior stip.) / Oerum, H. (kand. stip.) / Groenning, B. (stud. med.) / Piras, L. (post. doc.) / Frenzel, F. (lab. tekn.)  
 Gene / Expression / Nuclear / Differentiation / Protozoan / Microbiology / Molecular genetics

**Long-term culture of rat hepatocytes for pharmacological, toxicological and metabolic studies**

Langtidskulturer af rotte hepatocytter til anvendelse indenfor farmakologisk, toksikologisk og metabolisk forskning  
 Dich, J. (afd.leder) / Grunnet, N. (lektor) / Vind, C. (stipendiat) / Jensen, N.G. (scholarstipendiat)  
 Cell / Liver / Cultivation / Rat / Drug / Metabolism / Pharmacology / Toxicology

 **Koebenhavns Universitet**

Institut for Biologisk Kemi B  
 Soelvgade 83  
 1307  
 København K  
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**Regulation of transcription initiation in E. coli**

Regulering af transkriptionsinitiering i E. coli  
 Hammer, K. / Mygind, B. / Valentin-Hansen, P.  
 Gene / Transcription / Regulation / DNA / Sequence / RNA / Polymerase / Protein / Interaction / Molecular genetics / Microbiology / Escherichia

**Structure and function of the enzyme phosphoribosylpyrophosphate synthetase**

Struktur og funktion af enzymet fosforibosylpyrofosfat synthetase  
 Hove-Jensen, B. (lektor) / Nilsson, D. (kandidatstip.)  
 Synthetase / Structure / Escherichia / Salmonella / Bacillus / Enzymology / Microbiology / Gene / Mutation / Origin / DNA / Modification / In vitro / In vivo / Protein / Purification / Genetics

**Multivalent regulation of gene expression in E. coli**

Multivalent regulation af gen ekspression i E. coli  
 Neuhard, J. (ass.prof.) / Kilstrup, M. (Ph.D. student)  
 Gene / Expression / Escherichia / Structural analysis / Microbiology / Genetics

**Gene regulation through the linkage between transcription and translation in bacteria**  
Genregulering ved koblingen mellem transkription og translation i bakterier  
Jensen, K.F. (lektor) / Poulsen, P. (stip.) / Bonekamp, F. (stip.) / Toenne Andersen, J. (stip.) / Schack, L. (lab.)  
Gene / Expression / Escherichia / Transcription / Translation / Polymerase / Ribosome / Microbiology / Genetics

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Institut for Biologisk Kemi B.  
Enzymafdelingen  
Soelvgade 83  
1307  
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**Global control systems in E. coli ; Purine starvation**  
Globale kontrol systemer i E.coli ; Purin sult  
Nygaard, P. (lektor) / Meng, L.M. (licentiat) / Hammer, K. (lektor)  
Escherichia / Purine / Gene / Expression / Microbiology / Enzyme / Biosynthesis / Molecular genetics

**Investigation of structure-function relationships of ribosomal 23S FNR using a variety of biochemical and recombinant DNA methods**  
Undersoegelse af struktur-funktion af 23S FNR ved hjælp af forskellige biokemiske og rekombinente DNA metoder  
Garrett, R.A. (professor)  
rDNA / rRNA / Ribosome / Ribonuclease / Probe / Transferase / Molecular biology

**Koebenhavns Universitet**  
Institut for Eksperimentel Immunologi  
Noerre Alle 71  
2100  
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**Large scale production of Major Histocompatibility gene complex (MHC) molecules associated either with susceptibility, or resistance, to insulin dependent diabetes mellitus (IDDM), and examination of their peptide binding motifs**  
Buus, S. (cand.med.) / Schoeller, J. (adjunkt, cand.scient.) / Worsaae, A. (stud.lic.scient.)  
Immune system / Diabetes / Origin / Transfection / Gene / Cell / Mammal / Vector / Peptide / Antigen / Autoimmune / Molecular biology / Immunology / Molecular genetics

**Good agretopes and epitopes**  
Gode agretoper og epitoper  
Werdelin, O. (lektor) / Laub Petersen, B. (laege, lic.stud.)  
Vaccine / Immune system / Antigen / Lymphocyte / Immunology / Biochemistry

**The role of MHC molecules in T cell responses**  
Buus, S.  
Immune system / Lymphocyte / Receptor / Antigen / Peptide / Recognition / Biochemistry / Immunology / Molecular biology / Cell biology

**Major histocompatibility complex in rainbow trout ; Identification of genes and gene products, and determination of their roles in disease resistance**  
Vaevstyper hos regnbueoerred ; Identifikation af baade gener og genprodukter og bestemmelse af vaevstypernes rolle i sygdomsresistens  
Simonsen, M. (professor) / Glamann, J. (stip.) / Kaastrup, P. (stip.) / Juul-Madsen, H. (stip.) / Oestergaard Petersen, L. (stip.)  
Immune system / Fish / Polymorphism / Genetic / Gene / Isolation / Monoclonal / Antibody / Infection / Resistance / Virus / Immunology / Genetics / Veterinary medicine / Agriculture

**Koebenhavns Universitet**  
Genetisk Institut A  
Oester Farimagsgade 2A  
1353  
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**Regulation of serine and threonine catabolism in yeast**  
Regulering - katabolisk serin (threonin) deaminase i gaer  
Holmberg, S. (lektor) / Kielland-Brandt, M.C. (prof.) / Bornaes, C. (stud.lic.scient.) / Nilsson-Tillgren, T. (lektor)  
Yeast / Gene / Serine / Threonine / Degradation / Cloning / Sequencing / Expression / DNA / Molecular genetics / Microbiology

**Basal level transcription of ILV1 in saccharomyces cerevisiae**  
Transkription-initiering, anabolisk threonin deaminase i gaer  
Holmberg, S. (lektor) / Kielland-Brandt, M.C. (prof.) / Remarclé, J. (M.sc.) / Nilsson-Tillgren, T. (lektor)  
Yeast / Gene / Transcription / Regulation / Cloning / Sequencing / Molecular genetics / Microbiology / Amino acid / Biosynthesis / mRNA

**Proteins involved in conjugation of fission yeast**  
Konjugationsproteiner i spaltegaer  
Egel, R. (prof.) / Weilguny, D. (stip.)  
Yeast / Gene / Cloning / Expression / Protein / Microbiology / Genetics

**Yeast recombination mechanisms**  
Rekombinationsmekanismer i gaer  
Nilsson-Tillgren, T. (lektor) / Holmberg, S. (lektor) / Kielland-Brandt, M.C. (professor) / Nielsen, T.L. (stud.lic.scient.) / Hansen, J.V. (laborant)  
Yeast / Recombination / Chromosome / Genetics / Microbiology

**Mating-type switching in fission yeast ; Characterization of the initiating doublestrand cut**  
Parringstypeskift i spaltegaer ; Karakterisering af det indledende dobbeltstrengsbrud  
Egel, R. (professor) / Nielsen, O. (stipendiat)  
Yeast / Sequencing / DNA / Molecular genetics / Microbiology

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**Protein chemistry and physiology of aspartic proteases and plant peroxidases**  
Welinder, K.G. (lektor) / Foltmann, B. (professor)  
Protease / Peroxidase / Vegetable / Fungus / Enzymology / Protein / Biochemistry

**Koebenhavns Universitet**  
Mikrobiologisk Institut  
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Koebenhavn K  
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**Epidermal growth factor receptor and tumorigenesis**  
Epidermal vaekstfaktor receptor og tumorforekomst  
Beguinot, L. (adjunkt) / Helin, K. / Moroni, C.  
Cancer / Origin / Receptor / Growth / Bioactive agent / Gene / Oncogenic / Biochemistry / Molecular biology / Oncology

**Mutational analysis of the transforming gene from Harvey sarcoma virus**  
Mutationsanalyse af det transformerende gen fra Harvey sarkom virus  
Willumsen, B.M. (lektor)  
Gene / Transformation / Oncogenic / Viral / Mutation / Protein / Analysis / Biochemistry / Molecular genetics / Microbiology

**Molecular biology of extracellular proteolysis and metastasis**  
Molekylaerbiologisk analyse af extracellulaer proteolyse og matastasering  
Blasi, F. (professor) / Johnsen, M. / Riccio, A. / Jensen, A.L. / Pedersen, N. / Cubellis, V.  
Molecular biology / Extracellular / Hydrolysis / Urokinase / Cancer / Gene / Regulation / Malignant / Oncology

**Characterization of the translation process**  
Karakterisering af translationsprocessen  
Pedersen, S. (lektor) / Askvad Soerensen, M. (stip.) / Dolberg Rasmussen, M. (stip.)  
Gene / Translation / Regulation / mRNA / Escherichia / Genetics / Microbiology

**Mechanism for mRNA degradation**  
Mekanismen for mRNA nedbrydning  
Pedersen, S. (lektor) / Petersen, C. (seniorstip.)  
mRNA / Degradation / Escherichia / Gene / Sequence / Stable / Translation / Transcription / Microbiology / Genetics

**Minichromosomes, replication and segregation control**  
Kontrol med replikation og segregation af minichromosomer  
Ramussen, K.V. (lektor) / Freiesleben, U. von (stipendiat)  
Replication / Plasmid / Regulation / Chromosome / Flow / Measurement / Microbiology / Cell biology

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**Myometrial receptors**  
Myometriets receptors  
Vilhardt, H. (lektor) / Atke, A. (kand.stip.) / Engstroem, T. (schol.stip.)  
Peptide / Hormone / Receptor / Biosynthesis / Regulation / Molecular biology / Molecular / Structure / Gynecology

**Koebenhavns Universitet**  
Neuropatologisk Institut  
Frederik V's Vej 11  
2100  
Koebenhavn Oe  
☎ +45 1373222

**Receptor mediated neuron damage**  
Receptor medieret neuronbeskadigelse  
Diemer, N.H. (lektor, dr.med.) / Benveniste / H. (seniorstip. cand.med.) / Johansen, F. (adjunkt. cand.med.) / Balslev Joergensen, M. (kandidatstip. cand.med.) / Bruhn, T. (faerdigoerelsesstip.) / Valente, E. (SLF-stipendiat) / Noerremoelle, A. (Carlsberg-stipendiat)  
Receptor / Neuron / Calcium / Concentration / Peptide / Glucose / Metabolism / Neurology / Biochemistry / Pharmacology

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Kemisk Laboratorium 2,  
Universitetsparken 5  
2100  
København Ø  
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#### Biologically active marine compounds

Biologisk aktive marine naturstoffer  
Christophersen, C. (lektor) / Anthoni, U. (lektor) /  
Larsen, C. (lektor) / Nielsen, P.H. (lektor)  
Bioactive agent / Marine / Chromatography /  
Assay / Monitoring / Structural analysis / Synthesis /  
Derivative / Biochemistry / Organic chemistry /  
Industry

#### Injuries to biological systems caused by freezing

Fryseskader i biologiske systemer  
Hvidt, Aa. (lektor) / Hammer, K. / Mogensen, G. /  
Kristiansen, J. (stud.lic.)  
Cryobiology / Cold / Hydrophobic

#### Peptide synthesis on polystyrene-grafted polyethylene sheets

Peptidsyntese op polystyren-grafted polyethylenfilm  
Berg, R.H. (forsk.stip.) / Holm, A. (lektor)  
Peptide / Synthesis / Polyethylene / Carrier material / Solid / Organic chemistry / Bioprocess engineering

#### Polymer immobilization of bioactive molecules and modification of polymer surfaces

Polymerimmobilisering af bioaktive molekyler og polymeroverflade-modifikation  
Boe Jensen, R. (lektor) / Hansen, H.F. (stud.scient.) / Willumsen, A.M. (stud.scient.) / Buchardt, O. (prof.)  
Polymer / Immobilization / Bioactive agent / Organic chemistry / Surface / Modification

#### Synthesis and application of modified peptides in immunization ; Characterization of cellular receptors

Syntese og anvendelse af modificerede peptider ved immunisering ; Karakterisering af cellulaere receptorer  
Due Larsen, B. (cand.scient.) / Holm, A. (lektor) / Buchardt, O. (prof.) / Ramlau, J. (dr.med.)  
Peptide / Modification / Immune system / Cellular / Receptor / Structure / Protein / Coupling / Biochemistry / Organic chemistry

#### Protein engineering ; Modification of known enzymes in order to improve their properties, especially for peptide synthesis

Protein engineering ; Modificering af kendte enzymer med henblik paa at forbedre deres egenskaber, isaer til peptidsyntese  
Buchardt, O. (prof.) / Kanstrup, A. (cand.scient.) / Breddam, C. (sektionsleder)  
Protein design / Enzyme / Modification / Peptide / Synthesis / Enzymatic / Enzymology

#### Synthesis of glycosphingolipids in molecular biology, cancer chemotherapy and diagnostics

Glycosphingolipider og deres anvendelse til molekylaer biologi, diagnose af cancer og i forbindelse med cancerterapi  
Buchardt, O. (prof.) / Petersen, H. (cand.scient.)  
Lipid / Synthesis / Molecular biology / Cancer / Chemotherapy / Diagnosis / Biochemistry

#### Oligonucleotide chemistry

Oligonucleotidkemi  
Dahl, O. (lektor) / Nielsen, J. (adjunkt) / Dahl, B.H. (stud.lic.scient.) / Dahl, B.M. (cand.scient.) / Poulsen, J. (laborant)  
Oligonucleotide / Preparation / Organic chemistry

#### Photolabeling reagents

Photomaerkningsreagenser  
Buchardt, O. (prof.) / Henriksen, U. (lektor) / Koch, T. (cand.scient.) / Nielsen, P.E. (cand.scient.)  
Organic chemistry

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#### Use of cultured neural cells to study cell-cell interactions in the nervous system in relation to development of neuroactive drugs

Brugen af neurale cellekulturer til studier af celle-celle interaktioner i centralnervesystemet i relation til udvikling af neuroaktive laegemidler  
Schousboe, A. (lektor) / Larsson, O.M. (lektor) / Fjalland, B. (lektor) / Schousboe, I. (lektor) / Westergaard, P.N. (stip.) / Frandsen, Aa. (stip.) / Belhage, B. (stipendiat)  
Cell / Cultivation / Interaction / Nervous system / Drug / Research / Pharmacology / Biochemistry / Pharmaceutical industry

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#### Ligand-DNA interactions

DNA-ligand vekselvirkninger  
Nielsen, P.E. (stip.) / Jeppesen, C. (kand.stip.) / Weiping Zhen (kand.stip.)  
DNA / Gene / Expression / Transcription / Protein / Interaction / Structure / Dynamics / Molecular genetics / Pharmaceutical industry

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#### Regulation of expression of microvillar membrane proteins under normal and pathological conditions

Regulering af ekspresjonen af mikrovillus membran proteiner under normale og patologiske forhold  
Sjoestroem, H. (lektor) / Noren, O. (lektor) / Danielsen, M. (stip.) / Hansen, G.H. (senior stip.) / Andersen, V. (stip.) / Friis, S. (klinisk ass.)  
Primary / Structure / Protein / Expression / Molecular / Cloning / Gene / Surface / Electron microscope / Molecular biology / Biochemistry

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Proteinlaboratoriet  
Sigurdsgade 34  
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#### Downstream processing

Boeg-Hansen, T.C. / (lektor) / Lihme, A. (stud.lic.sc.)  
Downstream processing / Protein / Separation / Modification / Analysis / Electrophoresis / Chromatography / Affinity / Enzyme / Antibody / Peptide / Biochemistry / Chemical engineering

#### Biochemical and immunochemical characterization of auto and isoantigens from human spermatozoa

Biokemisk og immunkemisk karakterisering af auto- og isoantigener fra humane spermatozoer  
Hinnerfeldt, F.R. (kandidatstipendiat) / Ege Siana, J. (1.reservelaege) / Bjerrum, O.J. (funktionschef)  
Biochemistry / Chemistry / Immune / Antigen / Infertility / Spermatology / Immunology / Biochemistry / Immunoassay

#### Characterization of cytokines

Karakterisering af cytokiner  
Heegaard, P.M.H. (forskningsstipendiat) / Bendtzen, K. (professor) / Zeuthen, J. (adj. professor)  
Polypeptide / Synthesis / Immune system / Organic chemistry / Antibody / Polyclonal / Monoclonal / In vivo / In vitro / Biochemistry

□ **Den Kgl Veterinaer- og Landbohøjskole**  
Institut for Genetik  
Buelowsvej 13  
1870  
Frederiksberg  
☎ +45 1351788

#### Molecular genetics of chloroplast biogenesis

Molekylaer genetiske undersøgelser af kloroplast biogenesis  
Henningens, K.W. (professor) / Stummann, B.M. (associate professor) / Lehmebeck, J. (research assistant)  
Molecular genetics / Chloroplast / Development / Gene / Vegetable / Regulation / Structure / Cloning / DNA / Sequence / Analysis / Genetic / Transformation / Cell / Differentiation

#### Molecular genetics of plant/virus interaction

Molekylaer genetiske undersøgelser af plante/virus interaktioner  
Henningens, K.W. (professor) / Stummann, B.M. (associate professor) / Hoff, T. (research assistant) / Petersen, S.G. (research assistant)  
Molecular genetics / Cloning / Plant / Gene / Vegetable / Virus / Transgenic / Interaction / Resistance / DNA / Sequence / Analysis / Genetic / Transformation

□ **Den Kgl Veterinaer- og Landbohøjskole**  
Institut for Husdyrgenetik  
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#### Recombinant DNA-technology in cattle and swine breeding

Rekombinant DNA-teknologi i kvaeg og svineavl  
Christensen, K. (ass.prof.) / Dybdahl Thomsen, P. (res.ass.) / Juel Nielsen, S. (lab.tech.)  
Gene / Mapping / Bovine animal / Pig / In situ / Hybridization / Gene technology / rDNA / Molecular genetics / Agriculture

#### Production of transgenic cell lines (animals); A gene technological study of genetic transformations that can be regulated and in vitro investigated before in vivo production

Produktion af transgeniske cellelinier (husdyr); Genteknologi med henblik paa regulerbar genetisk transformation samt organfysiologiske in vitro undersøgelser foer in vivo produktion  
Christensen, K. (assoc.prof.) / Poulsen, P.H. (res.ass.) / Fredholm, M. (assist.prof.) / Winteroe, A.K. (res.ass.)  
Gene technology / Transgenic / Cultivation / In vitro / Gene / Insertion / Expression / Molecular genetics

#### Tissue typing in farm animals

Vaevstypificering hos husdyr  
Oestergaard, H. (lektor) / Kristensen, B. (vid.ass.)  
Bovine animal / Pig / Immune / Biology / Disease / Resistance / Fertility / Agriculture

□ **Den Kgl Veterinaer- og Landbohøjskole**  
Mejeribrugsinstitutet  
Buelowsvej 13  
1870  
Frederiksberg  
☎ +45 1351788

**Renneting properties of ultrafiltered milk**  
Ultrafilteret mælks koagulerung med loebeenzym  
Bruun Quist, K. (professor) / Hylding, G.  
(mejeriingenioer, stud.lic.agro.)  
Milk / Clotting / HPLC / Rheology / Food  
technology / Nutritional branch / Enzymatic /  
Reaction / Gel

**Development of host/vector systems in  
grampositive bacteria.**  
Udvikling af vaerts vektorsystemer i grampositive  
bakterier.  
Vogensen, F.K. (lektor) / Josephsen, J. (adjunkt) /  
Waagner Nielsen, E. (lektor) / Engelbrecht, J.  
(stud.lic.) / Wessels, S. (cand.scient) / Boe, L.  
(adjunkt) / Molin, S. (professor)  
Grampositive / Bacterium / Host / Vector / Stable /  
Microbiology / Gene technology / Industry

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Thorvaldsenvej 40  
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**Immunological methods in plant hormone  
investigations**  
Undersøgelse af plantehormoner ved hjælp af  
immunologiske metoder  
Rajagopal, R. (professor) / Marcussen, J. (research  
scientist) / Ulskov, P. (research scientist) / Seiden, P.  
(graduate student)  
Vegetable / Hormone / Antibody / Polyclonal /  
Monoclonal / ELISA / RIA / Immune / Botany /  
Biochemistry

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**Cell and protoplast culture in relation to plant  
breeding**  
Celle og protoplastkultur i relation til  
planteforaedling  
Andersen, S.B. (lektor) / Due, I.K. (cand.stip.) /  
Krogaard, H. (senior stip.) / Olesen, A. (senior.stip.)  
Protoplast / Cultivation / Plant / Breeding /  
Genetics / Transformation / Agricultural sciences /  
Agriculture

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**Molecular basis for disease resistance in barley**  
Molekylære grundlag for sygdomsresistens i byg  
Smedegaard, V. (prof.) / Buch Andersen, J.  
(stud.lic.agro) / Gregersen, P.L. (stud.lic.agro) /  
Collinge, D.B. (lektor, PhD)  
Resistance / Gene / Expression / Dicotyledon /  
Ascomycete / Pathogenic / Disease / Vegetable /  
mRNA / Molecular genetics / Agriculture

**Molecular genetic analysis of the resistance of  
pea (Pisum sativum) to Ascochyta pisi**  
Molekylær undersøgelse af resistens mod  
aertesygge forårsaget af Ascochyta pisi  
Collinge, D.B. (lektor, PhD) / Vad, K. (stud.lic.  
cand.scient.)  
Molecular genetics / Resistance / Dicotyledon /  
Gene / Expression / Pathogenic / Fungus /  
Agriculture

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Landbohøjskole**  
Institut for Reproduktion  
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**Micromanipulation and cloning of cattle eggs**  
Mikromanipulation og kloning af befrugtede  
kvaegaeg  
Greve, T. (prof.) / Holm, P. (videnskabl.ass.)  
Bovine animal / Egg cell / Cloning / Modification /  
Agriculture / Embryo

**Oocyte maturation, fertilization, sex  
determination, cloning of swine eggs and stem  
cell line production**  
Oocytmodning, befrugtning, koensselektion af aeg,  
kloning af svineaeg og produktion af stam celler  
Greve, T. (professor) / Hyttel, P. (lektor)  
Egg cell / Development / Fertilization / Cloning /  
Pig / In vitro / Bovine animal / Agriculture / Embryo

□ **Den Kgl Veterinaer- og  
Landbohøjskole**  
Institut for Veterinaer Mikrobiologi og  
Hygiejne  
Buelowsvej 13  
1870  
Frederiksberg  
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**Biocontrol of parasites by predacious fungi**  
Biokontrol af parasitter med praedatoriske svampe  
(rovsvampe)  
Nansen, P. (prof.) / Groenvold, J. (forsk.rekrut) /  
Larsen, M. (vid.ass.) / Henriksen, Sv.Aa. (lab.) /  
Wolstrup, J. (lektor)  
Fungus / Nematode / Parasitic / Biological /  
Regulation / Agricultural sciences / Agriculture

**Detection of Salmonella spp by DNA-DNA  
hybridization**  
Detektion af Salmonelle bakterier ved  
DNA/DNA-hybridisering  
Olsen, J.E. (ass.lect.) / Brest Nielsen, B. (senior  
res.off.) / Aabo, S. (PhD.stud.)  
Salmonella / DNA / Hybridization / Diagnosis /  
Sequene / Analysis / Molecular genetics

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Landbohøjskole**  
Institut for Veterinaer Virologi og  
Immunologi  
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Frederiksberg  
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**Characterization of mink MHC (Major  
Histocompatibility Complex)**  
Karakterisering af minkens  
hovedvaevstypekompleks  
Aasted, B. (forsk.prof.) / Wienberg, L.  
(videnskabl.ass.) / Friis Petersen, A. (laborant)  
Immune / Biology / Mammal

**Characterization of various strains of Aleutian  
disease virus**  
Karakterisering af forskellige  
mink-plasmacytosevirusstammer  
Aasted, B. (forsk.prof.) / Gottschalck, E.  
(videnskabl.ass.) / Cohn, A. (videnskabl.ass.) /  
Arndrup Poulsen, L. (laborant)  
Virus / Pathogenic / Viral / DNA / Cloning /  
Sequencing / Genome / Molecular genetics /  
Microbiology / Industry

**Characterization of mouse dendritic cells**  
Karakterisering af dendritiske celler hos mus  
Aasted, B. (forsk.prof.) / Agger, R. (adjunkt) /  
Toftgaard Andersen, U. (lab.tekn.)  
Mouse / Monoclonal / Antibody / Neuron /  
Immune / Biology

□ **Odense Universitet**  
Institut for Molykylær Biologi  
Campusvej 55  
5230  
Odense M  
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**cAMP as intermediary of positive control**  
cAMP som formidler af positiv kontrol  
Valentin-Hansen, P. (prof.) / Hammer, K. (prof.) /  
Givskov, M. (seniorstip.) / Soegaard Andersen, L.L.  
(kandidatstip.)  
Transcription / Activation / Gene / Regulation /  
Molecular genetics / Microbiology

**Analysis of hok and hok-homologous genes in E.  
coli**  
Analyse og anvendelse af hok og hok-homologe  
gener i E. coli  
Gerdes, K. (adjunkt) / Hansen, M. (lab.)  
Gene / Escherichia / Expression / Genetics /  
Microbiology / Analysis / mRNA / Stable

**The role of ribosomal RNA structurers in protein  
synthesis and antibiotic resistance.**  
Ribosomal RNA strukturers rolle i proteinsyntese og  
antibiotikaresistens.  
Douthwaite, S.R. (lektor) / Dolleris, D. (laborant)  
rDNA / Protein / Synthesis / Molecular genetics /  
Biochemistry / Erythromycin / Resistance

□ **Roskilde Universitetscenter**  
Institut for Biologi og Kemi  
Roskilde  
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**Structural and functional analysis of the DnaA  
protein**  
Strukturel og funktional analyse af DnaA proteinet  
Skovgaard, O. (adjunkt) / Jeppesen, L. (lab.tekn.)  
Protein / Structural analysis / DNA / Replication /  
Regulation / Genetics / Biochemistry



## SPAIN

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Telex: 49692  
Fax: +34 1 5715781  
Contact person: Mr. F. Cano Sevilla

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Centro de Investigación y Desarrollo de  
Barcelona, Biología Molecular y  
Agrobiología  
Jorge Girona Salgado, 18-26  
08034  
Barcelona  
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**Maize in vitro cultures to differentiation and  
regeneration studies.**

Cultivos in vitro de maíz para estudios de  
diferenciación y regeneración  
Torne cubiro, jose maria  
Maize / In vitro / Cultivation / Differentiation /  
Regeneration / Tissue / Vegetable / Cell / Botany /  
Cell biology / Useful plant / Agriculture

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Centro de Investigación y Desarrollo de  
Barcelona, Genética Molecular  
Jorge Girona Salgado, 18-26  
08034  
Barcelona  
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**Regulation of gene expression related to cell  
differentiation in plants.**

Regulación de la expresión genética relacionada con  
la diferenciación celular en las plantas  
Puigdomenech rosell, pedro  
Gene / Expression / Cell / Differentiation / Maize /  
Sequence / rDNA / Botany / Genetics

**Study of the DNA conformational variability in  
chromatin: implications for the construction of  
integration and/or expression vector**

Estudio de la variabilidad conformacional del DNA  
en cromatina: implicaciones en el diseño y  
construcción de vectores de integración y/o  
expresión  
Azorin marin, fernando  
Chromatin / SV40 / DNA / Viral / Insertion / Gene /  
Expression / Vector / Microbiology / Molecular  
genetics

**Aba induced genes related to water stress in  
maize.**

Genes regulados por la hormona ácido abscísico  
durante la embriogénesis del maíz. Su importancia  
en los fenómenos de stress hídrico  
Pages torrens, montserrat  
Maize / Hormone / Gene / Expression / Transgenic /  
Genetics / Agriculture / Useful plant

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Centro de Investigaciones Biológicas de  
Madrid, Ingeniería Genética  
Velazquez, 144  
28006  
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**Cloning vector based on broad host range  
plasmids. Replication and DNA repair.**

Vectores de clonaje basados en plásmidos de  
amplio espectro de huésped. Replicación y  
reparación del DNA.  
Espinosa padron, manuel  
Cloning / Vector / Plasmid / DNA / Repair /  
Replication / Gene / Streptococcus / Molecular  
genetics

**Molecular studies on the processes of division in  
bacteria.**

Análisis molecular de la división bacteriana  
Vicente Muñoz, miguel  
Bacterium / Microbiology / Molecular biology

**Analysis of functions involved in the  
maintenance of antibiotic resistance factors in  
enterobacteria.**

Análisis de funciones implicadas en el  
mantenimiento de factores de resistencia a  
antibióticos en enterobacterias  
Diaz orejas, ramon  
Antibiotic / Resistance / Escherichia /  
Enterobacterium / Replication / Regulation / Stable /  
Microbiology / Genetics

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Centro de Biología Molecular 'Severo  
Ochoa'  
Cantoblanco. Crta. Colmenar Viejo, KM-15  
28049  
Madrid  
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**Molecular genetic analysis of the puromycin  
biosynthesis pathway of Streptomyces  
alboniger.**

Análisis genético-molecular de la ruta de biosíntesis  
de puromicina de *Streptomyces alboniger*  
Jimenez martinez, antonio  
Molecular genetics / Streptomycete / Antibiotic /  
Biosynthesis / Gene / Cloning / DNA / Sequencing /  
Regulation / Expression / Insertion / Microbiology

**Mechanism of infection of plum pox virus (virus  
de la sharka)**

Mecanismo de infección del virus de la sharka (plum  
pox virus ppv)  
García alvarez, juan antonio  
Virus / Plant / Infection / Resistance / Nucleotide /  
Sequence / cDNA / RNA / Viral / Replication / Gene /  
Expression / Molecular genetics / Microbiology /  
Agriculture

**Control of gene expression in prokaryotic  
organisms.**

Control de la expresión genética en organismos  
procarióticos  
Perez mellado, rafael  
Gene / Expression / DNA / Sequence / Escherichia /  
Bacillus / Streptomycete / Molecular genetics /  
Microbiology

**Design and synthesis of peptides involved in  
protection against transmissible gastroenteritis.**

Diseño y síntesis de péptidos de protección para la  
gastroenteritis porcina transmisible  
Enjuanes sanchez, luis  
Virology / Immunology / Immune system / Virus /  
Peptide / Synthesis / Lymphocyte / Antigen /  
Glycosylation / Gene / Cloning / Sequencing /  
Nucleotide / Sequence / Antibody / Infection / Pig /  
Agriculture

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Velazquez, 144  
28006  
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**Study on microbial transformation of  
lignocellulose and its biotechnological  
applications.**

Estudio de la transformación microbiana de la  
lignocelulosa y sus aplicaciones biotecnológicas  
Martínez ferrer, angel tomas  
Lignocellulose / Degradation / Lignin / Microbial /  
Fungus / Ligninase / Oxidase / Fermentation /  
Biochemistry / Microbiology / Agriculture / Industry

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Laboratorio de Envolturas Celulares  
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**Metabolic control of the morphogenetic  
structures of the bacterial cellular structure.**

Posible nuevos sitios de acción de antibióticos  
Regulación del metabolismo de las estructuras  
morfológicas de la estructura celular bacteriana.  
Nuevos sitios potenciales de acción de antibióticos  
Pedro montalban, miguel angel de  
Bacterial / Cell / Structure / Morphogenesis /  
Metabolism / Regulation / Microbiology

**Molecular studies on the intrinsic processes of  
resistance to antibiotics**

Análisis molecular de los mecanismos de  
resistencia intrínseca a los antibióticos B-lactámicos  
y de la transmisibilidad interespecífica de la  
resistencia  
Ayala serrano, juan alfonso  
Resistance / Antibiotic / Bacterium / Protein /  
Transport / Microbiology / Biochemistry

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Instituto de Biología Molecular de Madrid,  
Unidad de Virología  
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**African swine fever virus neutralization**

Neutralización del virus de la peste porcina  
Africana  
Viñuela diaz, eladio  
DNA virus / Infection / Pig / Disease / Leukocyte /  
Macrophage / Immune system / Antigen / Vaccine /  
Production / Lymphocyte / Immunology / Virology /  
Veterinary medicine

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Centro de Investigaciones Biológicas de  
Madrid, Virología  
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**Vaccinia virus expression vectors: genetic  
stability of vaccinia virus and the development  
of new recombinant vaccines**

Vectores eucarióticos de expresión: estabilidad  
genética del virus vaccinia y su aplicación en la  
obtención de nuevas vacunas recombinantes  
Paez abril, eduardo  
DNA virus / Expression / Vector / Genetic / Stable /  
Vaccine / Virology / Immunology / Mutation /  
Virulent

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Instituto de Catalysis y Petrolequimica, Biocatalisis  
Serrano, 119  
28006  
Madrid  
☎ +34 1 2619400
- Preparation of insolubilized-stabilized enzymatic derivatives by means of different synthetic strategies.**  
Estrategias de sintesis de enlaces amidocatalizadas por derivados de enzimas inmovilizados-estabilizados  
Guisan seijas, jose manuel  
Penicillin / Ampicillin / Cephalosporin / Synthesis / Enzymatic / Derivative / Stable / Acylase / Chymotrypsin / Papain / Enzymology / Pharmaceutical industry
- Stabilization of hydrolytic enzymes. Potential applications.**  
Estabilizacion de enzimas hidroliticos. Posibles aplicaciones  
Ballesteros olmo, antonio  
Lipase / Esterase / Nuclease / Stable / Immobilization / Stereospecific / Enzymology / Industry
- Consejo Superior de Investigaciones Cientificas**  
Centro de Investigaciones Biologicas de Madrid, Citogenetica  
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28006  
Madrid  
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- Control of expression of a gene of the penicillin biosynthetic pathway in *Aspergillus nidulans*.**  
Mecanismos de control de la expresion de un gen de la biosintesis de Penicilina en *Aspergillus nidulans*  
Peñalva soto, miguel angel  
Gene / Expression / Mycelial fungus / Penicillin / Transcription / Chromatin / Microbiology / Genetics
- Consejo Superior de Investigaciones Cientificas**  
Centro Nacional de Biotecnologia  
Universidad Autonoma de Madrid  
28049  
Madrid  
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- Developments in vectors and methods of transformation in the phytopathogenic fungi *Rhizoctonia solani* and *Fusarium oxysporum***  
Desarrollo de vectores, metodos de transformacion y genotecas de los hongos fitopatogenos  
*Rhizoctonia solani* y *Fusarium oxysporum*  
Rubio susan, victor  
Fungus / Pathogenic / Useful plant / Vector / Genetic / Modification / Gene / Dicotyledon / Pathogen / Microbiology / Molecular genetics / Agriculture
- Insect resistant cultivated plants by genetic engineering.**  
Obtencion de resistencia a insectos en plantas cultivadas por ingenieria genetica  
Carbonero zalduegui, pilar  
Monocotyledon / Cloning / cDNA / Insect / Pest / Resistance / Useful plant / Genetics / Botany / Agriculture
- Specific diagnosis of *Trichinella spiralis* and of *Meloidogyne* spp**  
Diagnostico especifico de *Trichinella spiralis* y de *Meloidogyne* incognita por anticuerpos monoclonales y sobdas de DNA  
Parkhouse, michael  
Probe / DNA / Cloning / Antigen / Antibody / Monoclonal / Nematode / Parasite / Diagnosis / Man / Pig / Plant / Molecular biology / Parasitology / Agriculture
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Instituto de Microbiologia Bioquimica  
Plaza de la Merced, 1 (Fac. Ciencias)  
37008  
Salamanca  
☎ +34 23 216382
- Characterization of genes involved in the biosynthesis of structural polymers and/or resistance to antifungal agents effective against fungal cell wall**  
Caracterizacion de genes que controlan la biosintesis de polimeros estructurales y/o resistencia a antifungicos especificos contra la pared celular fungica  
Duran bravo, angel  
Gene / Cell wall / Biosynthesis / Cloning / Polymer / Fungicide / Resistance / Ascomycete / Microbiology / Molecular genetics
- Consejo Superior de Investigaciones Cientificas**  
Instituto de Bioquimica Vegetal y Fotosintesis Bioquimica, Facultad de Biologia  
Av. R. Mercedes (Fac. Biologia) Ap. 1095  
41080  
Sevilla  
☎ +34 54 617011
- Inorganic nitrogen metabolism and alginate production by Azotobacteraceae.**  
Metabolismo del nitrogeno inorganico y produccion de alginato por Bacteraceae  
Paneque guerrero, antonio  
Azotobacteraceae / Nitrogen / Metabolism / Alginate / Production / Aerobic / Fermentation / Molecular biology / Microbiology
- Generation of products with practical interest by blue-green algae (cyanobacteria)**  
Generacion de productos de interes practico por algas verde azuladas (cianobacterias)  
Garcia guerrero, miguel  
Cyanobacterium / Production / Selection / Isolation / Purification / Cell / Cultivation
- Consejo Superior de Investigaciones Cientificas**  
Instituto de Agroquimica y Tecnologia de Alimentos Vegetales, Bioingenieria de Alimentos  
Jaime Roig, 11  
46010  
Valencia  
☎ +34 6 3690800
- Production and separation of food technology relevant enzymes from "gras" microorganisms.**  
Produccion y separacion de enzimas de interes en tecnologia de alimentos a partir de microorganismos "gras"  
Flors bonet, agustin  
Enzyme / Bacterium / Enzymology / Production / Nutritional branch
- Universidad de Alcala de Henares**  
Facultad de Ciencias, Biologia Vegetal-Sec. Fisiologia Vegetal  
Crta. de Barcelona, KM-33  
28802  
Alcala de Henares  
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- Isolation, characterization and control of chloroplast DNA genes expressed during leaf senescence.**  
Aislamiento, caracterizacion y control de genes del DNA de cloroplastos expresados durante el envejecimiento foliar  
Sabater garcia, bartolome  
Chloroplast / DNA / Cloning / Monocotyledon / Botany / Molecular genetics / Mapping / Gene / Expression / Sequencing / Agriculture / Useful plant
- Universidad de Barcelona**  
Facultad de Biologia, Microbiologia  
Diagonal, 645  
08028  
Barcelona  
☎ +34 3 3308851
- Development of transport systems of proteins by *Escherichia coli* and other gramnegative bacteria**  
Desarrollo de sistemas de exportacion de proteinas para *Escherichia coli* y otras bacterias gram-negativas  
Juarez gimenez, antonio  
Transport / Protein / *Escherichia* / Gramnegative / Microbiology / Molecular biology
- Universidad de Cantabria**  
Facultad de Medicina, Biologia Molecular  
Poligono de Cazona  
39011  
Santander  
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- Development of protein export systems for *Escherichia coli* and other gram-negative bacteria.**  
Desarrollo de sistemas de exportacion de proteinas para *Escherichia coli* y otras bacterias gram-negativas  
Cruz calahorra, fernando de la  
Gramnegative / *Escherichia* / Protein / Transport / Antibody / Vector / Plasmid / Expression / Production / Gene technology / Microbiology
- Universidad de Santiago de Compostela**  
Colegio Universitario de la Coruña,  
Bioquimica y Biologia Molecular  
Castro de Elviña, S/N  
15011  
La Coruña  
☎ +34 81 280985
- Yeast growing under aerobic and anaerobic conditions: genetic regulation.**  
Crecimiento de levaduras en condiciones aerobias y anaerobias: regulacion genica  
Cerdan villanueva, maria esperanza  
Yeast / Aerobic / Anaerobic / Gene / Cloning / Regulation / Molecular genetics / Microbiology
- Universidad Autonoma de Barcelona**  
Facultad de Ciencias, Unidad de Ingenieria Quimica  
Campus Universitario de Bellaterra  
08193  
Bellaterra  
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**Introductory course to biotechnological process engineering**

Curso de introduccion a la ingenieria de procesos biotecnologicos  
Sola ferrando, carlos  
Bioprocess engineering / Education

**Advanced control and monitoring of bioreactors.**

Control avanzado y monitorizacion de biorreactores  
Poch espallargas, manuel  
Bioreactor / Control / Biocomputing / Simulation / Modelling / Lipase / Production / Extracellular / Fungus / Waste water / Aerobic / Fermentation / Fermentation technology

 **Universidad de Zaragoza**

Facultad de Ciencias, Bioquímica y Biología Molecular  
Ciudad Universitaria  
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**Bioengineering of ferredoxin-NADP-reductase: clinical and industrial applications.**

Bioingeniería de la ferredoxina-NADP-reductasa.  
Aplicaciones clínicas e industriales  
Gomez moreno calera, carlos  
Enzymology / Reductase / Diagnostic agent / Immune / Cofactor / Bioreactor / Production / Cloning / Protein / Mutagenesis / Spectrometry

## UNITED KINGDOM

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Telex: 266 959  
Contact person: Dr. R. Wakeford

□ **Norfolk and Norwich Hospital**  
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☎ +44 603 628377

**LAK cells are examined for specific elimination of ovarian cancer cells in vitro**  
Al-Azzawi, F.A.  
In vitro / Cancer / Urogenital system / Cell biology

□ **Liverpool School of Tropical Medicine**  
Department of Medical Entomology  
Pembroke Place  
L3 5QA  
Liverpool  
☎ +44 51 7089393

**The development of DNA probes for the identification of forest and savanna strains of *Onchocerca volvulus***  
Crampton, Dr.J.M.  
DNA / Probes / Nematode / Parasitology / Tropical / Recognition

**Cloning and molecular analysis of the genes involved in organophosphate resistance in some strains of mosquito**  
Crampton, Dr.J.M.  
Cloning / Gene / Insect / Molecular genetics / Entomology / Resistance / Tropical

**Cloning of snake venom antigen genes for the development of high activity anti-venoms**  
Crampton, Dr.J.M.  
Cloning / Antigen / Gene / Snake / Toxin / Molecular genetics / Tropical

**Cloning and molecular analysis of surface antigen genes of *Leishmania donovani***  
Crampton, Dr.J.M.  
Cloning / Surface / Antigen / Gene / Molecular genetics / Protozoan / Tropical

**The molecular characterization and use of transposable genetic elements in mosquitoes of medical importance**  
Crampton, Dr.J.M.  
Entomology / Insect / Molecular genetics / Tropical

□ **Liverpool School of Tropical Medicine**  
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Pembroke Place  
L3 5QA  
Liverpool  
☎ +44 51 7089393

***Echinococcus granulosus* - immunodiagnosis, immunodifferentiation and immunoprophylaxis**  
Nelson, Prof.G.S.  
Immune / Diagnosis / Differentiation / Prophylaxis / Tropical / Immunology / Parasitology / Nematode

□ **AFRC Institute for Grassland and Animal Production**  
Welsh Plant Breeding Station  
Plas Gogerddan  
SY23 3EB  
Aberystwyth  
☎ +44 970 828255

**Gene transfer and exchange in herbage legumes using techniques of tissue culture. Analysis of transgenic plants and variation in regenerants**  
Webb, Dr.K.J.  
Gene / Transfer / Useful plant / Tissue / Cultivation / Transgenic / Regeneration / Genetics / Agriculture

**To develop computerized documentation system for passport and characterization data compatible with European network for genetic resources**  
Tyler, B.F.  
Gene bank / Agriculture

**Identify genetic factors controlling efficiency and duration of nitrogen fixation in *Rhizobium* spp**  
Skot, Dr.L.  
Regulation / Genetics / Nitrogen / Fixation / *Rhizobium* / Agriculture

**Grasses and cereals: gene expression during leaf development**  
Ougham, Dr.H.J.  
Useful plant / Gene / Expression / Molecular genetics / Development / Agriculture / Botany

**Genetic stability of in vitro stored forage crop germ plasm**  
Hayward, Dr.M.D.  
Genetics / In vitro / Germ cell / Useful plant / Agriculture

**Genetic transformation of forage grasses**  
Hale, A.D.  
Transformation / Genetics / Feed / Plant / Agriculture

**Analysis of genome structure and stability in in vitro cultured forage grasses, using molecular probes. Construction of genomic libraries**  
Hale, A.D.  
Genome / In vitro / Cultivation / Plant / Feed / Probes / Molecular genetics / Agriculture

**Utilization of photosynthetic products in nodule N<sub>2</sub> fixation and growth in forage legumes**  
Gordon, Dr.A.J.  
Photosynthesis / Nitrogen / Fixation / Growth / Useful plant / Feed / Botany / Agriculture

**Tissue culture and genetic manipulation of forage grasses, somaclonal variation, somatic hybridization. Biotechnological application of immobilized cells**  
Dalton, Ms.S.J.  
Tissue / Cultivation / Genetics / Modification / Plant / Feed / Cell / Immobilization / Hybridization / Agriculture

□ **Macaulay Land Use Research Institute**  
Craigiebuckler  
AB9 2QJ  
Aberdeen  
☎ +44 224 318611

**To devise means for the use of sewage, farm sewage and distillery wastes in different production systems**  
Vaughan, Dr.D.  
Waste water / Waste / Production / Agriculture / Industry / Environment / Environmental biotechnology

□ **Natural Environment Research Council**  
Freshwater Biological Association  
(Windermere Laboratory)  
The Ferry House  
LA22 0LP  
Ambleside, Far Sawrey  
☎ +44 9662 2468/9

**Genetics of freshwater bacteria. Fate, survival and ecology of genetically engineered micro-organisms in the aquatic environment. Commercial exploitation of aquatic bacteria**  
Pickup, Dr.R.W.  
Genetics / Bacterial / Ecology / Fresh water / Gene technology / Microbiology / Environment

□ **Department of Agriculture for Northern Ireland**  
Horticultural Centre  
Loughgall  
BT61 8JA  
Armagh  
☎ +44 76 289 208

**Energy from biomass - production of salix on marginal agricultural land**  
McElroy, G.H.  
Energy / Biomass / Agriculture

□ **Hannah Research Institute**  
Ayr  
KA6 5HL  
☎ +44 292 76013

**Intake and utilization of diets based on silage**  
Chamberlain, Dr.D.G.  
Food / Veterinary medicine

**Regulation of gene transcription in mammary gland and adipose tissue during lactation**  
Barber, M.  
Regulation / Gene / Transcription / Veterinary medicine / Milk

□ **Basingstoke and North Hampshire Health Authority**  
Operational Services  
Basingstoke District Hospital, Aldermaston Road  
RG24 9NA  
Basingstoke  
☎ +44 256 473202

**Clinical study of the application of X chromosomal DNA probes in diagnosis and carrier detection of X-linked disorders**  
Dennis, Dr.N.R.  
X-chromosome / DNA / Probes / Diagnosis / Congenital / Disease / Clinical / Genetics

□ **AFRC Institute of Food Research**  
Bristol Laboratory  
Langford  
BS18 7DY  
Bristol  
☎ +44 934 852661

**Production of monoclonal antibodies to nebulin**  
Trinick, Dr.J.A.  
Monoclonal / Antibody / Biochemistry / Food / Nutritional branch

**Proteins of the thick filament**  
Trinick, Dr.J.A.  
Protein / Food / Nutritional branch / Biochemistry

**Design and synthesis of polypeptide emulsifiers**  
Brock, Dr.C.J.  
Synthesis / Polypeptide / Emulsion / Food / Industry / Physical chemistry / Organic chemistry

**AFRC Institute of Plant Science Research**  
Nitrogen Fixation Laboratory (University of Sussex)  
Brighton  
BN1 9RQ  
Falmer  
☎ +44 273 678252

Physiology of nitrogen fixation. Exclusion of oxygen; protective proteins; regulation of nitrogenase synthesis; roles of hydrogenase, adenine nucleotides, electron transporters  
Smith, Dr.B.E.  
Nitrogen / Fixation / Oxygen / Protein / Regulation / Nitrogenase / Hydrogenase / Nucleotide / Transport / Plant / Biochemistry / Botany / Agriculture

Purifications, characterization, structures, and mechanisms of metalloprotein components of molybdenum and vanadium nitrogenases; biosynthesis of, interactions of, and electron-transport to, these metalloproteins  
Smit, Dr.B.E.  
Protein / Molybdenum / Vanadium / Nitrogenase / Biosynthesis / Interaction / Structure / Transport / Biochemistry / Plant / Agriculture

**Klebsiella pneumoniae; Azotobacter chroococcum; Azotobacter vinelandii; nif gene structure and function; nif promoters; nif regulation; ntr genes; Mo regulation; oxygen tolerance; respiratory protection**  
Smith, Dr.B.E.  
Klebsiella / Azotobacter / Gene / Regulation / Molybdenum / Oxygen / Tolerance / Plant / Botany / Molecular genetics / Agriculture

Introduction of nif genes into plant genomes. Expression of nif gene products in plant chloroplasts/plastids. Ti-plasmid-mediated plant transformation  
Dixon, Dr.R.A.  
Gene / Plant / Genome / Expression / Chloroplast / Plasmid / Transformation / Molecular genetics / Agriculture

**Medical Research Council**  
Cell Mutation Unit (University of Sussex)  
Brighton  
BN1 9RR  
(Falmer)  
☎ +44 273 678123

Development of tests for mutagens and carcinogens  
Bridges, Prof.B.A.  
Test / Cancer / Mutation / Origin / Cell biology

**Medical Research Council**  
Medical Research Council, Mechanisms in Tumour Immunity Unit  
MRC Centre, Hills Road  
CB2 2QH  
Cambridge  
☎ +44 223 245133/243237

Production and structural studies on human monoclonal antibodies, especially those with blood group antigen specificity  
Thompson, Dr.K.M.  
Monoclonal / Antibody / Blood group / Antigen / Immunology

Synthetic peptides from the ENV and GAG genes as potential vaccines against AIDS  
Lachmann, Prof.P.J.  
Peptide / Gene / Vaccine / AIDS / Immunology

Function of the glycolipid anchorage of proteins in eukarotic immune cells  
Clissold, Dr.P.M.  
Protein / Glycolipid / Eukaryote / Immunology / Tumour

**Medical Research Council**  
Experimental Embryology and Teratology Unit  
Woodmansterne Road  
SM5 4EF  
Carshalton  
☎ +44 1 643 8000

Genetic variation in the response of somatic cells, especially macrophages, of the mouse to xenobiotics in tissue cultures  
Festing, Dr.M.F.W.  
Macrophage / Genetics / Mouse / Xenobiotic / Tissue / Cultivation / Cell biology

**United Kingdom Atomic Energy Authority**  
Harwell Laboratory  
Didcot  
OX11 0RA  
☎ +44 235 24141

Downstream processing of biological materials. A research club, BIOSEP supported by industrial members  
Rosevear, Dr.A.  
Downstream processing / Bioprocess engineering / Industry

Separation processes service-technology transfer and R and D in drying, gas cleaning crystallization and liquid-liquid extraction  
Reay, Dr.D.  
Technology / Separation / Research / Drying / Crystallization / Liquid / Extraction / Industry / Bioprocess engineering

The microbiology of buried concrete structures. The growth of organisms in an alkaline, anaerobic environment  
Pugh, Dr.S.Y.R.  
Microbiology / Growth / Alkaline / Anaerobic / Industry

Bioprocessing in space. Free flow electrophoresis for biological separations  
Lambe, Dr.C.A.  
Electrophoresis / Separation / Industry / Bioprocess engineering

Development of materials, equipment and techniques for separation of biological materials in downstream processing  
Hawtin, Dr.P.  
Apparatus / Downstream processing / Bioprocess engineering / Industry

Techniques for immobilization of plant and animal cells  
Hawtin, Dr.P.  
Immobilization / Plant / Animal / Cell / Industry

Mathematical modelling of adsorption and chromatography of biochemicals in columns and batch stirred tanks  
Cowan, G.  
Modelling / Adsorption / Chromatography / Batch / Reservoir / Industry / Physical chemistry / Bioprocess engineering

**Edinburgh and South-East Scotland Regional Blood Transfusion Service**  
Royal Infirmary, Lauriston Place  
EH3 9HB  
Edinburgh  
☎ +44 31 229 2585

Atrial natriuretic factor - assay and monoclonal antibody preparation  
Prowse, Dr.C.V.  
Monoclonal / Antibody / Immunology

Purification, depletion and assay of coagulation factor VIII using monoclonal antibodies  
Prowse, Dr.C.V.  
Clotting / Factor VIII / Monoclonal / Antibody / Assay / Immunology / Hematology

Purification, depletion and assay of coagulation factor IX using monoclonal antibodies  
Prowse, Dr.C.V.  
Clotting / Blood factor / Monoclonal / Antibody / Assay / Immunology / Hematology

Identification and cloning of the gene for human blood group rhesus D antigen  
Moore, Dr.S.  
Recognition / Cloning / Gene / Blood group / Human / Antigen / Molecular genetics / Hematology

Murine monoclonal antibody production to human blood group antigens, plasma protein and hormones diagnostic and preparative application  
McClelland, Dr.D.B.L.  
Mouse / Monoclonal / Antibody / Human / Blood group / Antigen / Blood plasma / Protein / Diagnosis / Prophylaxis / Hormone / Immunology / Hematology

Development of novel products from murine and human hybridoma cells  
McClelland, Dr.D.B.L.  
Mouse / Human / Hybridoma

Tissue plasminogen activator - changes under endogenous conditions and following fibrinolytic therapy  
MacGregor, Dr.I.R.  
TPA / Fibrinolysis / Therapy / Hematology

Human monoclonal antibodies to microbial antigens, for therapeutic purpose  
James, Dr.K.  
Monoclonal / Antibody / Human / Antigen / Microbial / Immunotherapy / Immunology

Characterization of monoclonal antibodies to coagulation factors VII, X and protein C  
Bessos, Dr.H.  
Monoclonal / Antibody / Clotting / Blood factor / Immunology / Hematology

Development and use of murine monoclonal antibodies to Gram-negative endotoxins  
Barclay, Dr.G.R.  
Mouse / Monoclonal / Antibody / Gramnegative / Endotoxin / Immunology

**Medical Research Council**  
Clinical and Population Cytogenetics Unit (Western General Hospital, Edinburgh)  
Crewe Road  
EH4 2XU  
Edinburgh  
☎ +44 31 332 2471

Presymptomatic diagnosis and carrier detection of retinitis pigmentosa using DNA markers  
Wright, Dr.A.F.  
Diagnosis / DNA / Marker / Cytogenetics / Congenital / Disease

Use of polymorphic DNA probes for mapping of autosomal dominant polycystic kidney disease  
Wright, Dr.A.F.  
Polymorphism / DNA / Probes / Mapping / Kidney / Disease / Congenital / Cytogenetics

Cystic fibrosis: development of heterozygote detection, identification of protein product which tracks the gene, molecular cloning of this gene  
Heyningen, Dr.V. van  
Cloning / Molecular / Gene / Protein / Cytogenetics / Pancreas / Congenital / Disease

**Pre-symptomatic prediction and diagnosis of Marfan's syndrome using DNA sequence markers**

Keston, Dr.M.  
Diagnosis / DNA / Sequence / Marker /  
Cytogenetics / Connective tissue / Congenital /  
Disease

**The use of polymorphic DNA probes for genetic linkage studies in families with spinocerebellar ataxia, an autosomal dominant disease**

Evans, Prof.H.J.  
Polymorphism / DNA / Probes / Cytogenetics /  
Congenital / Disease

 **Medical Research Council**

Reproductive Biology Unit, Centre for  
Reproductive Biology, University of  
Edinburgh  
37 Chalmers Street  
EH3 9EW  
Edinburgh  
☎ +44 31 229 2575

**Gamete specific antigens and the development of contraceptive vaccines**

Aitken, Dr.R.J.  
Antigen / Vaccine / Reproduction / Biology /  
Immunology

 **Blood Products Laboratory**

Research and Development  
Dagger Lane  
WD6 3BX  
Elstree, Hertfordshire  
☎ +44 1 953 6191

**Ampholyte displacement chromatography and chromatofocusing for the separation of plasma proteins**

Young, Dr.J.L.  
Blood plasma / Protein / Separation /  
Chromatography / Biochemistry

**Large-scale preparation of a factor XIII concentrate from human plasma, primarily for therapeutic use**

Winkelman, Mrs.L.W.  
Production scale / Preparation / Blood factor / Blood  
plasma / Human / Therapy / Hematology /  
Biochemistry

**Large-scale preparation of an antithrombin III concentrate from human plasma, primarily for therapeutic use**

Winkelman, Mrs.L.W.  
Production scale / Preparation / Antithrombin /  
Blood plasma / Human / Therapy / Hematology /  
Biochemistry

**Large-scale preparation of a fibronectin concentrate from human plasma, primarily for therapeutic use**

Winkelman, Mrs.L.W.  
Production scale / Preparation / Blood plasma /  
Human / Protein / Therapy / Hematology /  
Biochemistry

**Large-scale preparation of a fibrinogen concentrate from human plasma, primarily for therapeutic use**

Winkelman, Mrs.L.W.  
Production scale / Preparation / Blood factor / Blood  
plasma / Human / Therapy / Hematology /  
Biochemistry

**Large-scale preparation of a factor VIII concentrate from human plasma, primarily for therapeutic use**

Winkelman, Mrs.L.W.  
Production scale / Preparation / Factor VIII / Blood  
plasma / Human / Therapy / Hematology /  
Biochemistry

**Inactivation of blood-borne viruses in therapeutic concentrates of human plasma proteins**

Smith, Dr.J.K.  
Blood plasma / Human / Protein / Virus / Therapy /  
Hematology

**Assay and control of pyrogens in blood products: the use of limulus amoebocyte lysate as a reagent for bacterial endotoxin**

Singleton, Dr.L.  
Assay / Pyrogen / Blood / Reagent / Endotoxin /  
Bacterial / Hematology

**Large scale purification of plasma alpha1 anti-trypsin for therapeutic administration to patients with an hereditary deficiency**

Rott, Mrs.J.  
Production scale / Blood plasma / Protein /  
Therapy / Congenital / Disease / Hematology /  
Biochemistry

**Chromatographic purification of transferrin from a waste product of Cohn fractionation**

Rott, Mrs.J.  
Chromatography / Separation / Blood serum / Beta /  
Globulin / Biochemistry

**Design and development of process monitoring and control systems for chromatographic and ultrafiltration processes**

Price, S.  
Bioprocess engineering / Monitoring / Control /  
Chromatography / Filtration

**Purification of coagulation factor VIII from human plasma by chromatographic procedures**

Neal, Dr.G.G.  
Clotting / Factor VIII / Blood plasma / Human /  
Chromatography / Biochemistry / Hematology

**Proteases and other contaminants of plasma fractions enriched in coagulation factor VIII**

Neal, Dr.G.G.  
Protease / Blood plasma / Factor VIII / Clotting /  
Biochemistry / Hematology

**Partitioning of proteins in aqueous two-phase systems**

Murricane, C.  
Protein / Two-phase / Separation / Biochemistry

**Immobilized triazine dyes in pseudo affinity chromatography of plasma proteins**

More, Dr.J.E.  
Immobilization / Chromatography / Affinity / Blood  
plasma / Protein / Biochemistry / Hematology

**Large-scale chromatographic purification of plasma proteins from waste materials of the Cohn fractionation scheme**

More, Dr.J.E.  
Chromatography / Production scale / Blood plasma /  
Protein / Separation / Biochemistry / Hematology

**Interaction of fibronectin and degradation products with plasma proteins; the role of fibronectin in opsonization and wound healing**

More, Dr.J.E.  
Interaction / Blood plasma / Protein / Biochemistry /  
Hematology

**Development of immuno- and functional assays for fibronectin and other clinically important plasma proteins**

More, Dr.J.E.  
Immunoassay / Blood plasma / Protein /  
Immunology / Hematology

**Development of alternative label immunoassays for pathogenic viruses and antibodies in serum and plasma**

Little, Dr.J.A.  
Immunoassay / Virus / Antibody / Blood plasma /  
Blood serum / Hematology / Immunology

**Large-scale preparation of factor VII concentrate from human plasma, primarily for therapeutic use**

Feldman, Dr.P.A.  
Production scale / Preparation / Blood factor / Blood  
plasma / Human / Therapy / Hematology /  
Biochemistry

**Quantitation and separation of protein C from human plasma; preparation of a concentrate for therapeutic use**

Feldman, Dr.P.A.  
Separation / Assay / Protein / Blood plasma /  
Human / Therapy / Hematology / Biochemistry

**Large-scale preparation of a thrombin concentrate from human plasma, primarily for therapeutic use**

Feldman, Dr.P.A.  
Production scale / Preparation / Blood plasma /  
Human / Protein / Hematology / Therapy / Clotting /  
Biochemistry

**Large-scale preparation of a factor IX concentrate from human plasma, primarily for therapeutic use**

Feldman, Dr.P.A.  
Production scale / Preparation / Blood factor / Blood  
plasma / Human / Therapy / Hematology /  
Biochemistry

**Monoclonal antibodies to plasma proteins**

Dadi, Dr.H.K.  
Monoclonal / Antibody / Blood plasma / Protein /  
Immunology / Hematology

**Fibrinopeptide A measurement in plasma and plasma fractions by radioimmunoassay and HPLC**

Brady, Dr.A.M.  
Blood plasma / Peptide / RIA / HPLC / Biochemistry /  
Hematology

**Qualitative analysis of fibrinogen using electrophoretic methods**

Brady, Dr.A.M.  
Electrophoresis / Blood factor / Biochemistry /  
Hematology

**Assessment of plasma collection methods in relation to the fractionation, recovery and stability of plasma proteins**

Brady, Dr.A.M.  
Blood plasma / Separation / Protein / Biochemistry /  
Hematology

**Molecular exclusion chromatography of factor VIII**

Baker, Miss.R.M.  
Chromatography / Molecular / Factor VIII /  
Biochemistry / Hematology

 **Forestry Commission**

Forest Research Station (Alice Holt Lodge)  
Wrecclesham  
GU10 4LH  
Farnham (Surrey)  
☎ +44 420 22255

**Mycorrhizas**

Walker, Dr.C.  
Forestry / Plant / Fungus / Ecology

**Micropropagation in forestry**

John, Dr.A.  
Cultivation / Forestry / Botany

**Clonal and seedling seed orchards**

Faulkner, R.  
Cloning / Germ cell / Botany / Forestry

**Pheromone trapping of exotic bark beetles**

Barbour, Dr.D.A.  
Pheromone / Insect / Forestry

- National Engineering Laboratory**  
 East Kilbride  
 G75 0QU  
 Glasgow  
 ☎ +44 3552 20222  
**Integrated systems for design of engineering structures and components**  
 Currie, J.H.  
 Mechanical engineering
- Medical Research Council**  
 Blood Pressure Unit  
 Western Infirmary  
 G11 6NT  
 Glasgow  
 ☎ +44 41 339 8822  
**Design and efficacy of renin inhibitors**  
 Lever, Dr.A.F.  
 Enzyme / Hydrolysis / Inhibitor / Blood / Physiology / Pharmacology  
**Mechanism of renin secretion in vitro**  
 Leckie, Dr.B.  
 In vitro / Secretion / Enzyme / Hydrolysis / Blood / Physiology / Pharmacology
- Natural Environment Research Council**  
 Institute of Terrestrial Ecology  
 (Merlewood), Merlewood Research Station  
 Grange-over-Sands  
 LA11 6JU  
 ☎ +44 44 84 2264/5/6  
**Experimental assessment of novel biomass systems**  
 Callaghan, Dr.T.V.  
 Biomass / Soil / Ecology
- Department of Agriculture for Northern Ireland**  
 Agricultural Research Institute of Northern Ireland, Crop and Animal Husbandry Research Division  
 Hillsborough  
 BT26 6DR  
 County Down  
 ☎ +44 846 682484  
**Effect of using an inoculant as a silage additive on the utilization of feed by dairy cattle**  
 Mayne, Dr.C.S.  
 Additive / Feed / Stock / Storage
- Liverpool Health Authority**  
 Royal Liverpool Hospital, Prescott Street  
 L7 8XP  
 Liverpool  
 ☎ +44 517090141  
**Role of three monoclonal antibody defined antigens in early detection, prognosis and spread of carcinomas**  
 Makin, Miss C.A.  
 Monoclonal / Antibody / Antigen / Diagnosis / Cancer / Tumour / Immunology  
**Multicentre study of human lympholastoid interferon (Wellferon) in patients with resistant condyloma acuminata**  
 Alawattagama, Dr.A.B.  
 Human / Interferon / Tumour / Epithelium
- National Institute for Biological Standards and Control**  
 Standards Processing Section (National Institute for Medical Research)  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 969 3666  
**Chemical and biological effects of drying, at low temperature, on polypeptides**  
 Tarelli, Dr.E.  
 Biochemistry / Drying / Cold / Polypeptide
- National Institute for Medical Research**  
 Laboratory of Cell Propagation  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 959 3666  
**Cell and molecular biology of yeast and other microbial eukaryotes**  
 Williamson, Dr.D.H.  
 Cell biology / Molecular biology / Eukaryote
- National Institute for Medical Research**  
 Engineering Department  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 959 3666  
**Emulsion based systems for the separation of biological materials**  
 Burnell, Ms.P.K.P.  
 Emulsion / Separation / Bioprocess engineering  
**Biological sensors**  
 Anson, Dr.M.  
 Biosensor / Engineering
- National Institute for Medical Research**  
 Laboratory of Eukaryotic Molecular Genetics  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 959 3666  
**Protein phosphorylation and growth control**  
 Foulkes, Dr.J.G.  
 Protein / Phosphorylation / Growth / Regulation / Biochemistry
- National Institute for Medical Research**  
 Laboratory of Gene Structure and Expression  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 959 3666  
**Relationship between eukaryotic gene structure and expression**  
 Hui, Dr.M.K.  
 Eukaryote / Gene / Structure / Expression / Molecular genetics
- National Institute for Medical Research**  
 Laboratory of Peptide Chemistry  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 959 3666  
**Processing and activity of prohormones**  
 Smyth, Dr.D.G.  
 Hormone / Precursor / Activity / Biochemistry
- Intracellular enzymes: study and application**  
 Smyth, Dr.D.G.  
 Intracellular / Enzyme / Biochemistry
- National Institute for Medical Research**  
 Physical Biochemistry Division  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 959 3666  
**High resolution NMR studies of biopolymer conformations, DNA, protein and ligand-receptor dynamics and interactions**  
 Feeney, Dr.J.  
 NMR / Polymer / DNA / Protein / Receptor / Dynamics / Interaction / Biochemistry  
**Mechanism and roles of nucleoside triphosphatases in cell regulation and gene expression**  
 Eccleston, Dr.J.F.  
 Nucleotide / Phosphatase / Cell / Regulation / Gene / Expression / Biochemistry / Molecular genetics  
**Kinetics of elementary processes in protein biosynthesis and DNA processing enzymes - NTP hydrolysis in accuracy of replication and translation**  
 Eccleston, Dr.J.F.  
 Kinetics / Protein / Biosynthesis / DNA / Enzyme / Nucleotide / Phosphatase / Hydrolysis / Replication / Translation / Biochemistry
- National Institute for Medical Research**  
 Laboratory of Protein Structure  
 The Ridgeway, Mill Hill  
 NW7 1AA  
 London  
 ☎ +44 1 959 3666  
**Structure and function of protein kinases and their substrates**  
 Aitken, Dr.A.  
 Structure / Protein / Kinase / Substrate / Biochemistry
- South West Thames Regional Health Authority**  
 Regional Research Committee  
 40 Eastbourne Terrace  
 W2 3QR  
 London  
 ☎ +44 1 262 8011  
**Value of immunocytochemical phenotyping with monoclonal antibodies in haematological diagnosis**  
 Shirley, Dr.J.  
 Cell biology / Immune / Monoclonal / Antibody / Diagnosis / Immunology / Hematology  
**Investigation and diagnosis of diseases of T and B lymphocytes using DNA probes**  
 Pereira, Dr.R.  
 Lymphocyte / DNA / Probes / Diagnosis / Immunology  
**Use of liposomes containing entrapped markers in the development of sensitive immunoassay techniques**  
 Firth, G.  
 Marker / Artificial / Membrane biology / Immunoassay / Immunology  
**Purification and preparation of an antiserum to human relaxin**  
 Crosby C.  
 Antiserum / Immunology / Gynecology

**Use of cultured epidermis in the treatment of burn wounds**

Clarke, J.  
Tissue / Cultivation / Skin / Therapy

 **Zoological Society of London**

Institute of Zoology  
Regent's Park  
NW1 4RY  
London  
☎ +44 1 722 3333

**Immunoassay for drugs using quinine as model system**

Voller, Dr.A.  
Drug / Immunoassay / Quinine / Pharmacology

**Identification and production by genetic engineering of the ovine and bovine embryonic antiluteolins (oTP-1 and bTP-1)**

Flint, Prof.A.P.F.  
Recognition / Gene technology / Mammal / Protein / Endocrinology

**Use of pheromones from big cats, such as the lion, as pest control agents for deer**

Abbott, Dr.D.H.  
Pheromone / Pest / Abatement / Mammal / Zoology

 **AFRC Institute for Grassland and Animal Production**

Cattle and Sheep Production Department  
Hurley  
SL6 5LR  
Maidenhead  
☎ +44 62 882 3631

**Upgrading of forages by chemical, enzymic and microbial treatments**

Mason, Dr.V.C.  
Upstream processing / Biochemistry / Enzymology / Microbiology / Feed / Agriculture

**Control and manipulation of biochemical and microbial processes during wilting and ensiling: chemical, enzymic and microbial additives**

Jones, L.  
Biochemistry / Enzymology / Microbiology / Regulation / Agriculture / Storage

 **AFRC Institute for Grassland and Animal Production**

Department of Endocrinology and Animal Physiology  
Hurley  
SL6 5LR  
Maidenhead  
☎ +44 62 882 3631

**Identification of genes of economic importance in farm species**

Perry, Dr.B.N.  
Gene / Animal / Veterinary medicine / Genetics

 **Animal Health Trust**

Virology Unit  
Lanwades Hall  
CB8 7PN  
Newmarket (Kennett, Suffolk)  
☎ +44 638 750659

**Immunity to equine herpesvirus**

Mumford, Dr.J.A.  
Immunology / Virology / Mammal / Herpes / DNA virus / Veterinary medicine

**Isolation of equine viruses and development of vaccines**

Mumford, Dr.J.A.  
Isolation / Virus / Mammal / Vaccine / Virology / Immunology / Veterinary medicine

 **AFRC Institute of Plant Science Research**

Department of Applied Genetics  
John Innes Institute, Colney Lane  
NR4 7UH  
Norwich  
☎ +44 603 52571

**Genetic diversity and population structure of *Rhizobium*: transfer, function and evolution of symbiotic and other plasmids; enzyme and restriction fragment polymorphism**

Young, Dr.J.P.W.  
Molecular genetics / *Rhizobium* / Plasmid / Enzyme / Restriction / Polymorphism / Agriculture

**Genetic transformation of crop plant species. Particularly pea, barley, oil seed rape. The use of this technology to investigate gene function and structure**

Mullineaux, Dr.P.M.  
Gene technology / Transformation / Useful plant / Gene / Structure / Agriculture

**Genome organization in relation to genetics in pea**

Ellis, Dr.T.H.N.  
Genome / Useful plant / Molecular genetics / Agriculture

**Pollen and tissue culture**

Dunwell, Dr.J.M.  
Tissue / Cultivation / Plant / Agriculture

**Transfer of plant mitochondria by microinjection, and characterization of mitochondrial DNA in sugar beet**

Davies, Prof.D.R.  
Plant / Mitochondrion / Injection / DNA / Molecular biology / Agriculture

**In situ hybridization of DNA on pea chromosomes**

Davies, Prof.D.R.  
In situ / Hybridization / DNA / Useful plant / Chromosome / Molecular genetics / Agriculture

**Characterization of the pea genome**

Davies, Prof.D.R.  
Useful plant / Genome / Molecular genetics / Agriculture

**Regulation of gene expression during pea embryogenesis, with particular reference to the synthesis, structure and genetics of major seed proteins**

Casey, Dr.R.  
Regulation / Gene / Expression / Germ cell / Protein / Molecular genetics / Useful plant / Agriculture

 **AFRC Institute of Plant Science Research**

Department of Cell Biology  
John Innes Institute, Colney Lane  
NR4 7UH  
Norwich  
☎ +44 603 52571

**Genetic manipulation of plants by transformation and somatic hybridization of protoplasts**

Watts, Dr.J.W.  
Gene technology / Plant / Transformation / Hybridization / Protoplast / Agriculture

**Cell surface antigens of higher plant protoplasts defined by monoclonal antibodies**

Roberts, Dr.K.  
Cell biology / Surface / Antigen / Plant / Monoclonal / Antibody / Protoplast / Agriculture

 **AFRC Institute of Plant Science Research**

Department of Genetics  
John Innes Institute, Colney Lane  
NR4 7UH  
Norwich  
☎ +44 603 52571

**Isolation and genetical, physical and biochemical characterization of genes for anthocyanin biosynthesis, especially by the use of transposers**

Martin, Dr.C.R.  
Genetics / Biochemistry / Gene / Biosynthesis / Plant / Pigment

**Molecular biology of symbiotic nitrogen fixation by *Rhizobium* as the background to improvement and possible extension to non-legumes**

Johnston, Dr.A.W.B.  
Molecular biology / Symbiosis / Nitrogen / Fixation / *Rhizobium* / Useful plant / Agriculture

**Genetic manipulation in *Streptomyces* and its use to analyse differential gene expression, the basis for the breeding of improved strains**

Hopwood, Prof.D.A.  
Gene technology / *Streptomyces* / Gene / Expression / Cultivation

 **AFRC Institute of Plant Science Research**

Department of Virus Research  
John Innes Institute, Colney Lane  
NR4 7UH  
Norwich  
☎ +44 603 52571

**Structure, function, manipulation and control of plant RNA viruses**

Davies, Dr.J.W.  
Molecular biology / Plant / RNA virus / Structure / Regulation / Modification / Agriculture

**Molecular biology of plant DNA viruses and their exploitation as plant gene vectors**

Davies, Dr.J.W.  
Molecular biology / Plant / DNA virus / Gene / Vector / Agriculture

 **AFRC Institute of Food Research**

Norwich Laboratory  
Colney Lane  
NR4 7UA  
Norwich  
☎ +44 603 56122

**Engineering plant proteins for improved functional properties in foods**

Wright, Dr.D.J.  
Protein design / Plant / Food / Industry / Biochemistry / Nutritional branch

**Protein engineering to improve functionality**

Wright, Dr.D.J.  
Protein design / Biochemistry / Industry / Nutritional branch

**Physical and process engineering principles of biochemical reactors involving enzymes or cells in culture**

Wilson, Dr.P.D.G.  
Bioreactor / Bioprocess engineering / Enzyme / Cell / Cultivation / Industry / Nutritional branch

**Engineering of yeasts for use in pressure cycle fermenters**

Stratford, Dr.M.  
Yeast / Bioreactor / Bioprocess engineering / Industry / Nutritional branch



**Studies of microbial enzymes degrading plant cell walls and the biologically active oligosaccharides released**

Selvendran, Dr.R.R.  
Enzyme / Degradation / Cell wall / Plant / Oligosaccharide / Biochemistry / Microbiology / Nutritional branch

**Secondary metabolite production by transformed plant organs and biotransformations based on specific plant enzymes**

Rhodes, Dr.M.J.C.  
Secondary / Metabolite / Production / Plant / Enzyme / Biotransformation / Biochemistry / Nutritional branch

**Development of novel fermentation processes based on plant or yeast cells in culture**

Rhodes, Dr.M.J.C.  
Fermentation technology / Plant / Yeast / Cell / Cultivation / Industry

**Selection of plant cell lines with stable high rates of secondary metabolic production and secretion**

Rhodes, Dr.M.J.C.  
Plant / Cell / Selection / Secondary / Metabolism / Secretion / Biochemistry / Botany / Nutritional branch

**Plant cell cultures as a source of pigments, flavours and other ingredients for food processing**

Rhodes, Dr.M.J.C.  
Plant / Cell / Cultivation / Pigment / Flavour / Food / Industry

**Use of microbial enzymes for the upgrading of sugar beet pectin**

Rhodes, Dr.M.J.C.  
Microbial / Enzyme / Upstream processing / Useful plant / Industry / Pectin / Bioprocess engineering

**Methanogenesis and acetogenesis of landfill**

Peck, Dr.M.W.  
Methane / Waste / Environment / Microbiology

**Novel industrial biopolymers from cereal polysaccharides and extracellular bacterial polysaccharides**

Morris, Dr.V.J.  
Organic substance / Polymer / Industry / Polysaccharide / Bacterial / Vegetable / Food

**Development of immunoassays for the rapid detection of food-poisoning bacteria**

Morgan, Dr.M.R.A.  
Immunoassay / Bacterium / Toxin / Food / Analysis / Microbiology / Nutritional branch

**Development of immunoanalytical techniques for vitamins in food**

Morgan, Dr.M.R.A.  
Immunoassay / Food / Vitamin / Biochemistry / Analysis / Nutritional branch

**Development of immunoassays for the analysis of vomitoxin and other tricothecene mycotoxins in food**

Morgan, Dr.M.R.A.  
Immunoassay / Food / Mycotoxin / Biochemistry / Analysis / Nutritional branch

**Determination of food constituents and contaminants by enzyme-linked immunosorbent assay (ELISA)**

Morgan, Dr.M.R.A.  
Food / ELISA / Biochemistry / Analysis / Nutritional branch

**Clone into yeasts the genes controlling production of secondary metabolites in plants**

McKee, Dr.R.A.  
Cloning / Yeast / Gene / Regulation / Metabolite / Secondary / Plant / Gene technology / Biochemistry

**Microbial host systems encoding plant genes involved in the production of food flavours**

McKee, Dr.R.A.  
Microbial / Host / Coding / Plant / Gene / Food / Flavour / Industry

**Use of yeasts for disposal of food processing wastes and conversion to products of higher value**

McKee, Dr.R.A.  
Yeast / Food / Waste / Transformation / Microbiology / Industry / Nutritional branch

**Characterization of yeast plasmids for industrial and taxonomic use**

Jackman, Dr.P.J.H.  
Yeast / Plasmid / Food / Industry / Microbiology / Taxonomy

**National collection of yeast cultures: collection, maintenance and supply of yeasts; related research**

Jackman, Dr.P.J.H.  
Organism collection / Yeast / Microbiology / Nutritional branch

**Nucleic acids in reverse micelle systems**

Hanley, A.B.  
Nucleic acid / Artificial / Membrane biology / Biochemistry / Nutritional branch

**Bacteriophage lysins as precisely targeted agents for prevention of spoilage**

Gasson, Dr.M.J.  
Bacteriophage / Prophylaxis / Antibody / Microbiology / Food / Nutritional branch

**Genetics of lactic acid bacteria**

Gasson, Dr.M.J.  
Genetics / Lactic acid / Bacterium / Microbiology / Nutritional branch

**Production of nisin using a synthetic gene**

Gasson, Dr.M.J.  
Gene technology / Food / Nutritional branch / Antibiotic

**Genetics of lactic acid bacteria; possibility of developing modified strains for dairy and food fermentations**

Gasson, Dr.M.J.  
Genetics / Microbiology / Lactic acid / Bacterium / Fermentation / Food / Industry

**Construction of vectors for the development of genetic engineering technology in lactic acid bacteria**

Gasson, Dr.M.J.  
Vector / Gene technology / Lactic acid / Bacterium / Food / Industry

**Enzymic modification of starch and microbial polysaccharides**

Chan, Dr.H.W.-S.  
Modification / Enzymatic / Starch / Polysaccharide / Microbial / Biochemistry / Food / Industry

**Microbial conversion of food processing wastes to useful products, initially methane for fuel**

Archer, Dr.D.B.  
Transformation / Food / Waste / Industry / Methane / Fuel / Microbial / Environment / Microbiology

**□ The Royal College of Surgeons of England**

Dental Research Unit  
West Hill  
BR6 7JJ  
Orpington, Downe (Kent)  
☎ +44 689 56717

**Cloning of genes for degradative enzymes from oral spirochaetes**

Russell, Dr.R.R.B.  
Cloning / Molecular genetics / Enzyme / Microbiology

**Cloning and genetic analysis of glucosyl transferases of oral streptococci**

Gilpin, M.L.  
Cloning / Molecular genetics / Transferase / Streptococcus / Microbiology

**Cloning of Streptococcus mutans genes in Escherichia coli**

Gilpin, M.L.  
Cloning / Streptococcus / Escherichia / Molecular genetics / Microbiology

□ **Medical Research Council**  
Immunochimistry Unit (Department of Biochemistry, University of Oxford)  
South Parks Road  
OX1 3QU  
Oxford  
☎ +44 865 275353

**Protein microsequencing technology**

Reid, Dr.K.B.M.  
Protein / Sequencing / Biochemistry

□ **Natural Environment Research Council**  
Institute of Terrestrial Ecology  
(Edinburgh), Edinburgh Research Station  
Bush Estate  
EH25 0QB  
Penicuik  
☎ +44 31 445 4343

**Large scale production of mycorrhizal inocula**

Wilson, Dr.J.  
Production scale / Soil / Ecology / Vaccine / Plant / Fungus

**Characterization of sheathing mycorrhizas**

Crossley, Dr.A.  
Soil / Ecology / Plant / Fungus

□ **National Institute for Biological Standards and Control**  
Division of Bacteriology  
Blanche Lane  
EN6 3QG  
Potters Bar, South Mimms  
☎ +44 707 54753

**Isolation and genetic analysis of the pathogenic determinants of Bordetella pertussis by recombinant DNA techniques**

McPheat, Dr.W.L.  
Recombination / rDNA / Bacteriology / Gramnegative / Eubacterium / Genetics / Disease / Origin

□ **National Institute for Biological Standards and Control**  
Chemistry Division  
Blanche Lane  
EN6 3QG  
Potters Bar, South Mimms  
☎ +44 707 54753

**Analysis and assay of antibiotics**

Thomas, Dr.A.  
Antibiotic / Analysis / Assay / Biochemistry / Pharmacology / Pharmacy

**Structural analysis of glycoprotein carbohydrate chains on genetically engineered products**

Jones, Dr.C.  
Gene technology / Analysis / Glycoprotein / Biochemistry

**Structures and biological activities of sulphated glycosaminoglycans**

Johnson, Dr.E.A.  
Pharmacy / Pharmacology / Drug

**Tetracycline as a model for antibiotic transport in gram positive bacteria**

Harris, Dr.R.

Tetracycline / Grampositive / Transport / Bacterium / Biochemistry / Pharmacy

**Reactions of pharmaceutical peptides with sugars**

Corran, Dr.P.H.

Peptide / Polyalcohol / Pharmacy

**Separation and identification of biologically active proteins by high performance liquid chromatography**

Calam, Dr.D.H.

Separation / Recognition / Protein / HPLC / Biochemistry

**□ National Institute for Biological Standards and Control**Division of Haematology  
Blanche Lane

EN6 3QG

Potters Bar, South Mimms

☎ +44 707 54753

**Ultrastructural study of experimental thrombosis**

Thomas, Dr.D.P.

Fine structure / Hematology / Biochemistry

**Studies to image and target thrombi in vivo using mono- and polyclonal antibodies**

Gaffney, Dr.P.J.

Monoclonal / Polyclonal / Antibody / In vivo / Immunology / Hematology

**Development of assays for the diagnosis of thrombosis**

Gaffney, Dr.P.J.

Assay / Diagnosis / Hematology

**Monoclonal antibodies to fibrin fragments in circulation prior to and during a thrombotic event: assay for early diagnosis of thrombosis**

Gaffney, Dr.P.J.

Monoclonal / Antibody / Fibrin / Diagnosis / Hematology / Immunology / Assay

**□ National Institute for Biological Standards and Control**

Division of Hormones

Blanche Lane

EN6 3QG

Potters Bar, South Mimms

☎ +44 707 54753

**Regulation of interleukin-1 gene expression**

Bristow, Dr.A.F.

Gene / Expression / Regulation / Molecular genetics / Interleukine

**□ National Institute for Biological Standards and Control**Immunobiology Division  
Blanche Lane

EN6 3QG

Potters Bar, South Mimms

☎ +44 707 54753

**Production of monoclonal antibodies for the study of molecules of physiological interest**

Thorpe, Dr.R.

Monoclonal / Antibody / Immunology / Physiology

**Production and investigation of mammalian cytokines**

Thorpe, Dr.R.

Immunology / Mammal

**Development of immunoassays for human interferons and tumour necrosis factors**

Meager, Dr.A.

Immunoassay / Interferon / Human / Immunology / TNF / Cancer

**□ National Institute for Biological Standards and Control**

Viral Products Department

Blanche Lane

EN6 3QG

Potters Bar, South Mimms

☎ 0707 54753

**Studies of the antigenic characteristics of influenza virus**

Minor, Dr.P.D.

Antigen / Immunology / Virology / Flu / RNA virus

**Molecular basis of antigenicity and virulence of poliovirus**

Minor, Dr.P.D.

Molecular / Virology / Antigen / Virus / Immunology

**□ AFRC Institute of Food Research**

Reading Laboratory

Shinfield

RG2 9AT

Reading

☎ +44 734 883103

**Technology of cheese and other fermented products (26/333059)**

Young, Dr.P.

Cheese / Fermentation / Food technology / Industry

**Metabolism and growth of lactic acid bacteria in milk and milk substrates**

Marshall, Dr.V.M.E.

Metabolism / Growth / Lactic acid / Bacterium / Milk / Substrate / Microbiology / Nutritional branch

**Bacteriological aspects of yoghurt and other fermented milk products**

Marshall, Dr.V.M.E.

Yoghurt / Milk / Bacteriology / Nutritional branch / Fermentation

**Enzyme encapsulation as a method of enzyme incorporation into multiphase foods**

Law, Dr.B.A.

Microencapsulation / Enzyme / Food / Multi-phase / Food technology / Industry

**Development of flavour in cheese making: accelerated ripening**

Law, Dr.B.A.

Flavour / Cheese / Industry / Food technology

**Development of rapid methods for assessing bacterial contamination in foods and beverages**

Kroll, Dr.R.G.

Food / Drink / Microbiology / Analysis / Nutritional branch

**Electron transfer coupling as rapid method for assessing bacterial contamination**

Kroll, Dr.R.G.

Food / Microbiology / Analysis / Nutritional branch

**National collection of food bacterium; classification and identification of food micro-organisms**

Jackman, Dr.P.

Organism collection / Food / Microorganism / Microbiology / Nutritional branch

**Modification of enzymes for food use by genetic manipulation (21/333192)**

Goodenough, Dr.P.W.

Enzyme / Modification / Food / Gene technology / Industry

**Genetic modification of lactic acid bacteria**

Hill, Dr.S.H.A.

Genetics / Modification / Lactic acid / Bacterium / Microbiology / Nutritional branch

**Micro-organisms in food and beverage spoilage**

Davenport, Dr.R.R.

Food / Drink / Microorganism / Microbiology / Nutritional branch

**Effect of enzymes on foods during processing and storage**

Andres, Dr.A.T.

Enzyme / Food / Storage / Industry / Biochemistry

**Modification of functional properties of food proteins by enzyme and chemical treatments**

Andres, Dr.A.T.

Modification / Food / Protein / Enzyme / Industry / Biochemistry

**Modification of enzymes to facilitate recovery from processing steams**

Andrews, Dr.A.T.

Modification / Enzyme / Bioprocess engineering / Industry / Nutritional branch

**□ Ministry of Agriculture, Fisheries and Food**

Cattle Breeding Centre

Church Lane

RG2 9BZ

Reading, Shinfield

☎ +44 734 883157

**Whole blood progesterone enzyme immunoassay for pregnancy testing in sows 17-19 days after service**

Glossop, Dr.C.E.

Blood / Progesterone / Enzyme / Immunoassay / Biochemistry / Endocrinology / Fertility / Veterinary medicine

**Detection of immune responses to semen diluent components and their effect upon fertility to artificial insemination**

Glossop, Dr.C.E.

Immunology / Fertility / Insemination / Artificial / Veterinary medicine

**□ AFRC Institute of Animal Physiology and Genetics Research**

Edinburgh Research Station

Roslin

EH25 9PS

Midlothian

☎ +44 31 440 2726

**Strategic studies of animal physiology, genetics and breeding relevant to agriculture and biotechnology**

Bulfield, Dr.G.

Animal / Physiology / Genetics / Breeding / Agriculture / Biotechnology

**□ Ministry of Agriculture, Fisheries and Food**

Agricultural Development and Advisory Service Slough Laboratory

London Road

SL3 7HJ

Slough

☎ +44 753 34626

**Development of food and pheromone insect attractants for detection of storage and domestic arthropods**

Chambers, Dr.J.

Pheromone / Insect / Food / Storage / Nutritional branch

**Novel techniques for the identification of micro-organisms and the detection of their activity in stored products**

Buckle, A.E.  
Microbiology / Storage / Recognition / Microorganism / Agriculture

**Bristol Polytechnic**  
Department of Science  
Coldharbour Lane  
BS16 1QY  
Bristol / Frenchay  
☎ +44 272 656261

**Genetic and molecular studies with the nitrogen fixing actinomycete Frankia**

Veal, Dr.D.  
Molecular genetics / Nitrogen / Fixation / Actinomycete / Bacteriology

**Genetics of Vibrio natriegens**  
Veal, Dr.D.  
Genetics / Vibrio / Bacteriology

**Screening of tissues for beta-3-galactosyl transferase, its purification and significance in Tn polyagglutination of blood cells**  
Meenaghan, M.  
Tissue / Transferase / Agglutination / Blood / Biochemistry / Hematology

**Production of secondary metabolites and evaluation of methods for their release from plant cells grown in vitro**  
Hunter, Dr.C.S.  
Metabolite / Secondary / Plant / Cell / In vitro / Cultivation / Biochemistry

**Micropropagation and elimination of disease from Pelargonium sp plants**  
Hunter, Dr.C.S.  
Cultivation / Plant / Botany

**Studies on the scale-up of monoclonal antibody production**  
Caughlin, R.T.  
Production / Scale-up / Monoclonal / Antibody / Blood

**Brighton Polytechnic**  
Department of Pharmacy  
Moulsecoomb  
BN2 4GJ  
Brighton  
☎ +44 273 693655

**Antimalarial activity of West African drug plants**  
Russell, Dr.P.F.  
Drug / Plant / Tropical / Malaria / Pharmacy

**Use of a penicillinase enzyme electrode in pharmaceutical and clinical analysis**  
Olliff, Dr.C.J.  
Enzyme / Electrode / Pharmacy / Clinical / Analysis

**Development and use of immunoassays for enantiomers of some non-steroidal anti-inflammatory drugs**  
Fishwick, Mrs.P.  
Immunoassay / Drug / Pharmacy

**Polytechnic of Central London**  
School of Biotechnology, Faculty of Engineering and Science  
115 New Cavendish Street  
W1M 8JS  
London  
☎ +44 1 4865811

**Plant cell culture and secondary metabolites**  
Tampion, Dr.J.  
Plant / Cell / Cultivation / Secondary / Metabolism / Biochemistry / Cell biology

**Selection and characterization of plant cell lines producing pigments in sterile culture (London Centre for Biotechnology Programme)**  
Tampion, Dr.J.  
Selection / Plant / Cell / Cultivation / Pigment / Cell biology

**Mass-spectrometric monitoring of metabolic activity of Streptomyces clavuligerus during production of clavulanic acid by freely growing and immobilized cells**

Scott, Dr.R.I.  
MS / Monitoring / Streptomyces / Metabolism / Immobilization / Cell / Microbiology

**Beta-lactam biosynthesis in free and immobilized streptomycetes**  
Scott, Dr.R.I.  
Biosynthesis / Antibiotic / Immobilization / Streptomyces / Microbiology

**Molecular biological studies of organisms producing beta-lactam antibiotics**  
Picknett, Ms.T.M.  
Molecular biology / Microbiology / Antibiotic / Biosynthesis

**Enzymology of the early steps of beta-lactam biosynthesis in Penicillium chrysogenum**  
Perry, Dr.D.  
Enzymology / Biosynthesis / Fungus / Antibiotic / Microbiology

**Optimization of antibiotic production using Kalman filter estimation techniques for on-line control**  
Leigh, Prof.R.J.  
Optimization / Antibiotic / Production / Control / Bioprocess engineering / Pharmaceutical industry

**Genetical manipulation of Bacillus thuringiensis**  
Inal, J.  
Gene technology / Bacillus

**Development of overproducing amino acid strains of Bacillus megaterium using classical genetic and recombinant DNA techniques**  
Ikram, Ms.Z.  
Amino acid / Bacillus / Genetics / Recombination / DNA / Microbiology

**Construction of a cloning vector for and cloning of genes from Penicillium chrysogenum**  
Ford, P.  
Cloning / Vector / Gene / Fungus / Gene technology

**Halogenating enzymes for micro-organisms (Institute for Biotechnological Studies Programme)**  
Holt, Prof.G.  
Halogenation / Enzyme / Microbiology

**Novel and rare sugars and oligosaccharides will be prepared using microbial enzymes**  
Bucke, Dr.C.  
Oligosaccharide / Polysaccharide / Enzyme technology / Microbial

**Methods are being developed for the immobilization of biocatalysts for use on the industrial scale**  
Bucke, Dr.C.  
Immobilization / Biological / Catalysis / Industry / Production scale / Bioprocess engineering / Enzyme technology

**Terpenoid metabolites from fungi**  
Bedford, Dr.C.T.  
Terpene / Derivative / Metabolism / Fungus / Microbiology / Biochemistry

**Models of methyltransferases**  
Bedford, Dr.C.T.  
Modelling / Transferase / Biochemistry

**Immobilized enzyme probes for fermentation monitoring (Institute for Biotechnological Studies Programme)**  
Adlard, Dr.M.W.  
Immobilization / Enzyme / Probes / Fermentation technology / Monitoring

**Regulation of penicillin biosynthesis in Aspergillus nidulans by detection and analysis of intermediates and products in the biosynthetic pathway**  
Adlard, Dr.M.W.  
Regulation / Penicillin / Biosynthesis / Mycelial fungus / Microbiology / Biochemistry / Pharmaceutical industry

**Enzymes and intermediates in the beta-lactam biosynthetic pathways of Penicillium chrysogenum**  
Adlard, Dr.M.W.  
Enzyme / Antibiotic / Biosynthesis / Fungus / Microbiology / Pharmaceutical industry / Biochemistry

**Means of improving the extended operational use of biocatalysts, ie immobilized organisms and novel fermentation configurations (Institute for Biotechnological Studies Programme)**  
Adlard, Dr.M.W.  
Biological / Catalysis / Immobilization / Fermentation / Bioprocess engineering / Industry

**City of London Polytechnic**  
Department of Biological Sciences  
Calcutta House Precinct, Old Castle Street  
E1 7NT  
London  
☎ +44 1 2831030

**Biofilms on metal surfaces and their effects on corrosion. Micro-organisms of special interest are the anaerobic sulphate-reducing bacteria. Effect of biocides**  
Gaylarde, Mrs.C.C.  
Metal / Surface / Corrosion / Anaerobic / Microbiology / Materials research / Bioactive agent

**Anaerobic corrosion of steel by Desulfovibrio. Effects of microbial interactions and inhibitors**  
Gaylarde, Mrs.C.C.  
Anaerobic / Corrosion / Steel / Desulfovibrio / Interaction / Inhibitor / Microbiology / Materials research

**City of London Polytechnic**  
Sir John Cass School of Science and Technology, Department of Chemistry  
31 Jewry Street  
EC3N 2EY  
London  
☎ +44 1 2831030

**Models of the primary processes of photosynthesis**  
Dalton, Dr.J.  
Photosynthesis / Biochemistry

**Coventry (Lanchester) Polytechnic**  
Department of Biological Sciences  
Priory Street  
CV1 5FB  
Coventry  
☎ +44 203 24166

**Aerobic degradation of straw by mixed microbial populations**  
Stewart, Dr.J.C.  
Aerobic / Degradation / Vegetable / Waste / Microbiology

**Restriction analysis and modification of phage I $\lambda$  as a broad host range genetic vector**  
Mullenger, Dr.L.  
Restriction / Host / Vector / Bacteriophage / Molecular genetics

**Development of novel biosensors for use in detection of biologically important complexes**  
Hookes, Dr.D.E.  
Biosensor / Engineering

**Mechanisms of microbial resistance to antibiotics**  
Heptinstall, Dr.J.  
Microbial / Resistance / Antibiotic / Microbiology

**Micropropagation of tropical leguminous trees**  
Harris, Dr.P.J.C.  
Cultivation / Plant / Tropical / Agriculture / Botany

**Optimization of eukaryotic cell performance using computer controlled mini-bioreactors for suspended and immobilized culture of animal cells**  
Crisp, Dr.D.M.  
Optimization / Eukaryote / Cell / Computer / Control / Bioreactor / Cultivation / Immobilization / Suspension / Animal / Laboratory scale / Bioprocess engineering

**Development and application of small fermenters**  
Amphlett, Dr.M.J.  
Fermentation technology / Bioreactor / Laboratory scale

□ **Coventry (Lanchester) Polytechnic**  
Department of Mathematics  
Priory Street  
CV1 5FB  
Coventry  
☎ +44 203 24166

**Design of non-linear sampled-data systems**  
JAMES, PROF.D.J.G.  
Data processing

□ **Hatfield Polytechnic**  
Biological and Environmental Sciences  
Division  
College Lane  
Hatfield  
☎ +44 70 7268100

**Use of isolated hepatocytes as a model for in vivo drug metabolism**  
Wilson, Prof.K.  
Liver / Cell / Modelling / In vivo / Drug / Metabolism / Pharmacology

**Enzyme inhibitors of clinical and veterinary importance from algae**  
Walker, Dr.J.M.  
Enzyme / Inhibitor / Alga / Biochemistry / Clinical / Veterinary medicine

**The effects of immobilization on physiology, biochemistry and productivity of plant cells, in particular microalgae**  
Trevan, Dr.M.D.  
Immobilization / Biochemistry / Plant / Cell / Alga / Production

**Immobilized enzymes: the effect upon kinetic parameters and stability**  
Trevan, Dr.M.D.  
Enzyme / Immobilization / Kinetics / Biochemistry

**Studies on enzyme stability using site-directed mutagenesis**  
Starkey, Dr.M.  
Enzyme / Mutation / Origin / Biochemistry

**Thermophilic bioleaching of mineral concentrates using continuous culture**  
Stanbury, P.F.  
Thermophilic / Leaching / Continuous / Cultivation / Bioprocess engineering

**Microbial ecology of biofilm formation in industrial cooling systems**  
Smith, Dr.R.N.  
Microbial / Ecology / Industry / Bioprocess engineering

**Secondary product synthesis by immobilized higher plant and algal cells**  
Simpkins, Dr.I.  
Biosynthesis / Secondary / Production / Plant / Alga / Cell / Immobilization / Biochemistry

**Abattoir waste exploitation, specifically examining microbial desaturation/transformation of saturated animal fats**  
Quinn, H.P.J.  
Waste / Fat / Animal / Microbial / Transformation / Microbiology

**Interplay between antibiotic synthesis and morphology in *Streptomyces* spp**  
Powney, M.  
Antibiotic / Biosynthesis / Streptomycete / Microbiology / Pharmaceutical industry

**Mycoflora of bakeries and products, and effects of disinfection procedures on the major spoilage yeasts and yeast-like fungi**  
Odell, D.E.  
Food / Microbiology / Industry / Sterilization hygiene / Yeast / Fungus

**Transmission of the mitochondrial genome of *Saccharomyces cerevisiae***  
Gingold, Dr.E.B.  
Mitochondrion / Genome / Yeast / Microbiology / Molecular genetics

**Plasmid stability in yeast, with emphasis on chemostat growth. Influence of growth conditions, genetic background, plasmid construction**  
Gingold, Dr.E.B.  
Plasmid / Yeast / Chemostat / Growth / Molecular genetics / Microbiology

□ **Hatfield Polytechnic**  
Chemical Sciences Division  
College Lane  
AL10 9AB  
Hatfield  
☎ +44 70 7279562, 79568

**Development of bio-sensors for use in agriculture. In vivo ion-selective transducers based on silicon nitride**  
Lee, Dr.J.B.  
Biosensor / Agriculture / In vivo / Chemistry / Ion / Transduction / Silicon

□ **Huddersfield Polytechnic**  
Department of Chemical and Physical Sciences  
Queensgate  
HD1 3DH  
Huddersfield  
☎ +44 484 22288

**Non-covalent inhibitors and suicide inhibitors of beta-lactamase and other enzymes**  
Page, Prof.M.I.  
Inhibitor / Lactamase / Biochemistry

**Design and development of enzyme electrodes and other biosensors**  
Jewsbury, Dr.R.A.  
Enzyme / Electrode / Biosensor / Biophysics / Enzyme technology

**Glutathione transferase as biochemical index of stress in aquatic organisms under organochlorine xenobiotic pollution**  
Garrod, Dr.A.C.  
Glutathione / Transferase / Aquatic / Ecology / Organic substance / Chlorine / Pollution / Xenobiotic / Environment / Biochemistry

□ **Kingston Polytechnic**  
School of Analytical and Biological Chemistry  
Penrhyn Road  
KT1 2EE  
Kingston upon Thames  
☎ +44 1 5491366

**Formulation of bacterial vaccines for fish**  
Agius, Dr.C.  
Bacterial / Vaccine / Immunology / Fish

**Replacement of live fish by cell cultures in toxicity testing**  
Agius, Dr.C.  
Cell / Cultivation / Monitoring / Toxicology / Fish / Environment

□ **Lancashire Polytechnic**  
Faculty of Science  
Corporation Street  
PR1 2TQ  
Preston  
☎ +44 772 22141

**The role of micro-organisms in the biodeterioration of hydrocarbons including metal working fluids and fuels**  
Morton, Dr.L.H.G.  
Degradation / Microbial / Hydrocarbon / Fuel / Liquid / Oil / Industry / Microbiology

**Formation of biofilms at surfaces in aqueous industrial environments**  
Morton, Dr.L.H.G.  
Surface / Liquid / Industry / Water / Physical chemistry

**Susceptibility of in-service plastics to microbial biodeterioration**  
Morton, Dr.L.H.G.  
Plastic / Degradation / Microbial / Industry / Materials research / Microbiology

**Screening, isolation and purification of secondary metabolites produced by cyanobacteria. Optimization of growth and production in computer controlled bioreactors. Pharmacological and toxicological testing**  
England, Dr.R.R.  
Cyanobacterium / Secondary / Metabolite / Isolation / Purification / Optimization / Microbiology / Production / Growth / Bioreactor / Test / Pharmacology / Toxicology / Bioprocess engineering / Industry

□ **Leeds Polytechnic**  
School of Health and Applied Sciences  
Calverley Street  
LS1 3HE  
Leeds  
☎ +44 532 462941

**Immobilization of enzymes, antibodies and cells**  
Beddows, Dr.C.G.  
Immobilization / Enzyme / Antibody / Cell

□ **Leicester Polytechnic**  
School of Life Sciences  
Scraftoft Campus  
LE7 9SU  
Leicester  
☎ +44 533 431011

**Molecular mechanisms involved in the initiation of fruit ripening**

Slater, Dr.A.  
Molecular biology

**Introduction of the nitrogen fixing bacterium *Azotobacter vinelandii* into higher plant cells**

Leach, Dr.C.K.  
Nitrogen / Fixation / *Azotobacter* / Plant / Cell / Gene technology

**Stabilization of oxygenase catalysed bioconversions of aromatic compounds using mutant microorganisms. Strain development and process design**

Jenkins, Dr.R.O.  
Oxygenase / Aromatic / Biotransformation / Mutation / Microbiology / Biochemistry

**Tropane alkaloid production in plant cell suspension cultures**

Elliott, Prof.M.C.  
Plant / Cell / Cultivation / Alkaloid / Suspension / Biology

**Gene manipulation of sugar beet so as to emphasise those characteristics which determine sugar yield**

Elliott, Prof.M.C.  
Gene technology / Useful plant / Agriculture

**Coconut propagation by tissue culture**

Elliott, Prof.M.C.  
Tissue / Cultivation / Tropical / Palm / Biology

 **Leicester Polytechnic**

School of Pharmacy  
Leicester  
☎ +44 533 551551

**Challenge and testing of cells in tissue culture**

Patterson, Dr.L.H.  
Tissue / Cultivation / Cell / Test / Cell biology

 **Liverpool Polytechnic**

Department of Biology  
Byrom Street  
L3 3AF  
Liverpool  
☎ +44 51 2073581

**The fate of seeded streptomycetes, their bioactive metabolites and plasmids in soils and interactions with indigenous species**

Saunders, Dr.V.A.  
Streptomycete / Metabolite / Plasmid / Soil / Microbiology

 **Manchester Polytechnic**

Department of Biological Sciences  
Chester Street  
M1 5GD  
Manchester  
☎ +44 61 2286171

**Thermostable cellulases of microbial origin**

Gowland, P.C.  
Cellulase / Enzymology / Biochemistry / Microbiology

**The biodegradation of chlorinated alkanes**

Gowland, P.C.  
Degradation / Hydrocarbon / Environment

**Influence of the growth environment on the stability of drug resistance plasmids and cloning vectors in continuous culture**

Gowland, P.C.  
Drug / Resistance / Plasmid / Cloning / Vector / Continuous / Cultivation / Cell biology

**Hydrophobic phenomena of peptides in FAB-mass spectrometry**

Gordon, Dr.D.B.  
Hydrophobic / Peptide / MS / Biochemistry / Physical chemistry

**Structure-kinetics relationships in molecular recognition by monoclonal antibodies**

Gordon, Dr.D.B.  
Structure / Kinetics / Recognition / Monoclonal / Antibody / Biochemistry

**Pyrolysis-gas chromatography-mass spectrometry of selected micro-organisms**

Gordon, Dr.D.B.  
Pyrolysis / GC / MS / Microorganism / Physical chemistry / Biochemistry

**Mass spectrometric amino acid sequencing of peptides**

Garner, Dr.G.V.  
MS / Amino acid / Sequencing / Peptide / Biochemistry / Physical chemistry

**Evaluation of a fluidized bed fermenter for the continuous production of ethanol at concentrations suitable for economic distillation, using *Zymomonas mobilis***

Dempsey, Dr.M.J.  
Fermentation technology / Bioreactor / Bioprocess engineering / Continuous / Production / Ethanol / Distillation / *Zymomonas*

**Evaluation of a fluidized bed fermenter for the continuous production of commercially important metabolites by naturally immobilized actinomycetes**

Dempsey, Dr.M.J.  
Fermentation technology / Bioreactor / Bioprocess engineering / Industry / Continuous / Production / Metabolite / Immobilization / Actinomycete

**Growth of animal cell cultures to high densities: a useful technology for production of vaccines and other biologicals**

Butler, Dr.M.  
Animal / Cell / Cultivation / Vaccine / Growth / Cell biology

 **Manchester Polytechnic**

Department of Chemistry  
John Dalton Building, Chester Street  
M1 5GD  
Manchester  
☎ +44 61 2286171

**Investigation of leukotrienes by chemiluminescence and mass spectrometry**

Pearson, Dr.D.J.  
Chemoluminescence / MS / Fatty acid / Metabolite / Biochemistry / Organic chemistry

**Identification and synthesis of plant xenobiotics having kairomonal activity**

McCormick, D.  
Plant / Xenobiotic / Recognition / Synthesis / Organic chemistry / Agriculture

**Role of nucleoside diphosphatases in controlling glycosylation of secreted proteins**

James, Miss.M.H.  
Nucleoside / Phosphatase / Glycosylation / Secretion / Protein / Biochemistry

**Synthesis and authentication of volatile metabolites and analogous compounds of *Brassica* sp. and analysis of their influence on insect behaviour**

Bannister, Dr.W.D.  
Volatile / Metabolite / Synthesis / Insect / Organic chemistry / Entomology

**Manchester Polytechnic**  
Department of Food Manufacture and Distribution  
Old Hall Lane  
M14 6HR  
Manchester  
☎ +44 61 2247341

**Investigation of operating parameters of pilot scale brewery**

Shelton, Dr.D.R.  
Pilot scale / Bioprocess engineering / Industry / Beer

 **Teesside Polytechnic**

Department of Chemical Engineering  
Borough Road  
TS1 3BA  
Middlesbrough  
☎ +44 642 218121

**Effects of inoculum development on full scale fermentations**

Street, G.  
Fermentation technology / Industry

**Concept of bioreactor numbers in scale-up of fermentations**

Street, G.  
Bioreactor / Scale-up / Fermentation technology / Industry

**Role of *Acinetobacter* in microbial consortia for biological phosphorus removal from waste waters**

Stephenson, Dr.T.  
*Acinetobacter* / Phosphorus / Biological / Degradation / Waste water / Microbiology / Environment

**Heat induced changes in cell lysates.**

Rheological properties of cell lysates. Release of intracellular material by heat and cold shock  
Cumming, Dr.R.H.  
Heat / Cell / Rheology / Intracellular / Cold / Industry

**Adhesion of yeast and bacterial cells to inorganic materials. Kinetics and influencing factors**

Cumming, Dr.R.H.  
Adhesion / Yeast / Bacterium / Cell / Inorganic substance / Kinetics / Materials research / Biophysics / Industry

**Flocculation of cell debris**

Cumming, Dr.R.H.  
Flocculation / Cell / Bioprocess engineering / Industry

**Control of fed batch fermentation for poly-beta-hydroxybutyrate (PHB)**

Cumming, Dr.R.H.  
Control / Batch / Fermentation / PHB / Bioprocess engineering / Industry

**Construction of a biosensor to detect protease in air. Substrate and antibody based sensors are being tested**

Cumming, Dr.R.H.  
Biosensor / Protease / Air / Substrate / Antibody / Physical chemistry

**Design of enzyme reactor for the purification of fatty acids from plant oils using free and immobilized lipases**

Bainbridge, Dr.J.M.  
Bioreactor / Lipase / Fatty acid / Plant / Oil / Immobilization / Bioprocess engineering / Industry

 **North East London Polytechnic**

Department of Biology and Biochemistry  
West Ham Precinct, Romford Road  
E15 4LZ  
London  
☎ +44 1 5907722

**Induction of mutants and polyploids in vitro, in Rosa, Chrysanthemum, Lilium, and Pelargonium. Acclimatization of micropropagated plants. Somatic hybridization**  
Roberts, Dr.A.V.  
Mutation / In vitro / Cultivation / Useful plant / Hybridization / Botany

**Development of methods for production of monoclonal human antibodies**  
Melamed, Dr.M.D.  
Human / Monoclonal / Antibody / Production / Blood / Immunology / Hematology

**Human monoclonal antibodies to rhesus (D)**  
Melamed, Dr.M.D.  
Human / Monoclonal / Antibody / Blood / Immunology / Hematology

□ **Polytechnic of North London**  
Department of Applied Chemistry and Life Sciences  
Holloway Road  
N7 8DB  
London  
☎ +44 1 6072789

**Computer-assisted synthesis design: a short synthesis of the sex-excitant of the American cockroach, periplanone B and analogues**  
Turner, Dr.S.  
Synthesis / Pheromone / Computer / Organic chemistry / Natural substance chemistry

**The use of yeasts as replacements for animals in drug metabolism studies**  
Searle, Dr.A.J.  
Yeast / Drug / Metabolism / Biochemistry / Pharmacology

**The nutritional value of fermented foods including alcoholic beverages**  
Ratcliffe, Dr.B.  
Fermentation / Nutritional branch / Food / Nutrition sciences

**Mutation studies in continuous cultures of Schizosaccharomyces pombe**  
McAthey, Dr.P.  
Mutation / Continuous / Cultivation / Ascomycete / Microbiology

**Synthesis of biologically active carbohydrates**  
Davison, Dr.B.E.  
Synthesis / Polyalcohol / Organic chemistry

**Production of cell wall degrading enzymes and carbohydrate utilization by root pathogens of cereals**  
Boothby, Dr.D.  
Cell wall / Degradation / Enzyme / Polyalcohol / Pathogen / Useful plant / Agriculture / Biochemistry

□ **Trent Polytechnic**  
Department of Life Sciences  
Burton Street  
NG1 4BU  
Nottingham  
☎ +44 602 418248

**Microbial dehalogenation of haloalkanoic acids**  
Skinner, Dr.A.J.  
Microbial / Dehalogenation / Biochemistry

**Somatic techniques for sugar beet improvement**  
Short, Prof.K.C.  
Useful plant / Optimization / Botany / Agriculture

**Alpha-amylase production by Bacillus subtilis**  
Milner, Mrs.J.A.  
Alpha / Amylase / Bacillus / Microbiology / Biochemistry / Industry

**Use of micro-organisms as biocatalysts in the fragrance and flavour industries**  
Griffin, Dr.M.  
Microorganism / Biological / Catalysis / Flavour / Smelling substance / Industry / Biochemistry

**Use of microbial enzymes in the enhancement of flavours and fragrances**  
Griffin, Dr.M.  
Microbial / Enzyme / Flavour / Smelling substance / Industry / Biochemistry

**Biochemistry and genetics of cycloalkane degrading micro-organisms: the application of these micro-organisms as biocatalysts in the petrochemical industries**  
Griffin, Dr.M.  
Biochemistry / Genetics / Microbiology / Biological / Catalysis / Industry / Organic substance / Cyclic / Petrochemistry / Hydrocarbon

**Monoclonal antibodies as probes of enzyme function, eg monoamine oxidase**  
Billett, Dr.E.E.  
Monoclonal / Antibody / Probes / Oxidase / Biochemistry

**Biological conversion of L-aspartic acid and L-phenylalanine-(methyl ester) to the artificial sweetener, aspartame**  
Ahmad, Dr.S.I.  
Aspartic acid / Phenylalanine / Sweetener / Bioprocess engineering / Industry

□ **North Staffordshire Polytechnic**  
Bio-Medical Engineering Unit, Medical Institute  
Hartshill  
ST4 7NY  
Stoke-on-Trent  
☎ +44 782 49144

**Review of research needs in biomaterials**  
Hastings, Dr.G.W.  
Materials research / Biological / Medical

□ **North Staffordshire Polytechnic**  
Department of Chemistry and Biology  
College Road  
ST4 2DE  
Stoke-on-Trent  
☎ +44 782 45531

**Isolation and characterization of the volatile substances produced by Basidiobolus Ranarum**  
Holloway, Dr.S.J.  
Volatile / Bioactive agent / Isolation / Fungus / Microbiology

□ **Newcastle upon Tyne Polytechnic**  
Department of Chemical and Life Sciences  
Ellison Building, Ellison Place  
NE1 8ST  
Newcastle upon Tyne  
☎ +44 91 2326002

**Structure-activity relationships among bio-active heterocyclic molecules**  
Raper, E.S.  
Structure / Activity / Bioactive agent / Heterocyclic / Biochemistry

**Development of novel methods for the identification and classification of micro-organisms of medical and commercial importance**  
James, Dr.A.L.  
Recognition / Taxonomy / Microorganism / Microbiology

□ **Oxford Polytechnic**  
Department of Biology  
Headington  
OX3 0BP  
Oxford  
☎ +44 865 64777

**Development of enzyme immunoassays for myelin basic protein. Monoclonal antibody production. Possible clinical applications**  
Groome, Dr.N.P.  
Enzyme / Immunoassay / Protein / Monoclonal / Antibody / Immunology / Biochemistry / Clinical

**Physiology of rooting and weaning in plant micropropagation**  
Cumbus, Dr.I.P.  
Cultivation / Plant / Botany

□ **Oxford Polytechnic**  
Department of Catering Management  
Headington  
OX3 0BP  
Oxford  
☎ +44 865 819800

**Modelling of the growth and morphology of fungi in batch and continuous culture**  
Le Grys, G.A.  
Modelling / Fungus / Batch / Continuous / Cultivation / Microbiology / Industry / Nutritional branch

**Food uses for leaf protein and other plant protein derivatives in developed and developing countries**  
Fellows, Dr.P.J.  
Food / Protein / Useful plant / Nutritional branch

□ **Plymouth Polytechnic**  
Department of Biological Sciences  
Drake Circus  
PL4 8AA  
Plymouth  
☎ +44 752 21312

**Use of fish cell lines for detecting cytogenetic effects of chemicals**  
Price, Dr.D.J.  
Fish / Cell / Cytogenetics / Chemicals / Environment

**Biotechnical approach to the control and treatment of fish disease**  
Manning, Prof.M.  
Fish / Disease / Environment

**Selection of somaclonal variants, from carrot cell cultures, tolerant to enhanced lead concentrations. Tolerant lines studies in vitro, and after regeneration, in campo**  
Bateson, J.M.  
Selection / Cell / Cultivation / Useful plant / Heavy metal / Tolerance / In vitro / Regeneration / Cell biology / Agriculture / Environment

□ **Portsmouth Polytechnic**  
Department of Biological Sciences  
King Henry 1 Street  
PO1 2DY  
Portsmouth  
☎ +44 705 827681

**Role of bacteria in biodegradation of building stone**  
May, Dr.E.  
Bacterial / Degradation / Environment

**The impact of antibiotic feed additives on nitrification in the soil**  
May, Dr.E.  
Antibiotic / Feed / Additive / Nitrification / Soil / Agriculture / Environment

- Copper immobilization by marine micro-organisms**  
Jones, Prof.E.B.G.  
Copper / Immobilization / Marine / Microorganism / Microbiology
- Antibiotics from aquatic organisms**  
Jones, Prof.E.B.G.  
Antibiotic / Aquatic / Pharmaceutical industry
- Genotoxicity of food and related colours using genetic systems with microsomal and microbial activation and development of new genetic systems**  
Combes, Dr.R.D.  
Food / Colour / Toxic / Genetics / Microsome / Microbial / Activation
- **Portsmouth Polytechnic**  
Department of Mathematics and Statistics  
Hampshire Terrace  
PO1 2EG  
Portsmouth  
☎ +44 705 827681
- Mathematical models of molecules (DNA structures)**  
Poland, G.A.  
Molecule / DNA / Structure / Modelling / Biocomputing
- **Portsmouth Polytechnic**  
School of Pharmacy and Biomedical Sciences  
King Henry 1 Street  
PO1 2DZ  
Portsmouth  
☎ +44 705 827681
- Isolation and characterization of biologically active and economically useful compounds from marine organisms**  
Blunden, Prof.G.  
Bioactive agent / Isolation / Marine / Pharmacy
- **South Bank Polytechnic**  
Department of Biotechnology  
Borough Road  
SE1 0AA  
London  
☎ +44 11 9288989
- Evaluation of biocides in cutting fluids and water systems (including cooling towers)**  
Price, Dr.A.T.  
Liquid / Water / Bioprocess engineering / Bioactive agent
- Plant cell culture**  
Morgan, Dr.N.L.  
Plant / Cell / Cultivation / Cell biology
- Membrane processing of natural food products**  
Cox, Dr.D.J.  
Food / Nutritional branch / Membrane apparatus / Bioprocess engineering / Industry
- Immobilized lactase bioreactors**  
Chaplin, Dr.M.F.  
Immobilization / Lactase / Bioreactor / Bioprocess engineering / Industry
- Microbial communities in activated sludge processes**  
Banks, Dr.C.  
Activated sludge / Microbiology / Environment
- Anaerobic digestion of abattoir wastes**  
Banks, Dr.C.  
Anaerobic / Fermentation / Waste / Microbiology
- **South Bank Polytechnic**  
Department of Chemical Engineering  
Borough Road  
SE1 0AA  
London  
☎ +44 11 9288989
- Downstream processing of beta-lactam antibiotics by reactive solvent extraction**  
Reuben, Dr.B.G.  
Downstream processing / Antibiotic / Solvent / Chemical engineering / Bioprocess engineering / Pharmaceutical industry
- Calorimetric study of enzyme catalysed reactions and of growth in fermenters**  
Blitz, J.  
Calorimetry / Enzyme / Fermentation technology / Bioreactor / Biological / Catalysis / Industry
- **Sheffield City Polytechnic**  
Department of Biological Sciences  
Pond Street  
S1 1WB  
Sheffield  
☎ +44 742 20911
- Identification of pregnancy-associated proteins in the horse**  
Bolton, Dr.A.E.  
Protein / Biochemistry / Veterinary medicine
- **Sheffield City Polytechnic**  
Department of Chemistry  
Pond Street  
S1 1WB  
Sheffield  
☎ +44 742 20911
- Construction and applications of biosensors and electrochemical detectors**  
Crowther, Dr.D.  
Production / Biosensor / Engineering / Detector / Physical chemistry
- **Sunderland Polytechnic**  
Department of Biology  
Chester Road  
SR1 3SD  
Sunderland  
☎ +44 783 76231
- Occurrence of yeasts in natural and waste waters**  
Morrison, Dr.R.  
Yeast / Water / Waste / Microbiology / Environment
- Applications of CO<sub>2</sub> and synthesis gas-utilizing microorganisms**  
Colby, Dr.J.  
Carbon / Monoxide / Microorganism / Microbiology
- **Sunderland Polytechnic**  
Department of Pharmaceutical Chemistry  
Langham Tower, Ryhope Road  
SR2 7EE  
Sunderland  
☎ +44 91 5676191
- Development of fluoroimmunoassays for antimalarial drugs**  
Rowell, Dr.F.J.  
Drug / Immunoassay / Malaria / Pharmacy
- Development of non-isotopic drug immunoassays and receptor assays**  
Rowell, Dr.F.J.  
Drug / Immunoassay / Receptor / Pharmacy
- Tropical plants with medicinal properties**  
Hooper, Prof.M.  
Tropical / Plant / Bioactive agent / Pharmacy
- Plant tissue culture of medicinal plants. Alkaloid biogenesis in tissue cultures. Rutin production in Fagopyrum cultures**  
Bowen, Dr.I.H.  
Plant / Tissue / Cultivation / Alkaloid / Pharmacy
- **Sunderland Polytechnic**  
Department of Pharmacology  
Life Sciences Building  
Sunderland  
☎ +44 783 76231
- Methods have been developed for the quantitative estimation of individual proteins after separation by gel electrofocusing and polyacrylamide gel gradient electrophoresis**  
Emes, Dr.A.V.  
Protein / Gel / Electrofocusing / Electrophoresis / Biochemistry / Physical chemistry
- **Thames Polytechnic**  
School of Biological Sciences and Environmental Health  
Wellington Street  
SE18 6PF  
London  
☎ +44 1 8542030
- Aryl halide hydrolase of *Arthrobacter***  
Smith, Dr.A.R.W.  
Hydrolase / *Arthrobacter* / Biochemistry / Microbiology
- Molecular genetic analysis of vanadium toxicity in yeast (*Saccharomyces cerevisiae*)**  
Henderson, Ms.G.E.  
Molecular genetics / Vanadium / Toxic / Yeast / Microbiology
- Degradation of lignocellulose by wood-rotting fungus *Coriolus versicolor***  
Evans, Dr.C.S.  
Degradation / Lignocellulose / Fungus / Microbiology
- **The Polytechnic Wolverhampton**  
School of Applied Sciences  
Wulfruna Street  
WV1 1SB  
Wolverhampton  
☎ +44 902 313001
- Use of monoclonal antibody to probe the structure of staphylococcal enterotoxins**  
Jarrett, H.W.  
Monoclonal / Antibody / *Staphylococcus* / Bacteriology / Toxin
- Enhancement of microbial waste treatment processes by the addition of mixtures of selected bacteria**  
Necklen, Dr.D.K.  
Waste / Purification / Microbial / Mixture / Microbiology / Environmental biotechnology
- Protoplast technology in plant physiology and agriculture**  
Hocking, Dr.T.J.  
Protoplast / Useful plant / Agriculture / Botany
- Pulse field electrophoresis of large restriction fragments from *Brassica* genomes**  
Burns, Dr.A.T.H.  
Electrophoresis / Restriction / Genome / Useful plant / Agriculture / Biochemistry / Molecular genetics

**Genetic manipulation of Brassica protoplasts - fusion, somaclonal variation, uptake of cloning vehicles**

Burns, Dr.A.T.H.

Gene technology / Protoplast / Fusion / Cloning / Useful plant / Agriculture

□ **Polytechnic of Wales**

Department of Chemical Engineering  
Pontypridd  
CF37 1DL  
Mid Glamorgan  
☎ +44 443 405133

**The design and operation of spatially heterogeneous bioreactors**

Thomas, Dr.A.

Bioreactor / Bioprocess engineering

**Evaluation of an extended aeration system based on model tests in bioreactors**

Thomas, Dr.A.

Aeration / Bioreactor / Modelling / Bioprocess engineering / Industry

**Microbial synthesis of monomers and polymers**

Rees, Dr.G.J.

Microbial / Synthesis / Polymer / Industry

**Separation of protein from cheese whey effluent by spray drying**

Doulah, Dr.M.S.

Separation / Protein / Cheese / Whey / Industry / Apparatus / Drying / Bioprocess engineering

**To determine a maximum permeate flow rate in an ultrafiltration unit and to develop a design method for separation processes using ultrafiltration units**

Doulah, Dr.M.S.

Flow / Filtration / Separation / Bioprocess engineering / Industry

□ **Polytechnic of Wales**

Department of Science  
Pontypridd  
CF37 1DL  
Mid Glamorgan  
☎ +44 443 405133

**Microbial synthesis of polymers**

Underhill, Dr.S.E.

Microbial / Synthesis / Polymer / Industry

**Development of a fluidized bed biofilm reactor as a model system for the testing of a mathematical method aimed at the rapid prediction of anaerobic digester response**

Underhill, Dr.S.E.

Modelling / Anaerobic / Fermentation / Bioreactor / Bioprocess engineering / Industry

**Factors influencing methane production during the anaerobic digestion of manure**

Hawkes, Dr.F.R.

Methane / Biogas / Anaerobic / Fermentation / Waste / Energy / Agriculture / Environment / Microbiology

**Studies on the anaerobic digestion of separated liquor from cattle slurry**

Hawkes, Dr.F.R.

Anaerobic / Fermentation / Separation / Liquid / Stock / Waste / Agriculture / Environment / Microbiology

**Operation of a tubular type of digester on piggery waste**

Hawkes, Dr.F.R.

Accessories / Pig / Waste / Agriculture / Environment / Engineering

**Fermentation and analysis of dairy products**

George, Dr.W.O.

Fermentation / Analysis / Cheese / Milk / Whey / Yoghurt / Microbiology / Industry

□ **Robert Gordon's Institute of Technology**

School of Chemistry  
St Andrew Street  
AB1 1HG  
Aberdeen  
☎ +44 224 633611

**X-ray analysis of biologically active molecules: elucidation of structure-activity relationships**

Nowell, Prof.I.W.

Diffraction / Structure / Activity / Molecule / Physical chemistry

**Rapid differentiation and identification of pathogenic bacteria using Fourier transform infrared (FT-IR)**

Morrisson, Dr.A.R.

Differentiation / Recognition / Pathogenic / Bacterium / IR / Physical chemistry

□ **Cranfield Institute of Technology**

Biotechnology Centre  
Cranfield  
MK43 0AL  
Bedford  
☎ +44 234 750111

**Novel processes for waste disposal by biological recycling**

Wheatley, Dr.A.D.

Waste / Biological / Recycling / Environment / Environmental biotechnology

**Instrumentation and control of biological waste treatment plant**

Wheatley, Dr.A.D.

Instrumentation / Control / Purification / Biological / Waste / Environmental biotechnology / Water / Environment

**Quinoxaline antibiotic production in Streptomyces**

Warner, Dr.P.J.

Antibiotic / Production / Streptomycete / Pharmaceutical industry

**Cloning of genes encoding use of carbon one compounds and development of genetic mapping system for methylotrophic bacteria**

Warner, Dr.P.J.

Gene / Cloning / Mapping / Methylotrophic / Molecular genetics

**Genetics of lactic acid bacteria. Genetic manipulation of Lactobacillus for food fermentation**

Warner, Dr.P.J.

Molecular genetics / Gene technology / Lactic acid / Lactobacillus / Food / Fermentation / Industry

**Enzyme linked biosensors to detect DNA hybridization**

Turner, Dr.A.P.F.

Enzyme technology / Biosensor / DNA / Hybridization

**Development of a bioactivity monitor**

Turner, Dr.A.P.F.

Monitoring / Biosensor / Bioprocess engineering / Industry

**Quinoprotein-based immunosensors**

Turner, Dr.A.P.F.

Protein / Immune / Biosensor / Biochemistry

**Electron transfer compounds**

Turner, Dr.A.P.F.

Biochemistry / Organic chemistry

**Biosensors for the food industry**

Turner, Dr.A.P.F.

Biosensor / Food / Industry / Bioprocess engineering

**Mediated amperometric immunosensors exploiting enzyme amplification**

Turner, Dr.A.P.F.

Biosensor / Immune / Enzyme / Amplification / Enzyme technology

**Electron transfer kinetics of enzymes in organic solvents**

Turner, Dr.A.P.F.

Enzyme / Kinetics / Organic / Solvent / Biochemistry

**Microfabrication of enzyme electrodes**

Turner, Dr.A.P.F.

Enzyme / Electrode / Production / Enzyme technology

**Biosensors for nutrients and pollutants exploiting immobilized whole organisms**

Turner, Dr.A.P.F.

Biosensor / Immobilization / Pollution / Environment / Water / Environmental biotechnology

**Sensors for fermentation monitoring and control**

Turner, Dr.A.P.F.

Sensor / Fermentation / Monitoring / Control / Bioprocess engineering / Industry

**Novel enzyme-based sensors for use in research and treatment of diabetes exploiting protein electrochemistry and enzyme/antibody interactions**

Turner, Dr.A.P.F.

Biosensor / Enzyme / Antibody / Diabetes / Interaction / Enzyme technology

**Isolation and characterization of keratinases for use in the leather industry**

Seal, Dr.K.J.

Enzyme / Consumables industry

**Isolation and characterization of proteases produced by Eisinia**

Seal, Dr.K.J.

Protease / Microbiology / Biochemistry

**Commercial development and applications of biosensors**

Owen, Dr.V.M.

Biosensor / Industry

**Isolation and characterization of thermophiles from the Amazon Rain Forest, for cellulolytic and lipolytic enzymes**

Levanon, Prof.Y.

Thermophilic / Enzyme / Cellulose / Lipid / Microbiology / Biochemistry

**Genetically improved brewing yeast**

Lancashire, Dr.W.E.

Gene technology / Brewer's yeast / Industry

**Bioelectrochemistry and bioelectronics for biosensors, energy production, synthesis of fine chemicals and applications in molecular electronics**

Higgins, Prof.I.J.

Electronics / Biosensor / Energy / Chemistry / Fine chemical / Molecular / Industry

**Computer controlled fed-batch fermentation processes for enzyme manufacture**

Brown, Prof.D.E.

Computer / Control / Batch / Fermentation / Enzyme / Bioprocess engineering / Industry

**Cell separation by cross-flow filtration**

Brown, Prof.D.E.

Cell / Separation / Flow / Filtration / Bioprocess engineering



**Investigation of oxidation and assimilation of growth substrates by facultative methylotrophs**  
Bolbot, Dr.J.A.  
Oxidation / Assimilation / Substrate / Facultative / Methylotrophic / Microbiology

**Microbial mimicry of mammalian metabolism for generation of intermediate drug metabolites of pharmacological interest by mimicking the mammalian P-450 detoxification systems**  
Best, Dr.D.J.  
Mammal / Metabolism / Drug / Metabolite / Microbial / Pharmacology / Degradation / Toxin

**Initial steps in the microbial degradation of bicyclic terpenes**  
Best, Dr.D.J.  
Microbial / Degradation / Terpene / Biochemistry

**Structural and functional studies on genetically engineered human calmodulin**  
Bannister, Dr.J.V.  
Gene technology

**Production of human antithrombin III by recombinant DNA technology**  
Bannister, Dr.J.V.  
Antithrombin / Recombination / DNA / Hematology

**Purification and characterization of human hyaluronidase from human placenta**  
Bannister, Dr.J.V.  
Biochemistry / Hydrolase

**Identification and characterization of peptides secreted by human tumour cells which may be used for iron chelation**  
Bannister, Dr.J.V.  
Peptide / Secretion / Tumour / Human / Cell / Iron / Biochemistry

**Systematic study of enzyme structure and function to produce more stable and active enzymes**  
Bannister, Dr.J.V.  
Enzyme / Structure / Enzyme technology / Biochemistry

**Production of fish growth hormone by recombinant DNA technology**  
Bannister, Dr.J.V.  
Fish / Growth / Hormone / DNA / Recombination

□ **Derbyshire College of Higher Education**  
Division of Biology  
Kedleston Road  
DE3 1GB  
Derby  
☎ +44 332 47181

**Development of computer graphic simulations of enzyme-ligand interactions**  
Gill, R.A.  
Biocomputing / Simulation / Enzyme / Interaction / Molecular / Biochemistry

□ **Dundee College of Technology**  
Department of Molecular and Life Sciences  
Bell Street  
DD1 1HG  
Dundee  
☎ +44 382 27225

**Microbial immobilization of copper chrome arsenic preservatives and wood nutrient contributions to preservative instability and detoxification**  
King, Prof.B.  
Microbial / Immobilization / Preservation / Degradation / Toxin / Environment

**Production of monoclonal antibodies to specific fungal antigens, for use in detection of decay in wood samples**  
Glancy, Mrs.H.  
Monoclonal / Antibody / Fungus / Antigen

□ **Glasgow College of Technology**  
Department of Biological Sciences  
Cowcaddens Road  
G4 0BA  
Glasgow  
☎ +44 41 3327090

**Microbiology of metal pollution; microbial resistance to toxic metals**  
Macham, Dr.L.P.  
Microbiology / Metal / Toxic / Microbial / Resistance / Pollution / Environment

**Identification techniques for clinically important anaerobes**  
Campbell, Dr.M.  
Recognition / Anaerobic / Bacteriology

□ **Humberside College of Higher Education**  
School of Food Studies  
Nuns Corner  
DN34 5BQ  
Grimsby  
☎ +44 472 74140

**Proteins and hydrolysates from marine waste materials and seaweeds**  
Taylor, Dr.K.D.A.  
Protein / Hydrolysis / Marine / Waste / Food / Nutritional branch / Plant / Biochemistry

**Rapid methods for the microbiological evaluation of foods eg impedance methods**  
Hanna, J.A.  
Food / Microbiology / Nutritional branch

□ **Humberside College of Higher Education**  
School of Science  
Cottingham Road  
HU6 7RT  
Hull  
☎ +44 482 41451

**Biotechnology in Humberside**  
White, Dr.E.B.  
Biotechnology / Consulting / Market analysis / Projecting

**Reject fines from waste derived fuel plant**  
Tinklin, Dr.R.  
Waste / Fuel

**Design and development of novel enzyme electrodes for clinical applications**  
Greenway, Dr.G.M.  
Enzyme / Electrode / Enzyme technology / Biophysics / Clinical

□ **Mid-Kent College of Higher and Further Education**  
Department of Science  
Maidstone Road, Chatman  
ME5 9UQ  
Horsted, Kent  
☎ +44 634 830633

**Applications of affinity chromatography**  
Keene, Dr.B.R.T.  
Affinity / Chromatography / Physical chemistry

□ **Luton College of Higher Education**  
Faculty of Applied Sciences  
Park Square  
LU1 3JU  
Luton, Bedfordshire  
☎ +44 582 34111

**Development of whole cell biosensors for pollution monitoring and intake protection in the water industry**  
Rawson, D.M.  
Biosensor / Pollution / Monitoring / Drinking water / Environment / Environmental biotechnology

□ **North East Surrey College of Technology**  
Department of Biological Sciences  
Reigate Road  
KT17 3DS  
Epsom (Ewell), Surrey  
☎ +44 1 3941731

**Nucleic acids and gene cloning in Aspergillus species**  
Litchfield, Dr.G.J.  
Nucleic acid / Gene / Cloning / Mycelial fungus / Microbiology / Molecular genetics

**Genetic analysis of the facultative methylotroph Methylobacterium AM 1**  
Goodwin, Dr.P.M.  
Methylotrophic / Facultative / Genetics / Microbiology

**Polysaccharide production in Methylophilus Methylophilus**  
Goodwin, Dr.P.M.  
Polysaccharide / Methylotrophic / Microbiology

**Scale-up of monoclonal antibody producing hybridomas in in vitro culture**  
Goldring, Dr.O.L.  
Scale-up / Monoclonal / Antibody / Hybridoma / In vitro / Cultivation / Immunology

□ **North East Wales Institute of Higher Education**  
School of Natural Sciences  
Connah's Quay (Clwyd)  
CH5 4BR  
Deeside  
☎ +44 244 817531

**Use of immunoassay techniques for the identification of meat species in raw and frozen meats**  
Smith, Dr.C.J.  
Immunoassay / Meat / Deepfreezing / Nutritional branch

**Immunoassays for use in the food industry**  
Smith, Dr.C.J.  
Immunoassay / Food / Industry / Nutritional branch

**Detection of bacterial species using immunological methods**  
Smith, Dr.C.J.  
Immunoassay / Bacterium / Nutritional branch

**Effect of autoclaving on the biological and chemical properties of heparin and evaluation of long term storage**  
Parsons, Dr.B.J.  
Heparin / Apparatus / Sterilization hygiene / Medicine

**Characterization of polyanions such as P268 and low molecular weight heparin and their in vivo potential**  
Navaratnam, Dr.S.  
Ion / Heparin / In vivo / Physical chemistry / Medicine

**Use of monoclonal antibodies to study structure and function in creatine kinases from man and animals**

Morris, Dr.G.E.  
Monoclonal / Antibody / Kinase / Immunology / Biochemistry / Muscle

**Immunoassays for creatine kinase using monoclonal antibodies**

Morris, Dr.G.E.  
Immunoassay / Kinase / Monoclonal / Antibody / Immunology / Biochemistry / Muscle

**Bacterial extraction of aluminium from slate**

Heelis, Dr.D.V.  
Extraction / Bacterial / Aluminium / Environment / Environmental biotechnology

**The interaction of cationic polysaccharides with various dental and enteric bacteria, for treatment of dental caries and trivial diarrhoea**

Heelis, Dr.D.V.  
Interaction / Polysaccharide / Bacterium / Medicine

**Development of an immunoassay for tissue types in frozen meats**

Allen, Dr.J.C.  
Immunoassay / Analysis / Meat / Deepfreezing / Nutritional branch

**Paisley College of Technology**

Department of Biology  
High Street  
PA1 2BE  
Paisley, Renfrewshire  
☎ +44 41 887 1241

**Molecular cloning of plant genes; construction of expression vectors for eukaryotic systems**

Nicholl, Dr.D.S.T.  
Molecular / Cloning / Plant / Gene / Expression / Vector / Eukaryote / Gene technology

**Heavy metal binding in zinc tolerant green algae**

McLean, Dr.R.O.  
Zinc / Tolerance / Green alga / Biochemistry / Environment

**Tissue culture and immobilization of economically valuable algae**

McLean, Dr.R.O.  
Tissue / Cultivation / Immobilization / Alga

**Multiple purification of plant enzymes**

Jervis, Dr.L.  
Purification / Plant / Enzyme / Biochemistry / Physical chemistry

**Large-scale enzyme purification by affinity chromatography**

Jervis, Dr.L.  
Enzyme / Purification / Affinity / Chromatography / Biochemistry / Physical chemistry

**Biopulping and biobleaching using white-rot fungi and their degrading enzymes**

Buswell, Dr.J.A.  
Degradation / Fungus / Enzyme / Microbiology / Biochemistry

**Effect of physiological parameters on the production of high value materials by selected microalgal species**

Buswell, Dr.J.A.  
Production / Alga / Microbiology

**Physiological and biochemical factors affecting the degradation of lignin by wood-rotting Basidiomycetes**

Buswell, Dr.J.A.  
Degradation / Lignin / Basidiomycete / Microbiology / Biochemistry

**Enzymology of aromatic metabolism in thermophilic micro-organisms. Regulation and control of enzymes involved in catabolism of phenolics by *Bacillus stearothermophilus***

Buswell, Dr.J.A.  
Enzymology / Metabolism / Aromatic / Thermophilic / Regulation / Enzyme / Phenol / Bacillus / Biochemistry

**Evaluation of immobilised enzymes for analytical applications in clinical biochemistry**

Bickerstaff, Dr.G.F.  
Immobilization / Enzyme / Clinical / Biochemistry / Analysis

**Studies on the stability properties of immobilized proteins**

Bickerstaff, Dr.G.F.  
Protein / Immobilization / Biochemistry / Physical chemistry

**Roehampton Institute of Higher Education**

Department of Sciences  
Whitelands College, West Hill  
SW15 3SN  
London  
☎ +44 1 788 8268

**Development of CAL packages for molecular genetics in higher education**

Rodger, Dr.C.D.  
Molecular genetics / Education / Software

**Scottish Agricultural Colleges East College (Edinburgh School of Agriculture)**

West Mains Road  
EH9 3JG  
Edinburgh  
☎ +44 31 667 1011

**Generation of improved bacterial species for ensilage**

Wilkinson, J.F.  
Bacterium / Storage / Agriculture

**Tissue culture and micropropagation in crop plants**

Spoor, Dr.W.  
Tissue / Cultivation / Plant / Agriculture

**Micropropagation and storage of virus-free stocks of amenity plants; research aspects**

Spoor, Dr.W.  
Cultivation / Plant / Agriculture

**'In vitro' and 'in vivo' multiplication systems for soft fruit**

Spoor, Dr.W.  
In vitro / In vivo / Multiplication / Agriculture / Nutritional branch

**Effect of silage making techniques on silage quality**

Lowe, J.F.  
In vitro / In vivo / Multiplication / Agriculture / Nutritional branch

**Biochemical and microbial changes occurring during ensilage with or without additives**

Henderson, Dr.A.R.  
Biochemistry / Microbiology / Additive / Agriculture / Feed

**Metabolism of silage within the rumen: evaluation of silages as energy and protein sources**

Donaldson, E.  
Metabolism / Protein / Biochemistry / Veterinary medicine / Feed

**Scottish Agricultural Colleges North College (Aberdeen School of Agriculture)**  
581 King Street  
AB9 1UD  
Aberdeen  
☎ +44 224 480291

**ELISA technique for the detection of K99 antigen of enteropathogenic *E. coli***

Roberts, Dr.L.  
ELISA / Antigen / *Escherichia* / Immunology / Veterinary medicine

**Multiplication of breeders' clones and introductions by micropropagation**

Matthews, Dr.S.  
Multiplication / Breeding / Cloning / Veterinary medicine

**Theoretical assessment of aerobic treatment using energy efficient systems**

Feildon, N.E.H.  
Microbiology / Aerobic / Purification / Energy / Environment / Agriculture

**Development on on-farm systems for treatment of pig and cattle slurries**

Feildon, N.E.H.  
Stock / Pig / Purification / Waste / Environment / Agriculture / Microbiology

**Studies of post-propagational cultural techniques for micropropagated plants**

Blain, A.Q.M.  
Cultivation / Plant / Agriculture

**Scottish Agricultural Colleges West College**

Auchincruive  
KA6 5HW  
Ayr  
☎ +44 292 520331

**Agronomy and chemical analysis of species of culinary and medicinal herbs**

Svoboda, Miss.K.P.  
Agriculture / Analysis / Chemistry / Useful plant

**Evaluation of potential heat recovery from aerobic treatment**

Svoboda, I.F.  
Heat / Aerobic / Microbiology / Bioprocess engineering / Environment

**Effects of operating parameters on specific microbial activities**

Smith, M.P.W.  
Microbiology / Bioprocess engineering / Industry / Environment

**Estimation of biomass production, extractable chemical constituents and pollution control in algal cultures**

Fallowfield, H.J.  
Biomass / Extraction / Pollution / Control / Alga / Cultivation

**Investigation of 'in vitro' and 'in vivo' multiplication systems for amenity crops**

Dixon, Dr.G.R.  
In vitro / In vivo / Multiplication / Useful plant / Agriculture

**Control strategies for pathogens of field vegetables**

Dixon, Dr.G.R.  
Pathogen / Useful plant / Agriculture / Control

**Development of methods of recognition of pathogenic strains of *E. coli***

Bruce, J.  
*Escherichia* / Disease / Origin / Assay / Bacteriology

**Diagnostic tests for keratoconjunctivitis; pathogenesis of acute necrotizing mastitis**

Barber, D.M.L.

Diagnosis / Veterinary medicine

- University of Aberdeen**  
Medical School, Department of  
Bacteriology  
Foresterhill  
AB9 2ZD  
Aberdeen  
☎ +44 224 681818

**Production of monoclonal antibodies to cells infected with human immunodeficiency virus**

Sewell, Dr.H.F.

Monoclonal / Antibody / Infection / Human /  
Deficiency / Immune / Virus / Microbiology /  
Immunology

**Use of monoclonal antibodies to prepare antigens of improved specificity for the serodiagnosis of listeriosis**

Postlethwaite, Prof.R.

Monoclonal / Antibody / Antigen / Diagnosis / Blood  
serum / Bacteriology

**Computer analysis of 2 dimensional gel electrophoresis of virus proteins**

Cash, Dr.P.

Computer / Electrophoresis / Viral / Protein /  
Microbiology

- University of Aberdeen**  
Department of Biochemistry  
Marischal College  
AB9 1AS  
Aberdeen  
☎ +44 224 480241

**Fatty acyl synthetase, wax synthesis and methylmalonate metabolism**

Williamson, Dr.I.P.

Biochemistry / Synthetase / Metabolism / Malonate

**Insertion of proteins into eukaryotic membranes using recombinant DNA technology**

Glover, Dr.L.A.

Insertion / Protein / Membrane biology /  
Biochemistry / DNA / Recombination / Eukaryote

- University of Aberdeen**  
Department of Plant Science  
St Machar Drive  
AB9 2UD  
Aberdeen  
☎ +44 224 480241

**Role of secondary plant products in fruit-frugivore interactions**

Wilcock, Dr.C.C.

Botany / Plant / Secondary / Production

**Induction of chitinase activity in plants by pathogens and biochemical signals**

Sabnis, Dr.D.D.

Botany / Induction / Chitinase / Plant / Pathogen

**Immunocytochemical studies on cytoskeletal proteins in plant cells and protoplasts using monoclonal antibodies**

Sabnis, Dr.D.D.

Cell biology / Immune / Botany / Plant / Cell /  
Monoclonal / Antibody / Protein

- University of Aberdeen**  
Department of Chemistry  
Meston Walk  
AB9 2UE  
Old Aberdeen  
☎ +44 224 272945

**Organotins in marine environment: analysis of biocidal compounds and their degradation products**

Marr, Dr.I.L.

Chemistry / Environmental analysis / Toxic /  
Organic substance / Tin / Marine / Environment /  
Degradation

- University of Aberdeen**  
Department of Computing Science  
King's College  
AB9 2UB  
Old Aberdeen  
☎ +44 224 272295

**Protein structure investigation via knowledge engineering and data base search techniques**

Fothergill, Prof.J.E.

Protein / Structure / Engineering / Computer /  
Biocomputing / Data base / Informatics

- University of Aberdeen**  
Department of Forestry  
Old Aberdeen  
AB9 2UU Aberdeen  
☎ +44 224 480241

**Taxonomy and propagation of north-east Himalayan bamboos**

Stapleton, C.M.A.

Taxonomy / Forestry / Cultivation / Tropical

- University of Aberdeen**  
Department of Genetics and Microbiology  
Marischal College  
AB9 1AS  
Aberdeen  
☎ +44 224 480241

**Optimization of antibiotic production by actinomycetes**

Prosser, Dr.J.I.

Optimization / Antibiotic / Production /  
Actinomycete / Microbiology / Pharmaceutical  
industry

**Gene cloning of cellulases and ligninases in *Bacillus subtilis* and *Lactobacilli***

Harris, Prof.W.J.

Gene / Cloning / Gene technology / *Bacillus* /  
*Lactobacillus* / Cellulase / Ligninase

**Recombinant vaccine against human cytomegalovirus**

Harris, Prof.W.J.

Recombination / Vaccine / Human / Immunology /  
Microbiology / DNA virus

**Genetic engineering of immunoglobulin genes. To humanize mouse monoclonal antibodies for therapy against infectious diseases**

Harris, Prof.W.J.

Gene technology / Immunoglobulin /  
Immunotherapy / Mouse / Human / Monoclonal /  
Antibody / Infection / Gene

**Sulphate-reducing bacteria and corrosion of North Sea oil structures**

Hamilton, Prof.W.A.

Microbiology / Environment / Oil / Degradation /  
Sulphate / Reduction

**Role of the alpha subunit of RNA polymerase in regulation of gene expression**

Booth, Dr.I.R.

Molecular genetics / Regulation / Gene /  
Expression / RNA / Polymerase

- University of Aberdeen**  
Department of Medicine and Therapeutics  
Foresterhill  
AB9 2ZB  
Aberdeen  
☎ +44 224 480241

**Isolation and characterization of inhibitor of plasminogen activator and examination of its physiological role in haemostasis**

Booth, Dr.N.A.

Hematology / Physiology / Isolation / Inhibitor /  
Blood / Clotting

- University of Aberdeen**  
Department of Pharmacology  
Marischal College  
AB9 1AS  
Aberdeen  
☎ +44 224 480241

**Involvement of interleukine I interferon and tissue necrosis factor in pathogenesis of fever**

Milton, Prof.A.S.

Interleukine / Pharmacology / Interferon / Fever /  
Disease / Origin

- University of Aberdeen**  
Department of Pathology  
Foresterhill  
AB9 2ZD  
Aberdeen  
☎ +44 224 681818

**Application of flow cytometry to immunopathology and cell biology**

Walker, Prof.F.

Flow / Cell biology / Measurement / Immune /  
Pathology

- University of Aberdeen**  
Department of Zoology  
Tillydrone Avenue  
AB9 2TN  
Aberdeen  
☎ +44 224 480241

**Prostaglandins and protein synthesis**

Houlihan, Dr.D.F.

Zoology / Prostaglandin / Protein / Biosynthesis /  
Endocrinology

- Aston University**  
Department of Chemical Engineering and  
Applied Chemistry  
Aston Triangle  
B4 7ET  
Birmingham  
☎ +44 21 3593611

**Permselective membranes for biosensors**

Tighe, Dr.B.J.

Bioprocess engineering / Biosensor / Membrane  
apparatus

**Design, commissioning and operation of multiple reactor test facility for thermal conversion of biomass to methanol**

Bridgwater, Dr.A.V.

Bioreactor / Biomass / Bioprocess engineering /  
Transformation / Thermal / Methanol / Pilot scale

**Enzyme reaction and separation in chromatographic columns**

Barker, Prof.P.E.

Enzyme / Separation / Chromatography / Physical  
chemistry / Analysis

**Production of the enzyme dextran sucrose by batch and continuous methods**

Barker, Prof.P.E.  
Production / Dextran / Enzyme / Batch / Continuous / Bioprocess engineering

- Aston University**  
Department of Computer Science and Applied Mathematics  
Aston Triangle  
B4 7ET  
Birmingham  
☎ +44 21 3593611

**Information systems design and the community health services**

Avison, D.E.  
Data base / Service / Medicine

- Aston University**  
Department of Pharmaceutical Sciences  
Aston Triangle  
B4 7ET  
Birmingham  
☎ +44 21 359 3611

**Role of tumour necrosis factor in cachexia**

Tisdale, Dr.M.J..  
TNF / Pharmacy

**Synthesis of sequence-specific DNA recognition agents**

Stevens, Prof.M.F.G.  
Sequence / DNA / Recognition / Bioactive agent / Pharmacy / Cancer

**Nucleotide-sequence-recognition agents**

Stevens, Prof.M.F.G.  
Nucleotide / Sequence / Recognition / Bioactive agent / Pharmacy

**Stability of membranes in thermophilic fungi compared with mesophilic fungi over a range of temperature regimes**

Smith, Dr.S.N.  
Stable / Membrane biology / Thermophilic / Mesophilic / Fungus / Temperature / Pharmacy

- University of Bradford**  
Postgraduate School of Biomedical Sciences  
Bradford  
BD7 1DP  
West Yorkshire  
☎ +44 274 733466

**Enhancement of antigen transfer and oral vaccination potential in fish**

Ash, Dr.R.  
Antigen / Transfer / Vaccine / Fish / Immunology

- University of Bradford**  
Postgraduate School of Studies in Chemical Engineering  
Bradford  
BD7 1DP  
West Yorkshire  
☎ +44 274 733466

**Microbial synthesis of poly-beta-hydroxybutyrate and related polymers: kinetic studies, continuous culture and reactor design, polymer extraction and novel polymer properties**

Montgomery, Dr.S.E.  
Bioreactor / Bioprocess engineering / Continuous / Cultivation / Microbial / Synthesis / Extraction / Organic substance / Polymer / Industry

**Local hydrodynamic and mass transfer effects in large scale bioreactors**

Ingham, Dr.J.  
Bioreactor / Bioprocess engineering / Biomass / Transfer / Industry

**Effects of shear on the morphology and growth of micro-organisms**

Ingham, Dr.J.  
Bioprocess engineering / Bioreactor / Industry

**Energy efficient oxygen transfer to fermenters via a turbulent plunging jet**

Ingham, Dr.J.  
Bioreactor / Fermentation / Oxygen / Transfer / Energy / Optimization / Bioprocess engineering

**Utilization of biomass absorption of heavy metals for purification of, and reclamation from contaminated effluent streams**

Ingham, Dr.J.  
Biomass / Absorption / Heavy metal / Purification / Pollution / Waste water / Decontamination / Environment / Environmental biotechnology

**Novel process for separating biochemicals**

Hughes, Dr.M.A.  
Separation / Bioactive agent / Chemicals / Chemical engineering / Industry

**Heat and mass transfer in bioreactors**

Edwards, Prof.M.F.  
Bioreactor / Bioprocess engineering / Heat / Biomass / Transfer / Industry

- University of Bradford**  
Postgraduate School of Studies in Chemistry and Chemical Technology  
Bradford  
BD7 1DP  
West Yorkshire  
☎ +44 274 733466

**Sporopollenin as a solid phase support**

Shaw, Prof.G.  
Bioactive agent / Chemistry

**New cytochalasins from fungi**

Edwards, Dr.R.L.  
Fungus / Bioactive agent / Chemistry

- University of Bradford**  
Postgraduate School of Studies in Environmental Science  
Bradford  
BD7 1DP  
West Yorkshire  
☎ +44 274 733466

**Anaerobic digestion of industrial waste waters containing industrial solvents such as propan-1-ol, propan-2-ol and acetone**

Diaper, Dr.J.  
Environmental biotechnology / Environment / Anaerobic / Industrial water / Solvent / Acetone / Alcohol / Fermentation

- University of Bradford**  
School of Postgraduate Studies in Pharmaceutical Chemistry  
Bradford  
BD7 1DP  
West Yorkshire  
☎ +44 274 733466

**Biomedical applications of fluorescence spectroscopy and phosphorescence spectroscopy with linear photodiode array detection**

Clark, Dr.B.J.  
Fluorescence / Spectrometry / Chemistry

- University of Birmingham**  
Department of Anatomy  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4721301

**Analysis of normal and carcinogen-modified metaphase chromosomes by flow cytometry and monoclonal antibody labelling**

Turner, Dr.B.M.  
Chromosome / Flow / Measurement / Monoclonal / Antibody / Cancer / Pathology

- University of Birmingham**  
Department of Biochemistry  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4721301

**Cloning and expression of extracellular proteases in brewing yeasts**

Young, Dr.T.W.  
Cloning / Expression / Extracellular / Protease / Brewer's yeast / Biochemistry / Industry

**The biochemistry of the killer phenomenon in yeasts**

Young, Dr.T.W.  
Biochemistry / Yeast / Industry

**Fourier transform infrared spectroscopy of enzyme active centres and reaction intermediates**

Wharton, Dr.C.W.  
IR / Spectrometry / Enzyme / Reaction / Intermediate / Biochemistry

**Deuterium solvent kinetic isotope effect studies of enzyme-catalysed reactions**

Wharton, Dr.C.W.  
Solvent / Isotope / Biological / Catalysis / Enzyme / Biochemistry

**Ultraviolet laser Raman spectroscopy of papain- and chymotrypsin-catalysed reactions**

Wharton, Dr.C.W.  
UV / Laser / Spectrometry / Papain / Chymotrypsin / Biochemistry

**Energy conservation in photosynthetic membranes**

Jackson, Dr.J.B.  
Photosynthesis / Energy / Membrane biology / Biochemistry

**Proton translocation in photosynthetic membranes**

Jackson, Dr.J.B.  
Photosynthesis / Membrane biology / Biochemistry

**Periplasmic auxiliary oxido-reductases in photosynthetic bacteria**

Jackson, Dr.J.B.  
Oxidoreductase / Photosynthesis / Bacterium / Biochemistry

**Stability of expression of recombinant plasmids**

Cole, Dr.J.A.  
Recombination / Plasmid / Expression / Biochemistry

**Regulation of transcription and translation in Escherichia coli**

Busby, Dr.S.J.W.  
Regulation / Transcription / Translation / Escherichia

**Mechanism and regulation of adenosinetriphosphatase (ATP) synthesis in chloroplasts. Topography of the active site**

Brown, Dr.A.P.  
ATP / Biosynthesis / Mechanism / Regulation / Chloroplast / Biochemistry

**University of Birmingham**  
Department of Plant Biology  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4721301

**Investigation of cytoplasmic male sterility in onions. Techniques of molecular biology will be used to determine whether characteristics of mitochondrial DNA or proteins are associated with CMS in this crop plant**

Newbury, Dr.H.J.  
Cytoplasm / Male / Sterility / Useful plant / Agriculture / Molecular biology / Mitochondrion / DNA / Protein / Genetics / Botany

**Molecular biology of resistance gene expression in rice**

Newbury, Dr.H.J.  
Molecular biology / Gene / Expression / Resistance / Useful plant / Agriculture / Botany

**Cloning and characterization of a major gene for resistance from a plant. A resistance gene will be isolated from *Antirrhinum* to the rust, *Puccinia antirrhini*. This will be achieved by transposon tagging**

Newbury, Dr.H.J.  
Gene / Cloning / Resistance / Gene technology / Transposon / Plant / Botany

**Use of monoclonal antibodies to analyse the structural organization of the higher plant plasma membrane**

Green, Dr.J.R.  
Monoclonal / Antibody / Membrane biology / Plant / Botany

**Somaclonal variation and genetic stability in regenerants from tissue culture of cultivated beets**

Ford-Lloyd, Dr.B.V.  
Genetics / Useful plant / Agriculture / Botany / Regeneration / Tissue / Cultivation

**Somaclonal isozyme variation in garlic: plant regeneration from protoplasts and callus**

Ford-Lloyd, Dr.B.V.  
Isoenzyme / Useful plant / Regeneration / Protoplast / Vegetable / Tissue / Genetics / Agriculture / Botany

**Interspecific hybridization, embryo rescue and gene transfer in onions**

Ford-Lloyd, Dr.B.V.  
Hybridization / Gene / Transfer / Useful plant / Genetics / Agriculture / Botany

**Agrobacterium and genetic transformation in sugar beet**

Ford-Lloyd, Dr.B.V.  
Agrobacterium / Transformation / Useful plant / Genetics / Agriculture / Botany

**Methods of germplasm utilization in the tuber-bearing solanums using tissue culture**

Clugston, Mrs.D.B.  
Tissue / Cultivation / Potato / Agriculture / Botany

**Monoclonal antibodies to identify and isolate cell surface receptors on gametes of the brown alga *Fucus* involved in recognition during fertilization**

Callow, Prof.J.A.  
Monoclonal / Antibody / Receptor / Alga / Recognition / Fertilization / Botany

**Molecular basis of host/parasite recognition and resistance in plants to fungal and bacterial pathogens**

Callow, Prof.J.A.  
Host / Parasite / Recognition / Resistance / Plant / Pathogen / Agriculture / Botany

**University of Birmingham**  
Department of Chemistry  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4144361

**Enzyme reactors and tissue reactors are being studied in the development of fast analytical procedures based on Ruzicka-Hansen flow injection techniques**

MacDonald, Dr.A.M.G.  
Bioreactor / Bioprocess engineering / Enzyme / Tissue / Flow / Injection

**Conversion of carbohydrates to alcohol**

Kennedy, Dr.J.F.  
Chemistry / Transformation / Polyalcohol / Alcohol

**Design synthesis of chemical reagents for attaching inorganic materials to antibodies**

Jones, Dr.C.J.  
Chemistry / Synthesis / Reagent / Inorganic substance / Antibody

**University of Birmingham**  
Department of Chemical Engineering  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4143344

**Production of cellulases in an air-lift fermenter**

Wase, Dr.D.A.J.  
Production / Cellulase / Air-lift / Bioreactor / Fermentation / Bioprocess engineering / Industry

**The use of adsorbents in fermentation recovery processes**

Wase, Dr.D.A.J.  
Adsorption / Bioprocess engineering / Industry

**Enzymic activities of *Aspergillus fumigatus***

Wase, Dr.D.A.J.  
Enzyme / Mycelial fungus / Bioprocess engineering / Industry

**Metal binding and attachment in upflow anaerobic sludge blanket reactors**

Wase, Dr.D.A.J.  
Bioreactor / Bioprocess engineering / Anaerobic / Sludge / Metal / Environment

**Change of microbial cell volume with fermenter agitation rate**

Wase, Dr.D.A.J.  
Bioreactor / Fermentation / Bioprocess engineering / Cell / Volume / Microbial / Industry

**Studies on an anaerobic expanded bed reactor**

Wase, Dr.D.A.J.  
Bioreactor / Anaerobic / Bioprocess engineering / Industry / Environment

**Biodegradation of effluent rich in nitroaromatics**

Wase, Dr.D.A.J.  
Degradation / Biological / Waste / Nitrogen containing / Aromatic / Environmental biotechnology / Environment

**Evaluation of hydrodynamics of annular flow bioreactors**

Thomas, Dr.N.H.  
Bioprocess engineering / Bioreactor / Flow / Industry / Environment

**Continuous production of *Bacillus subtilis* alpha amylase using immobilised cells**

Thayanithy, Dr.K.  
Production / Continuous / *Bacillus* / Amylase / Immobilization / Cell / Bioprocess engineering / Industry

**Comparison of effects of physical damage, oxygen starvation and large-scale hydrodynamics on fermentation performance in large stirred vessels**

Nienow, Prof.A.W.  
Bioprocess engineering / Stirring / Reservoir / Industry / Fermentation

**Advanced fermentation equipment: computer database for performance prediction, leading to system design improvements and extensions to customer services**

Nienow, Prof.A.W.  
Bioprocess engineering / Fermentation / Apparatus / Computer / Data base / Industry

**Development of in-fermenter power measurement**

Nienow, Prof.A.W.  
Bioprocess engineering / Bioreactor / Measurement / Fermentation / Industry

**Process engineering of seeds; priming, drying and coating**

Nienow, Prof.A.W.  
Bioprocess engineering / Germ cell / Drying / Coating / Agriculture

**Bubble-driven tube and loop bioreactors: physical determinants for improved performance**

McManamey, Dr.W.J.  
Bioreactor / Optimization / Bioprocess engineering / Industry

**Affinity adsorption in recovery and utilisation of a novel protease**

Lyddiatt, Dr.A.  
Affinity / Adsorption / Protease / Bioprocess engineering

**Optimal design of solid-phases for specific adsorption in biochemical recoveries**

Lyddiatt, Dr.A.  
Optimization / Solid / Adsorption / Biochemical / Bioprocess engineering / Industry

**Development of methodologies for high performance affinity liquid chromatography**

Lyddiatt, Dr.A.  
HPLC / Affinity / Chemical engineering / Industry

**Fluidized bed adsorption in biochemical recoveries**

Lyddiatt, Dr.A.  
Adsorption / Biochemical / Bioreactor / Bioprocess engineering / Industry

**Aqueous two-phase partition in biochemical recoveries**

Lyddiatt, Dr.A.  
Bioprocess engineering / Two-phase / Biochemical / Liquid / Industry

**Recovery of functional protein fractions from microbial waste materials**

Lyddiatt, Dr.A.  
Bioprocess engineering / Protein / Microbial / Waste

**Controlled fabrication and operation of immunoadsorbents**

Lyddiatt, Dr.A.  
Immune / Adsorption / Control

**Recovery of monoclonal antibodies from mammalian cell culture**

Lyddiatt, Dr.A.  
Monoclonal / Antibody / Mammal / Cell / Cultivation

**Biochemical and physical characterisation of biological foam systems**

Lyddiatt, Dr.A.  
Foam / Biological / Bioprocess engineering / Industry

**Extraction of biological materials using near-critical solvents; equilibrium and mass transfer rate data and economic evaluation**  
King, Dr.M.B.  
Extraction / Solvent / Bioprocess engineering / Industry

**Use of common reeds for treating effluents from agricultural sources**  
Gray, Dr.K.R.  
Environmental biotechnology / Pollution / Purification / Environment

**Composting process and its application to the treatment of organic wastes from urban, farm, industrial and garden sources in temperate and tropical climates**  
Gray, Dr.K.R.  
Composting / Organic / Waste / Urban / Industrial / Purification / Bioprocess engineering / Environment

**Synthesis of beta-lactam antibiotics by immobilized streptomycetes**  
Emery, A.N.  
Bioprocess engineering / Immobilization / Streptomycete / Synthesis / Pharmaceutical industry / Antibiotic

**Development of large-scale in vitro culture of hybridomas secreting monoclonal antibodies for use in industrial immunoadsorption processes**  
Emery, A.N.  
Production scale / In vitro / Cultivation / Hybridoma / Monoclonal / Antibody / Bioprocess engineering / Industry / Immune / Adsorption

**Use of fibrous immobilized aerobic bacterial cells to model the complex rheological behaviour of mycelial systems**  
Emery, A.N.  
Immobilization / Aerobic / Bacterial / Cell / Modelling / Rheology / Bioprocess engineering / Fungus / Industry

**Electro-filtration of yeast cells on carbon cloth**  
Davies, Prof.J.T.  
Filtration / Yeast / Cell / Bioprocess engineering / Industry

**Production of active dried yeast by means of spray drying and the cultivation of yeast suitable for this process**  
Cardew, Dr.M.H.  
Production / Yeast / Spray dryer / Cultivation / Bioprocess engineering / Industry

**Immobilization of enzymes as extruded pellets**  
Bridgewater, Prof.J.  
Immobilization / Enzyme / Bioprocess engineering / Industry

**Development of a co-current down-flow reactor for a variety of chemical and biochemical processes**  
Boyes, Dr.A.P.  
Bioreactor / Chemical engineering / Bioprocess engineering / Industry

**Novel polymers for the prevention of biofilm adhesion in process plant**  
Bott, Dr.T.R.  
Adhesion / Chemical engineering / Polymer / Bioprocess engineering / Industry

**University of Birmingham**  
Department of Clinical Chemistry  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4721311

**Analytical methods based on bio- and chemiluminescence with special reference to substances of clinical importance**  
Whitehead, Prof.T.P.  
Analysis / Bioluminescence / Chemoluminescence / Clinical / Chemistry

**Development and automation of enzyme-immunoassay**  
Whitehead, Prof.T.P.  
Automation / Enzyme / Immunoassay / Clinical / Chemistry

**Methods of protein-enzyme coupling and assessment of protein-enzyme conjugates for use in enzyme-immunoassays for chemically important substances**  
Whitehead, Prof.T.P.  
Enzyme / Immunoassay / Protein / Coupling / Clinical / Chemistry

**Identification and cloning of allergenic proteins from cocksfoot grass**  
Matthews, Dr.J.A.  
Recognition / Cloning / Allergen / Protein / Clinical / Chemistry

**Luminescent detection of enzyme-labelled DNA probes for filter hybridizations (southern and dot "blots")**  
Matthews, Dr.J.A.  
Luminescence / DNA / Probes / Hybridization / Blotting / Clinical / Chemistry

**Immobilized proteins as analytical reagents, especially new chemical methods of immobilization**  
Kricka, Dr.L.J.  
Immobilization / Protein / Clinical / Chemistry / Analysis

**University of Birmingham**  
Department of Electronic and Electrical Engineering  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4143344

**Control of bioreactors, including effects of incomplete mixing in large scale batch reactions, and use of adaptive control**  
Norton, Dr.J.P.  
Bioreactor / Control / Bioprocess engineering / Industry / Mixing / Batch / Production scale

**University of Birmingham**  
Department of Genetics  
PO Box 363  
B15 2TT  
Birmingham  
☎ +44 21 4721301

**Comparison of the structure, function and organization of the maintenance genes of IncP plasmids**  
Thomas, Dr.C.M.  
Gene / Plasmid / Molecular genetics

**Biochemistry of DNA replication of broad host range plasmid RK2**  
Thomas, Dr.C.M.  
Biochemistry / Molecular genetics / DNA / Replication / Plasmid

**Stability of hybrid plasmids in *Bacillus subtilis***  
Thomas, Dr.C.M.  
Hybridization / Plasmid / Bacillus / Molecular genetics

**Development of controlled gene expression vector for general use in Gram-negative bacteria**  
Thomas, Dr.C.M.  
Gene / Expression / Vector / Gramnegative / Molecular genetics

**Regulation of gene expression in *Bacillus subtilis***  
Thomas, Dr.C.M.  
Gene / Expression / Molecular genetics / Bacillus / Regulation

**Cloning of *Treponema pallidum* DNA to produce antigens in vitro and assess their potential for immunodiagnosis**  
Thomas, Dr.C.M.  
Cloning / DNA / Antigen / In vitro / Immune / Diagnosis / Molecular genetics

**Molecular genetics of pseudomonic acid biosynthesis by *Pseudomonas fluorescens***  
Franklin, Dr.F.C.H.  
Molecular genetics / Pseudomonas / Biosynthesis

**University of Birmingham**  
Department of Microbiology  
PO Box 363  
B15 2TT  
Birmingham  
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**Two-dimensional electrophoresis of polypeptides from virus-infected protoplasts**  
Wood, Dr.K.R.  
Electrophoresis / Polypeptide / Protoplast / Virus / Agriculture

**Cloning of *Treponema pallidum* DNA**  
Penn, Dr.C.W.  
Cloning / DNA / Molecular genetics

**University of Birmingham**  
Birmingham Malt and Brewing Group,  
Biochemistry Department  
Birmingham  
☎ +44 21 4721301

**Downstream processing of yeast extracellular proteases**  
Young, Dr.T.W.  
Downstream processing / Bioprocess engineering / Yeast / Extracellular / Protease / Industry

**Genetical manipulation of brewer's yeast to secrete extracellular proteases**  
Young, Dr.T.W.  
Genetic / Modification / Brewer's Yeast / Secretion / Extracellular / Protease / Gene technology / Biochemistry / Industry

**Biochemistry of beer components**  
Young, Dr.T.W.  
Biochemistry / Beer / Industry

**Use of yeast zymocides to stabilize soft drinks against microbiological spoilage**  
Young, Dr.T.W.  
Yeast / Drink / Biochemistry / Industry

**Purification and characterization of enzymes involved in biosynthesis of alkaloids and other flavour components in plants**  
Haslam, Dr.S.C.  
Biochemistry / Biosynthesis / Purification / Enzyme / Alkaloid / Flavour / Industry

**University of Birmingham**  
Department of Medicine, Division of Medicine  
Birmingham  
☎ +44 21 4143344

**Application of recombinant DNA techniques to studies of anterior pituitary hormone synthesis**  
Franklyn, Dr.J.A.  
Recombination / DNA / Hormone / Endocrinology / HYPOPHYSIS

**Definition of regulatory sequences of DNA and nuclear proteins which determine thyroid hormone effects**  
Franklyn, Dr.J.A.  
Thyroid gland / Hormone / Regulation / DNA / Nucleus / Protein / Endocrinology

**Development of a bioassay for parathyroid hormone, and tumoral hypercalcaemic factors using a cloned rat osteogenic sarcoma cell line**  
Docherty, Mrs.H.M.  
Assay / Hormone / Cancer / Cloning / Calcium / Endocrinology

□ **University of Birmingham**  
Department of Medical Microbiology  
The Medical School  
B15 2TJ  
Birmingham  
☎ +44 21 4721301

**Efficacy of vaccine NFU1(S-) MRC in primate species**  
Skinner, Dr.G.R.B.  
Vaccine / Primate / Immunology

**Role of monoclonal antibodies to Yersinia enterocolitica and Klebsiella pneumoniae in ankylosing spondylitis**  
Pease, Dr.P.E.  
Monoclonal / Antibody / Yersinia / Klebsiella / Immunology

**Cloning of restriction fragments of varicella-zoster virus DNA and mapping of antigens**  
Martin, Dr.B.A.B.  
DNA / Cloning / Virology / Mapping / Antigen / Restriction / Immunology / Gene technology

**Evaluation of protective effect of herpes simplex virus subunit vaccine on herpetic keratitis**  
Easty, Dr.D.  
DNA virus / Herpes / Vaccine / Virology / Immunology

**Microbiological reactions to cancer specific proteins**  
Buchan, Dr.A.  
Cancer / Immunology / Microbiology / Protein

**Development and clinical response to a herpes simplex virus subunit vaccine**  
Buchan, Dr.A.  
Herpes / DNA virus / Clinical / Vaccine / Immunology / Virology

□ **University of Birmingham**  
Department of Oral Surgery and Oral Medicine  
The Dental School, St. Chad's Queensway  
B4 6NN  
Birmingham  
☎ +44 21 4721301

**Cell interactions with two types of solid and porous hydroxyapatite implant materials**  
Frame, Dr.J.W.  
Interaction / Cell / Inorganic substance / Implantation

**Osteoblast interactions with ceramic and other bone substitute materials**  
Frame, Dr.J.W.  
Interaction / Cell / Inorganic substance

□ **University of Birmingham**  
Department of Physiology  
The Medical School, Vincent Drive  
B15 2TJ  
Birmingham  
☎ +44 21 4721301

**Fibroblast growth factor from brain**  
Logan, Dr.A.  
Fibroblast / Bioactive agent / Growth / Brain / Physiology

□ **University of Birmingham**  
Department of Surgery, Surgical Immunology Unit  
Queen Elizabeth Hospital  
B15 2TH  
Birmingham  
☎ +44 21 4721311

**Detection and therapy of gastro-intestinal tract tumours using radiolabelled monoclonal antibodies recognising tumour associated antigens**  
MacDonald, Dr.F.  
Immunotherapy / Digestive system / Monoclonal / Antibody / Tumour / Antigen / Immunology

□ **University of Bath**  
School of Biological Sciences  
Claverton Down  
BA2 7AY  
Bath  
☎ +44 225 826826

**Manipulation of eukaryote cell enzymes by phenotypic mutation, antisense RNA and genetic engineering**  
Whish, Dr.W.J.D.  
Modification / Eukaryote / Cell / Enzyme / Mutation / RNA / Cell biology / Gene technology

**Mammalian cell adhesion: mechanisms and manipulation for biotechnology**  
Whish, Dr.W.J.D.  
Mammal / Cell / Adhesion / Cell biology / Modification

**Cloning and sequencing of a gene involved in the control of yeast cell proliferation**  
Wheals, Dr.A.E.  
Cloning / Sequencing / Gene / Regulation / Yeast / Cell / Proliferation / Molecular genetics / Cell biology

**Cloning and sequencing of a yeast start gene**  
Wheals, Dr.A.E.  
Cloning / Sequencing / Yeast / Gene / Molecular genetics

**Role of cyclic AMP, GTP and adenylate cyclase in the control of yeast cell proliferation**  
Wheals, Dr.A.E.  
Cyclic / Nucleotide / Adenylate cyclase / Yeast / Cell / Proliferation / Regulation / Biochemistry / Cell biology

**Measurement of plasmid copy number in individual yeast cells**  
Wheals, Dr.A.E.  
Plasmid / Yeast / Molecular genetics

**Enzymology of antibiotic biosynthesis**  
Weitzman, Prof.P.D.J.  
Enzymology / Biosynthesis / Antibiotic / Pharmaceutical industry

**Metabolic control in Methylophilus methylotrophus**  
Weitzman, Prof.P.D.J.  
Metabolism / Regulation / Methylophilic / Microbiology

**Micropropagation and virus elimination in Lonicera perclinum**  
Wainwright, Dr.H.  
Cultivation / Virus

**Membrane protection in production of active dried yeast**  
Rose, Prof.A.H.  
Production / Yeast / Microbiology / Industry

**Resistance to the antimicrobial action of sulphite in yeasts**  
Rose, Prof.A.H.  
Resistance / Sulphate / Yeast / Microbiology

**Cell envelope properties in relation to drying of yeast**  
Rose, Prof.A.H.  
Cell / Drying / Yeast / Microbiology / Industry

**Long-chain alcohol production by yeasts**  
Rose, Prof.A.H.  
Alcohol / Production / Yeast / Microbiology / Industry

**Physiological basis of ethanol tolerance in Saccharomyces cerevisiae**  
Rose, Prof.A.H.  
Ethanol / Tolerance / Yeast / Microbiology / Industry

**Novel methods of production of edible fungal fruit bodies**  
Rayner, Dr.A.D.M.  
Production / Food / Nutritional branch / Fungus / Cultivation

**Zygotic and somatic embryo development in Brassica**  
Moore, Dr.K.G.  
Egg cell / Embryo / Development / Useful plant / Agriculture / Cell biology

**Citrate synthase genes from archaeobacteria will be cloned and sequenced for comparison with their eubacterial and eukaryotic counterparts**  
Hough, Dr.D.W.  
Citrate / Gene / Cloning / Sequencing / Archaeobacterium / Eubacterium / Eukaryote / Biochemistry / Molecular genetics

**Cloning and sequencing of archaeobacterial genes encoding thermostable dehydrogenases with dual cofactor specificity**  
Hough, Dr.D.W.  
Gene / Cloning / Sequencing / Archaeobacterium / Oxidoreductase / Cofactor / Biochemistry / Molecular genetics

**Monoclonal antibodies to citric acid cycle enzymes**  
Hough, Dr.D.W.  
Biochemistry / Citric acid / Enzyme / Monoclonal / Antibody

**Somatic embryogenesis in Arabidopsis thaliana**  
Henshaw, Prof.G.G.  
Useful plant / Agriculture / Embryo / Cultivation / Cell biology

**Somatic embryogenesis in cassava (Manihot esculenta): methods for maintaining embryogenic competence of cells and tissues in large-scale and long-term cultures**  
Henshaw, Prof.G.G.  
Useful plant / Agriculture / Embryo / Cultivation / Tropical / Cell biology

**Genetic stability in tissue cultures of Arabidopsis thaliana**  
Henshaw, Prof.G.G.  
Genetic / Stable / Tissue / Cultivation / Cytogenetics / Agriculture

**Co-operative interactions in affinity chromatography**  
Eisenthal, Dr.R.S.  
Interaction / Chromatography / Chemistry

**Homology modelling and computer graphics will be used to generate structures of E coli hexameric citrate synthase based on the known structure of the pig enzyme**  
Danson, Dr.M.J.  
Modelling / Computer / Structure / Escherichia / Citrate / Biochemistry / Enzyme

**Structure function and cofactor specificity of thermostable archaeobacterial dehydrogenases. Assessment of their potential as catalysts in synthetic organic reactions**  
Danson, Dr.M.J.  
Structure / Cofactor / Archaeobacterium / Oxidoreductase / Biological / Catalysis / Organic chemistry / Chemical industry / Biochemistry

**Strain selection and improvement by direct genetic manipulation of the entomopathogenic fungus *Metarhizium anisopliae***

Charnley, Dr.A.K.

Selection / Optimization / Gene technology / Pathogenic / Fungus / Entomology

**Physiology of yeasts in meat and meat products**

Board, Dr.R.G.

Meat / Yeast / Microbiology / Nutritional branch

**Natural antimicrobial systems and food preservation**

Board, Dr.R.G.

Food / Preservation / Nutritional branch / Microbiology

**Use of restriction fragment length polymorphisms to analyse genomic variability in regenerants of potato from tissue culture, and in potato cultivars**

Beeching, Dr.J.R.

Restriction / Polymorphism / Genome / Regeneration / Potato / Tissue / Cultivation / Molecular genetics / Agriculture

**Gene expression during dedifferentiation and regeneration of potato**

Beeching, Dr.J.R.

Gene / Expression / Regeneration / Potato / Molecular genetics / Agriculture

**Assessment of genetic stability of sweet-potato germplasm with isozymes and restriction fragment length polymorphisms**

Beeching, Dr.J.R.

Genetic / Stable / Potato / Isoenzyme / Restriction / Polymorphism / Molecular genetics / Agriculture

**Analysis of genomic variability in regenerants of *Arabidopsis* from tissue culture using restriction fragment length polymorphisms**

Beeching, Dr.J.R.

Genome / Regeneration / Tissue / Cultivation / Restriction / Polymorphism / Useful plant / Molecular genetics / Agriculture

- **University of Bath**  
School of Chemistry  
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**Molecular modelling of nicotinic acetylcholine receptors**

Osguthorpe, Dr.D.J.

Modelling / Computer / Receptor / Molecular / Pharmacology

**Molecular modelling study of the multi-subunit enzyme citrate synthase**

Osguthorpe, Dr.D.J.

Modelling / Computer / Structure / Citrate / Biochemistry / Enzyme

**Application of organofunctional siloxanes to separation problems**

Brisdon, Dr.B.J.

Separation / Chemical engineering / Chemical industry

- **University of Bath**  
School of Chemical Engineering  
Claverton Down  
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**Biofuel cell**

Yue, Dr.P.L.

Fuel / Chemical engineering / Bioprocess engineering

**Development of a membrane supported enzyme reactor to operate with a two-phase solvent system**

Hubble, Dr.J.

Membrane apparatus / Enzyme / Bioreactor / Two-phase / Solvent / Chemical engineering / Bioprocess engineering / Industry

**Cooperative binding effects in affinity chromatography**

Hubble, Dr.J.

Affinity / Chromatography / Chemical engineering / Bioprocess engineering / Industry

**Concentration polarization in constant flux ultrafiltration reactors - effect on performance**

Hubble, Dr.J.

Concentration / Filtration / Bioreactor / Chemical engineering / Bioprocess engineering / Industry

**Use of bacterial S-layers or their analogues to produce membranes robust enough for industrial use and which are cleanable and have the properties of being non-fouling and fractionating proteins**

Howell, Prof.J.A.

Membrane apparatus / Protein / Chemical engineering / Industry / Bioprocess engineering / Industry

**Novel composite membranes using glycoproteins from excreted S-layer material**

Howell, Prof.J.A.

Membrane apparatus / Glycoprotein / Chemical engineering / Industry / Bioprocess engineering

**Large scale ion-exchange chromatography**

Howell, Prof.J.A.

Ion / Chromatography / Exchange / Chemical engineering / Industry

**Development of affinity membranes**

Howell, Prof.J.A.

Affinity / Membrane apparatus / Downstream processing / Chemical engineering / Industry

**Prevention of protein rejection during microfiltration**

Howell, Prof.J.A.

Protein / Filtration / Chemical engineering / Industry / Bioprocess engineering

**Modelling of fouling of ultrafiltration membranes**

Howell, Prof.J.A.

Membrane apparatus / Filtration / Modelling / Chemical engineering / Industry

**Downstream processing using functionalized polysiloxanes as extractants**

England, Dr.R.

Downstream processing / Chemical engineering / Chemical industry

- **University of Bath**  
School of Pharmacy and Pharmacology  
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**Screening of micro-organisms for stereospecific N-dealkylation of drugs and drug intermediates**

Soper, Dr.C.J.

Drug / Screening / Stereospecific / Pharmacology / Microorganism

**Studies on the microbial transformation of drug substances**

Soper, Dr.C.J.

Microbial / Transformation / Drug / Pharmacology

**Design and application of air-lift fermenters for use with *Cunninghamella* and *Candida* species**

Soper, Dr.C.J.

Air-lift / Bioreactor / Fermentation / Bioprocess engineering / Pharmaceutical industry

**Screening of plants of Malaysia for medicinal compounds**

Rowan, Dr.M.G.

Plant / Bioactive agent / Tropical / Pharmacy

**Isolation and chemical characterization of novel compounds from marine algae**

Rowan, Dr.M.G.

Alga / Marine / Bioactive agent / Pharmacy

**Mechanisms of drug release from biodegradable poly (hydroxybutyric acid) implants**

Pouton, Dr.C.W.

Drug / PHB / Pharmacology

- **University of Bristol**  
Department of Agricultural Sciences, Long Ashton Research Station  
Long Ashton  
BS18 9AF  
Bristol  
☎ +44 272 39218

**Willows for biomass**

Stott, K.G.

Plant / Biomass / Agricultural Sciences / Energy

**Establish structure/activity relations, sites of biosynthesis and mechanisms of action of nitrite/nitrate reductases**

Notton, Dr.B.A.

Structure / Activity / Biosynthesis / Nitrite / Nitrate / Reductase / Biochemistry / Agriculture

**Integration of biological and chemical methods of weed control**

Greaves, Dr.M.P.

Agricultural sciences / Agriculture / Plant

**Factors affecting pathogenicity of fungi and bacteria, with special reference to extracellular enzymes**

Byrde, Dr.R.J.W.

Agricultural Sciences / Agriculture / Fungus / Bacterium / Pathogenic / Extracellular / Enzyme / Biochemistry

- **University of Bristol**  
Department of Biochemistry  
University Walk  
BS8 1TD  
Bristol  
☎ 4 272 303524

**Structure and function of glycolytic enzymes and transferrin using X-ray crystallographic techniques**

Muirhead, Dr.H.

Enzyme / Structure / Biochemistry / Diffraction / X-rays

**Regulation of the *gyl* operon of *Streptomyces coelicolor***

Brown, Dr.N.L.

Regulation / Gene / Molecular genetics / Biochemistry / Streptomycete

- **University of Bristol**  
Department of Microbiology  
The Medical School, University Walk  
BS8 1TD  
Bristol  
☎ +44 272 303030

**Gene cloning in *Penicillium chrysogenum***

Turner, Dr.G.

Gene / Cloning / Gene technology / Pharmaceutical industry / Fungus / Penicillin

**Structure, evolution and transposition of bacterial transposable elements**

Grinstead, Dr.J.

Bacteriology / Transposon



**Transfection studies on tissues chronically infected with measles virus**

Greenham, Dr.L.W.

Transfection / Tissue / Infection / RNA virus / Virology

**Development and evaluation of DNA probes for the diagnosis of enteric adenovirus infections**

Darville, Dr.J.M.

DNA / Probes / Diagnosis / Infection / Adenovirus / Gut / Virology

**Secretion of proteins in E.coli and its inhibition by anti-microbial agents**

Chopra, Dr.I.

Secretion / Protein / Escherichia / Bioactive agent / Bacteriology / Pharmaceutical industry

**Nucleic acid hybridization and monoclonal antibodies in diagnostic virology**

Caul, Dr.E.O.

Nucleic acid / Hybridization / Monoclonal / Antibody / Diagnosis / Virology

**Bacterial identification by DNA-probe and pyrolysis mass spectrometry**

Berkeley, Dr.R.C.W.

DNA / Probes / Pyrolysis / MS / Recognition / Bacteriology

 **University of Bristol**

Department of Organic Chemistry

Cantock's Close

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**Molecular recognition: gibberellin-receptor studies using affinity labelling, NMR and anti-idiotypic antibodies**

MacMillan, Prof.J.

Recognition / Receptor / Gibberellin / Plant / NMR / Antibody / Affinity / Agriculture / Organic chemistry

 **University of Bristol**

Department of Obstetrics and

Gynaecology

Bristol Maternity Hospital, Southwell Street

BS2 8EG

Bristol

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**Immunohistological analysis of ovarian tumours using monoclonal antibodies to tumour markers**

Stirrat, Prof.G.M.

Histology / Immune / Monoclonal / Antibody / Tumour / Cancer / Marker / Urogenital system / Gynecology

**Treatment of nervous system tumours by human monoclonal antibody-guided irradiation**

Randle, Dr.B.J.

Nervous system / Tumour / Human / Monoclonal / Antibody / Irradiation / Cancer / Immunotherapy

**Direct analysis of molecules important for vaccine protection against Epstein-Barr virus injection by primate B-lymphocyte cloning**

Randle, Dr.B.J.

Vaccine / Immunology / DNA virus / Cloning / Lymphocyte / Primate

**Human spermatozoal auto- and isoantigens in relation to sperm function using human monoclonal antibodies derived by B-lymphocyte transformation with Epstein-Barr virus**

Forsey, J.P.

Human / Antigen / Sperm / Monoclonal / Antibody / Lymphocyte / Transformation / Immunology / DNA virus

 **University of Bristol**

Department of Pathology

The Medical School, University Walk

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Bristol

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**Development of a nucleic acid-free membrane vaccine against Epstein-Barr virus infection**

Morgan, Dr.A.J.

Vaccine / DNA virus / Infection / Immunology

 **University of Bristol**

Department of Veterinary Medicine

Langford House

BS18 7DU

Bristol / Langford

☎ +44 934 852581

**S subunit cholera enterotoxin as a vehicle for mucosal immune stimulation**

Stokes, Dr.C.R.

Toxin / Immune / Stimulation / Immunology / Veterinary medicine

**Production of monoclonal antibodies**

Boume, Prof.F.J.

Production / Monoclonal / Antibody / Veterinary medicine

 **University of Cambridge**

Department of Applied Biology

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CB2 3DX

Cambridge

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**Use of micropropagation in tropical tree improvement strategies**

Skidmore, Dr.D.I.

Plant / Tropical / Cultivation / Forestry / Botany

**Production of cocoa clones resistant to *Phytophthora palmivora* (black pod fungus) through micropropagation and prematurity selection**

Skidmore, Dr.D.I.

Cocoa / Cloning / Plant / Cultivation / Fungus / Selection / Tropical / Agriculture / Botany

**Germplasm evaluation and breeding of dry beans (*Phaseolus vulgaris*) for the United Kingdom**

Galwey, Dr.N.W.

Plant / Cultivation / Germ cell / Botany

 **University of Cambridge**

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**Extrinsic photosystem II proteins in cyanobacteria: characterisation and genetics**

Wallace, T.P.

Photosynthesis / Cyanobacterium / Protein / Molecular biology / Biochemistry

**Molecular biology of photosynthetic oxygen evolution in Cyanobacteria**

Stewart, Dr.A.C.

Molecular biology / Biochemistry / Photosynthesis / Oxygen / Cyanobacterium

**Primary structure and protein engineering of glutathione oxidoreductase**

Perham, Dr.R.N.

Primary / Structure / Protein design / Glutathione / Reductase / Biochemistry

**Calcium-binding proteins and the regulation of *Streptomyces* metabolism**

Leadlay, Dr.P.F.

Calcium / Protein / Regulation / Metabolism / Streptomycete / Biochemistry

**Use of cloned DNA in enhancing antibiotic production by *Streptomyces***

Leadlay, Dr.P.F.

Cloning / DNA / Antibiotic / Streptomycete / Biochemistry

**Molecular recognition of nucleic acids by proteins: an NMR study of the yeast gene regulatory protein ADR1**

Laue, Dr.E.D.

Recognition / Molecular biology / Nucleic acid / Protein / NMR / Yeast / Gene / Regulation / Biochemistry

**Nature and regulation of carbohydrate transport in *Escherichia coli* and in other bacteria**

Kornberg, Sir Prof.H.L.

Regulation / Transport / Escherichia / Membrane biology / Biochemistry

**Purification and properties of membrane transport proteins of *Escherichia coli*. Cloning and sequencing of the associated transport genes. Energization of bacterial transport reactions**

Henderson, Dr.P.J.F.

Membrane biology / Protein / Escherichia / Cloning / Sequencing / Gene / Biochemistry / Transport

**Synthesis, regulation and role of penicillin-binding proteins (PBPs) during morphogenesis of bacilli**

Ellar, Dr.D.J.

Biosynthesis / Regulation / Penicillin / Protein / Morphogenesis / Bacillus / Biochemistry

**Characterization of chloroplast ferredoxin-plastoquinone reductase**

Bendall, Dr.D.S.

Chloroplast / Reductase / Biochemistry

 **University of Cambridge**

Department of Botany

Downing Street

CB2 3EA

Cambridge

☎ +44 223 333958

**Regeneration of potato mesophyll protoplasts**

Ward, K.G.

Potato / Regeneration / Tissue / Cultivation / Protoplast / Botany / Agriculture

**Anther culture of *Brassica napus* (oilseed rape)**

MacDonald, Dr.M.V.

Tissue / Cultivation / Useful plant / Botany / Agriculture

**In vitro selection of novel disease resistant plants generated in tissue culture (*Brassica* spp.)**

Ingram, Dr.D.S.

In vitro / Selection / Resistance / Useful plant / Cultivation / Tissue / Botany / Agriculture

**Production of disease resistant plants through tissue culture: *Sclerocinia* sp resistant to *Alternaria*, *Pyrenopeziza*, *Sclerotinia*, *Leptosphaeria* and *Plasmodiophora***

Ingram, Dr.D.S.

Tissue / Cultivation / Useful plant / Resistance / Botany / Agriculture

**Protoplast culture and somatic hybridization in *Brassica* spp**

Ingram, Dr.D.S.

Protoplast / Cultivation / Useful plant / Hybridization / Botany / Agriculture

**Anther culture and microspore culture of****Brassica species**

Ingram, Dr.D.S.

Microspore / Cultivation / Tissue / Useful plant / Botany / Agriculture

**Application of plant tissue culture methods in studies of the interaction between parasitic fungi and their hosts**

Ingram, Dr.D.S.

Plant / Tissue / Cultivation / Fungus / Parasite / Host / Interaction / Botany / Agriculture

**Monoclonal antibodies to phytochrome**

Hanke, Dr.D.E.

Monoclonal / Antibody / Botany / Agriculture

 **University of Cambridge**

Department of Chemical Engineering

Pembroke Street

CB2 3RA

Cambridge

☎ +44 223 334799

**Protein adsorption and the fouling of heat exchangers**

Paterson, Dr.W.R.

Adsorption / Protein / Heat / Exchange / Chemical engineering / Bioprocess engineering / Industry

**Analysis of immunoabsorbent techniques**

Kenney, Dr.C.N.

Immune / Adsorption / Chemical engineering / Bioprocess engineering

**Ion-exchange techniques for protein purification**

Chase, Dr.H.A.

Ion / Exchange / Protein / Chemical engineering / Bioprocess engineering / Industry

**Scale-up of high performance liquid affinity chromatography**

Chase, Dr.H.A.

Scale-up / HPLC / Affinity / Chemical engineering / Bioprocess engineering

**Development of adsorbent separation processes for protein purification**

Chase, Dr.H.A.

Adsorption / Separation / Protein / Chemical engineering / Bioprocess engineering / Industry

**Aqueous two-phase systems for protein recovery**

Chase, Dr.H.A.

Two-phase / Protein / Liquid / Bioprocess engineering / Chemical engineering / Industry

**Microbial transformations of hydrocarbons**

Chase, Dr.H.A.

Microbial / Transformation / Hydrocarbon / Bioprocess engineering / Chemical industry

**Continuous techniques for bioseparation**

Chase, Dr.H.A.

Continuous / Separation / Bioprocess engineering / Chemical engineering / Industry

 **University of Cambridge**

University Department of Clinical

Biochemistry

Addenbrooke's Hospital, Hills Road

CB2 2QQ

Cambridge

☎ +44 223 337733

**Development of diagnostic immunoassays using monoclonal antibodies**

Siddle, Dr.K.

Diagnosis / Clinical / Biochemistry / Immunoassay / Monoclonal / Antibody

 **University of Cambridge**

University Department and MRC Unit of

Clinical Oncology and Radiotherapeutics

Addenbrooke's Hospital, Hills Road

CB2 2QQ

Cambridge

☎ +44 223 245133

**Oncoprotein analysis in malignancy**

Watson, Dr.J.V.

Cancer / Protein / Oncology / Analysis

**Monoclonal antibody probes for DNA damage**

Smith, Dr.P.J.

Monoclonal / Antibody / DNA / Oncology

**Detection of small cell lung cancer xenografts using radio-labelled monoclonal antibodies**

Reeve, Dr.J.G.

Lung / Tumour / Cancer / Oncology / Monoclonal / Antibody

**Production of monoclonal antibodies to human lung tumour determinants**

Reeve, Dr.J.G.

Monoclonal / Antibody / Lung / Tumour / Oncology / Cancer

 **University of Cambridge**

Department of Clinical Veterinary

Medicine

Maddingley Road

CB3 0ES

Cambridge

☎ +44 223 337654

**Immunodiagnosis of *Strongylus vulgaris***

Lloyd, Dr.S.S.

Immune / Diagnosis / Immunology / Veterinary medicine

**Monoclonal antibodies against immunoglobulins of domestic animals**

Dulfus, Dr.W.P.H.

Monoclonal / Antibody / Immunoglobulin / Immunology / Veterinary medicine

 **University of Cambridge**

Department of Genetics

Downing Street

CB2 3EH

Cambridge

☎ +44 223 333999

**Molecular mechanisms of plasmid maintenance**

Summers, Dr.D.K.

Molecular genetics / Plasmid

**Control of enzyme synthesis in *Schizosaccharomyces pombe***

MacDonald, Dr.D.W.

Regulation / Enzyme / Synthesis / Genetics / Yeast

**Genomic transformation and tumorigenesis in higher plants**

Furner, Dr.I.J.

Genome / Transformation / Molecular genetics / Plant

**Genetics and molecular biology of *Erysiphe graminis* (powdery mildew of barley)**

Barrett, Dr.J.A.

Genetics / Molecular biology / Useful plant / Agriculture

 **University of Cambridge**

Department of Organic and Inorganic

Chemistry

University Chemical Laboratory, Lensfield

Road

CB2 1EW

Cambridge

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**Structural and mode of action studies on****glycopeptide antibiotics**

Williams, Dr.D.H.

Peptide / Antibiotic / Organic chemistry / Pharmaceutical industry

**Biosynthesis of polyketide metabolites, particularly antibiotics**

Staunton, Dr.J.

Biosynthesis / Metabolite / Antibiotic / Organic chemistry / Pharmaceutical industry

**Approaches to the asymmetric synthesis of macrolide antibiotics**

Paterson, Dr.I.

Synthesis / Antibiotic / Organic chemistry / Pharmaceutical industry

**Application of recombinant DNA technology to biosynthetic studies: enhanced production of hydroxymethyl bilane synthase**

Abell, Dr.C.

Recombination / DNA / Biosynthesis / Enzyme / Biochemistry / Organic chemistry

 **University of Cambridge**

University Department of Pharmacology

Medical School, Hills Road

CB2 2QD

Cambridge

☎ +44 223 336950

**The role of interleukin 1 and polypeptide growth factors in angiogenesis: studies using a novel animal model and cultured vascular cells**

Fan, Dr.T.P.D.

Interleukine / Polypeptide / Growth / Cell / Cultivation / Vessels / Pharmacology

 **University of Cambridge**

Department of Pathology

Tennis Court Road

CB2 1QP

Cambridge

☎ +44 223 333689

**Use of monoclonal antibodies to manipulate immune responses in bone marrow and organ transplantation**

Waldmann, Dr.H.

Monoclonal / Antibody / Immune system / Bone marrow / Transplantation / Immunology

**Influenza virus RNA polymerase function: expression of individual protein components through recombinant DNA methods**

Inglis, Dr.S.C.

Flu / RNA / Polymerase / Expression / Protein / DNA / Recombination / Molecular genetics / Biochemistry

**Isolation of human Rhesus blood group antigen genes**

Hughes-Jones, Dr.N.C.

Blood group / Antigen / Gene / Isolation / Hematology / Immunology

**Salmonella vaccines: mechanisms of immunity and their use as carriers of cloned antigens**

Hormaeche, Dr.C.E.

Vaccine / Salmonella / Immunology / Cloning / Antigen

 **University of Cambridge**

Department of Zoology

Downing Street

CB2 3EJ

Cambridge

☎ +44 223 336600

**Analysis of the mitotic spindle by means of monoclonal antibodies**

Amos, Dr.W.B.

Monoclonal / Antibody / Zoology

- University of Durham**  
Department of Botany  
Science Laboratories, South Road  
DH1 3LE  
Durham  
☎ +44 385 64971
- Sequestration of yeast glycoproteins into the ER and Golgi apparatus and their movement to the cell surface and the vacuole**  
Watson, Dr.M.D.  
Yeast / Glycoprotein / Organelle / Cell / Cell biology
- Expression of plant genes in yeast**  
Watson, Dr.M.D.  
Molecular biology / Expression / Plant / Yeast
- Mechanism of transfer of T-DNA to plant cells**  
Shaw, Dr.C.H.  
Transfer / DNA / Plant / Molecular genetics / Botany
- Tissue specific gene expression in Brassica spp**  
Shaw, Dr.C.H.  
Gene / Expression / Molecular genetics / Plant / Botany
- Functional mapping of Ti-plasmid genes**  
Shaw, Dr.C.H.  
Gene / Mapping / Molecular genetics / Plasmid / Plant / Botany
- Legume gene-vectors based on Agrobacterium tumefaciens**  
Shaw, Dr.C.H.  
Gene / Vector / Agrobacterium / Molecular genetics / Plant / Botany
- Tumorigenesis by large plasmids in Agrobacteria**  
Shaw, Dr.C.H.  
Agrobacterium / Plasmid / Molecular genetics / Plant / Botany
- Agrobacterium tumefaciens Ti-plasmids as vectors for the study of gene expressions in plant cells**  
Shaw, Dr.C.H.  
Agrobacterium / Plasmid / Vector / Gene / Expression / Plant / Molecular genetics / Botany
- Protein sequence studies on plant toxins (lectins and inhibitors of proteinases and alpha-amylases)**  
Richardson, Dr.M.  
Protein design / Sequencing / Plant / Toxin / Lectin / Protease / Amylase / Inhibitor / Botany
- Plant gene expression in developing root nodules**  
Harris, Dr.N.  
Plant / Gene / Expression / Botany / Molecular genetics
- Tissue development in micropropagated explants**  
Gates, Dr.P.J.  
Tissue / Plant / Cultivation / Botany
- Direct gene transfer by microinjection**  
Gates, Dr.P.J.  
Gene technology / Transfer / Plant / Injection / Botany
- Genetic engineering of plants for pest resistance**  
Gatehouse, Dr.A.M.R.  
Gene technology / Plant / Resistance / Pest / Agriculture / Botany
- Identification and cloning of genes encoding plant toxins effective in insect and pathogen resistance in plants**  
Croy, Dr.R.R.D.  
Gene / Cloning / Plant / Toxin / Resistance / Insect / Pathogen / Molecular genetics / Agriculture / Botany
- Expression of plant proteins in bacteria and yeast**  
Croy, Dr.R.R.D.  
Molecular biology / Expression / Plant / Bacterium / Yeast
- Construction and use of a cloned gene banks from various plant species**  
Boulter, Prof.D.  
Cloning / Gene bank / Plant / Molecular genetics / Botany
- University of Dundee**  
Department of Biochemistry  
Park Place  
DD1 4HN  
Dundee  
☎ +44 382 23181
- DNA structure and DNA supercoiling**  
Lilley, Dr.D.M.J.  
DNA / Structure / Biochemistry
- Role of protein phosphorylation in the regulation of DNA topoisomerase activity**  
Lilley, Dr.D.M.J.  
Protein / Phosphorylation / Regulation / DNA / Isomerase / Biochemistry
- Molecular mechanisms and membrane assembly of the transport proteins from bacteria**  
Higgins, Dr.C.F.  
Membrane biology / Biochemistry / Transport / Protein / Bacterium / Molecular biology
- Characterization and cloning of enzymes of fatty acid synthesis in oil-seed rape**  
Hardie, Dr.D.G.  
Cloning / Enzyme / Fatty acid / Useful plant / Industry / Biochemistry
- Protein phosphatase genes**  
Cohen, Dr.P.T.W.  
Protein / Phosphatase / Gene / Molecular genetics / Biochemistry
- Gene transfer and expression of UDP-glucuronyltransferase in genetically-deficient cells and animals**  
Burchell, Dr.B.  
Gene / Transfer / Expression / Transferase / Molecular genetics / Biochemistry
- Physiology and genetics of anaerobic regulatory pathways in enterobacteria**  
Boxer, Dr.D.H.  
Anaerobic / Regulation / Enterobacterium / Biochemistry / Molecular genetics / Physiology
- University of Dundee**  
Department of Biological Sciences  
Park Place  
DD1 4HN  
Dundee  
☎ +44 382 23181
- Biotechnological studies on cyanobacteria of agricultural relevance**  
Stewart, Prof.W.D.P.  
Cyanobacterium / Agriculture
- Genetic manipulation of nitrogen-fixing photosynthetic micro-organisms**  
Stewart, Prof.W.D.P.  
Gene technology / Nitrogen / Fixation / Photosynthesis / Agriculture
- Collagen as a replacement biomaterial**  
Oliver, Dr.R.F.  
Collagen / Bioactive agent
- Expression of insecticidal toxin genes in cyanobacteria**  
Machray, Dr.G.C.  
Gene / Expression / Toxin / Insecticide / Cyanobacterium / Gene technology
- Molecular genetic analysis of nitrogen fixation and assimilation in filamentous heterocystous cyanobacteria**  
Machray, Dr.G.C.  
Molecular genetics / Nitrogen / Fixation / Cyanobacterium / Assimilation
- Production of microbial oils**  
Herbert, Dr.R.A.  
Microbial / Oil / Industry
- University of Dundee**  
Department of Medical Microbiology  
Ninewells Hospital Medical School  
DD1 9SY  
Dundee  
☎ +44 382 23181
- Production of antibacterial monoclonal antibodies**  
DickProf.H.M.  
Monoclonal / Antibody / Antibacterial / Microbiology / Medical
- University of Dundee**  
Department of Obstetrics and Gynaecology  
Ninewells Hospital Medical School  
DD1 9SY  
Dundee  
☎ +44 382 60111
- In-vitro fertilization**  
Mills, Dr.J.A.  
In vitro / Fertilization / Medicine / Reproduction
- Development and evaluation of immunoassays relevant to reproductive medicine**  
Lewis, Dr.M.  
Immunoassay / Medicine / Reproduction
- University of Dundee**  
Department of Pathology  
Ninewells Hospital Medical School  
DD1 9SY  
Dundee  
☎ +44 382 23181
- Application of molecular probes for diagnosis of inherited disease**  
Faed, Dr.M.J.W.  
Diagnosis / Probes / Molecular / Congenital / Disease / Medicine
- University of Dundee**  
Department of Surgery  
Ninewells Hospital Medical School  
DD1 9SY  
Dundee  
☎ +44 382 60111
- In vitro study of endothelial and mesothelial cell seeding of prosthetic vascular grafts**  
Walker, M.G.  
In vitro / Endothelium / Cell / Vessels / Medicine
- Fluorescence emission of malignant cells and tumours following laser irradiation with a view to detection of malignant cells**  
Cuschieri, Prof.A.  
Fluorescence / Emission / Malignant / Cell / Tumour / Laser / Irradiation / Cancer / Oncology / Recognition

□ **University of East Anglia**  
School of Biological Sciences  
Norwich  
NR4 7TJ  
Norwich  
☎ +44 603 56161

**Mechanisms of action of antimutagenic compounds in bacterial mutational test-systems**  
Clarke, Dr.C.H.  
Mutation / Test / Bacterial / Microbiology

**Use of protoplast fusion and restriction fragment length polymorphisms to study virulence specificity between *Fulvia fulva* and tomato**  
Oliver, Dr.R.P.  
Protoplast / Fusion / Restriction / Polymorphism / Useful plant / Agriculture / Molecular biology

**Molecular basis of plant disease resistance to fungal and bacterial pathogens and pathogen host-range. Nuclear genes affecting plastid viability**  
Oliver, Dr.R.P.  
Useful plant / Resistance / Pathogen / Bacterial / Fungus / Agriculture / Gene / Chloroplast / Molecular biology

**Genetics of *Rhizobium* in relation to symbiotic nitrogen fixation**  
Johnston, Dr.A.W.B.  
Rhizobium / Symbiosis / Nitrogen / Fixation / Agriculture / Genetics

**Genetic manipulation of *Streptomyces*, especially in relation to antibiotic production**  
Hopwood, Prof.D.A.  
Gene technology / Streptomyces / Antibiotic / Production / Pharmaceutical industry

**Pilot plant fermenter to support spectroscopic studies on metalloproteins isolated from bacteria and fungi**  
Greenwood, Prof.C.  
Pilot scale / Bioreactor / Fermentation / Spectrometry / Metalloprotein / Bioprocess engineering / Biochemistry

***Agrobacterium tumefaciens* - development as a gene-cloning system for higher plants**  
Firmin, Dr.J.L.  
Agrobacterium / Gene / Cloning / Gene technology / Useful plant / Agriculture

**Genetic mapping in peas using RFLP and in situ hybridization**  
Davies, Prof.D.R.  
Gene / Mapping / Useful plant / Agriculture / Restriction / In situ / Hybridization / Polymorphism / Molecular genetics

**Microinjection and genetic manipulation of plant cells**  
Davies, Prof.D.R.  
Gene technology / Injection / Plant / Cell

□ **University of East Anglia**  
School of Chemical Sciences  
Norwich  
NR4 7TJ  
Norwich  
☎ +44 603 592005, 56161

**Spectroscopic studies of nitrogenase**  
Thomson, Prof.A.J.  
Spectrometry / Nitrogenase / Biochemistry / Agriculture

**Design and synthesis of receptor labels and enzyme inhibitors**  
Taylor, Dr.R.J.K.  
Receptor / Enzyme / Inhibitor / Protein design / Biochemistry

□ **University of Edinburgh**  
Department of Bacteriology  
Teviot Place  
EH8 9AG  
Edinburgh  
☎ +44 31 6671011

**Development and application of monoclonal and polyclonal antibody tests for the non cultural diagnosis of gonococcal infection: monoclonal antibody serotyping of gonococci**  
Young, Dr.H.  
Monoclonal / Polyclonal / Antibody / Test / Immune / Diagnosis / Immunology / Infection / Bacterial / Bacteriology

**Production of monoclonal antibodies to lipopolysaccharide**  
Poxton, Dr.I.R.  
Production / Monoclonal / Antibody / Lipid / Polysaccharide / Immunology / Pharmaceutical industry

**Application of western blotting to diagnosis of viral infections**  
Peutherer, Dr.J.F.  
Blotting / Diagnosis / Infection / Viral / Immunology / Immune

**Diagnosis of infection with HIV antibody measurement; antigen, nucleic acid detection**  
Peutherer, Dr.J.F.  
Diagnosis / Infection / HIV / Antibody / Nucleic acid / Immune / Antigen / Immunology

□ **University of Edinburgh**  
Department of Botany  
Mayfield Road  
EH9 3JH  
Edinburgh  
☎ +44 31 6671011

**Use of plant tissue and cell cultures for the production of designated secondary substances**  
Yeoman, Prof.M.M.  
Plant / Cell / Tissue / Cultivation / Secondary / Bioactive agent / Production / Botany

□ **University of Edinburgh**  
Department of Clinical Chemistry  
The Royal Infirmary  
EH3 9YW  
Edinburgh  
☎ +44 31 6671011

**Continuous assessment of quality of performance of immunoassays for serum peptide hormones performed by UK laboratories. Comparison of accuracy and reliability of commercial assay kits**  
Seth, Dr.J.  
Clinical / Chemistry / Immunoassay / Peptide / Hormone / Quality control / Kit

**Use of tumour markers in gynaecological cancer**  
Roulston, Dr.J.E.  
Clinical / Chemistry / Tumour / Marker / Gynecology

□ **University of Edinburgh**  
University Department of Clinical Surgery  
Royal Infirmary  
EH3 9YW  
Edinburgh  
☎ +44 31 6671011

**Molecular genetic studies of breast cancer by studies of the restriction polymorphism of DNA and of the oestrogen receptor gene**  
MacKaye, Dr.J.  
Molecular genetics / Cancer / Restriction / Polymorphism / DNA / Receptor / Estrogen / Gene / Oncology

□ **University of Edinburgh**  
Department of Computer Science  
The King's Buildings, James Clerk Maxwell Building, Mayfield Road  
EH9 3JZ  
Edinburgh  
☎ +44 31 6671081

**Parallel computation for approximate string matching in database searching for DNA and protein sequences**  
Crook, J.  
DNA / Protein / Sequence / Data base / Computer / Biocomputing / Informatics

□ **University of Edinburgh**  
Department of Dermatology  
The Royal Infirmary  
EH3 9YW  
Edinburgh  
☎ +44 31 2292477

**Typing of human papilloma viruses causing infections in renal transplant recipients**  
Bunney, Dr.M.H.  
Papilloma virus / Infection / Kidney / Transplantation / Virology

□ **University of Edinburgh**  
Department of Forestry and Natural Resources  
The King's Building, Darwin Building, Mayfield Road  
EH9 3JU  
Edinburgh  
☎ +44 31 667 1081

**Micropropagation of trees**  
Grace, Dr.J.  
Cultivation / Plant / Biology

**Micropropagation of *Pinus brutia***  
Abdullah, A.  
Cultivation / Plant / Forestry / Biology

□ **University of Edinburgh**  
Department of Genetics  
The King's Buildings, West Mains Road  
EH9 3JN  
Edinburgh  
☎ +44 31 6671011

**Genetics and molecular biology of malaria parasites**  
Walliker, Dr.D.  
Genetics / Molecular biology / Malaria / Parasitology

**The role of cellular growth factor genes and proto-oncogenes in the selection of mice and chickens for growth**  
Tait, Dr.A.  
Bioactive agent / Growth / Genetics

**Genetics of *Trypanosoma* using monoclonal antibodies, DNA and enzyme electrophoretic markers. Biochemical and molecular methods for delineating species and strains of parasitic Protozoa**  
Tait, Dr.A.  
Genetics / Biochemistry / Parasitology / Monoclonal / Antibody / DNA / Enzyme / Electrophoresis / Marker / Protozoan

**Role of cdc and other mutants in the control of induced mutagenesis in yeast**  
Kilbey, Dr.B.J.  
Mutation / Origin / Regulation / Yeast / Genetics / Microbiology

**Evolution of enzyme systems. Effects of duplication/divergence on the specificity of enzyme catalysis**

Kacser, Dr.H.

Enzyme / Evolution / Biological / Catalysis / Genetics

**Intra-individual polymorphisms in normal and cancerous human tissues**

Jones, Dr.K.W.

Polymorphism / Genetics / Human / Tissue / Cancer

**Identification of gene products controlling growth by use of 2D-gel electrophoresis**

Hill, Prof.W.G.

Gene / Regulation / Growth / Electrophoresis / Genetics

**A method for detecting chemical compounds which can induce chromosome aneuploidy is being developed using a fungus *Sordaria brevicollis***

Bond, Dr.D.J.

Chromosome / Fungus / Genetics

**Recovery of transforming DNA and flanking host sequences from transformed cells and transgenic animals**

Bishop, Dr.J.O.

Transformation / DNA / Host / Sequence / Animal / Transgenic / Genetics

**University of Edinburgh**

Department of Microbiology

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**Casein degradation by microbial proteases: analysis by HPLC**

Ward, Dr.F.B.

Degradation / Microbial / Protease / HPLC / Food / Industry / Microbiology

**Interaction between microbial biopolymers and plant gluco- and galacto-mannans**

Sutherland, Dr.I.W.

Interaction / Organic / Polymer / Plant / Agriculture / Microbiology

**Investigation of the structure and function of yeast flavocytochrome B2 using site-directed mutagenesis. Interaction of cytochrome B2 with cytochrome C**

Reid, Dr.G.A.

Structure / Yeast / Cytochrome / Mutation / Origin / Interaction / Microbiology / Biochemistry

**Genetics and genetic manipulation of silage bacteria**

Moseley, Dr.B.E.B.

Gene technology / Microbiology / Feed / Agriculture

**Regulation of expression of 2-oxoglutarate dehydrogenase complex in yeast**

Dawes, Dr.I.W.

Regulation / Expression / Oxidoreductase / Yeast / Microbiology / Biochemistry

**Regulation of aromatic amino acid synthesis in yeast for purposes of overproduction**

Dawes, Dr.I.W.

Regulation / Amino acid / Yeast / Biochemistry / Microbiology / Biosynthesis

**Biological control of *Erwinia* diseases in potato**

Chard, Dr.J.M.

Regulation / *Erwinia* / Potato / Genetics / Agriculture / Microbiology

**University of Edinburgh**

Medical School, Department of

Biochemistry

George Square, Hugh Robson Building

EH8 9XD

Edinburgh

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**Structure and function of beta-lactoglobulin**

Sawyer, Dr.L.

Structure / Globulin / Biochemistry

**Structural studies on enveloped viruses**

(influenza, encephalitis, sindbis insect iridescent); structural changes during infective cycle and inactivation by antibodies; new vaccines

Miller, Prof.A.

Virus / Structure / Infection / Virology / Antibody / Vaccine / Immunology / Biochemistry

**Probing the activity of pyruvate kinase by site-directed mutagenesis**

Fothergill-Gilmore, Dr.L.A.

Pyruvic acid / Kinase / Mutation / Origin / Biochemistry

**The activities of phosphoglycerate mutases studied by protein engineering and NMR spectroscopy**

Fothergill-Gilmore, Dr.L.A.

Protein design / NMR / Spectrometry / Biochemistry / Enzyme

**University of Edinburgh**

Department of Medicine, Human genetics

Unit

Western General Hospital

EH4 2XU

Edinburgh

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**Development of prenatal diagnostic systems for cystic fibrosis**

Brock, Prof.D.J.H.

Prenatal / Diagnosis / Congenital / Disease / Genetics / Pancreas

**Development of an immunoassay for cystic fibrosis protein**

Brock, Prof.D.J.H.

Immunoassay / Protein / Congenital / Disease / Genetics / Pancreas

**University of Edinburgh**

Department of Molecular Biology

Mayfield Road

EH9 3JR

Edinburgh

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**Cloning and analysis of genes for clinically important enzymes and antigens of the malaria parasite *Plasmodium falciparum***

Scaife, Prof.J.G.

Gene / Cloning / Enzyme / Antigen / Malaria / Molecular genetics / Parasitology

**The application of restriction enzymes to microbial genetics. The expression of restriction and modification genes. Comparison of related restriction genes to determine the variations associated with the recognition of different DNA sequences**

Murray, Dr.N.E.

Restriction / Enzyme / Microbial / Molecular genetics / Gene / Expression / Modification / DNA / Sequence / Biochemistry

**Generation of hybrid DNA molecules containing eukaryotic genes in bacteriophage and plasmid genomes for studies of expression of higher organism genes in bacteria and of sequences in DNA molecules recognised by proteins responsible for specific functions; applications of molecular biology to viral hepatitis and hepatomas**

Murray, Prof.K.

Hybridization / DNA / Eukaryote / Gene / Bacteriophage / Plasmid / Genome / Expression / Sequence / Molecular biology / Biochemistry / Hepatitis / Viral / Infection / Cancer

**Expression of the mouse HPRT gene**

Melton, Dr.D.W.

Gene / Expression / Mouse / Molecular genetics / Biochemistry

**Replication and segregation of the *Escherichia coli* chromosome; transduction by bacteriophage P1**

Masters, Dr.M.

Replication / *Escherichia* / Chromosome / Transduction / Bacteriophage / Molecular genetics / Biochemistry

***Escherichia coli* genetic recombination in vitro; the invariability of DNA palindromes in *Escherichia coli***

Leach, Dr.D.R.F.

*Escherichia* / Genetic / Recombination / DNA / Molecular genetics / Biochemistry

**Transcription (especially its termination) in *Escherichia coli* and coliphage T7; regulation of RNA polymerase structural genes in *E. coli*; role of specific regions of *E. coli* RNA polymerase in promoter-DNA sequence recognition**

Hayward, Dr.R.S.

Transcription / *Escherichia* / Bacteriophage / Regulation / RNA / Polymerase / Structure / Gene / Sequence / Molecular biology / Biochemistry

**Mechanism and active-site structure of beta-lactamase**

Coulson, Dr.A.F.W.

Structure / Beta / Lactamase / Molecular biology / Biochemistry

**Computer studies of protein, DNA and RNA sequences, RNA secondary structure and evolutionary implications**

Collins, Dr.J.F.

Protein / DNA / RNA / Sequence / Structure / Secondary / Evolution / Molecular biology / Biochemistry

**Interspecies variation in the structure and stability of macromolecules and its relevance to evolution and the expression of foreign genes**

Ambler, Dr.R.P.

Macromolecular / Structure / Gene / Expression / Evolution / Molecular biology

**University of Edinburgh**

Medical School, Department of Surgery

Teviot Place

EH8 9AG

Edinburgh

☎ +44 31 6671011

**Production and application of human monoclonal antibodies of diagnostic and therapeutic importance**

James, Dr.K.

Monoclonal / Antibody / Human / Production / Diagnosis / Therapy

**Production and application of murine monoclonal antibodies to polypeptide hormones**

James, Dr.K.

Monoclonal / Antibody / Mouse / Polypeptide / Hormone / Production

**The production of monoclonal anti-tumour antibodies of human origin**

James, Dr.K.  
Monoclonal / Antibody / Tumour / Human / Production / Immunotherapy / Oncology

**Production of monoclonal antibodies to bacterial endotoxins**

Barclay, Dr.G.R.  
Monoclonal / Antibody / Bacterial / Endotoxin / Pharmaceutical industry / Production

**Production and application of monoclonal antibodies to human gamete antigens**

Aitken, Dr.R.J.  
Monoclonal / Antibody / Human / Antigen / Reproduction / Biology / Production

 **University of Edinburgh**

Department of Obstetrics and gy, Centre for Reproductive Biologynaecology  
37 Chalmers Street  
EH3 9EW  
Edinburgh  
☎ +44 31 2292575

**In vitro fertilization in the human: various prospects with both scientific and clinical objectives**

Glasier, Dr.A.F.  
In vitro / Fertilization / Human / Biology / Reproduction

**Chromosome constitution of in vitro fertilized human embryos**

Evans, Dr.R.R.  
Chromosome / In vitro / Fertilization / Human / Embryo / Biology / Reproduction

 **University of Edinburgh**

Department of Pharmacology  
1 George Square  
EH8 9JZ  
Edinburgh  
☎ +44 31 6671011

**Use of monoclonal antibodies in the study of the central nervous system**

Laszlo, Dr.I.  
Monoclonal / Nervous system / Pharmacology

 **University of Edinburgh**

Royal (Dick) School of Veterinary Studies, Department of Veterinary Pathology  
Summerhall  
EH9 1QH  
Edinburgh  
☎ +44 31 6671011

**Differentiation of sheep lymphoid cell populations using monoclonal antibodies**

Hopkins, Dr.J.  
Cell biology / Differentiation / Mammal / Monoclonal / Antibody / Veterinary medicine

 **University of Edinburgh**

Department of Zoology  
West Mains Road  
EH9 3JT  
Edinburgh  
☎ +44 31 6671011

**Control of the cell cycle in yeast**

Mitchison, Prof.J.M.  
Cell / Yeast / Regulation / Microbiology

**Control of the cell cycle in the fission yeast Schizosaccharomyces pombe: chromosome function in S pombe and mammalian cells**

Fantes, Dr.P.A.  
Regulation / Yeast / Chromosome / Cell / Cell biology / Mammal / Microbiology

**Cell cycle studies on fission yeast Schizosaccharomyces pombe**

Creanor, Dr.J.  
Cell / Yeast / Microbiology

 **University of Essex**

Department of Biology  
Wivenhoe Park  
CO4 3SQ  
Colchester  
☎ +44 206 862286

**Cloning and sequencing of coxsackievirus A21**

Stanway, Dr.G.  
Cloning / Sequencing / Gene technology / RNA virus / Virology

**Identification of the receptor binding site of rhinoviruses using genetic manipulation techniques**

Stanway, Dr.G.  
Receptor / Gene technology / Virology / RNA virus

**Monoclonal antibody probes for proliferation-related nuclear proteins**

O'Farrell, Dr.M.K.  
Monoclonal / Antibody / Probes / Proliferation / Nucleus / Protein / Cell biology / Cancer

**Identification and isolation of genes that transform cell strains to immortal cell lines**

O'Farrell, Dr.M.K.  
Gene / Recognition / Isolation / Transformation / Cell biology / Molecular genetics

**Influence of hydrogen concentration on organic carbon flow in anaerobic digesters**

Nedwell, Dr.D.B.  
Hydrogen / Organic / Carbon / Flow / Anaerobic / Fermentation technology / Environment

**Analysis of limitations to photosynthetic efficiency in higher plants**

Baker, Prof.N.R.  
Photosynthesis / Plant / Botany

**Modifications to the light-harvesting chlorophyll a/b: protein complex associated with photosystem 2 during photoinhibitory stress at low temperatures**

Bakker, Prof.N.R.  
Chlorophyll / Photosynthesis / Plant / Botany

 **University of Essex**

Department of Chemistry and Biological Chemistry  
Wivenhoe Park  
CO4 3SQ  
Colchester

**Prediction of protein structures**

Hider, Dr.R.C.  
Protein / Structure / Biochemistry

**Development of stabilized liposomes**

Hider, Dr.R.C.  
Artificial / Membrane biology / Biochemistry

**Enzyme inhibitors and protein modification including photoaffinity labelling**

Douglas, Dr.K.T.  
Enzyme / Inhibitor / Protein / Modification / Biochemistry

 **University of Exeter**

Department of Biological Sciences  
Washington Singer Laboratories, Perry Road  
EX4 4QQ  
Exeter  
☎ +44 392 263263

**Production of SCP by yeasts growing on whey**

Willets, Dr.A.J.  
SCP / Yeast / Whey / Microbiology

**Production of butane 2,3-diol by free and immobilized bacterial cells**

Willets, Dr.A.J.  
Alcohol / Immobilization / Bacterial / Cell / Microbiology

**Antibiotic production by aquatic and endophytic fungi**

Webster, Prof.J.  
Antibiotic / Production / Fungus / Pharmaceutical industry / Microbiology

 **University of Exeter**

Department of Chemistry  
Chemistry Building, Stocker Road  
EX4 4QD  
Exeter  
☎ +44 392 263263

**Chemical modification of the antibiotic nisin; structure activity relationships, chemistry of mode of action; synthesis of beta-methylanthionine**

Ridge, Dr.B.  
Organic chemistry / Antibiotic / Structure / Activity / Synthesis

 **University of Exeter**

Department of Chemical Engineering  
Applied Science Building, North Park Road  
EX4 4QF  
Exeter  
☎ +44 392 263263

**Factors affecting growth and activity of biofilms in aqueous solutions containing very low concentrations of nutrients**

Boyle, J.D.  
Bioprocess engineering / Industry

 **University of Glasgow**

Department of Bacteriology  
Glasgow Royal Infirmary, 86 Castle Street  
G4 0SF  
Glasgow  
☎ +44 41 5523535

**Enterobacterial plasmids: distribution, molecular relatedness, interactions and drug resistance**

Platt, Dr.D.J.  
Plasmid / Enterobacterium / Bacteriology / Distribution / Interaction / Drug / Resistance

 **University of Glasgow**

Institute of Biochemistry  
Southpark Terrace  
G12 8QQ  
Glasgow  
☎ +44 41 3305902

**Role of p21ras proteins in the stimulation of proliferation and inositol phospholipid metabolism in cell transformation**

Wakelam, Dr.M.J.O.  
Protein / Proliferation / Phospholipid / Metabolism / Cell / Transformation / Cancer / Biochemistry

**Inositol phospholipid metabolism and the stimulation of differentiation and proliferation of cultured cells**

Wakelam, Dr.M.J.O.

Phospholipid / Metabolism / Differentiation / Proliferation / Cell / Cultivation / Cancer / Biochemistry

**Biochemistry of citric acid production by *Aspergillus niger***

Nimmo, Dr.H.G.

Biochemistry / Citric acid / Mycelial fungus / Microbiology

**Computer graphic display of large macromolecules; understanding of folding patterns in proteins; prediction of protein 3-dimensional structures from sequence using artificial intelligence**

Milner-White, Dr.E.J.

Computer / Biocomputing / Protein / Folding / Structure / Sequence / Biochemistry

**Computer graphic display of large macromolecules; protein-protein, protein-nucleic acid and protein-ligand interfaces**

Milner-White, Dr.E.J.

Computer / Biocomputing / Protein / Nucleic acid / Interface / Biochemistry

**Intra-membrane organization and 3-D structure of bacterial light-harvesting pigment-protein complexes**

Lindsay, Dr.J.G.

Membrane biology / Biochemistry / Structure / Pigment / Protein / Bacterium / Photosynthesis

**Crystallization and membrane topography studies on light-harvesting protein-pigment complexes from photosynthetic bacteria**

Lindsay, Dr.J.G.

Crystallization / Membrane biology / Protein / Pigment / Photosynthesis / Bacterium / Biochemistry

**Clinical and biological value of human-derived monoclonal antibodies against breast cancer**

Leake, Dr.R.E.

Monoclonal / Antibody / Cancer / Biochemistry / Immunology

**Analysis of cloned mouse actin genes and associated mobile elements**

Leader, Dr.D.P.

Cloning / Gene / Protein / Biochemistry / Muscle / Molecular genetics

**Genetic defect in Duchenne muscular dystrophy**

Leader, Dr.D.P.

Genetics / Biochemistry / Muscle

**Mechanism of action of the ras oncogene: role in stimulating inositol phospholipid metabolism by acting to couple growth factor receptors to phospholipase C**

Houslay, Prof.M.D.

Metabolism / Phospholipid / Growth / Receptor / Lipase / Biochemistry / Cancer / Protein

**Control of flux through the central metabolic pathways in a model system (*E coli*) applied to improvement of yield and productivity in biotechnological processes**

Holms, Dr.W.H.

Metabolism / *Escherichia* / Production / Biochemistry / Industry / Regulation**Organization and transcription of human transfer RNA genes**

Goddard, Dr.J.P.

Transcription / Human / Transfer / Gene / RNA / Molecular genetics / Biochemistry

**Wax ester metabolism in *Acinetobacter*: regulation of wax ester degradation during carbon starvation**

Fixter, Dr.L.M.

Ester / Metabolism / *Acinetobacter* / Biochemistry / Microbiology**Microbial metabolism of aromatic compounds including studies on the experimental evolution of new pathways and characterization of the enzymes involved**

Fewson, Prof.C.A.

Microbial / Metabolism / Aromatic / Enzyme / Biochemistry / Microbiology

**Mouse, rat and human monoclonal antibodies to human ocular melanoma**

Damato, Dr.B.E.

Mouse / Rat / Human / Tumour / Monoclonal / Antibody / Biochemistry / Immunology

**Protein engineering of multifunctional and multidomain enzymes**

Coggins, Prof.J.R.

Protein design / Enzyme / Biochemistry

**Production of human monoclonal antibodies to breast tumours**

Campbell, Dr.A.M.

Human / Monoclonal / Antibody / Cancer / Tumour / Immunology / Biochemistry

**Production of rodent and human monoclonal antibodies to cholera**

Campbell, Dr.A.M.

Human / Mammal / Monoclonal / Antibody / Immunology / Biochemistry

**Production of human monoclonal antibodies from breast cancer patients**

Campbell, Dr.A.M.

Human / Monoclonal / Antibody / Cancer / Immunology / Biochemistry / Tumour

**Construction of diagnostic kits for the detection of bacterial antigens**

Campbell, Dr.A.M.

Diagnosis / Kit / Bacterial / Antigen / Immune / Biochemistry

**Production of monoclonal antibodies to anthrax, cholera and brucella**

Campbell, Dr.A.M.

Biochemistry / Infection / Immunology / Monoclonal / Antibody

**Solid phase peptide synthesis of atrial natriuretic peptide and its analogues design of analogues and their physical chemical investigation**

Anderson, Dr.A.F.H.

Biochemistry / Peptide / Synthesis

**Cloning and study of mouse DNA methylase gene**

Adams, Dr.R.L.P.

Cloning / Gene / Mouse / DNA / Methylation / Biochemistry / Molecular genetics

**Effect of in vitro methylation by mouse DNA methylase on the expression of cloned and viral DNA**

Adams, Dr.R.L.P.

In vitro / Methylation / DNA / Expression / Cloning / Viral / Biochemistry / Molecular genetics / Mouse

**Characterization of DNA methylases using antibodies**

Adams, Dr.R.L.P.

DNA / Enzyme / Antibody / Biochemistry / Methylation

 **University of Glasgow**Beatson Institute for Cancer Research  
Garscube Estate, Bearsden, Switchback  
Road  
G61 1BD  
Glasgow  
☎ +44 41 3398855**Role of oncogenes in tumorigenesis; analysis of growth factors in differentiation; isolation of new oncogenes; regulation of oncogene expression**

Wilkie, Dr.N.M.

Tumour / Origin / Growth / Differentiation / Gene / Expression / Oncology / Cell biology / Cancer

**Regulation of human globin and mouse globin genes; mammalian genetic studies by cell transformation with recombinant DNA molecules**

Paul, Dr.J.

Regulation / Gene / Mammal / Molecular genetics / Cell / Transformation / Recombination / DNA / Cancer / Oncology

 **University of Glasgow**Department of Cell Biology  
Southpark Terrace  
G12 8QQ  
Glasgow  
☎ +44 41 3398855**Conductometric enzyme assays**

Lawrence, Dr.A.J.

Enzyme / Assay / Cell biology

**Automated analysis of neutrophil movement: development of diagnostic system**

Lackie, Dr.J.M.

Automation / Analysis / Measurement / Cell biology

**Neutrophil leukocytes adhesion to endothelium in vitro, adhesion to substrata, adhesiveness and relation to locomotion; modification by chemotactic factors**

Lackie, Dr.J.M.

Leukocyte / Adhesion / Endothelium / In vitro / Chemotaxis / Cell biology

 **University of Glasgow**Department of Chemistry  
Soutpark Terrace  
G12 8QQ  
Glasgow  
☎ +44 41 3398855**Isolation, structural elucidation and biosynthesis of some new fungal terpenoids**

McCorkindale, Dr.N.J.

Isolation / Structure / Biosynthesis / Fungus / Terpenoid / Organic chemistry

**Molecular recognition in genetically engineered enzymes**

Cooper, Dr.A.

Molecular / Recognition / Gene technology / Enzyme

**Elicitation of bioactive terpenoids in plants and tissue cultures**

Brooks, Prof.C.J.W.

Terpene / Derivative / Plant / Tissue / Cultivation / Chemistry

 **University of Glasgow**Department of Clinical Physics and  
Bio-Engineering  
11 West Graham Street  
G4 9LF  
Glasgow  
☎ +4441 3326061

**Experimental studies on antibody-targeted radiotherapy of cancer**  
Wheldon, Dr.T.E.  
Antibody / Radiation / Cancer / Therapy / Oncology

□ **University of Glasgow**  
Department of Forensic Medicine and Science  
Southpark Terrace  
G12 8QQ  
Glasgow  
☎ +44 41 3398855

**Development of immunoassays for drugs and metabolites in biological materials**  
Oliver, Dr.J.S.  
Immunoassay / Drug / Metabolite / Forensic medicine / Biochemistry

□ **University of Glasgow**  
Institute of Genetics  
Southpark Terrace  
G12 8QQ  
Glasgow  
☎ +44 41 3398855

**Studies of small plasmid structure and function**  
Sherratt, Prof.D.J.  
Plasmid / Molecular genetics

**The biology of small plasmids**  
Sherratt, Prof.D.J.  
Plasmid / Molecular genetics

**Mapping and sequencing of deletion end-points in salmonella phage P22**  
Jessop, Dr.A.P.  
Mapping / Sequencing / Salmonella / Bacteriophage / Molecular genetics

**Molecular biology and biochemistry of resistance to oxytetracycline in Streptomyces rimosus the commercial producer**  
Hunter, Dr.I.S.  
Molecular biology / Biochemistry / Resistance / Tetracycline / Streptomycete / Pharmaceutical industry / Microbiology

**Physiology, biochemistry and molecular genetics of Streptomyces related to production of existing antibiotics, novel antibiotics and other commercial products**  
Hunter, Dr.I.S.  
Biochemistry / Molecular genetics / Streptomycete / Production / Antibiotic / Pharmaceutical industry / Microbiology

**Genetics, physiology and fermentation of thermotolerant Streptomyces related to production of antibiotics and other commercial products**  
Hunter, Dr.I.S.  
Genetics / Fermentation / Streptomycete / Production / Antibiotic / Pharmaceutical industry / Microbiology

**Cloning and expression of commercially valuable genes in Saccharomyces**  
Brown AJP Dr  
Gene technology / Gene / Cloning / Expression / Yeast / Industry

**Identification of antigens as basis for a transmission blocking vaccine against African trypanosomes**  
Barry, Dr.J.D.  
Antigen / Vaccine / Immunology / Infection / Parasitic

**Immunology and molecular biology of variable antigens of metacyclic stages of African trypanosomes**  
Barry, Dr.J.D.  
Immunology / Molecular biology / Antigen / Infection / Parasitic

□ **University of Glasgow**  
Department of Microbiology  
Western Infirmary  
G11 6NU  
Glasgow  
☎ +44 41 3398855

**Monitoring of water pollution by microbial methods**  
Stewart-Tull, Dr.D.E.S.  
Monitoring / Water / Pollution / Microbial / Microbiology / Environment

**Biogenesis of the yeast cell envelope**  
Douglas, Dr.L.J.  
Yeast / Cell / Development / Microbiology

□ **University of Glasgow**  
Department of Medicine (Royal Infirmary)  
10 Alexandra Parade  
G31 2ER  
Glasgow  
☎ +44 41 3398855

**Low molecular weight heparins. Clinical effects and clinical trials**  
Johnston, Dr.R.V.  
Heparin / Clinical / Hematology

**Use of gene probes to detect the carrier status of haemophilia**  
Forbes, Dr.C.D.  
Gene / Probes / Blood / Congenital / Disease / Genetics / Hematology

**Vascular prostaglandins, inflammation and thrombosis. Leukotrienes and their clinical relevance**  
Belch, Dr.J.J.F.  
Prostaglandin / Infection / Endocrinology / Cardiovascular system / Clinical / Hematology

□ **University of Glasgow**  
Department of Pathological Biochemistry  
Royal Infirmary, Castle Street  
G4 0SF  
Glasgow  
☎ +44 41 5523535

**Endocrinology - immunoassay peptide hormones. Steroids. Monoclonal antibodies**  
Beastall, Dr.G.H.  
Endocrinology / Biochemistry / Immunoassay / Peptide / Hormone / Steroid / Monoclonal / Antibody / Pharmaceutical industry

□ **University of Glasgow**  
Regional Virus Laboratory  
Rachill Hospital, Bilsland Drive  
G20 9NB  
Glasgow  
☎ +44 41 9467120

**Rapid virus diagnosis of respiratory illness using monoclonal antibodies**  
Cornall, R.  
Virus / Diagnosis / Monoclonal / Antibody / Virology / Respiratory system

**Rapid diagnosis of enterovirus infections**  
Bell, Dr.E.J.  
Diagnosis / Virology / RNA virus / Infection

□ **University of Glasgow**  
Department of Veterinary Surgery  
Veterinary Hospital, Bearsden, Bearsden Road  
G61 1GH  
Glasgow  
☎ +44 41 3398855

**Gene insertion using a variety of DNA constructs, into embryos produced by super ovulation**  
Harvey, Dr.M.J.A.  
Gene / Insertion / DNA / Gene technology / Embryo / Ovulation / Veterinary medicine

□ **University of Glasgow**  
Institute of Virology  
Church Street  
G11 5JR  
Glasgow  
☎ +44 41 3398855

**Cloning and expression of bovine herpes virus genes in E coli**  
Thompson, Dr.R.  
Cloning / Expression / Gene / DNA virus / Escherichia / Virology / Gene technology

**Fine structure analysis of herpes simplex and varicella zoster virus genomes**  
McGeoch, Dr.D.J.  
Herpes / DNA virus / Genome / Structure / Virology / Molecular genetics

**Herpes virus proteins: immunology and development of monoclonal and oligopeptide induced antibodies for the study of viral proteins**  
Marsden, Dr.H.S.  
Herpes / DNA virus / Protein / Immunology / Virology / Monoclonal / Antibody

**Functional analysis of the proteins encoded by the Bunyamwera virus genome by expression of cloned cDNAs in eukaryotic cells**  
Elliott, Dr.R.M.  
Protein / Genome / cDNA / Expression / Cloning / Eukaryote / Cell / Virology / Molecular genetics / Virus

**Genome and protein analyses of bovine and human rotaviruses with genome rearrangements**  
Desselberger, Dr.U.  
Genome / Protein / RNA virus / Virology / Molecular genetics

**Rapid detection of cytomegalovirus infections in renal transplantation patients using molecular probes**  
Clements, Dr.G.B.  
Infection / DNA virus / Virology / Transplantation / Kidney / Molecular / Probes

□ **University of Glasgow**  
Department of Zoology  
Southpark Terrace  
G12 8QQ  
Glasgow  
☎ +44 41 3398855

**The role of Larus gulls in the transmission and dissemination of pathogens**  
Monaghan, Dr.P.  
Pathogen / Zoology

**Application of molecular biological techniques to identification of variable and common antigens of Babesia divergens**  
Kaiser, Dr.K.  
Molecular biology / Recognition / Antigen / Parasitic / Zoology

□ **University of Hull**  
Department of Biochemistry  
Cottingham Road  
HU6 7RX  
Hull  
☎ +44 482 46311



**Transformation of hydrocarbons and fatty acids by micro-organisms**

Ratledge, Prof.C.

Transformation / Hydrocarbon / Fatty acid / Microbiology / Biochemistry / Oil / Industry

**Biochemistry of lipid biosynthesis in yeasts**

Ratledge, Prof.C.

Microbiology / Biochemistry / Lipid / Biosynthesis / Yeast / Industry

**Production of commercially interesting oils and fats by cultivation of micro-organisms on alkanes, sugars and waste materials**

Ratledge, Prof.C.

Production / Oil / Fat / Cultivation / Hydrocarbon / Polyalcohol / Waste / Industry / Microbiology / Biochemistry

**Lipid accumulation in yeasts and moulds and behaviour of micro-organisms in continuous culture**

Ratledge, Prof.C.

Lipid / Yeast / Fungus / Continuous / Cultivation / Microbiology / Biochemistry / Industry

**Interaction between phospholipids and silica surface studied by chromatography and liposome lysis assay**

Moore, Dr.M.J.

Interaction / Phospholipid / Surface / Chromatography / Artificial / Membrane biology / Biochemistry

**Relationship of drug resistance to permeability changes in bacteria**

Midgley, Dr.M.

Drug / Resistance / Microbiology / Biochemistry

**The enzymic mechanisms by which aerobic yeasts obtain nitrogen from methylated amines**

Large, Dr.P.J.

Enzyme / Aerobic / Yeast / Nitrogen / Methylation / Amine / Microbiology / Biochemistry

**Continuous culture and batch culture studies of the enzymes involved in amine and amino acid breakdown by yeasts**

Large, Dr.P.J.

Continuous / Batch / Cultivation / Enzyme / Amine / Amino acid / Degradation / Yeast / Microbiology / Biochemistry

**Oxygen radicals and their scavenging enzymes in brewing**

Large, Dr.P.J.

Oxygen / Enzyme / Biochemistry / Microbiology / Industry

**Pathway of degradation of polyamines used as nitrogen source in yeasts and subcellular localization of the enzymes involved**

Large, Dr.P.J.

Degradation / Amine / Nitrogen / Yeast / Enzyme / Microbiology / Biochemistry

**Structure and function of plasmid borne drug resistance genes**

Jones, Dr.I.G.

Structure / Plasmid / Drug / Resistance / Gene / Biochemistry / Molecular genetics

**Role of membrane energization in the survival of soil and water bacteria**

Dawes, Prof.E.A.

Membrane biology / Energy / Bacterium / Microbiology / Biochemistry / Soil / Water

**Role and regulation of microbial energy reserve polymers especially poly-beta-alkanoates**

Dawes, Prof.E.A.

Regulation / Energy / Microbial / Polymer / Organic substance / Biochemistry / Microbiology / Industry

**University of Hull**  
Department of Plant Biology and Genetics  
Cottingham Road  
HU6 7RX  
Hull  
☎ +44 482 46311

**Degradation of hemicellulosic xylans by soil fungi including *Gaeumannomyces* spp, *Aspergillus* spp and *Trichoderma* spp**

Friend, Prof.J.

Degradation / Hemicellulose / Xylan / Soil / Fungus / Microbiology

**Cloning of genes encoding a methionine transport system in *Salmonella typhimurium***

Ayling, Dr.P.D.

Cloning / Gene / Methionine / Salmonella / Gene technology / Microbiology

**University of Hull**  
Department of Chemistry  
Cottingham Road  
HU6 7RX  
Hull  
☎ +44 482 46311

**Immunological assays and enzymatic assays using flow injection analysis**

Worsfold, Dr.P.J.

Immunoassay / Enzyme / Flow / Injection / Analysis / Biochemistry

**Immobilized enzymes in analytical chemistry**

Townshend, Prof.A.

Immobilization / Enzyme / Chemistry / Analysis

**University of Hull**  
Department of Geography  
Cottingham Road  
HU6 7RX  
Hull  
☎ +44 482 465377, 465385

**Biodegradable plastic made by biotechnology**

Flenley, Dr.J.R.

Degradation / Biological / Plastic / Environment

**Heriot-Watt University**  
Department of Brewing and Biological Sciences  
Chambers Street  
EH1 1HX  
Edinburgh  
☎ +44 31 2258432

**Electrical enhancement of solvent extraction of antibiotics from fermentation broths**

Weatherly, L.R.

Solvent / Extraction / Antibiotic / Fermentation / Pharmaceutical industry / Bioprocess engineering

**The fermentation of raspberries and other soft fruits**

Stewart, Dr.D.J.

Fermentation technology / Food / Industry / Nutritional branch

**Studies on the economic utilization of bracken (*Pteridium aquilinum*) using microbial enzyme systems**

Stark, Dr.J.R.

Biochemistry / Enzyme / Plant

**Factors affecting yeast viability and storage properties. Development of biochemical tests for viability and potential fermentation vigour**

Slaughter, Dr.J.C.

Yeast / Storage / Microbiology / Biochemistry / Industry / Fermentation

**Cloning and characterization of genes for extracellular enzymes from *Thermoactinomyces***

Priest, Dr.F.G.

Cloning / Gene / Extracellular / Enzyme / Thermoactinomycete / Microbiology / Molecular genetics

**Genetic and biochemical analysis of maltose and maltodextrin metabolism in *Bacillus subtilis***

Priest, Dr.F.G.

Microbiology / Maltose / Dextrin / Metabolism / Bacillus / Industry / Biochemistry / Genetics

**Procedures for the rapid detection and identification of beer spoilage bacteria, in particular *Lactobacillus* species**

Priest, Dr.F.G.

Beer / Recognition / Pollution / Lactobacillus / Industry / Microbiology

**Susceptibility of starch and resistant starch to digestion by amylolytic enzymes**

Manners, Prof.D.J.

Starch / Enzyme / Biochemistry / Industry / Nutritional branch

**The structure and metabolism of polysaccharides**

Manners, Prof.D.J.

Structure / Metabolism / Polysaccharide / Biochemistry / Industry / Nutritional branch

**Effect of carbon dioxide on yeast cell properties and fermentation**

Duffus, Dr.J.H.

Yeast / Fermentation / Carbon / Dioxide / Microbiology / Industry

**Metal ions and the control of the cell cycle in yeast**

Duffus, Dr.J.H.

Regulation / Yeast / Metal / Ion / Microbiology / Industry

**Yeast fermentations at high temperatures: effect on (a) aroma compounds in alcoholic beverages, (b) lipid composition of yeasts**

Campbell, Dr.I.

Yeast / Fermentation / Aromatic substance / Alcohol / Lipid / Industry / Microbiology / Fermentation

**Environmental applications of biotechnology**

Brown, Prof.C.M.

Environmental biotechnology / Environment

**Use of marine algae in toxicity testing**

Alexander, Miss.L.

Marine / Alga / Toxic / MONITORING / Environment / Ecology

**Heriot-Watt University**  
Department of Chemistry  
Riccarton  
EH14 4AS  
Edinburgh  
☎ +44 31 4495111

**Biosynthesis of C-nucleoside antibiotics, particularly pyrazofurin (pyrazomycin), formycin and showdomycin**

Buchanan, Prof.J.G.

Biosynthesis / Nucleoside / Antibiotic / Biochemistry / Pharmaceutical industry

**Heriot-Watt University**  
Department of Chemical and Process Engineering  
Chambers Street  
EH1 1HX  
Edinburgh  
☎ +44 31 2258432

**Electrically enhanced solvent extraction of biochemical products**

Weatherley, Dr.L.R.  
Solvent / Extraction / Industry / Bioprocess engineering

- **Heriot-Watt University**  
Department of Civil Engineering  
Riccarton, Currie  
EH14 4AS  
Edinburgh  
☎ +44 31 4495111

**Applications of information technology to waste water treatment and biotechnical processes**

Jowitt, Prof.P.W.  
Environment / Environmental biotechnology / Waste water / Purification / Bioprocess engineering / Informatics

- **Heriot-Watt University**  
Department of Pharmacy  
79 Grassmarket  
EH1 2HJ  
Edinburgh  
☎ +44 31 225 6465

**Plants as a possible source of material for drug-screening tests. Specificity of drug action on plant enzymes**

Jefferson, Dr.G.C.  
Plant / Screening / Test / Enzyme / Pharmacy

**Enzyme liberation from Escherichia coli by heat induced bacteriophage lysis**

Breeze, Dr.A.S.  
Enzyme / Escherichia / Bacteriophage / Heat / Pharmacy

- **University of Keele**  
Department of Biological Sciences  
Keele  
ST5 5BG  
Staffordshire  
☎ +44 782 621111

**Purification and properties of intestinal peptidyl dipeptidase**

Woodley, Dr.J.F.  
Peptidase / Biochemistry

**Control of carbon dioxide fixation in plants by the primary reactions of photosynthesis**

Mills, Dr.J.D.  
Regulation / Carbon / Dioxide / Fixation / Plant / Photosynthesis / Botany

**Synthetic polymers for drug delivery: cellular handling of phase-separated liposomes and micellar copolymers**

Lloyd, Prof.J.B.  
Polymer / Synthesis / Drug / Artificial / Membrane biology / Pharmacology

**Synthesis of antibody-polymer conjugates and their biological evaluation**

Duncan, Dr.R.  
Antibody / Polymer / Synthesis / Biochemistry

- **University of Keele**  
Department of Physics  
Keele  
ST5 5BG  
Staffordshire  
☎ +44 782 621111

**Studies of paramagnetic centres and drug binding in biological systems including DNA, haem proteins and apatites using electron spin resonance**

Slage, Dr.E.F.  
Biophysics / Spectrometry / Drug / DNA / Protein

- **University of Kent at Canterbury**  
Biological Laboratory  
Canterbury  
CT2 7NJ  
Kent  
☎ +44 227 764000

**Development of novel plasmid vector systems for industrially-important micro-organisms**

Tuite, Dr.M.F.  
Plasmid / Vector / Molecular biology / Microbiology / Industry

**Construction of growth-phase dependent expression vectors for yeast**

Tuite, Dr.M.F.  
Expression / Vector / Yeast / Molecular biology / Microbiology

**Structure, function and regulation of genes for yeast protein synthesis factor eIF-2**

Tuite, Dr.M.F.  
Structure / Regulation / Gene / Yeast / Protein / Biosynthesis / Molecular biology / Microbiology

**Stability and expression of chimaeric plasmids in yeast during continuous cultivation**

Tuite, Dr.M.F.  
Expression / Plasmid / Yeast / Continuous / Cultivation / Molecular biology / Microbiology

**Cloning of genes for peripheral muscarinic receptors**

Strange, Dr.P.G.  
Gene / Cloning / Gene technology / Pharmaceutical industry

**Novel membrane separations and bioreactors**

Knowles, Prof.C.J.  
Membrane apparatus / Bioreactor / Separation / Bioprocess engineering / Industry

**Detoxication of industrial effluents**

Knowles, Prof.C.J.  
Degradation / Toxin / Pollution / Industrial / Waste / Environment / Environmental technology

**Enzyme catalysed reactions of cyclic ketones**

Knowles, Prof.C.J.  
Enzyme / Biological / Catalysis / Cyclic / Ketone / Chemical industry / Organic chemistry

**Biotransformations of nitriles by bacteria and enzymes**

Knowles, Prof.C.J.  
Biotransformation / Nitrogen containing / Organic substance / Enzyme / Bacterium / Organic chemistry / Chemical industry

**Microbial enzymes for use in clinical diagnostic systems**

Knowles, Prof.C.J.  
Enzyme / Microbial / Clinical / Diagnosis / Enzymology / Fine chemical

**An assessment of hollow-fibre membrane bioreactors for microbial transformations**

Knowles, Prof.C.J.  
Bioreactor / Membrane apparatus / Bioprocess engineering / Microbial / Biotransformation / Industry

**Microbial hollow fibre bioreactors**

Knowles, Prof.C.J.  
Bioreactor / Microbial / Bioprocess engineering / Industry

**Biotechnological potential of microbial hollow-fibre bioreactors**

Knowles, Prof.C.J.  
Bioreactor / Microbial / Bioprocess engineering / Industry

**Degradation of cyanide by bacteria**

Knowles, Prof.C.J.  
Degradation / Microbiology / Industry / Bacterium

**Detection of anabolic steroids in meat using monoclonal antibodies**

Jenkins, Dr.N.  
Anabolic / Steroid / Meat / Nutritional branch / Monoclonal / Antibody / Analysis / Biochemistry

**Role of microbial antagonists in influencing population levels of fungi in natural ecosystems**

Jeffries, Dr.P.  
Ecology / Fungus / Microbiology

**Microbial dehalogenation of haloalkanoic acids and haloalkanes**

Hardman, Dr.D.J.  
Dehalogenation / Organic substance / Microbial / Chemistry / Industry

**The enzyme protein disulphide-isomerase will be identified and characterized in yeast and its role in expression of disulphide-bonded proteins will be explored**

Freedman, Dr.R.B.  
Isomerase / Yeast / Expression / Protein / Industry / Enzymology / Biochemistry

**Secretion and post-translational modification of proteins in yeast**

Freedman, Dr.R.B.  
Secretion / Modification / Protein / Yeast / Microbiology / Biochemistry

**Influence of amino acid sequence on protein conformation will be explored by developing methods for rapid conformational characterization of mutant proteins**

Freedman, Dr.R.B.  
Amino acid / Sequence / Protein / Structure / Mutation / Biochemistry / Physical chemistry

**Protein engineering in the study of protein folding and stability**

Freedman, Dr.R.B.  
Protein design / Structure / Folding / Biochemistry / Physical chemistry

**Properties and applications of enzymes in water-in-oil micro-emulsions**

Freedman, Dr.R.B.  
Enzyme / Water / Oil / Emulsion / Physical chemistry / Biochemistry

**Structural characterization of genetically-engineered mammalian proteins synthesized in micro-organisms**

Freedman, Dr.R.B.  
Gene technology / Protein / Mammal / Microorganism / Industry

**The enzyme protein disulphide-isomerase will be identified and characterized in E. coli and its role in secretion of disulphide-bonded proteins will be explored**

Freedman, Dr.R.B.  
Isomerase / Escherichia / Protein / Secretion / Industry / Enzymology

**Survival, proliferation and dispersal of micro-organisms added to terrestrial environments**

Burns, Dr.R.G.  
Microorganism / Soil / Microbiology / Environment

**Immobilized microorganisms and enzymes for the breakdown of lindane in water**

Burns, Dr.R.G.  
Immobilization / Microorganism / Enzyme / Degradation / Water / Environment / Environmental biotechnology / Pesticide

- Soil microbial inoculation and pesticide degradation**  
Burns, Dr.R.G.  
Soil / Microorganism / Inoculation / Pesticide / Degradation / Environment / Environmental biotechnology
- Use of microbial metabolites to inhibit Pythium diseases in soil**  
Burns, Dr.R.G.  
Microorganism / Metabolite / Inhibition / Soil / Biology
- Novel ways of enumerating microorganisms added to soil including the use of monoclonal antibodies**  
Burns, Dr.R.G.  
Microorganism / Soil / Biology / Monoclonal / Antibody / Environment
- Immobilized cells and enzymes for the treatment of phenolic containing waste water**  
Burns, Dr.R.G.  
Cell / Enzyme / Immobilization / Waste water / Purification / Phenol / Environment / Environmental biotechnology
- Immobilized cells and enzymes as seed coatings to prevent phytopathogenicity**  
Burns, Dr.R.G.  
Cell / Enzyme / Immobilization / Plant / Germ cell / Coating / Agriculture
- Immobilized enzymes and cellulose hydrolysis**  
Burns, Dr.R.G.  
Immobilization / Enzyme / Cellulose / Hydrolysis / Enzyme technology
- Microbial polysaccharides and soil stabilization**  
Burns, Dr.R.G.  
Microbial / Polysaccharide / Soil / Biology / Environment
- Enzymology of ethylene production in Escherichia coli**  
Bunch, Dr.A.W.  
Enzymology / Escherichia / Organic substance / Microbiology
- Peptide metabolism in a dipeptide antibiotic synthesizing strain of Bacillus subtilis: transport and intracellular peptidases**  
Bunch, Dr.A.W.  
Dipeptide / Metabolism / Antibiotic / Bacillus / Intracellular / Peptidase / Microbiology / Biochemistry
- Dipeptide antibiotic biosynthesis in Bacillus subtilis, mechanism and regulation**  
Bunch, Dr.A.W.  
Dipeptide / Antibiotic / Biosynthesis / Bacillus / Regulation / Biochemistry
- Study of the factors that control microbial peptide antibiotic production, particularly the possible involvement of intracellular proteases**  
Bunch, Dr.A.W.  
Regulation / Peptide / Antibiotic / Microbial / Intracellular / Protease / Microbiology / Biochemistry
- Extended use of biocatalysts**  
Bull, Prof.A.T.  
Biological / Catalysis / Industry / Bioprocess engineering
- Fungal fermentation technology**  
Bull, Prof.A.T.  
Fermentation technology / Fungus / Industry
- Thermophilic bacterial lipases**  
Bull, Prof.A.T.  
Thermophilic / Lipase / Microbiology / Enzymology
- Biohydrometallurgy of gallium**  
Bull, Prof.A.T.  
Metallurgy / Industry
- Physiology of immobilized, steroid-transforming fungi**  
Bull, Prof.A.T.  
Immobilization / Steroid / Transformation / Fungus / Microbiology
- Biomass recycle fermentation**  
Bull, Prof.A.T.  
Biomass / Recycling / Fermentation technology / Industry
- Animal cell biotechnology**  
Bull, Prof.A.T.  
Animal / Cell / Biotechnology
- Accumulation of heavy metals by micro-organisms**  
Bull, Prof.A.T.  
Heavy metal / Microorganism / Environment / Environmental biotechnology
- University of Kent at Canterbury**  
Department of Chemistry  
Canterbury  
CT2 7NH  
Kent  
☎ +44 227 764000
- Polymeric catalysts for organic reactions; acyl-group transfer mechanisms; enzyme chemistry**  
Williams, Prof.A.  
Catalysis / Polymer / Organic chemistry / Enzyme / Chemical industry
- University of Leeds**  
Department of Biochemistry  
Leeds  
LS2 9JT  
☎ +44 432 431751
- Properties and structure of fatty acid synthetase from filamentous microorganisms; its relationship to phenol and antibiotic biosynthesis**  
Packter, Dr.N.M.  
Structure / Fatty acid / Synthetase / Phenol / Antibiotic / Biosynthesis / Biochemistry
- Application of computer methodology to biochemical problems including enzyme kinetics, DNA sequence analysis and general curve fitting**  
Herries, Dr.D.G.  
Biochemistry / Biocomputing / Enzyme / Kinetics / DNA / Sequence
- Cellulose degradation by aerobic and facultative bacteria**  
Hercomb, Ms.J.  
Degradation / Cellulose / Aerobic / Facultative / Biochemistry / Microbiology
- Sequencing of proteins**  
Findlay, Dr.J.B.C.  
Protein / Sequencing / Biochemistry
- Analysis of the structure of the myelin-associated glycoprotein, studied by molecular cloning**  
Blair, Dr.G.E.  
Structure / Glycoprotein / Molecular / Cloning / Molecular genetics / Biochemistry / Nerve
- Structure and expression of genes encoding proteins of the human myelin sheath**  
Blair, Dr.G.E.  
Structure / Gene / Expression / Protein / Nerve / Human / Molecular genetics / Biochemistry / Multiple sclerosis
- Control of gene expression during myelination, studied by molecular cloning of rat myelin basic protein genes**  
Blair, Dr.G.E.  
Regulation / Gene / Expression / Molecular genetics / Cloning / Rat / Biochemistry / Nerve
- University of Leeds**  
The Astbury Department of Biophysics  
Leeds  
LS2 9JT  
☎ +44 532 431751
- Three-dimensional structures of proteins and relationship between structure and activity ; asparaginase, dihydrofolate reductase, thymidylate synthetase, haemoglobin, glutamate dehydrogenase, beta-lactoglobulin, immunoglobulins, nucleic acid binding proteins**  
North, Prof.A.C.T.  
Structure / Activity / Protein / Asparaginase / Reductase / Glutamic acid / Oxidoreductase / Globulin / Nucleic acid / Biochemistry / Biophysics
- Interactive computer display to study conformations, properties and structure and activity relationships of biological macromolecules**  
North, Prof.A.C.T.  
Biocomputing / Structure / Activity / Macromolecular / Biophysics / Biochemistry
- Rational design of drugs based on three-dimensional molecular structure of drug-enzyme complexes determined by X-ray crystallography**  
North, Prof.A.C.T.  
Drug / Structural analysis / Enzyme / Biophysics / Pharmacy / Pharmaceutical industry
- Technologically important polysaccharide interactions by determination of crystal structures of oligosaccharides**  
Mackie, Dr.W.  
Polysaccharide / Oligosaccharide / Interaction / Structural analysis / Biophysics / Industry
- Enzymic degradation of proteoglycans and preparation of oligosaccharides**  
Mackie, Dr.W.  
Enzymatic / Degradation / Preparation / Oligosaccharide / Biochemistry / Biophysics / Industry
- Enzymic degradation of technologically important gel forming polysaccharides**  
Mackie, Dr.W.  
Enzymatic / Degradation / Gel / Polysaccharide / Industry / Biochemistry / Biophysics
- Preparation and structural investigation of oligosaccharides from polysaccharides of industrial importance**  
Mackie, Dr.W.  
Preparation / Structural analysis / Oligosaccharide / Polysaccharide / Industry / Biochemistry / Biophysics
- University of Leeds**  
Unit for Cancer Research  
Medical School, Worsley Medical and Dental Building  
LS2 9NL  
Leeds  
☎ +44 532 431751
- Development of applications of protein separation by high performance liquid chromatography for biomedical research**  
Cooper, Prof.E.H.  
Protein / Separation / HPLC / Biochemistry / Pharmaceutical industry

**Development of an effective sequence of biochemical tests for the monitoring and assessment of cancer patients**

Cooper, Prof.E.H.  
Test / Monitoring / Cancer / Biochemistry / Pharmaceutical industry / Kit

- **University of Leeds**  
Department of Chemical Engineering  
Leeds  
LS2 9JT  
☎ +44 532 431751

**Computer control of bioprocessing systems and the design of downstream processing units**

McCreavy, Prof.C.  
Computer / Control / Bioprocess engineering / Downstream processing / Industry

**Separation of biological suspensions using laminar settling techniques**

Jackson, A.T.  
Separation / Biological / Suspension / Bioprocess engineering / Precipitation / Industry

**Computer flowsheeting for the development of biotechnology downstream process operations**

Jackson, A.T.  
Downstream processing / Bioprocess engineering / Computer / Industry

**Mixing in fermentation**

Amoioe-Foumeny, Dr.E.  
Mixing / Fermentation technology / Industry

- **University of Leeds**  
Department of Chemical Pathology  
The Old Medical School  
LS2 9NL  
Leeds  
☎ +44 532 431751

**Recombinant DNA analysis of genetic disease**

Stewart, Dr.A.D.  
Recombination / DNA / Congenital / Disease / Genetics

- **University of Leeds**  
Department of Colour Chemistry and Dyeing  
Leeds  
LS2 9JT  
☎ +44 532 431751

**Immobilization of biocatalysts on film-forming, hydrophilic substrates**

Guthrie, Dr.J.T.  
Immobilization / Biological / Catalysis / Hydrophilic / Substrate / Physical chemistry / Industry

**Substrates for immobilization**

Guthrie, Dr.J.T.  
Substrate / Immobilization / Physical chemistry / Industry

**Development of new colour reagents for enzyme assay systems**

Griffiths, Dr.J.  
Colour / Reagent / Chemistry / Fine chemical / Industry / Enzyme / Assay

- **University of Leeds**  
Department of Forensic Medicine  
St James's Hospital, Beckett Street  
LS9 7TF  
Leeds  
☎ +44 532 431751

**Use of odours and pheromones to identify persons and detect concealed bodies**

Sommerville, Dr.B.A.  
Forensic medicine / Smelling substance / Pheromone

- **University of Leeds**  
Department of Genetics  
Leeds  
LS2 9JT  
☎ +44 532 431751

**Development of a database for protein structure prediction and protein engineering**

Wootton, Dr.J.C.  
Protein design / Structure / Data base / Molecular genetics / Biochemistry

**Structure and protein engineering of glutamate dehydrogenases**

Wootton, Dr.J.C.  
Structure / Protein design / Glutamic acid / Oxidoreductase / Molecular genetics / Biochemistry

**Computer analysis and pattern recognition in protein and DNA sequences**

Wootton, Dr.J.C.  
Protein / DNA / Sequence / Biocomputing / Molecular genetics / Biochemistry

**Sequence structure and control of nitrate reductase genes and proteins**

Wootton, Dr.J.C.  
Sequence / Structure / Regulation / Reductase / Gene / Protein / Molecular genetics / Biochemistry

**Antibiotic and antitumorigenic compounds from bryophytes**

Woodward, Dr.J.R.  
Antibiotic / Cytostatic / Plant / Genetics / Pharmaceutical industry

**Genetics and molecular biology of regulation of nitrogen metabolism in Agrobacterium**

Sastry, Dr.G.R.K.  
Molecular genetics / Molecular biology / Regulation / Nitrogen / Metabolism / Agrobacterium / Agriculture

**Expression of alien nitrogen fixation (nif) genes in Agrobacterium tumefaciens**

Sastry, Dr.G.R.K.  
Molecular genetics / Gene / Expression / Agrobacterium / Nitrogen / Fixation / Agriculture

**Co-ordinated regulation of gene expression in wheat: synthesis and assembly of ribosomal components - hormone-regulated gene expression**

Cuming, Dr.A.C.  
Molecular genetics / Gene / Expression / Regulation / Wheat / Ribosome / Hormone / Agriculture

**Cloning and regulation of Streptomyces genes**

Baumberg, Dr.S.  
Molecular genetics / Cloning / Gene / Regulation / Streptomycete

**Cloning and regulation of genes of arginine metabolism in Bacillus subtilis**

Baumberg, Dr.S.  
Molecular genetics / Gene / Cloning / Arginine / Metabolism / Bacillus / Regulation

- **University of Leeds**  
Department of Genito Urinary Medicine  
Leeds General Infirmary, Great George Street  
LS1 3EX  
Leeds  
☎ +44 532 432799

**Clinical evaluation of a chlamydial antibody test**

Goorney, Dr.B.  
Antibody / Test / Medicine

- **University of Leeds**  
Department of Microbiology  
Leeds  
LS2 9JT  
☎ +44 532 441199

**Herpes simplex glycoprotein fragments, selected with monoclonal antibodies, as protective antigens and serodiagnostic reagents**

Watson, Prof.D.H.  
DNA virus / Glycoprotein / Monoclonal / Antibody / Antigen / Diagnosis / Immunology

**Molecular studies in Behcet's disease. To test for presence of herpes simplex virus DNA in blood from Behcet's disease patients**

Stewart, Dr.J.A.B.  
DNA virus / Virology

**Microbial ecology of activated sludge degrading xenobiotic compounds**

Knapp, Dr.J.S.  
Ecology / Microbiology / Activated sludge / Degradation / Xenobiotic / Environment

**The biodegradation and utilization of waste cellulosic material and the production of cellulases and hemicellulases by micro-organisms**

Knapp, Dr.J.S.  
Degradation / Waste / Cellulose / Vegetable / Cellulase / Microbiology / Environment

**Antigenic analysis of Equine Herpes Virus Type 1**

Killington, Dr.R.A.  
Antigen / DNA virus / Virology

- **University of Leeds**  
Department of Pure and Applied Biology  
Leeds  
LS2 9JT  
☎ +44 532 431751

**Competitive interactions between mycorrhizal fungi during colonization of root systems**

Sanders, Dr.F.E.T.  
Interaction / Fungus / Plant / Botany

**The role of hormones and metabolites in the control of development in plant tissue cultures**

Harrison, Dr.E.  
Hormone / Metabolite / Plant / Tissue / Cultivation / Development / Botany

- **University of Leicester**  
Department of Biochemistry  
Adrian Building, University Road  
LE1 7RH  
Leicester  
☎ +44 533 523441

**Synthetic oligonucleotides for in vitro genetic studies**

Shaw, Prof.W.V.  
Synthesis / Oligonucleotide / In vitro / Molecular genetics / Biochemistry

**Structure and function of chloramphenicol acetyltransferase using genetic manipulation and mutagenesis**

Shaw, Prof.W.V.  
Transferase / Drug / Gene technology / Biochemistry / Mutation / Origin

**Action of quinolone drugs on DNA gyrase**

Maxwell, Dr.A.  
DNA / Enzyme / Drug / Biochemistry

- Mechanism of action of DNA gyrase**  
Maxwell, Dr.A.  
DNA / Enzyme / Biochemistry
- Physiology and energetics of metabolite production by bacteria**  
Jones, Dr.C.W.  
Energy / Metabolism / Microbiology / Biochemistry
- Energy conservation in aerobic bacteria**  
Jones, Dr.C.W.  
Energy / Aerobic / Microbiology / Biochemistry
- Production of processed proteins in cultured myeloma cells**  
Harrison, Dr.T.M.  
Protein / Cell / Cultivation / Tumour / Biochemistry
- Selection of splice sites in eukaryotic mRNA precursors - testing roles of sequence and order on in vivo expression**  
Eperon, Dr.I.C.  
Eukaryote / mRNA / Splicing / In vivo / Expression / Sequence / Molecular biology / Biochemistry
- Cloning of resistance genes from aminoglycoside-producing *Streptomyces* and characterization of resistance mechanisms**  
Cundliffe, Prof.E.  
Cloning / Resistance / Gene / Streptomycete / Gene technology / Biochemistry / Amino acid / Derivative / Pyranose
- Degradation of aromatic compounds by *Klebsiella pneumoniae* and *Pseudomonas putida*. Genetic regulation and gene organization**  
Cooper, Dr.R.A.  
Degradation / Aromatic / *Klebsiella* / *Pseudomonas* / Gene / Regulation / Molecular genetics / Biochemistry / Microbiology
- Biochemical and genetic regulation of sugar catabolism by *Escherichia coli***  
Cooper, Dr.R.A.  
Biochemistry / Molecular biology / Degradation / *Escherichia* / Microbiology
- Degradation of aromatic compounds by *Escherichia coli***  
Cooper, Dr.R.A.  
Degradation / Aromatic / *Escherichia* / Microbiology / Biochemistry
- Regulation of expression of selected mammalian genes**  
Brammar, Prof.W.J.  
Regulation / Gene / Expression / Mammal / Molecular genetics / Biochemistry
- University of Leicester**  
Department of Botany  
University Road  
LE1 7RH  
Leicester  
☎ +44 533 523380
- Genetic engineering of cereals using Ti plasmid-based vectors**  
Draper, Dr.J.  
Gene technology / Plasmid / Vector / Useful plant / Agriculture
- Development of molecular probes for use in plant breeding industry**  
Draper, Dr.J.  
Plant / Cultivation / Industry / Molecular / Probes / Molecular biology
- Development of transformation systems for crop plants**  
Draper, Dr.J.  
Transformation / Useful plant / Agriculture / Molecular biology
- Use of reporter genes for the investigation of tissue specific gene expression in transgenic plants**  
Draper, Dr.J.  
Gene / Expression / Transgenic / Plant / Gene technology
- Plant cell mutagenesis and cloning of plant genes by insertion mutagenesis using Ti plasmids and transposable elements**  
Draper, Dr.J.  
Plant / Cell / Mutation / Origin / Cloning / Gene / Insertion / Plasmid / Molecular genetics
- University of Leicester**  
Department of Chemistry  
University Road  
LE1 7RH  
Leicester  
☎ +44 533 522106
- Mechanistic studies of RNA splicing using phosphorothioate analogues of RNA**  
Potter, Dr.B.V.L.  
RNA / Splicing / Biochemistry
- Mechanistic investigations of some restriction endonucleases**  
Potter, Dr.B.V.L.  
Restriction / Endonuclease / Biochemistry
- Chloramphenicol acetyl transferase: some studies on structure and function, understanding catalysis and molecular recognition by rational alteration of substrate and enzyme**  
Cullis, Dr.P.M.  
Transferase / Drug / Structure / Biological / Catalysis / Substrate / Biochemistry
- University of Leicester**  
Department of Engineering  
University Road  
LE1 7RH  
Leicester  
☎ +44 533 522522
- Instrumentation for chemical assay of fluids (especially body fluids) utilizing chemiluminescence and bioluminescence using novel circuit design to ensure cheapness, user friendliness and accuracy**  
Frothergill, Dr.J.C.  
Instrumentation / Assay / Chemoluminescence / Bioluminescence / Analysis / Electronic engineering
- University of Leicester**  
Department of Pathology  
University Road  
LE1 7RH  
Leicester  
☎ +44 533 523221
- DNA probes as diagnostic tools in the diagnosis of malignant lymphoma**  
Lauder, Prof.I.  
DNA / Probes / Diagnosis / Malignant / Tumour / Pathology
- The use of immunohistochemistry and mRNA probes in thyroid disease**  
Kendall, Dr.C.H.  
Histochemistry / Immune / mRNA / Probes / Thyroid gland / Pathology
- University of Liverpool**  
Sub-Department of Avian Medicine  
Veterinary Field Station, 'Leahurst', Neston  
L64 7TE  
Wirral  
☎ +44 51 7096022
- ELISA test for examining chicken and turkey sera for antibodies to mycoplasma**  
Jordan, Dr.F.T.W.  
ELISA / Test / Antibody / Mycoplasma / Bird / Immunology
- Restriction endonuclease analysis of the DNA of *Mycoplasma gallisepticum* strains**  
Bradbury, Dr.J.M.  
Restriction / Endonuclease / DNA / Mycoplasma / Bird / Biochemistry
- University of Liverpool**  
Department of Biochemistry  
PO Box 147  
L69 3BX  
Liverpool  
☎ +44 51 7096022
- Expression of foreign genes in eukaryotes by making use of packaged RNA transcripts synthesized in vitro**  
Turner, Dr.P.C.  
Gene / Expression / Eukaryote / RNA / Transcription / In vitro / Molecular genetics / Biochemistry
- Secondary metabolite formation by micro-organisms; particularly the assembly of the phenazine ring, relationships between phenazines and associated metabolites and their regulation**  
Turner, Dr.J.M.  
Secondary / Metabolism / Regulation / Microbiology / Biochemistry
- Light induced regulation of the activity of enzymes from photosynthetic organisms**  
Powls, Dr.R.  
Light / Induction / Regulation / Enzyme / Photosynthesis / Biochemistry
- Biosynthesis of vitamin E**  
Pennock, Dr.J.F.  
Biosynthesis / Vitamin / Biochemistry
- Role of sterols in the physiology and biochemistry of brewing yeasts**  
Haslam, Dr.J.M.  
Sterol / Brewer's yeast / Microbiology / Biochemistry / Industry
- Role of sterols in the anaerobic physiology and biochemistry of brewing yeasts**  
Haslam, Dr.J.M.  
Sterol / Anaerobic / Brewer's yeast / Microbiology / Biochemistry / Industry
- Gene cloning of human oncotrophoblast antigens defined by monoclonal antibodies**  
Green, Dr.C.D.  
Gene / Cloning / Antigen / Trophoblast / Monoclonal / Antibody / Cancer / Immunology / Biochemistry
- Regulation of sterol biosynthesis in higher plants and algae**  
Goad, Dr.L.J.  
Regulation / Sterol / Biosynthesis / Plant / Alga / Biochemistry
- Biosynthesis of carotenoids and related compounds, especially stereochemistry and enzymology**  
Britton, Dr.G.  
Biosynthesis / Carotene / Enzymology / Biochemistry / Stereospecific
- Synthesis of new proteinase inhibitors and their effects in vivo**  
Beynon, Dr.R.J.  
Synthesis / Protease / Inhibitor / In vivo / Biochemistry / Organic chemistry

**Structure-function relationships in sweet proteins**

Beynon, Dr.R.J. / Cusack, M.  
Structure / Protein / Biochemistry

 **University of Liverpool**

Department of Botany  
PO Box 147  
L69 3BX  
Liverpool  
☎ +44 51 7096022

**Waste stabilization pond research and effluent reuse, with special reference to deep ponds, macrophyte ponds**

Pearson, Dr.H.W.  
Waste / Environmental biotechnology

**Microbial interactions in waste stabilization ponds and their influence on engineering design**

Pearson, Dr.H.W.  
Microbial / Interaction / Waste / Environment / Environmental biotechnology

**Selection for resistance to late blight in celery using plant tissue culture techniques**

Isaac, Dr.S.  
Resistance / Plant / Tissue / Cultivation / Botany / Selection

**Influential factors in somaclonal variation**

Collin, Dr.H.A.  
Botany / Agriculture

**Control of secondary product formation in plant tissue cultures**

Collin, Dr.H.A.  
Regulation / Secondary / Metabolism / Plant / Tissue / Cultivation / Botany / Biochemistry

 **University of Liverpool**

Department of Veterinary Clinical Science  
'Leahurst', Neston  
L64 7TE  
Neston  
☎ +44 51 7096022

**Safety aspects of growth promoters**

Walton, Dr.J.R.  
Growth / Drug / Safety / Veterinary medicine / Pharmaceutical industry

 **University of Liverpool**

Department of Genetics  
Brownlow Street  
Liverpool  
☎ +44 51 7096022

**Molecular genetics of heavy metal tolerance in higher plants**

Tomsett, Dr.A.B.  
Molecular genetics / Heavy metal / Tolerance / Plant / Botany

**The study of plasmid genes involved in DNA repair and mutation in bacterial cells**

Strike, Dr.P.  
Plasmid / Gene / DNA / Repair / Mutation / Molecular genetics

**Mobilization of the multi-copy plasmid NTP16 by conjugative plasmids**

Strike, Dr.P.  
Plasmid / Molecular genetics

**Genetic analysis of novobiocin synthesis in *Streptomyces niveus***

Ritchie, Prof.D.A.  
Biosynthesis / Antibiotic / Streptomycete / Molecular genetics

 **University of Liverpool**

Department of Human Anatomy and Cell Biology  
PO Box 147  
L69 3BX  
Liverpool  
☎ +44 51 7096022

**Characterization and purification of a novel haemopoietic growth factor produced by rat lymphocytes**

Marshall-Clarke, Dr.S.  
Lymphocyte / Rat / Growth / Blood / Cell biology / Hematology

**Use of monoclonal antibodies to identify and characterise surface receptors for growth and differentiation factors on murine B-lymphocytes**

Marshall-Clarke, Dr.S.  
Monoclonal / Antibody / Surface / Receptor / Growth / Differentiation / Lymphocyte / Mouse / Cell biology / Immunology

**Development of a culture system in which cultured human osteoblasts, grown on a variety of substrates, can express their full phenotypic potential by synthesising bone in vitro**

Gallagher, Dr.J.A.  
Cell / Cultivation / In vitro / Cell biology

 **University of Liverpool**

Department of Marine Biology  
Port Erin  
Isle of Man  
☎ +44 624 832027

**Assessment of biologically active compounds found in marine algae**

Norton, Prof.T.A.  
Bioactive agent / Marine / Alga / Biology

 **University of Liverpool**

Department of Microbiology  
Life Sciences Building  
Liverpool  
☎ +44 51 7096022

**Cloning of bacterial restriction and modification genes, to study their structure and control.**

**Identification and purification on novel restriction endonucleases**  
Saunders, Dr.J.R.  
Cloning / Restriction / Modification / Gene / Structure / Regulation / Endonuclease / Molecular genetics / Biochemistry / Microbiology

**Lignocellulose degradation by actinomycetes**

McCarthy, Dr.A.J.  
Lignocellulose / Degradation / Actinomycete / Microbiology

 **University of Liverpool**

Department of Organic Chemistry  
PO Box 147  
Liverpool  
The Robert Robinson Laboratories  
☎ +44 51 7096022

**Fungal metabolites as phytotoxins**

Johnstone, Dr.R.A.W.  
Fungus / Metabolite / Plant / Toxin / Organic chemistry / Agriculture

**Peptide and protein synthesis by solution solid phase and semisynthetic methods**

Galpin, Dr.I.J.  
Peptide / Protein / Synthesis / Solid / Organic chemistry / Biochemistry

 **University of Liverpool**

Department of Pharmacology and Therapeutics  
PO Box 147  
L69 3BX  
Liverpool  
☎ +44 51 7096022

**Development of a test system to assess the potential toxicity of reactive metabolites of drugs formed in vitro by human liver microsomal enzyme systems**

Kitteringham, Dr.N.R.  
Test / Toxic / Metabolite / Drug / In vitro / Liver / Microsome / Enzyme / Pharmacology

 **University of Liverpool**

Department of Pathology  
Royal Liverpool Hospital, Duncan Building  
Liverpool  
☎ +44 51 7090141

**Alpha and gamma interferon receptors on cells of human leukaemia and lymphoma**

Nash, Dr.J.R.G.  
Interferon / Alpha / Gamma / Receptor / Leukemia / Lymph node / Tumour / Pathology

 **University of Liverpool**

Department of Surgery  
PO Box 147  
L69 3BX  
Liverpool  
☎ +44 51 7096022

**Early detection, prognosis and spread of some gastrointestinal tumours employing three monoclonal antibodies as probes**

Makin, Miss.C.A.  
Early recognition / Stomach / Digestive system / Tumour / Cancer / Monoclonal / Antibody / Probes / Oncology

 **University of Liverpool**

Department of Zoology  
PO Box 147  
L69 3BX  
Liverpool  
☎ +44 51 7096022

**Development of a technique for platelet separation and evaluation of platelet viability by biochemical and morphological assays**

Hughes, P.  
Blood / Thrombocyte / Separation / Hematology / Assay

 **Loughborough University of Technology**

Department of Chemistry  
Loughborough  
LE11 3TU  
Leicestershire  
☎ +44 509 222592

**Interactions between surface-active agents and micro-organisms**

Salt, Dr.W.G.  
Surface / Bioactive agent / Interaction / Microorganism / Physical chemistry

**Development of biochemical sensors using immunoassay principles and fibre optic detectors**

Miller, Prof.J.N.  
Immunoassay / Biosensor / Fibre glass / Detector / Biochemistry / Instrumentation

**Development of fluorescence immunoassay methods for the rapid determination of pesticides**

Miller, Prof.J.N.  
Fluorescence / Immunoassay / Pesticide / Biochemistry / Physical chemistry

**Fluorescence immunoassays**

Miller, Prof.J.N.  
Fluorescence / Immunoassay / Biochemistry / Physical chemistry

**Electroanalytical immunoassays**

Fogg, Dr.A.G.  
Immunoassay / Biochemistry / Physical chemistry

**Lignin degradation by fungi**

Dart, Dr.R.K.  
Lignin / Degradation / Fungus / Microbiology

**□ Loughborough University of Technology**

Department of Chemical Engineering  
Loughborough  
LE11 3TU  
Leicestershire  
☎ +44 509 222500

**Use of membranes of a biological origin in cross flow membrane filtration processes**

White, Dr.W.J.P.  
Membrane apparatus / Engineering / Filtration

**Processing and utilization of slaughterhouse blood and blood plasma including ultrafiltration and spray drying**

Mann, Prof.J.  
Blood / Filtration / Drying / Apparatus / Membrane apparatus / Engineering

**Fractionation of biological materials including blood plasma, fish liquors and carbohydrate solutions by ultrafiltration and reverse osmosis**

Mann, Prof.J.  
Physical chemistry / Separation / Blood plasma / Polyalcohol / Filtration / Reverse osmosis / Physical chemistry / Engineering / Membrane apparatus

**Enzymic modification of collagen for improved functional properties in model and real food systems**

Hall, Dr.G.M.  
Modification / Enzymatic / Collagen / Food / Nutritional branch / Industry / Enzyme technology

**Evaluation of ultrafiltration properties of biological membranes**

Hall, Dr.G.M.  
Filtration / Membrane apparatus / Industry / Engineering

□ **London University**  
Birkbeck College, Department of Biology  
Malet Street  
WC1E 7HX  
London  
☎ +44 1 5806622

**Development of microbial pesticides for the control of pests, weeds and diseases**

Nicklin, Dr.J.L.  
Microbial / Pesticide / Agriculture

□ **London University**  
Birkbeck College, Department of Chemistry  
29 Gordon Square  
WC1E 6BT  
London  
☎ +44 1 3807464

**Separation of proteins by reversed phase chromatography with particular regard to protein unfolding and denaturation kinetics on the surface of the reversed phase packing**

Simpson, Dr.C.F.  
Protein / Separation / Chromatography / Denaturation / Kinetics / Biochemistry / Physical chemistry

**The sweet protein thaumatin: development of derivatives with improved sensory properties**

Davies, Dr.D.B.  
Protein design / Derivation

□ **London University**  
Birkbeck College, Department of Crystallography  
Malet Street  
WC1E 7HX  
London  
☎ +44 1 6316284

**Characterization of superactive insulins and novel insulin-like growth factors**

Wood, Dr.S.P.  
Insulin / Growth / Biochemistry / Diabetes

**Drug-receptor interactions and protein structure: analysis and prediction using computer graphics**

Thornton, Dr.J.M.  
Drug / Receptor / Protein / Structure / Computer / Biochemistry / Physical chemistry / Pharmacology

**Prediction and analysis of small ligand binding sites in proteins and nucleic acids**

Thornton, Dr.J.M.  
Protein / Nucleic acid / Structure / Biochemistry / Physical chemistry

**Antigenicity and protein structure**

Thornton, Dr.J.M.  
Protein / Structure / Biochemistry / Physical chemistry / Pharmaceutical industry

**Protein structure analysis prediction and design**

Thornton, Dr.J.M.  
Protein design / Structure / Biochemistry / Physical chemistry

**Protein engineering**

Sternberg, Dr.M.J.E.  
Protein design / Structure / Biochemistry / Physical chemistry

**Prediction of three-dimensional structure from sequence using computer graphics**

Sternberg, Dr.M.J.E.  
Structure / Sequence / Computer / Biochemistry / Physical chemistry

**Computer prediction of the structure of peptides**

Moss, Dr.D.S.  
Computer / Structure / Peptide / Biochemistry / Pharmaceutical industry / Physical chemistry

**Hydration related free energy changes induced by amino acid substitutions in proteins**

Goodfellow, Dr.J.M.  
Hydration / Thermodynamics / Chemical / Amino acid / Substitution / Protein / Biochemistry / Physical chemistry

**The use of interactive computer graphics in the design of inhibitors or agonists of pharmaceutical importance**

Blundell, Prof.T.L.  
Computer / Inhibitor / Drug / Pharmacy / Pharmaceutical industry

**Conformation and molecular biology of neurohypophysial hormones**

Blundell, Prof.T.L.  
Molecular biology / Hypophysis / Hormone / Structure

□ **London University**  
Cardiothoracic Institute, Department of Thoracic Medicine  
Fulham Road  
SW3 6HP  
London  
☎ +44 1 3528121

**Measurement of atmospheric allergen in the workplace eg bakeries. Use of immunochemical method involving air sampling and analysis of filter eluates by RAST inhibition**

Tee, Dr.R.D.  
Allergy / Antigen / Measurement / Immune / Chemistry / Immunology / Air / Sampling / Inhibition / Allergology

□ **London University**  
Institute of Cancer Research, Section of Tumour Immunology  
Block X, Clifton Avenue, Downs Road  
SM2 5PX  
Sutton, Surrey  
☎ +44 1 3528133

**DNA lesions and DNA repair enzymes in mammalian cells analyzed using monoclonal antibodies**

Tilby, Dr.M.J.  
DNA / Repair / Enzyme / Mammal / Cell biology / Monoclonal / Antibody / Tumour / Immunology

**Use of antiidiotypic antibodies as immunomodulators for the treatment of cancer**

Dean, Dr.C.J.  
Antibody / Immune / Regulation / Cancer / Immunotherapy / Tumour / Immunology

□ **London University**  
Charing Cross and Westminster Medical School, Department of Biochemistry  
Fulham Palace Road, Hammersmith  
W6 8RF  
London  
☎ +44 1 7411858

**Preparation and properties of immobilized DNA**

Malcolm, Prof.A.D.B.  
Preparation / DNA / Immobilization / Biochemistry

**Gene expression in rheumatoid arthritis**

Malcolm, Prof.A.D.B.  
Gene / Expression / Rheumatism / Molecular genetics

**Nucleic acid probes for in situ hybridization**

Malcolm, Prof.A.D.B.  
Nucleic acid / Probes / In situ / Hybridization / Biochemistry

□ **London University**  
Charing Cross and Westminster Medical School, Department of Medical Microbiology  
Medical School Building, 17 Horseferry Road  
SW1P 2AR  
London  
☎ +44 1 8289811

**Endotoxin: action, biochemistry and pharmacology**

Wright, Dr.D.J.M.  
Endotoxin / Biochemistry / Pharmacology / Microbiology

- **London University**  
Charing Cross and Westminster Medical School, Department of Medical Oncology  
Charing Cross Hospital (Fulham), Fulham Palace Road  
W6 8RF  
London  
☎ +44 1 7482040
- Identification of biochemical markers for human cancer and preparation of polyclonal and monoclonal antibodies**  
Bagshawe, Prof.K.D.  
Biochemical / Marker / Cancer / Oncology / Polyclonal / Monoclonal / Antibody / Biochemistry / Immunology
- **London University**  
Institute of Child Health, Department of Clinical Genetics  
30 Guilford Street  
WC1N 1EH  
London  
☎ +44 1 2429789
- Use of x-linked DNA probes in haemophilia A**  
Pembrey, Dr.M.  
DNA / Probes / X-Chromosome / Genetics / Blood / Congenital / Disease / Hematology
- Use of x-linked DNA probes in genetic counselling for Duchenne muscular dystrophy**  
Pembrey, Dr.M.  
DNA / Probes / Muscle / X-chromosome / Congenital / Disease / Genetics / Blood
- X-linked mental retardation: fragile site (Xq 27-8) and characterization of clinically useful polymorphisms in linked DNA sequences**  
Harper, K.  
DNA / Sequence / Polymorphism / X-chromosome / Congenital / Disease / Genetics
- **London University**  
Institute of Child Health, Department of Growth and Development  
30 Guilford Street  
WC1N 1EH  
London  
☎ +44 1 2429789
- Applications of growth-hormone-releasing-hormone in diagnosis and treatment of growth hormone deficient children**  
Ross, Dr.R.  
Growth / Hormone / Diagnosis / Endocrinology
- Purification and biological characterization of somatomedin**  
Preece, Prof.M.A.  
Peptide / Growth / Hormone / Biochemistry / Endocrinology
- Clinical trial of pure human urinary FSH and LH-FSH for induction of puberty in gonadotrophin deficiency**  
Preece, Prof.M.A.  
Gonadotropin / Growth / Development / Endocrinology
- Influence of monoclonal antibodies on biological actions of growth hormone and related peptides**  
Holder, Dr.A.T.  
Monoclonal / Antibody / Growth / Hormone / Peptide / Endocrinology
- **London University**  
Institute of Child Health, Department of Haematology and Oncology  
The Hospital for Sick Children, Great Ormond Street  
WC1N 3JH  
London  
☎ +44 1 4059200
- Use of monoclonal antibodies for immunodiagnosis and targetted radiotherapy of neuroblastoma**  
Pritchard, Dr.J.  
Monoclonal / Antibody / Immune / Diagnosis / Tumour / Cancer / Oncology / Immunology / Therapy / Radiation
- Cloning of genes associated with Wilms' tumour and retinoblastoma**  
Cowell, Dr.J.  
Gene / Cloning / Tumour / Cancer / Gene technology / Kidney / Oncology
- **London University**  
Institute of Child Health, Department of Immunology  
30 Guilford Street  
WC1N 1EH  
London  
☎ +44 1 2429789
- The molecular basis of defective yeast opsonization**  
Turner, Dr.M.W.  
Yeast
- **London University**  
Institute of Dermatology, Department of Microbiology  
Homerton Grove  
E9 6BX  
London  
☎ +44 1 4378383
- Secondary metabolites, especially antibiotics, as typing tools for fungi**  
Hammadi, Miss.K.  
Secondary / Metabolite / Antibiotic / Fungus / Microbiology
- **London University**  
St. George's Hospital Medical School, Department of Biochemistry  
Jenner Wing, Cranmer Terrace  
SW17 0RE  
London  
☎ +44 1 6729944
- DNA supercoiling and gene expression**  
McEachern, Ms.F.  
DNA / Gene / Expression / Molecular genetics / Biochemistry
- DNA supercoiling and DNA topoisomerases**  
Fisher, Dr.L.M.  
DNA / Isomerase / Biochemistry / Structure
- Characterization and DNA cloning of mammalian topoisomerase II: a potential target for anticancer agents**  
Fisher, Dr.L.M.  
DNA / Cloning / Mammal / Isomerase / Cancer / Drug / Biochemistry / Pharmaceutical industry
- Regulation of polypeptide chain initiation by guanine nucleotides**  
Echetebe, Dr.C.O.  
Regulation / Polypeptide / Induction / Nucleotide / Biochemistry
- Expression and replication of the Epstein-Barr virus genome in interferon-treated human lymphoblastoid cells**  
Clemens, Dr.M.J.  
Expression / Replication / Viral / Genome / Interferon / DNA virus / Molecular genetics / Biochemistry / Cancer
- Regulation of protein synthesis and control of cell proliferation in cultured tumour cells in response to growth factors and interferon treatment**  
Clemens, Dr.M.J.  
Regulation / Protein / Synthesis / Cell / Proliferation / Tumour / Cultivation / Interferon / Biochemistry / Cell biology / Oncology
- Regulation of gene expression by interferons in relation to cell differentiation and proliferation**  
Board, Ms.M.  
Regulation / Gene / Expression / Interferon / Cell / Differentiation / Proliferation / Molecular genetics / Cell biology
- **London University**  
St. George's Hospital Medical School, Department of Medical Microbiology  
Cranmer Terrace  
SW17 0RE  
London  
☎ +44 1 6721255
- Development of rapid diagnostic techniques for cytomegalovirus infection in bone-marrow transplant patients**  
Steel, Dr.H.  
DNA virus / Infection / Diagnosis / Virology / Immunology / Bone marrow / Transplantation
- Development and investigations of the sensitivity and specificity of immunoassays for antibodies to cytomegalovirus**  
Booth, Dr.J.C.  
Immunoassay / Antibody / Immunology / DNA virus / Infection / Virology
- Studies on the mycobacterial aetiology of Crohn's disease**  
Hermon-Taylor, Prof.J.  
Digestive system / Disease / Mycobacterium / Bacteriology
- Antigenic structure of cytomegalovirus studied using mouse monoclonal antibodies**  
Booth, Dr.J.C.  
Antigen / Structure / DNA virus / Monoclonal / Antibody / Mouse / Immunology / Virology
- Preparation of human monoclonal antibodies to cytomegalovirus**  
Booth, Dr.J.C.  
Monoclonal / Antibody / Human / DNA virus / Immunology / Virology
- **London University**  
St. George's Hospital Medical School, Department of Surgery  
Cranmer Terrace  
SW17 0RE  
London  
☎ +44 1 6721255
- Generation and analysis of monoclonal antibody to human pancreatic cancer cells**  
Grant, Dr.A.G.  
Monoclonal / Antibody / Pancreas / Cancer / Immunology



- London University**  
Goldsmiths' College, Department of Life Sciences  
Rachel McMillan Building, Deptford, Creek Road  
SE8 3BU  
London  
☎ +44 1 6927454
- Genetic manipulation of industrial yeasts by protoplast fusion: interspecific and intergeneric hybridization**  
Spencer, Mrs.D.M.  
Gene technology / Yeast / Industry / Protoplast / Fusion / Hybridization
- The production of secondary products in tissue culture**  
Charlwood, Dr.K.A.  
Production / Secondary / Tissue / CULTIVATION
- London University**  
London School of Hygiene and Tropical Medicine, Department of Clinical Tropical Medicine  
Keppel Street  
WC1E 7HT  
London  
☎ +44 1 6368636
- Use of monoclonal antibodies for detection of specific antigens during leprosy infection**  
Young, Dr.S.  
Monoclonal / Antibody / Antigen / Infection / Immunology / Tropical
- Non-isotopic immunoassay development and application to infectious diseases. Use of enzyme-linked immunosorbent assays for diagnosis of disease**  
Voller, Dr.A.  
Immunoassay / Diagnosis / Infection / Immunology
- Molecular biology of Mycobacterium leprae**  
Stoker, Dr.N.  
Molecular biology / Mycobacterium / Bacteriology / Tropical
- Human hybridomas and the analysis of autoimmune disease**  
Locniskar, Dr.M.  
Human / Hybridoma / Autoimmune / Disease / Immunology
- T-lymphocyte cloning in leprosy**  
Dockrell, Dr.H.  
Lymphocyte / Cloning / Immunology / Bacteriology / Tropical
- London University**  
London School of Hygiene and Tropical Medicine, Department of Entomology  
Keppel Street  
WC1E 7HT  
London  
☎ +44 1 6368636
- Development of biochemical tests for field detection of resistance**  
Hemingway, Dr.J.  
Biochemistry / Resistance / Entomology
- London University**  
London School of Hygiene and Tropical Medicine, Department of Medical Helminthology  
Winches Farm Laboratories, 395 Hatfield Road  
AL4 0XQ  
St. Albans, Hertfordshire  
☎ +44 1 72734201
- Field trials of irradiated Schistosoma bovis vaccine in Sudan**  
Taylor, Dr.M.G.  
Vaccine / Tropical / Parasite / Immunology
- Evaluation of irradiated vaccines against Schistosoma haematobium in baboons**  
Sturrock, Dr.R.F.  
Vaccine / Primate / Parasite / Tropical / Immunology
- London University**  
London School of Hygiene and Tropical Medicine, Department of Medical Microbiology  
Keppel Street  
WC1E 7HT  
London  
☎ +44 1 6368636
- Recombinant hepatitis B vaccine trial**  
Zuckerman, Prof.A.J.  
Recombination / Hepatitis / Vaccine / Immunology
- Development of synthetic hepatitis B vaccines**  
Zuckerman, Prof.A.J.  
Synthetic / Hepatitis / Vaccine / Immunology
- Production and characterization of monoclonal antibodies against dengue 2 virus envelope glycoprotein. Epitope mapping and role in neutralization and/or enhancement of infection**  
Young, P.R.  
Monoclonal / Antibody / Virus / Glycoprotein / Infection / Immunology / Virology
- Expression of plasmid clones containing sub-genomic inserts of dengue 2 virus. Sequencing of those clones' coding for the surface glycoprotein**  
Young, P.R.  
Expression / Plasmid / Cloning / Virus / Genome / Glycoprotein / Surface / Gene technology / Sequencing / Virology
- Cellular immune responses to synthetic peptides**  
Steward, Prof.M.W.  
Peptide / Cellular / Immune system / Immunology
- Tissue culture of hepatitis A virus and development of hepatitis A vaccines**  
Mann, G.F.  
Tissue / Cultivation / Hepatitis / Virus / Vaccine / Virology / Immunology
- Synthetic peptides as novel virus vaccines are being investigated and additionally used for measuring antibody response to viral antigens**  
Howard, Dr.C.R.  
Peptide / Synthetic / Virus / Vaccine / Antibody / Antigen / Virology / Immunology
- Identification of antigenic determinants of arenaviruses and their role in determining virulence and disease**  
Howard, Dr.C.R.  
Recognition / Antigen / RNA virus / Virology / Immunology
- Detection of hepatitis B virus DNA in serum samples**  
Harrison, Dr.T.J.  
Hepatitis / Virus / DNA / Blood serum / Serology / Virology
- Molecular cloning and DNA sequence analysis of the genome of hepatitis B virus obtained from primary liver cancer**  
Harrison, Dr.T.J.  
Molecular / Cloning / DNA / Sequencing / Genome / Hepatitis / Virus / Liver / Cancer / Virology / Molecular genetics
- Cloning, sequencing and expression of the hepatitis A virus genome**  
Harrison, Dr.T.J.  
Cloning / Sequencing / Expression / Hepatitis / Viral / Genome / Virology / Gene technology
- Involvement of hepatitis B virus in hepatocellular carcinoma/molecular analysis**  
Harrison, Dr.T.J.  
Hepatitis / Liver / Cancer / Virology / Oncology
- Tissue culture for the detection, assay and elucidation of the mechanism of bacterial virulence factors**  
Drasar, Dr.B.S.  
Tissue / Cultivation / Assay / Bacteriology
- Detection and characterization of bacterial toxins in cell culture. Development of automated systems for detecting cell responses**  
Barer, Dr.M.R.  
Bacterial / Toxin / Cell / Cultivation / Automation / Bacteriology
- London University**  
London School of Hygiene and Tropical Medicine, Department of Medical Protozoology  
Keppel Street  
WC1E 7HT  
London  
☎ +44 1 6368636
- Development of anti-gamete vaccines in malaria**  
Targett, Prof.G.A.T.  
Vaccine / Malaria / Immunology / Parasite / Tropical / Protozoan
- Antigenic analyses of Leishmania donovani using monoclonal antibodies and gene cloning**  
Miles, Dr.M.A.  
Antigen / Monoclonal / Antibody / Gene / Cloning / Immunology / Gene technology / Protozoan / Parasite / Tropical
- Development of monoclonal antibody based diagnostic tests for Trichomonas vaginalis testing**  
Ackers, Dr.J.P.  
Monoclonal / Antibody / Immune / Diagnosis / Protozoan / Parasite / Immunology / Urogenital system
- Development of antigen-detecting tests for Trichomonas vaginalis diagnosis**  
Ackers, Dr.J.P.  
Antigen / Test / Immune / Diagnosis / Protozoan / Parasite / Immunology / Urogenital system
- London University**  
London School of Hygiene and Tropical Medicine, Department of Tropical Hygiene  
Keppel Street  
WC1E 7HT  
London  
☎ +44 1 6368636
- Trials of the ELISA test for schistosomiasis**  
Draper, Dr.C.C.  
ELISA / Parasite / Immune / Diagnosis / Tropical / Immunology
- London University**  
Hunterian Institute, Department of Biochemistry  
Royal College of Surgeons of England,  
35/43 Lincoln's Inn Fields  
WC2A 3PN  
London  
☎ +44 1 4053474
- Use of circulating blood cells as carrier vehicles for macrophage activating agent: reversible membrane permeabilization by dielectric breakdown and liposome sealing**  
Crawford, Prof.N.  
Blood / Cell / Macrophage / Activation / Membrane biology / Biochemistry

□ **London University**  
Imperial College of Science and  
Technology, Department of Biochemistry  
South Kensington  
SW7 2AZ  
London  
☎ +44 1 5895111

**Isolation and characterization of mammalian lectins**  
Winchester, Dr.B.G.  
Isolation / Mammal / Lectin / Biochemistry

**DNA polymorphisms diagnostic for intraspecific populations of *Phlebotomus papatasi*, the vector of *Leishmania major***  
Smith, Dr.D.F.  
DNA / Polymorphism / Vector / Insect / Protozoon / Tropical / Biochemistry

**Amino acid sequencing as applied to substances of biological interest; enzymes, proteins and neuropeptides**  
Morris, Prof.H.R.  
Amino acid / Sequencing / Enzyme / Protein / Peptide / Biochemistry

**Sequencing proteins and glycopeptides by mass spectrometry**  
Morris, Prof.H.R.  
Protein / Sequencing / Peptide / MS / Biochemistry

**Fast atom bombardment mapping of biopolymers (FAB mapping)**  
Morris, Prof.H.R.  
Organic substance / Polymer / Mapping / Biochemistry

**Structure and function of human calcitonin gene-related peptide**  
Morris, Prof.H.R.  
Structure / Peptide / Gene / Biochemistry

**Glycoprotein sequencing by mass spectrometry**  
Morris, Prof.H.R.  
Glycoprotein / Sequencing / MS / Biochemistry

**Protein and peptide sequencing by mass spectrometry: computerized automation**  
Morris, Prof.H.R.  
Protein / Peptide / Sequencing / MS / Computer / Automation / Biochemistry

**Regulation of indole alkaloid biosynthesis in *Penicillium* spp**  
Mantle, Dr.P.G.  
Regulation / Alkaloid / Biosynthesis / Fungus / Biochemistry / Microbiology

**Isolation/characterization of alkene-epoxide transforming bacteria: enzyme and product analysis; stereochemistry/substrate specificity; application and optimization**  
Mahmoudian, M.  
Isolation / Organic substance / Enzyme / Stereospecific / Substrate / Optimization / Biochemistry / Microbiology

**Use of Ti plasmid based vectors to genetically engineer sugar beet for crop improvement**  
Lichtenstein, Dr.C.P.  
Plasmid / Vector / Gene technology / Useful plant / Agriculture

**Sequencing of bacterial polysaccharides using phage digestion and fast atom bombardment mass spectrometry**  
Dell, Dr.A.  
Polysaccharide / Sequencing / Bacteriophage / MS / Biochemistry

□ **London University**  
Imperial College of Science and  
Technology, Department of Pure and  
Applied Biology  
Prince Consort Road  
SW7 2BB  
London  
☎ +44 1 5895111

**Cell wall degrading enzymes; effects on cell walls and role in the killing of protozoans**  
Wood, Prof.R.K.S.  
Cell wall / Degradation / Enzyme / Protozoan / Botany / Biochemistry

**Control of protein synthesis and transmission blocking antigens in the sexual stages of malaria parasites**  
Sinden, Dr.R.E.  
Regulation / Protein / Biosynthesis / Antigen / Malaria / Parasite / Molecular biology / Parasitology

**Catalytic potential of the lignin degrading enzymes from fungi**  
Palmer, Prof.J.M.  
Biological / Catalysis / Degradation / Enzyme / Fungus / Lignin / Biochemistry

**Immunology of human filariasis: analysis of parasite antigens and development of immunodiagnostic test for field use**  
Maizels, Dr.R.M.  
Immunology / Nematode / Parasitology / Antigen / Immune / Diagnosis

**Regulation of bacteriochlorophyll synthesis in the photosynthetic bacterium *Rhodospseudomonas sphaeroides* - light and oxygen control of genes**  
Hunter, Dr.C.N.  
Regulation / Chlorophyll / Photosynthesis / *Rhodospseudomonas* / Microbiology

**Control of insect pests with nematodes of the families *Steinernematidae* and *Heterorhabditidae***  
Hominick, Dr.W.M.  
Insect / Pest / Nematode / Agriculture / Biology

**The electrophysiology of growth differentiation and metabolism in plant tissue cultures**  
Goldsworthy, Dr.A.  
Growth / Differentiation / Metabolism / Plant / Tissue / Cultivation / Botany

**Use of hybridoma technology to isolate protective antigens of *Babesia divergens***  
Canning, Prof.E.U.  
Hybridoma / Antigen / Isolation / Cell biology

**Isolation and expression of genes which code for thylakoid membrane proteins**  
Barber, Prof.J.  
Isolation / Gene / Expression / Membrane biology / Protein / Molecular genetics / Botany

**Isolation and structural properties of chloroplast thylakoid membrane proteins**  
Barber, Prof.J.  
Chloroplast / Membrane biology / Protein / Biochemistry / Botany

**Mechanism of action of cell wall degrading enzymes in plant tissue**  
Archer, Dr.S.A.  
Cell wall / Enzyme / Plant / Tissue / Botany / Biochemistry

□ **London University**  
Imperial College of Science and  
Technology, Centre for Biotechnology  
South Kensington  
SW7 2AZ  
London  
☎ +44 1 5895111

**Biotransformations for novel fluorochemicals**  
Ribbons, Prof.D.W.  
Biotransformation / Fine chemical / Chemical engineering / Chemical industry

**Generation of chiral intermediates by microbial hydroxylations**  
Ribbons, Prof.D.W.  
Chiral / Intermediate / Microbial / Hydroxylation / Chemical industry / Chemical engineering

**Enzymes and microbial cells as catalysts for production of speciality chemicals and organic synthesis intermediates**  
Ribbons, Prof.D.W.  
Enzyme / Cell / Biological / Catalysis / Production / Fine chemical / Synthesis / Intermediate / Organic chemistry / Chemical engineering / Chemical industry

**Development of a selection for homologous genetic recombination in plants to provide the tools for gene replacement**  
Lichtenstein, Dr.C.P.  
Selection / Genetic / Recombination / Plant / Gene technology / Agriculture

**Suppression of expression of specific genes in transgenic plants by antisense RNA complementary to a specific mRNA**  
Lichtenstein, Dr.C.P.  
Suppression / Expression / Gene / Transgenic / RNA / Molecular genetics / Biochemistry / Plant / Agriculture

**Production of chiral epoxides by micro-organisms**  
Leak, Dr.D.J.  
Production / Chiral / Organic substance / Microbial / Microbiology / Chemical industry

**Isolation of organisms for microbial production of chiral epoxides**  
Leak, Dr.D.J.  
Isolation / Production / Chiral / Microbial / Organic substance / Microbiology / Chemical industry

**Genetic regulation of yeast glycolysis, studied in continuous culture and by non-invasive NMR techniques**  
Hartley, Prof.B.S.  
Gene / Regulation / Yeast / Continuous / Cultivation / NMR / Molecular genetics / Microbiology / Industry

**Protein engineering of *Arthrobacter* glucose isomerase by X-ray crystallography, site-directed mutagenesis and construction of industrial strain**  
Hartley, Prof.B.S.  
Protein design / *Arthrobacter* / Glucose isomerase / X-rays / Structure / Mutation / Origin / Industry / Biochemistry / Microbiology

**Continuous ethanol fermentation at 70°C from straw or sugar cane utilizing a mutant thermophilic *Bacillus***  
Hartley, Prof.B.S.  
Continuous / Ethanol / Fermentation technology / Mutation / *Bacillus* / Thermophilic / Industry

**Genetic engineering of yeast for ethanol production from xylose**  
Hartley, Prof.B.S.  
Gene technology / Yeast / Ethanol / Production / Xylose / Industry

**Site-directed mutagenesis of subtilisin BPN**  
Hartley, Prof.B.S.  
Mutation / Origin / Enzyme / *Bacillus* / Biochemistry

**Use of bioluminescent enzymes as analytical tools**  
Cass, Dr.A.E.G.  
Bioluminescence / Enzyme / Analysis / Biochemistry

**Biosensors; devices that use enzymes coupled to electronic measuring systems, for analysis and control in a variety of applications**

Cass, Dr.A.E.G.

Biosensor / Enzyme / Analysis / Biophysics / Control / Industry

**Development of immunochemical and spectroscopic methods for studying immobilized biomolecules on organic and inorganic surfaces**

Cass, Dr.A.E.G.

Immune / Biochemistry / Spectrometry / Immobilization / Organic / Inorganic / Surface / Industry

**Development of amperometric enzyme electrode biosensors for clinical and industrial analysis**

Cass, Dr.A.E.G.

Enzyme / Electrode / Biosensor / Analysis / Biophysics / Industry

□ **London University**  
Imperial College of Science and Technology, Department of Chemistry  
South Kensington  
SW7 2AY  
London  
☎ +44 1 5895111

**Microbially generated chiral intermediates for organic synthesis via blocked mutants**

Widdowson, Dr.D.A.

Chiral / Intermediate / Microbial / Chemical industry / Organic chemistry / Mutation / Synthesis

**Use of protein engineering, enzyme kinetics, molecular graphics and 500 MHz NMR spectroscopy to examine the interaction between the protease inhibitor Cl2 and the protease subtilisin**

Leatherbarrow, Dr.R.J.

Protein design / Protease / Kinetics / NMR / Interaction / Inhibitor

**Use of protein engineering, enzyme kinetics, molecular graphics and 500 MHz NMR to study protein structure/function relationships**

Leatherbarrow, Dr.R.J.

Protein design / Enzyme / Kinetics / NMR / Structure / Biochemistry

**Protein engineering**

Fersht, Prof.A.R.

Protein design / Biochemistry

**Enzyme structure, mechanism and specificity**

Fersht, Prof.A.R.

Enzyme / Structure / Mechanism / Biochemistry

**Interactions of N-nitroso bile acids and N-nitroso peptides with DNA will be identified and assessed as exposure indices to endogenous nitrosation**

Challis, Dr.B.C.

Peptide / DNA / Liver / Biochemistry

**Development of enzyme electrodes and sensors for the analysis of process streams in biotechnological industries**

Albery, Prof.W.J.

Enzyme / Electrode / Biosensor / Bioprocess engineering / Industry

**Development of electrochemical sensors for hydroponics**

Albery, Prof.W.J.

Sensor / Physical chemistry / Industry

□ **London University**  
Imperial College of Science and Technology, Department of Chemical Engineering and Chemical Technology  
Prince Consort Road  
SW7 2BY  
London  
☎ +44 1 5895111

**Rate and extent of hydrolysis of insoluble substrates during anaerobic digestion: formulation of a structured model to predict digester performance under dynamic conditions**

Stuckey, Dr.D.C.

Hydrolysis / Anaerobic / Fermentation / Modelling / Dynamics / Bioreactor / Bioprocess engineering / Agriculture

**Modelling and development of baffled anaerobic digester**

Stuckey, Dr.D.C.

Modelling / Anaerobic / Bioreactor / Bioprocess engineering / Industry

**Measurement of the strength of lectin-polysaccharide interactions**

Luckham, Dr.P.F.

Lectin / Polysaccharide / Interaction / Molecular / Biochemistry / Physical chemistry

**Liquid membrane separations in biotechnology**

Del Cerro, Dr.M.C.G.

Liquid / Membrane apparatus / Separation / Bioprocess engineering / Industry

**Fundamentals of anaerobic film fermenters**

Del Cerro, Dr.M.C.G.

Anaerobic / Fermentation technology / Industry

**Pre-dispersed solvent extraction of fermentation products: a feasibility study of the use of polyaphrons for dilute fermentation product recovery**

Del Cerro, Dr.M.C.G.

Solvent / Extraction / Fermentation technology / Chemical engineering / Industry

**Production of acetone and butanol with immobilized cultures**

Del Cerro, Dr.M.C.G.

Production / Acetone / Butanol / Immobilization / Cultivation / Chemical industry / Bioprocess engineering

**Study of immobilized Cl acetobutylicum fermentation to acetone and butanol**

Del Cerro, Dr.M.C.G.

Immobilization / Fermentation technology / Acetone / Butanol / Chemical industry / Clostridium

**Measurement of intermolecular forces between simulated cell surfaces**

Bailey, Prof.A.I.

Interaction / Simulation / Cell / Surface / Bioprocess engineering / Industry

**Rheology of surface films**

Bailey, Prof.A.I.

Rheology / Surface / Chemical engineering / Industry

□ **London University**  
Imperial College of Science and Technology, Department of Civil Engineering  
Imperial College Road, South Kensington  
SW7 2BU  
London  
☎ +44 1 5895111

**Applications of information technology to waste water treatment and biotechnical processes**

Beck, Dr.M.B.

Informatics / Purification / Waste water / Environmental technology

□ **London University**  
Imperial College of Science and Technology, Department of Mineral Resources Engineering  
Royal School of Mines, Prince Consort Road  
SW7 2BP  
London  
☎ +44 1 5895111

**Recovery of nickel from non-sulphide sources using microorganism-assisted leaching processes**

Dudeny, Dr.A.W.L.

Nickel / Microbial / Leaching / Mineralogy

**The reduction of energy requirements for grinding using additives**

Ayers, Dr.P.

Energy / Reduction / Grinding

□ **London University**  
Imperial College of Science and Technology, Physics Department  
The Blackett Laboratory, Prince Consort Road  
SW7 2BZ  
London  
☎ +44 1 5895111

**Structural studies of enzyme mechanism by X-ray diffraction, especially enzyme engineering and control systems**

Blow, Prof.D.M.

Structure / Enzyme / Diffraction / Enzyme technology / Biophysics

□ **London University**  
King's College School of Medicine and Dentistry, Department of Chemical Pathology  
Denmark Hill  
SE5 8RX  
London  
☎ +44 1 2746222

**Production of monoclonal antibodies for diagnostic purposes**

Norman, Dr.M.R.

Monoclonal / Antibody / Diagnosis / Immunology

**Production of human monoclonal antibodies from patients with diabetes mellitus**

Norman, Dr.M.R.

Human / Monoclonal / Antibody / Diabetes / Endocrinology / Immunology

**Receptor and bioassays for measurement of human growth hormone**

Norman, Dr.M.R.

Receptor / Assay / Human / Growth / Hormone / Endocrinology / Clinical / Chemistry

□ **London University**  
King's College School of Medicine and Dentistry, Department of Haematology  
Denmark Hill  
SE5 8RS  
London  
☎ +44 1 2746222

**Prenatal diagnosis of haemophilia B by trophoblastic DNA analysis**

Mibashan, Dr.R.S.

Prenatal / Diagnosis / Blood / Congenital / Disease / DNA / Trophoblast / Hematology

- **London University**  
King's College School of Medicine and Dentistry, Liver Unit  
King's College Hospital, Denmark Hill  
SE5 9RS  
London  
☎ +44 1 2746222
- Recombinant DNA techniques in studies of viral hepatitis B**  
Fagan, Dr.E.A.  
Recombination / DNA / Hepatitis / Viral / Virology
- **London University**  
King's College School of Medicine and Dentistry, Department of Morbid Anatomy  
Denmark Hill  
SE5 8RX  
London  
☎ +44 1 2746222
- Production of polyclonal and monoclonal antibodies to a cultured cervical cell line and to human cervical and ovarian cell lines**  
Driver, Dr.M.  
Polyclonal / Monoclonal / Antibody / Cell / Cultivation / Pathology / Gynecology / Immunology
- **London University**  
King's College School of Medicine and Dentistry, Department of Medicine  
Denmark Hill  
SE5 8RX  
London  
☎ +44 1 2746222
- Clinical phase I trial of recombinant DNA human gamma interferon in cancer patients and clinical phase II trial in lymphoma patients**  
Pettingale, Dr.K.W.  
Clinical / Recombination / DNA / Human / Gamma / Interferon / Cancer / Lymph node / Tumour / Oncology / Immunology / Therapy / Radiation
- **London University**  
King's College School of Medicine and Dentistry, Department of Medical Microbiology  
Denmark Hill  
SE5 8RX  
London  
☎ +44 1 2746222
- Production and evaluation of cytomegalovirus monoclonal antibodies with special reference to potential diagnostic and therapeutic applications**  
Sutherland, Dr.S.  
Monoclonal / Antibody / DNA virus / Diagnosis / Immunotherapy / Microbiology
- **London University**  
King's College School of Medicine and Dentistry, Department of Surgery  
Rayne Institute, 123 Coldharbour Lane  
SE5 9NU  
London  
☎ +44 1 2746222
- Phthalates and prostaglandins**  
Tavares, Dr.I.A.  
Prostaglandin / Organic substance
- **London University**  
King's College London, Department of Anatomy and Human Biology  
Strand  
WC2R 2LS  
London  
☎ +44 1 8365454
- Isolation and characterization of the centrosome from mammalian cells; production of monoclonal antibodies**  
Brooks, Dr.R.F.  
Cell / Mammal / Cell biology / Monoclonal / Antibody
- Effect of ginseng saponins on age changes in human cells in vitro**  
Bittles, Dr.A.H.  
Cell biology / Cell / In vitro
- **London University**  
King's College London, Department of Biochemistry  
Strand  
WC2R 2LS  
London  
☎ +44 1 8365454
- Immunoblotting procedures for serum protein typing in forensic case work**  
Spencer, N.  
Immune / Blotting / Blood serum / Protein / Biochemistry / Clinical / Forensic medicine
- Novel diagnostics for medical and veterinary applications. Enzyme amplified dipstick technology**  
Robinson, Prof.D.  
Diagnosis / Clinical / Veterinary medicine / Enzyme / Biochemistry / Kit
- Novel fluorescent labels for proteins. Histochemical, immunochemical and enzymological applications**  
Robinson, Prof.D.  
Fluorescence / Protein / Histochemistry / Immune / Enzymology / Biochemistry / Clinical
- Enzyme-linked protease assays; studies on fibrinolysis**  
Robinson, Prof.D.  
Protease / Assay / Fibrinolysis / Hematology / Biochemistry / Clinical
- Lipid conformation and function in membranes of food spoilage bacteria exposed to high solute concentrations**  
Quinn, Dr.P.J.  
Lipid / Food / Membrane biology / Microbiology / Toxic
- Development of diagnostic kits**  
Price, Dr.R.G.  
Diagnosis / Kit / Biochemistry / Clinical
- Development of ELISA assays for monitoring basement membrane antigens and their use in the assessment of diabetic microangiopathy**  
Price, Dr.R.G.  
ELISA / Antigen / Diabetes / Immunology / Biochemistry
- Metabolism of protein aggregates in Escherichia coli**  
Hipkiss, Dr.A.R.  
Metabolism / Protein / Escherichia / Biochemistry / Microbiology
- Growth medium inhibition of aberrant and foreign protein accumulation in Escherichia coli**  
Hipkiss, Dr.A.R.  
Protein / Inhibition / Escherichia / Biochemistry / Microbiology
- Control of breakdown of abnormal (error) proteins in Escherichia coli**  
Hipkiss, Dr.A.R.  
Regulation / Protein / Degradation / Escherichia / Biochemistry / Microbiology
- Proteolysis in methylophilus methylotrophus**  
Hipkiss, Dr.A.R.  
Hydrolysis / Protein / Methylophilic / Biochemistry / Microbiology
- Protein turnover in halophilic and psychrophilic micro-organisms**  
Hipkiss, Dr.A.R.  
Protein / Halophilic / Metabolism / Biochemistry / Microbiology
- Analysis of ribosomes from antibiotic-resistant strains of yeast and bacteria**  
Cannon, Dr.M.  
Ribosome / Antibiotic / Resistance / Yeast / Bacterium / Biochemistry / Microbiology
- Electron spin resonance spectroscopy of hydrogenases**  
Cammack, Dr.R.
- Cloning DNA regions from Pseudomonas aeruginosa involved in antibiotic resistance and ammonia assimilation/effect of microwave radiation on DNA**  
Brown, Dr.P.R.  
Cloning / DNA / Pseudomonas / Antibiotic / Resistance / Ammonia / Assimilation / Radiation / Gene technology / Biochemistry / Microbiology
- Pathway of ammonia assimilation in Pseudomonas aeruginosa**  
Brown, Dr.P.R.  
Ammonia / Assimilation / Pseudomonas / Biochemistry / Microbiology
- Novel biosensors**  
Bennetto, Dr.H.P.  
Biosensor / Biochemistry
- **London University**  
King's College London, Department of Biology  
Kensington Campus, Campden Hill Road  
W8 7AH  
London  
☎ +44 19375411
- Selection of resistance to Verticillium wilt in hops by tissue culture procedures**  
Heale, Dr.J.B.  
Hops / Selection / Resistance / Tissue / Cultivation / Fungus / Agriculture
- Photosystem II water-splitting oxygen-evolving reaction and photoinhibition of chloroplast membranes**  
Hall, Prof.D.O.  
Water / Light / Oxygen / Inhibition / Chloroplast / Membrane biology / Biochemistry
- Biophotolysis of water for hydrogen, NADPH<sub>2</sub> and NH<sub>3</sub> production using immobilized, chloroplast, cyanobacterial and algal membranes, enzymes and artificial catalysts**  
Hall, Prof.D.O.  
Water / Light / Hydrogen / Cofactor / Ammonia / Immobilization / Chloroplast / Cyanobacterium / Alga / Enzyme / Biological / Catalysis / Membrane biology / Biochemistry
- Plant protoplast fusion and intermediary metabolism**  
Charlwood, Dr.B.V.  
Plant / Protoplast / Fusion / Metabolism / Botany / Cell biology
- The production of secondary plant products in tissue culture**  
Charlwood, Dr.B.V.  
Secondary / Production / Plant / Tissue / Cultivation

- Production of flavour compounds by plant cells in culture**  
Charlwood, Dr.B.V.  
Flavour / Plant / Cell / Cultivation / Production
- Biotransformation of isoprenoids in continuous plant cell cultures**  
Charlwood, Dr.B.V.  
Biotransformation / Continuous / Plant / Cell / Cultivation / Organic substance
- Enhanced terpenoid production by pelargonium tissue cells in culture**  
Chapman, Dr.J.M.  
Terpene / Derivative / Plant / Tissue / Cell / Cultivation / Production
- **London University**  
King's College London, Department of Biophysics, Cell and Molecular Biology  
26/29 Drury Lane  
WC2B 5RL  
London  
☎ +44 1 8368851
- X-ray crystallographic studies of immunoglobulin molecules and sub-fragments**  
Sutton, Dr.B.J.  
Immunoglobulin / X-rays / Structure / Biochemistry / Biophysics
- Structural and functional studies of beta-lactamase enzymes by X-ray crystallography**  
Sutton, Dr.B.J.  
Beta / Lactamase / Structure / X-rays / Biochemistry / Biophysics
- **London University**  
King's College London, Immunology Section, Department of Biophysics, Cell and Molecular Biology  
Manresa Road  
SW3 6LX  
London  
☎ +44 1 3512488
- Autoantibodies against DNA, nuclear and intracellular antigens in connective tissue disease: genetics, immunochemistry and immunobiology of monoclonal autoantibodies in mouse and man**  
Staines, Prof.N.A.  
Antibody / DNA / Nucleus / Intracellular / Antigen / Connective tissue / Monoclonal / Immunology / Mouse / Man / Molecular genetics
- **London University**  
King's College London, Department of Chemistry  
Strand  
WC2R 2LS  
London  
☎ +44 1 8365454
- Immunosensors**  
Bennetto, Dr.H.P.  
Biochemistry / Immune / Biosensor
- Biosensors**  
Bennetto, Dr.H.P.  
Biosensor / Biochemistry
- Microbial bioelectrochemistry: fuel cells, bio-batteries and reactors**  
Bennetto, Dr.H.P.  
Microbial / Physical chemistry / Fuel / Bioreactor / Industry / Bioprocess engineering
- Recovery of precious metals by biological and chemical methods**  
Barrett, Dr.J.  
Metal / Mineralogy
- **London University**  
King's College London, Department of Human Environmental Science  
Chelsea Campus, Hortensia Road  
SW10 0QX  
London  
☎ 01 351 3806
- Effect of sewage sludge on soil microbial biomass and activity**  
Hutton, Dr.M.  
Waste water / Sludge / Soil / Biomass / Microbial / Microbiology / Environment
- Use of antagonistic bacteria endemic to cereal seeds for biological control of fungal plant pathogens, and as sources of a potential immunosuppressor**  
Cartwright, Dr.D.W.  
Useful plant / Pathogen / Fungus / Immune / Suppression / Bacterium / Regulation / Biological / Agriculture
- **London University**  
King's College London, Department of Microbiology  
Campden Hill Road  
W8 7AH  
London  
☎ +44 1 9375411
- Synthesis of the enzyme laccase in the commercial mushroom *Agaricus bisporus* studies by cDNA cloning**  
Thurston, Dr.C.F.  
cDNA / Cloning / Enzyme / Biosynthesis / Basidiomycete / Gene technology / Agriculture / Microbiology
- Microbial enhancement of gold recovery**  
Poole, Dr.R.K.  
Microbiology / Gold / Mineralogy
- Photosynthetic production of biomass and chemicals by algae and cyanobacteria: control by environmental factors**  
Pirt, Prof.S.J.  
Photosynthesis / Production / Biomass / Fine chemical / Alga / Cyanobacterium / Bioreactor / Microbiology / Industry
- Enzymology and kinetics of phenyl acetyl carbinol production by immobilized yeast cells**  
Mason, Dr.J.R.  
Enzymology / Kinetics / Production / Immobilization / Yeast / Cell / Industry / Microbiology
- Cofactor regeneration in immobilized cell biocatalysts**  
Mason, Dr.J.R.  
Cofactor / Regeneration / Immobilization / Cell / Biological / Catalysis / Microbiology / Industry
- Bioelectrochemical reactions of electron-transfer mediators in microbial fuel cells and reactors. The production of electrical power: biosensors**  
Bennetto, Dr.H.P.  
Microbial / Fuel / Bioreactor / Biosensor / Bioprocess engineering / Industry / Physical chemistry
- **London University**  
London Hospital Medical College, Department of Biochemistry  
Turner Street  
E1 2AD  
London  
☎ +44 1 3777613
- Cloning of thermostable enzymes. Establishing a clone system for the genus *Thermus***  
Williams, Dr.R.A.D.  
Cloning / Enzyme / *Thermus* / Gene technology
- Cloning and sequencing the gene for streptococcal proteinase**  
Williams, Dr.R.A.D.  
Cloning / Sequencing / Gene / Streptococcus / Protease / Biochemistry / Gene technology
- Biochemical identification and classification of thermophilic gram-negative bacteria**  
Williams, Dr.R.A.D.  
Gramnegative / Thermophilic / Biochemistry / Bacteriology
- **London University**  
London Hospital Medical College, Bone and Joint Research Unit  
Turner Street  
E1 2AD  
London  
☎ +44 1 377765
- Production and characterization of monoclonal antibodies in rheumatoid arthritis by human-human hybridization**  
Currey, Prof.H.L.F.  
Monoclonal / Antibody / Rheumatism / Hybridization / Human / Immunology
- **London University**  
London Hospital Medical College, Department of Haematology  
Turner Street  
E1 2AD  
London  
☎ +44 1 3777000
- Comparative study of monoclonal antibody and soy bean lectin in marrow fractionation and T cell depletion**  
Newland, Dr.A.C.  
Monoclonal / Antibody / Lectin / Soybean / Bone marrow / Separation / Lymphocyte / Hematology / Immunology
- Assessment and evaluation of possible application of DNA polymorphisms to parentage investigations and other forensic problems**  
Lincoln, Dr.P.J.  
DNA / Polymorphism / Forensic medicine
- Production of monoclonal antibodies to malaria antigens**  
Facer, Dr.C.A.  
Monoclonal / Antibody / Malaria / Antigen / Immunology
- **London University**  
London Hospital Medical College, Department of Medical Microbiology  
Turner Street  
E1 2AD  
London  
☎ +44 1 3777000
- Isolation and sequencing of human macrophage activating factors**  
Coates, Dr.A.R.M.  
Isolation / Sequencing / Human / Macrophage / Activation
- Serodiagnosis of tuberculosis with monoclonal antibodies**  
Coates, Dr.A.R.M.  
Blood serum / Diagnosis / Tuberculosis / Monoclonal / Antibody / Serology
- Construction of gas-phase sequencer**  
Blench, I.  
Instrumentation / Apparatus / Sequencing
- Cloning of macrophage activating factor**  
Arden Jones, Dr.M.  
Cloning / Macrophage / Activation

- **London University**  
London Hospital Medical College,  
Department of Oral Microbiology  
Dental School, Turner Street  
E1 2AD  
London  
☎ +44 1 3777642
- DNA-DNA hybridization studies on oral streptococci**  
Whiley, R.A.  
DNA / Hybridization / Streptococcus / Bacteriology / Molecular genetics
- **London University**  
Marine Biological Station  
Millport  
KA28 0EG  
Isle of Cumbrae, Scotland  
☎ +44 475 530581
- Detritivorous amphipods: novel species in organic degradation and protein production**  
Moore, Dr.P.G.  
Marine / Biology / Organic / Degradation / Production / Crustacean
- **London University**  
The Medical College of Saint  
Bartholomew's Hospital, Department of  
Biochemistry  
Charterhouse Square  
EC1M 6BQ  
London  
☎ +44 1 2530661
- Structure and regulation of genes coding for lauric acid omega-hydroxylase**  
Phillips, Dr.I.R.  
Structure / Regulation / Gene / Coding / Hydroxylase / Biochemistry
- Molecular basis of mono-oxygenase diversity**  
Phillips, Dr.I.R.  
Oxygenase / Biochemistry
- Mechanistic studies on streptococcal proteinases by site-directed mutagenesis**  
Brocklehurst, Prof.K.  
Protease / Streptococcus / Mutation / Origin / Biochemistry / Bacteriology
- Cysteine proteinases structure in solution by high resolution NMR**  
Brocklehurst, Prof.K.  
Cysteine / Protease / Structure / NMR / Biochemistry / Physical chemistry
- Electrostatic effects in enzyme catalysis**  
Brocklehurst, Prof.K.  
Enzyme / Biological / Catalysis / Biochemistry / Physical chemistry
- Chemical mutation of cysteine proteinases**  
Brocklehurst, Prof.K.  
Cysteine / Protease / Biochemistry / Physical chemistry
- X-ray crystallography of cysteine proteinases and derivatives**  
Brocklehurst, Prof.K.  
Cysteine / Protease / Structure / Biochemistry / Physical chemistry
- Natural structural variation in homologous enzymes as an approach to elucidation of mechanism**  
Brocklehurst, Prof.K.  
Structure / Enzyme / Biochemistry
- **London University**  
The Medical College of Saint  
Bartholomew's Hospital, Joint Academic  
Department of Child Health (London  
Hospital Medical College)  
Queen Elizabeth Hospital for Children  
E2 8PS  
London  
☎ +44 1 7398422
- Biological assay of somatomedin**  
Snodgrass, Dr.G.J.A.I.  
Assay / Peptide / Growth / Biochemistry
- **London University**  
The Medical College of Saint  
Bartholomew's Hospital, Department of  
Chemical Pathology  
St Bartholomew's Hospital, West  
Smithfield  
EC1A 7BE  
London  
☎ +44 1 6067404
- Bio- and immunoassay, and identification of releasing factors from tumour tissue**  
Sykes, Dr.J.E.C.  
Immunoassay / Tumour / Biochemistry / Clinical
- Development and application of radioimmunoassay for human beta-endorphin**  
Rees, Prof.L.H.  
RIA / Hypophysis / Hormone / Biochemistry / Clinical
- Development and application of radioimmunoassay for beta-lipotrophic pituitary hormone C-fragment (beta-endorphin)**  
Rees, Prof.L.H.  
RIA / Hypophysis / Hormone / Biochemistry / Clinical
- Novel luminescence labelling and measurement techniques in non-isotopic immunoassay**  
Landon, Prof.J.  
Luminescence / Immunoassay / Biochemistry
- Production and evaluation of second (double) antisera for use in immunoassay**  
Landon, Prof.J.  
Antiserum / Immunoassay / Biochemistry / Immunology
- Immunoassays for drugs of abuse**  
Landon, Prof.J.  
Immunoassay / Drug / Biochemistry
- Purification of urinary proteins for use in immunoassays with particular reference to the improved differential diagnosis of renal disease**  
Landon, Prof.J.  
Protein / Immunoassay / Diagnosis / Kidney / Disease / Biochemistry / Clinical
- Affinity purification of antibodies and their use in immunoradiometric assays**  
Hodgkinson, S.  
Antibody / RIA / Biochemistry
- Mass spectrometry of products from plants of ethnobotanical significance to correlate chemical conformation with biological activity**  
Gorinsky, Dr.C.  
MS / Plant / Structure / Activity / Physical chemistry
- Development of radioimmunoassays with enhanced specificity to study physiology and pathology of some pineal indoles**  
Edwards, Dr.R.  
RIA / Biochemistry / Pyrrole
- Development of radioimmunoassays for the enkephalins**  
Clement-Jones, Dr.V.  
RIA / Peptide / Biochemistry
- **London University**  
The Medical College of Saint  
Bartholomew's Hospital, Department of  
Medical Microbiology  
St Bartholomew's Hospital, West  
Smithfield  
EC1A 7BE  
London  
☎ +44 1 6018888
- Fingerprinting of micro-organisms by computerized pattern matching of radiolabelled proteins**  
Tabaqchali, Prof.S.  
Automation / Biocomputing / Protein / Microorganism / Microbiology
- **London University**  
The Medical College of Saint  
Bartholomew's Hospital, Medical  
Professorial Unit  
St Bartholomew's Hospital, West  
Smithfield  
EC1A 7BE  
London  
☎ +44 1 6067404
- High-performance liquid chromatography of nucleotides, nucleosides and bases in biological materials**  
Perrett, D.  
HPLC / Nucleotide / Nucleoside / Biochemistry
- **London University**  
The Medical College of Saint  
Bartholomew's Hospital, Department of  
Nuclear Medicine  
St Bartholomew's Hospital, West  
Smithfield  
EC1A 7BE  
London  
☎ +44 1 6067404
- Imaging of cancer in patients using radio-labelled monoclonal antibodies**  
Britton, Dr.K.E.  
Cancer / Image analysis / Monoclonal / Antibody / Nuclear medicine
- **London University**  
The Medical College of Saint  
Bartholomew's Hospital, Joint Department  
of Obstetrics and Gynaecology  
St Bartholomew's Hospital, West  
Smithfield  
EC1A 7BE  
London  
☎ +44 1 6067404
- Therapeutic use of targeted monoclonal antibodies for epithelial ovarian cancer**  
Shepherd, J.H.  
Immunotherapy / Monoclonal / Antibody / Epithelium / Urogenital system / Cancer / Gynecology
- Diagnostic evaluation of monoclonal antibody (HMFG) in ovarian cancer**  
Shepherd, J.H.  
Monoclonal / Antibody / Urogenital system / Diagnosis / Cancer / Gynecology
- Effect of different hyperstimulation regimes on success rates of in vitro fertilization**  
Setchell, M.E.  
Stimulation / In vivo / Fertilization

- London University**  
The Medical College of Saint  
Bartholomew's Hospital, Department of  
Reproductive Physiology  
St Bartholomew's Hospital, West  
Smithfield  
EC1A 7BE  
London  
☎ +44 1 6067404
- New system for identification of  
micro-organisms by recognition of patterns in  
protein production**  
Silman, Dr.R.E.  
Recognition / Microorganism / Protein /  
Microbiology / Biochemistry / Automation
- London University**  
The Medical College of Saint  
Bartholomew's Hospital, Department of  
Virology  
St Bartholomew's Hospital, West  
Smithfield  
EC1A 7BE  
London  
☎ +44 1 6017351
- Rapid radioimmunoassay methods for  
determination of immune status of individuals  
to various viruses**  
Kangro, Dr.H.O.  
RIA / Immunology / Virus / Infection / Virology
- Development of radioimmunoassay serological  
procedures for detection of intrauterine  
infection**  
Kangro, Dr.H.O.  
RIA / Serology / Immunology / Infection /  
Urogenital system / Virus / Virology
- Evaluation of live varicella vaccine for the  
protection of immune compromised children  
against serious varicella infections**  
Campbell-Benzie, A.  
Vaccine / Immunology / Virus / Infection / Virology
- London University**  
St. Mary's Hospital Medical School,  
Department of Chemical Pathology  
Norfolk Place, Paddington  
W2 1PG  
London  
☎ +44 1 7231252
- Studies on serum and salivary levels of vitamin D  
and metabolites by radioimmunoassay and  
other techniques**  
Fairney, Dr.A.  
RIA / Vitamin / Metabolism
- London University**  
St. Mary's Hospital Medical School,  
Department of Immunology  
Wright-Fleming Institute, Praed Street  
W2 1PG  
London  
☎ +44 1 7231252
- Recombinant gamma interferon in asthma**  
Ewan, Dr.P.W.  
Recombination / Gamma / Interferon / Lung /  
Immunology
- London University**  
St. Mary's Hospital Medical School,  
Department of Medical Microbiology  
Wright-Fleming Institute, Paddington  
W2 1PG  
London  
☎ +44 1 7231252
- Biological characterization of vaccinia  
recombinant viruses**  
Williamson, Dr.J.D.  
Recombination / DNA virus / Virology
- Rapid serodiagnosis of Haemophilus ducreyi  
infection by immunofluorescent technique using  
monoclonal antibody**  
Karim, Dr.Q.N.  
Recombination / DNA virus / Virology
- Biological characterization of recombinant  
vaccinia virus expressing the Epstein-Barr virus  
membrane antigen**  
Jeffrey, Miss.L.J.  
Recombination / DNA virus / Expression / Antigen /  
Virology / Molecular genetics
- Monoclonal antibodies to sexually transmitted  
and other microbial pathogens**  
Brown, Dr.I.N.  
Monoclonal / Antibody / Pathogen / Microbial /  
Immunology / Microbiology
- Rapid methods for the direct detection,  
identification and sensitivity testing of bacteria  
in blood and urine**  
Bascomb, Dr.S.  
Recognition / Bacteriology / Assay
- London University**  
Institute of Obstetrics and Gynaecology,  
Department of Obstetrics and  
Gynaecology  
Queen Charlotte's Hospital for Women,  
Goldhawk Road  
W6 0XG  
London  
☎ +44 1 7418351
- Hormone immunoassay method development  
and quality assessment**  
Ferguson, K.M.  
Hormone / Immunoassay / Clinical / Chemistry
- London University**  
Institute of Ophthalmology, Department  
of Visual Science  
Judd Street  
WC1H 9QS  
London  
☎ +44 1 3879621
- Chlamydial cDNA probes**  
Darougar S Professor / Voaden MJ Dr Darougar,  
Prof.S.  
cDNA / Probes / Biochemistry
- London University**  
School of Pharmacy, Department of  
Pharmaceutical Chemistry  
29/39 Brunswick Square  
WC1N 1AX  
London  
☎ +44 1 8377651
- Enzyme structure and kinetics; membrane  
proteins; virus structure and assembly**  
Moody, Dr.M.F.  
Enzyme / Structure / Kinetics / Protein / Virus /  
Membrane biology / Biochemistry
- Chemistry and biochemistry of natural products,  
peptides and proteins; parasitic infections;  
fungal peptide biosynthesis; drug design; drug  
delivery polymers**  
Gibbons, Prof.W.A.  
Natural substance chemistry / Biochemistry /  
Peptide / Parasite / Infection / Biosynthesis /  
Fungus / Drug / Pharmaceutical industry
- Biochemical endocrinology; intracellular protein  
phosphorylation and dephosphorylation; second  
messenger events and cellular transformation;  
structure and sequencing of enzymes and  
growth factors**  
Aitken, Dr.A.  
Biochemistry / Endocrinology / Protein /  
Phosphorylation / Intracellular / Biotransformation /  
Structure / Sequencing / Enzyme / Growth /  
Bioactive agent
- London University**  
School of Pharmacy, Department of  
Pharmacognosy  
29/39 Brunswick Square  
WC1N 1AX  
London  
☎ +44 1 8377651
- Plant tissue cultures for investigations of  
production, biosynthesis and enzymology of  
secondary metabolites utilizing species of  
Ailanthus, Cinchona, Papaver**  
Phillipson, Prof.J.D.  
Plant / Tissue / Cultivation / Production /  
Biosynthesis / Enzymology / Secondary /  
Metabolite / Biochemistry / Pharmacy /  
Pharmaceutical industry
- Plants of the Simaroubaceae as a source of  
antimalarial compounds**  
Phillipson, Prof.J.D.  
Plant / Malaria / Bioactive agent / Pharmacy /  
Pharmaceutical industry
- Isolation, identification and structure  
determination of alkaloids from the plant  
families Rubiaceae, Papaveraceae, and  
Lepuminosae**  
Phillipson, Prof.J.D.  
Plant / Alkaloid / Isolation / Structure / Pharmacy /  
Pharmaceutical industry
- Plant tissue culture for the production of  
secondary metabolites**  
Anderson, Dr.L.A.  
Plant / Tissue / Cultivation / Secondary / Metabolite /  
Production / Pharmacy / Pharmaceutical industry
- London University**  
Institute of Psychiatry, Department of  
Biochemistry  
De Crespigny Park, Denmark Hill  
SE5 8AF  
London  
☎ +44 1 7035411
- Development of disease specific cDNA probes for  
hereditary mental illness**  
Whatley, S.  
cDNA / Probes / Congenital / Disease / Biochemistry
- Study of polymorphisms in genomic DNA from  
patients and their families with hereditary  
mental illness**  
Marchbanks, Dr.R.M.  
Polymorphism / Genome / DNA / Congenital /  
Disease / Molecular genetics
- London University**  
Institute of Psychiatry, Department of  
Neuropathology  
De Crespigny Park, Denmark Hill  
SE5 8AF  
London  
☎ +44 1 7035411
- Human monoclonal antibodies against cerebral  
glioma in man: implications to radiolocalization  
and ablation of tumours**  
Pilkington, Dr.G.J.  
Monoclonal / Antibody / Brain / Tumour /  
Neurology / Pathology

**Immunohistochemistry of neurofibrillary changes in Alzheimer's disease; with the aid of monoclonal antibodies against neurofilaments and other antigens**

Kahn, Dr.J.E.

Nerve / Histochemistry / Immune / Monoclonal / Antibody / Neurology / Pathology

□ **London University**

Queen Mary College, School of Biological Sciences

Mile End Road

E1 4NS

London

☎ +44 1 9804811

**Microbiology and physiology of malt whisky fermentations**

Springham, Dr.D.G.

Microbiology / Fermentation / Industry / Drink

**Assignment of microbial site-specific transformation of steroids. Purification and characterization of steroid hydroxylase enzymes. Cloning of hydroxylase genes**

Smith, Dr.K.E.

Microbial / Biotransformation / Steroid / Hydroxylase / Cloning / Gene / Biochemistry / Microbiology / Molecular genetics

**Characterization of ribosomes from drug resistant and sensitive cells**

Smith, Dr.K.E.

Ribosome / Drug / Resistance / Cell / Cell biology

**Factors that influence the retention of bacteria within porous solids**

Shales, Dr.S.W.

Bacterium / Solid / Materials research

**Selection of populations of bacteria able to decompose chlorinated hydrocarbons under anaerobic conditions in landfill sites**

Robinson, Dr.J.P.

Anaerobic / Degradation / Hydrocarbon / Microbiology / Environment / Environmental biotechnology

**Anaerobic decomposition of chitin by bacteria**

Robinson, Dr.J.P.

Anaerobic / Degradation / Chitin / Microbiology

**Physiology and metabolism of methanogenic bacteria**

Robinson, Dr.J.P.

Methanogenic / Bacterium / Microbiology

**Anaerobic decomposition of oil by bacteria**

Robinson, Dr.J.P.

Anaerobic / Degradation / Oil / Microbiology / Environment

**Biosurfactants**

Moses, Prof.V.

Surface / Bioactive agent

**Biological methods for metal recovery from ores and solutions**

Moses, Prof.V.

Metal / Mineralogy

**Use of micro-organisms to enhance recovery of oil from underground reservoirs**

Moses, Prof.V.

Energy supply / Oil / Microorganism / Microbiology

**Thermostable enzymes**

Moses, Prof.V.

Enzyme / Biochemistry

**Expression of mesophilic bacterial genes at high temperature in thermophiles**

Moses, Prof.V.

Gene / Expression / Thermophilic / Molecular genetics / Microbiology

**Reconstitution of cyclic electron transfer in proteoliposomes containing respiratory chain complexes and photosynthetic reaction centres**

Heathcote, Dr.P.

Photosynthesis / Membrane biology / Biochemistry

**Primary photochemistry of the photosystem I reaction centre**

Heathcote, Dr.P.

Photosynthesis / Biochemistry

**Primary photochemical reactions in the green photosynthetic bacteria**

Heathcote, Dr.P.

Photosynthesis / Biochemistry

**Siting of enzymes in polydiacetylene monolayers and the characterization of such enzymes**

Betts, Dr.G.F.

Enzyme / Biochemistry / Physical chemistry

□ **London University**

Queen Mary College, Department of Chemistry

Mile End Road

E1 4NS

London

☎ +44 1 9804811

**Reagents for the modification of proteins to enable easier separation**

Waldron, Dr.N.M.

Reagent / Modification / Protein / Separation / Biochemistry / Physical chemistry

**Site-specific hydroxylation of steroids by micro-organisms**

Kirk, Prof.D.N.

Hydroxylation / Steroid / Microbiology / Biochemistry

□ **London University**

Royal Free Hospital School of Medicine, Department of Immunology

Rowland Hill Street

NW3 2PF

London

☎ +44 1 7940500

**Immunohistological changes in the rheumatoid synovium analysed by monoclonal antibodies - comparison with other types of inflammatory responses**

Janossy, Prof.G.

Monoclonal / Antibody / Infection / Histology / Immunology / Rheumatism

**Use of monoclonal antibodies in clinical transplantation of bone marrow, kidney etc**

Janossy, Prof.G.

Monoclonal / Antibody / Immunology / Transplantation / Bone marrow / Kidney

□ **London University**

Royal Free Hospital School of Medicine, Department of Medicine

Pond Street

NW3 2QG

London

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**Cloning of delta hepatitis virus**

Thomas, Prof.H.C.

Cloning / Hepatitis / Virus / Virology

**Antiviral therapy of chronic HBV infection**

Thomas, Prof.H.C.

Virus / Infection / Hepatitis / Therapy

**Production of anti-hepatitis monoclonals**

Thomas, Prof.H.C.

Monoclonal / Antibody / Hepatitis / Immunology

**Effect of disaccharides on calcium and phosphorus absorption in patients with liver disease**

Morgan, Dr.M.Y.

Calcium / Phosphorus / Absorption / Liver / Disease / Metabolism / Clinical / Biochemistry

**Effect of interferon on the hypercholesterolaemia of the Wantanabe heritable hyperlipidaemic rabbit**

Harry, Dr.D.S.

Interferon / Biochemistry / Clinical

□ **London University**

Royal Free Hospital School of Medicine, Department of Medical Microbiology

Pond Street

NW3 2QG

London

☎ +44 1 7940500

**Rapid diagnosis of virus infections**

Griffiths, Dr.P.D.

Diagnosis / Virus / Infection / Virology

□ **London University**

Royal Free Hospital School of Medicine, Department of Chemical Pathology and Human Metabolism

Pond Street

NW3 2QG

London

☎ +44 1 7940500

**Development of monoclonal antibodies to enzymes**

Rosalki, Dr.S.B.

Monoclonal / Antibody / Enzyme / Immunology

**Enzymes and isoenzymes as markers of disease**

Rosalki, Dr.S.B.

Enzyme / Isoenzyme / Marker / Disease / Clinical / Biochemistry

□ **London University**

Royal Holloway and Bedford New College, Department of Biochemistry

Egham Hill

TW20 0EX

Egham, Surrey

☎ +44 784 34455

**Gene expression in plant-parasite interactions**

Dixon, Dr.R.A.

Gene / Expression / Plant / Parasite / Interaction / Molecular genetics / Biochemistry / Agriculture

**Isolation and characterization of cytochrome P-450 enzymes involved in gibberellin biosynthesis in plants using covalent enzyme labelling, immunological methods, visible spectrophotometry and EPR spectroscopy**

Bowyer, Dr.J.R.

Cofactor / Cytochrome / Biosynthesis / Gibberellin / Plant / Spectrometry / Enzyme / Biochemistry / Agriculture

□ **London University**

Royal Holloway and Bedford New College, Department of Biology

Huntersdale, Virginia Water

GU25 4LN

Callow Hill, Surrey

☎ +44 784 35551

**Plant virus inhibitors extracted from plants**

Stevens, Dr.W.A.

Plant / Virus / Inhibitor / Biochemistry / Botany



**Development and application of immunoassays for IAA and ACC using monoclonal antibodies**

Stead, Dr.A.D.  
Immunoassay / Monoclonal / Antibody / Immunology / Biochemistry

- **London University**  
Royal Holloway and Bedford New College,  
Department of Chemistry  
Egham Hill  
Surrey TW20 0EX  
Egham  
☎ +44 784 34455

**Polysaccharides of marine origin**

Weigel, Dr.H.  
Polysaccharide / Marine / Organic chemistry

**Chemistry of enzyme catalysed reactions of carbohydrates; structural studies and intermolecular interactions of polysaccharides**

Finch, Dr.P.  
Polyalcohol / Structure / Polysaccharide / Molecular / Interaction / Organic chemistry

**Isolation and chemical analysis of fungal carbohydrates which elicit defense responses in plants**

Finch, Dr.P.  
Fungus / Polyalcohol / Plant / Chemistry

- **London University**  
Royal Postgraduate Medical School,  
Department of Bacteriology  
Hammersmith Hospital, Ducane Road  
W12 0HS  
London  
☎ +44 1 7432030

**Typing of bacterial strains by analysis of radiolabelled protein patterns**

Millership, Dr.S.E.  
Bacteriology / Protein

- **London University**  
Royal Postgraduate Medical School,  
Department of Chemical Pathology  
Hammersmith Hospital, Ducane Road  
W12 0HS  
London  
☎ +44 1 7432030

**Development of enzyme amplified assays for materials of diagnostic significance**

Self, Dr.C.  
Enzyme / Assay / Diagnosis / Clinical / Biochemistry

**Calcitonin peptide family and osteoporosis**

MacIntyre, Prof.I.  
Peptide / Hormone / Biochemistry

**Calcitonin gene peptides in cancers**

Lynch, Ms.C.  
Gene / Peptide / Hormone / Cancer / Biochemistry

**Radioimmunoassay of the peptide products of the calcitonin gene in patients with leukaemias**

Lynch, Ms.C.  
RIA / Peptide / Hormone / Gene / Leukemia / Biochemistry

**Investigations of the structure of the calcitonin gene in normal humans and in disease states**

Leon, Dr.S.  
Structure / Gene / Hormone / Biochemistry

- **London University**  
Royal postgraduate Medical School,  
Department of Clinical Pharmacology  
Hammersmith Hospital, Ducane Road  
W12 0HS  
London  
☎ +44 1 7432030

**Purification and characterization of an endogenous factor in human serum that stimulates prostacyclin synthesis**

Ritter, Dr.J.M.  
Blood serum / Biosynthesis / Metabolism / Biochemistry

- **London University**  
Royal Postgraduate Medical School,  
Department of Haematology  
Hammersmith Hospital, Ducane Road  
W12 0HS  
London  
☎ +44 1 7432030

**Use of monoclonal antibodies in the characterization of normal and leukaemia haemopoietic progenitor cells**

Goldman, Dr.J.M.  
Monoclonal / Antibody / Leukemia / Hematology / Immunology

- **London University**  
Royal Postgraduate Medical School,  
Department of Medicine  
Hammersmith Hospital, Ducane Road  
W12 0HS  
London  
☎ +44 1 7403299

**Value of serum apolipoprotein measurements as discriminants between subjects with and without coronary artery disease**

Thompson, Dr.G.R.  
Cardiology / Lipoprotein / Clinical / Chemistry / Blood serum

- **London University**  
Royal Postgraduate Medical School,  
Institute of Obstetrics and Gynaecology  
Hammersmith Hospital, Ducane Road  
W12 0HS  
London  
☎ +44 1 7432030

**Incidence, purification, and analysis of two low molecular weight peptides with antibacterial or oxytocic activity, in human amniotic fluid**

Hawkins, Prof.D.F.  
Peptide / Biochemistry / Antibacterial

- **London University**  
Royal Postgraduate Medical School,  
Department of Surgery  
Hammersmith Hospital, Ducane Road  
W12 0NN  
London  
☎ +44 1 7403210

**Study of ras and ryc oncogenes in histological sections of colorectal, pancreatic and mammary cancers**

Wood, C.B.  
Oncology / Digestive system / Pancreas / Cancer / Histology

- **London University**  
Royal Postgraduate Medical School,  
Department of Virology  
Hammersmith Hospital, Ducane Road  
W12 0HS  
London  
☎ +44 1 7432030

**Studies on the regulation of saturation of fatty acids by interferon**

Apostolov, Dr.K.  
Regulation / Fatty acid / Interferon / Biochemistry

- **London University**  
Royal Veterinary College, Department of Anatomy  
Royal College Street  
NW1 0TU  
London  
☎ +44 1 3872898

**Gene expression in transgenic animals**

Goldspink, Prof.G.  
Gene / Expression / Molecular genetics / Transgenic / Mammal / Veterinary medicine

- **London University**  
Royal Veterinary College, Department of Physiology, Biochemistry and Pharmacology  
Royal College Street  
NW1 0TU  
London  
☎ +44 1 3872898

**In vivo studies of the role of interleukin I in chronic models of inflammation**

Sedgwick, Dr.A.D.  
In vivo / Interleukine / Infection / Immunology

**Mechanism of expression of peptide hormone genes using transgenic animals with particular reference to the vasopressin gene**

Murphy, Dr.D.  
Gene / Expression / Peptide / Hormone / Transgenic / Mammal / Molecular genetics / Veterinary medicine

- **London University**  
University College (and Middlesex School of Medicine), Department of Academic Chemical Pathology  
Middlesex Hospital Medical School,  
Windeyer Building, Cleveland Street  
W1P 6DB  
London  
☎ +44 1 6368333

**Molecular cloning of viral genomes and development of probes for the diagnosis of virus diseases: currently working on rubella virus**

Terry, Dr.G.M.  
Molecular / Cloning / Viral / Genome / Probes / Diagnosis / Infection / Virology / Molecular genetics

- **London University**  
University College (and Middlesex School of Medicine), Department of Biochemistry  
Gower Street  
WC1E 6BT  
London  
☎ +44 1 3807033

**Determination and manipulation of leader sequences involved in extracellular protein and enzyme excretion in Streptomyces**

Ward, Dr.J.M.  
Sequence / Protein / Extracellular / Enzyme / Excretion / Streptomyces / Determination / Biochemistry

**Development of non-radioactive enabling technology for the detection of gene probes and antibodies**

Rabin, Prof.B.R.  
Gene / Probes / Antibody / Biochemistry

**The upstream element which directs heat shock activation of the efficient phosphoglycerate kinase gene in yeast; transcription factor binding and activation**

Piper, Dr.P.W.  
Heat / Activation / Kinase / Gene / Yeast / Transcription / Molecular genetics / Biochemistry

**Biochemistry and genetics of RNA processing in the simple eukaryote, *Saccharomyces cerevisiae***

Piper, Dr.P.W.  
RNA / Yeast / Biochemistry / Molecular genetics

**Isolation and characterization of the CDC7 gene product of *Saccharomyces cerevisiae***

Johnston, Dr.I.R.  
Isolation / Gene / Yeast / Molecular genetics / Biochemistry

**Molecular basis of the expression of *Pseudomonas aeruginosa* amidase genes**

Drew, Dr.R.E.  
Gene / Expression / Amidase / *Pseudomonas* / Molecular genetics / Biochemistry

**Identification of RNA sequences for use as predictive markers in the treatment of human breast cancer**

Craig, Prof.R.K.  
RNA / Sequence / Marker / Therapy / Cancer / Biochemistry

**Preparation of immunogens, ligands and antisera for radioimmunoassay of oestrogen metabolites for use in contraception and study of gut metabolism**

Coulson, Dr.W.F.  
Antiserum / RIA / Estrogen / Metabolism / Gut / Biochemistry / Endocrinology

**DNA sequences flanking (cloned), developmentally regulated eukaryotic genes which are required for their transcription, translation and for the control of their expression**

Butterworth, Dr.P.H.W.  
DNA / Sequence / Cloning / Eukaryote / Gene / Transcription / Translation / Expression / Regulation / Molecular genetics / Biochemistry

□ **London University**  
University College (and Middlesex School of Medicine), Department of Chemistry  
20 Gordon Street  
WC1H 0AJ  
London  
☎ +44 1 3807451

**Reactions at protein surfaces involving metal-ion complexes**

Williams, Dr.G.  
Protein / Surface / Metal / Ion / Biochemistry

**Measurement of dynamic processes in proteins and small molecules**

Williams, Dr.G.  
Protein / Dynamics / Biochemistry

**Mode of action of apamin (a peptide) identification of target cells using tissue culture**

Vernon, Prof.C.A.  
Peptide / Recognition / Tissue / Cultivation / Cell biology / Biochemistry

**Biosynthesis of secondary metabolites in tissue cultures of plants**

Banthorpe, Dr.D.V.  
Biosynthesis / Secondary / Metabolite / Tissue / Cultivation / Plant / Biochemistry

□ **London University**  
University College (and Middlesex School of Medicine), Department of Chemical and Biochemical Engineering  
Torrington Place  
WC1E 7JE  
London  
☎ +44 1 3877050

**Image analysis for process control of fermentation**

Thomas, Dr.C.R.  
Analysis / Process / Control / Bioprocess engineering / Fermentation technology

**Kinetics of biological reactions involving a reactant-containing organic phase**

Lilly, Prof.M.D.  
Kinetics / Reaction / Biological / Bioprocess engineering

**Amino acid synthesis by immobilized bacteria**

Lilly, Prof.M.D.  
Amino acid / Immobilization / Bacterium / Bioprocess engineering

**Extended use of biocatalysts**

Lilly, Prof.M.D.  
Biological / Catalysis / Bioprocess engineering / Industry

**Enzyme reactions in multiphase systems: steroid transformation**

Lilly, Prof.M.D.  
Enzyme / Reaction / Multi-phase / Steroid / Transformation / Bioprocess engineering / Industry

**Biochemical engineering studies to improve protein processing**

Dunnill, Prof.P.  
Protein / Bioprocess engineering / Optimization / Industry

**Rapid analysis for the optimization and control of protein processing**

Dunnill, Prof.P.  
Analysis / Optimization / Control / Protein / Bioprocess engineering / Industry

□ **London University**  
University College (and Middlesex School of Medicine), Department of Experimental Pathology  
School of Medicine, University Street  
WC1E 6JJ  
London  
☎ +44 1 3874543

**Biosynthesis, translocation and secretion of alpha-1-antitrypsin**

Foreman, Dr.R.C.  
Biosynthesis / Translocation / Secretion / Blood plasma / Protein / Biochemistry / Physiology

□ **London University**  
University College (and Middlesex School of Medicine), Department of Genetics and Biometry  
Gower Street  
WC1E 6BT  
London  
☎ +44 1 3877050

**Number and nature of genes on the human Y chromosome studied by DNA cloning and somatic cell hybrid techniques**

Wolfe, Dr.J.  
Human / Gene / Y-chromosome / DNA / Cloning / Hybridization / Molecular genetics

**Human gene mapping; family studies of inherited diseases and common polymorphisms**

Robson, Prof.E.B.  
Human / Gene / Mapping / Congenital / Disease / Polymorphism / Genetics

□ **London University**  
University College (and Middlesex School of Medicine), Department of Obstetrics and Gynaecology  
School of Medicine, 86-96 Chenies Mews  
WC1E 6HX  
London  
☎ +44 1 3879300

**Further development of an enzyme-linked immuno-adsorbent assay (ELISA) for measuring auto-antibodies to sperm**

Leonard, T.M.  
ELISA / Antibody / Sperm / Immunology

□ **London University**  
University College (and Middlesex School of Medicine), Bloomsbury Rheumatology Unit  
Middlesex Hospital, Arthur Stanley House, Tottenham Street  
W1P 9PG  
London  
☎ +44 1 3809033

**Use of monoclonal anti-DNA antibodies in the investigation of patients with systemic lupus erythematosus**

Snaith, Dr.M.L.  
Monoclonal / Antibody / DNA / Rheumatism / Immunology

□ **London University**  
University College (and Middlesex School of Medicine), Department of Zoology and Comparative Anatomy  
Gower Street  
WC1E 6BT  
London  
☎ +44 1 3807169

**Cell surface changes during development, studied with monoclonal antibodies and lectins**

O'Dell, Dr.D.S.  
Cell / Surface / Development / Monoclonal / Antibody / Lectin

**Cellular genes induced by herpes simplex virus have been isolated at the DNA and protein levels**

Latchman, Dr.D.S.  
Cellular / Gene / DNA / Protein / DNA virus / Cell biology

□ **London University**  
United Medical and Dental Schools of Guy's and St. Thomas's Hospitals, Department of Chemical Pathology  
Guy's Campus, London Bridge  
SE1 9RT  
London  
☎ +44 1 4077600

**Development and evaluation of novel electrochemical devices for glucose sensing**

Pickup, Dr.J.C.  
Electrochemical / Glucose / Sensor / Physical chemistry / Instrumentation

□ **London University Guy's and St Thomas's Hospitals**  
United Medical and Dental Schools of Guy's and St Thomas's Hospitals, Department of Microbiology  
St Thomas's Campus, Lambeth Palace Road  
SE1 7EH  
London  
☎ +44 1 9289292

**Activity of new beta-lactam antibiotics and new aminoglycosides on recent human clinical bacterial isolates**

King, Miss.B.A.

Antibiotic / Amino acid / Derivative / Pyranose / Clinical / Bacteriology

- **London University**  
United Medical and Dental Schools of  
Guy's and St. Thomas's Hospitals,  
Department of Medicine  
London Bridge  
SE1 9RT  
London  
☎ +44 1 4077600

**Development of potentially implantable substrate sensors**

Pickup, Dr.J.C.

Biosensor / Substrate / Implantation

**Sensors for closed loop insulin delivery devices**

Pickup, Dr.J.C.

Biosensor / Insulin / Diabetes

**Polyclonal human rheumatoid factor, adsorbed onto polystyrene tubes, as solid-phase radioimmunoassay for detection of circulating complexes**

Panayi, Prof.G.S.

Polyclonal / Rheumatism / RIA / Immunology / Clinical / Chemistry

**Solid-phase radioimmunoassay for immunoglobulin G rheumatoid factors in rheumatoid sera more successful after pepsin digestion of the sera**

Panayi, Prof.G.S.

RIA / Immunoglobulin / Rheumatism / Blood serum / Pepsin / Immunology / Clinical / Chemistry

- **London University**  
United Medical and Dental Schools of  
Guy's and St. Thomas's Hospitals,  
Paediatric Research Unit  
Guy's Campus, London Bridge, Guy's  
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SE1 9RT  
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☎ +44 1 4077600

**Enzyme replacement in the twitcher mouse**

Seller, Dr.M.J.

Enzyme / Mouse / Biochemistry

**Detection of metabolic disorders using cytofluorimetry**

Mutton, D.E.

Metabolism / Congenital / Disease / Fluorescence / Measurement / Cell / Biochemistry

**Recombinant DNA studies related to human inherited diseases eg Christmas disease (haemophilia B)**

Giannelli, Dr.F.B.

Recombination / DNA / Congenital / Disease / Blood / Molecular genetics / Hematology

**Application of linked probes to prenatal diagnosis and carrier detection of cystic fibrosis**

Bobrow, Prof.M.

Probes / Prenatal / Diagnosis / Pancreas / Congenital / Disease / Genetics

**Clinical and genetic study of Alport's syndrome including use of DNA probes to find linkage on X chromosome**

Bobrow, Prof.M.

Clinical / Genetics / Kidney / Congenital / Disease / DNA / Probes / X-chromosome

- **London University**  
United Medical and Dental Schools of  
Guy's and St. Thomas's Hospitals,  
Radiological Sciences Department  
Guy's Campus, London Bridge  
SE1 9RT  
London  
☎ +44 1 4077600

**Development of monoclonal antibodies in the investigation of thyroid disease**

Maisey, Prof.M.N.

Monoclonal / Antibody / Thyroid gland / Cancer / Radiology

- **London University**  
United Medical and Dental Schools of  
Guy's and St. Thomas's Hospitals,  
Department of Virology  
St Thomas's Campus, Lambeth Palace Road  
SE1 7EH  
London  
☎ +44 1 9289292

**Recombinant hepatitis-b vaccine**

Banatvala, Prof.J.E.

Recombination / Hepatitis / Vaccine / Virology / Immunology

- **London University**  
Wye College, Department of Agriculture  
Ashford (Wye)  
TN25 5AH  
Kent  
☎ +44 233 812401

**Effect of recombinant growth hormone on milk production of dairy cows**

Campling, Dr.R.C.

Recombination / Growth / Hormone / Milk / Bovine animal / Endocrinology

- **London University**  
Wye College, Department of Biochemistry,  
Physiology and Soil Science  
Ashford (Wye)  
TN25 5AH  
Kent  
☎ +44 233 812401

**Inhibition of enzyme activity by naturally occurring compounds**

Scofield, Dr.A.M.

Inhibition / Enzyme / Bioactive agent / Biochemistry

**Treatment of animal wastes and use in the nutrient film technique**

Garraway, Dr.J.L.

PURIFICATION / Animal / Waste / Nutrient / Environment / Environmental technology

**Xenobiotic-lipid biosynthesis**

Dodds, Dr.P.F.

Xenobiotic / Lipid / Biosynthesis / Biochemistry

- **London University**  
Wye College, Department of Biological  
Sciences  
Ashford  
TN25 5AH  
Kent  
☎ +44 233 812401

**Isozymes and the population genetics of *Vicia faba***

Peat, Dr.W.E.

Isoenzyme / Genetics / Useful plant / Agriculture

**Genetic aspects of crop productivity**

Peat, Dr.W.E.

Genetics / Production / Useful plant / Agriculture

**Microbiology of malodour biofilters for elimination of malodourant gases**

Lopez-Real, Dr.J.M.

Microbiology / Compost / Biofilter / Gas / Environment / Environmental biotechnology

- **University of Manchester**  
University Hospital of South Manchester,  
Department of Anaesthesia  
Withington Hospital  
M20 8LR  
Manchester  
☎ +44 61 4458111

**To evaluate the potential of interleukin assays in diagnosis of septic shock**

Nightingale, Dr.P.

Interleukine / Diagnosis / Immunology

- **University of Manchester**  
Department of Biochemistry and  
Molecular Biology  
Stopford Building, Oxford Road  
M13 9PT  
Manchester  
☎ +44 61 2752000

**Somatomedins: the development of a bioassay using chondrocyte cultures**

Rowsell, Dr.K.V.

Assay / Cell / Cultivation / Peptide / Biochemistry

**Control of cell division in the yeast *Saccharomyces cerevisiae***

Rosamond, Dr.J.

Regulation / Cell biology / Yeast / Microbiology

**Isolation of protein kinases from yeast**

Rosamond, Dr.J.

Yeast / Protein / Kinase / Isolation / Biochemistry

**Functional domains of a yeast cell cycle protein kinase**

Rosamond, Dr.J.

Yeast / Cell / Protein / Kinase / Biochemistry

**Deposition of liposomes on solid surfaces: specific targeting of vesicles to biosurfaces**

Jones, Dr.M.N.

Artificial / Membrane biology / Solid / Surface

**Selective extraction and detection of blood group determinants**

Jones, Dr.M.N.

Extraction / Blood group / Biochemistry

**Thermodynamic studies on protein denaturation by surface active molecules (surfactants)**

Jones, Dr.M.N.

Thermodynamics / Protein / Denaturation / Surface / Biochemistry / Physical chemistry

**Pigment protein systems in photosynthesis and other membrane-dependent photobiological phenomena: structure and organization of photosystem II**

Gregory, Dr.R.P.F.

Photosynthesis / Biochemistry / Membrane biology / Pigment / Protein

**Antiproliferative action of interferon**

Elliott KRF Dr

Interferon / Immunology / Molecular biology / Proliferation

**Regulation of gene expression by growth factors and peptide hormones**

Dickson, Dr.A.J.

Regulation / Gene / Expression / Growth / Peptide / Hormone / Molecular genetics

**Assessment of seed viability and vigour by nucleotide analysis using high-performance liquid chromatography**

Bray, Dr.C.M.  
Germ cell / Nucleotide / HPLC / Biochemistry / Agriculture

**Molecular cloning of interleukin 3 gene in mammalian cells**

Ayad, Dr.S.R.  
Cloning / Interleukine / Gene / Mammal / Molecular genetics

**Molecular cloning and regulation of fibronectin gene in mammalian cells**

Ayad, Dr.S.R.  
Cloning / Regulation / Glycoprotein / Gene / Mammal / Cell / Molecular genetics

**DNA uptake by mammalian cells**

Ayad, Dr.S.R.  
DNA / Uptake / Mammal / Cell / Molecular biology

**Regulation of gene expression in somatic cell hybrids**

Ayad, Dr.S.R.  
Regulation / Gene / Expression / Cell / Hybridization / Molecular genetics

**Monoclonal antibodies for staging the human menstrual cycle**

Aplin, Dr.J.D.  
Monoclonal / Antibody / Gynecology

 **University of Manchester**

Department of Chemistry  
Oxford Road  
M13 9PL  
Manchester  
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**Microbial surfactant models**

Bu'Lock, Dr.J.D.  
Microbial / Modelling / Surface / Bioactive agent / Industry / Physical chemistry

**Anaerobic digesters for methane generation**

Bu'Lock, Dr.J.D.  
Anaerobic / Fermentation / Bioreactor / Methane / Production / Bioprocess engineering / Industry

**Technical assessment and economic analysis of developments in biotechnology, especially fermentation industry, waste exploitation and agroindustrial processes**

Bu'Lock, Dr.J.D.  
Fermentation / Industry / Waste / Agriculture / Technical / Economic

**Chemistry, microbiology and physiology of extreme thermoacidophile bacteria with special reference to membrane lipids**

Bu'Lock, Dr.J.D.  
Acidophilic / Thermophilic / Lipid / Membrane biology / Microbiology / Biochemistry

**Design and operation of recirculation fermenters for solvents, biomass and metabolite production and for effluent treatment**

Bu'Lock, Dr.J.D.  
Bioreactor / Solvent / Biomass / Metabolite / Production / Purification / Fermentation technology / Industry / Environment

 **University of Manchester**

Department of Chemical Pathology  
Oxford Road  
M13 9PL  
Manchester  
☎ +44 61 7897373

**Production of monoclonal antibodies to gliadin, mast cell chymase and T lymphocyte factor**

White, Dr.A.  
Monoclonal / Antibody / Lymphocyte / Protein / Enzyme / Digestive system / Food

**Development and application of monoclonal antibodies in immunoassay with special reference to peptide and steroid hormones**

White, Dr.A.  
Monoclonal / Antibody / Immunoassay / Peptide / Steroid / Hormone / Immunology / Biochemistry

 **University of Manchester**

Department of Cell and Structural Biology  
Oxford Road  
M13 9PL  
Manchester  
☎ +44 61 2756774

**Isolation and use of biological agents in the control of fireblight in pear orchards**

Sigee, Dr.D.C.  
Isolation / Bioactive agent / Pest / Agriculture

**Development of fern tissue cultures for production of novel antimicrobial agents**

Sheffield, Dr.E.  
Plant / Tissue / Cultivation / Production / Bioactive agent / Cell biology

**Development of a fern protoplast system to aid life cycle studies and genetic engineering in lower plants**

Sheffield, Dr.E.  
Protoplast / Gene technology / Plant / Botany

**DNA-protein interactions that regulate the embryonic expression of the mouse hox 6.1 homeobox gene**

Sharpe, Dr.P.T.  
DNA / Protein / Interaction / Embryo / Gene / Expression / Mouse / Biochemistry / Molecular genetics

**Soluble growth factors as regulators of fibroblast differentiation and migration**

Schor, Dr.S.L.  
Growth / Regulation / Fibroblast / Differentiation / Cell biology / Cancer

**Synthetic peptides as antigens for serological diagnostic techniques**

Mostratos, Dr.A.  
Peptide / Synthetic / Antigen / Serology / Diagnosis

**Adjuvant-free autoimmunization to growth regulating hormones. Use of anti-idiotypic antibodies as hormone agonists**

Morrison, Dr.C.A.  
Immunology / Regulation / Hormone / Antibody / Growth

**Cell surface carbohydrate changes in implantation of mammalian embryos and novel contraceptive design**

Kimber, Dr.S.J.  
Cell biology / Surface / Polyalcohol / Implantation / Embryo / Mammal

**Cloning sequences and regulation of MMTV LTR genes in Shionogi S115 breast cancer cells**

Glover, Dr.J.F.  
Cloning / Sequence / Regulation / Gene / Cancer / Molecular genetics / Oncology

**Activation of growth factor genes during tumour progression in hormonally regulated human cancers**

Glover, Dr.J.F.  
Growth / Gene / Activation / Tumour / Proliferation / Hormone / Cell biology / Oncology

**Isolation and characterization of retroviral-like sequences from human breast cancer cells**

Glover, Dr.J.F.  
Retrovirus / Sequence / Cancer / Cell biology / Isolation / Oncology

**Construction of monoclonal antibodies to IL-3 dependent cell lines and involvement of IL-3 in cell proliferation**

Garland, Dr.J.M.  
Monoclonal / Antibody / Cell biology / Proliferation / Cancer / Immunology / Oncology

**Molecular biology and biochemistry of oral streptococci**

Drucker, Dr.D.B.  
Molecular biology / Biochemistry / Streptococcus

**Continuous ethanol fermentations of practical substrates; process problems and reactor design**

Bu'Lock, Dr.J.D.  
Continuous / Ethanol / Fermentation / Substrate / Bioreactor / Bioprocess engineering

**Carriage of ricin by lymphocytes to tumours within lymphatic tissues**

Bell, Dr.E.B.  
Lymphocyte / Tumour / Tissue / Toxin

**Interaction of lymphocytes and vascular endothelium: use of monoclonal antibodies to study recognition molecules on endothelium**

Ager, Dr.A.  
Interaction / Lymphocyte / Endothelium / Vessels / Monoclonal / Antibody / Recognition / Cell biology

 **University of Manchester**

Department of Education  
Oxford Road  
M13 9PL  
Manchester  
☎ +44 61 2733333

**The ethics of biotechnology - the moral dilemmas presented by the biotechnological revolution**

Harris, Dr.J.M.  
Biotechnology

 **University of Manchester**

Department of Medicine (Hope Hospital)  
Hope Hospital  
M6 8HD  
Manchester  
☎ +44 61 2733333

**Production of monoclonal antibodies to gluten fractions**

Marsh, Dr.M.N.  
Monoclonal / Antibody / Protein / Digestive system / Food

 **University of Manchester**

Department of Engineering (Mechanical)  
Simon Building, Oxford Road  
M13 9PL  
Manchester  
☎ +44 61 2754303

**Rheology of fibrous biodegradable material with special reference to pumpability and fouling of heat transfer surfaces**

Lewis, K.M.  
Rheology / Synthetic fibre / Biological / Degradation / Pump / Heat / Mechanical engineering

- University of Manchester**  
Department of Oncology  
Christie Hospital and Holt Radium  
Institute, Wilmslow Road  
M20 9BX  
Manchester  
☎ +44 61 4458123
- Comparative sequencing of the small-RNA-encoding region of several EBV isolates**  
Tugwood, J.D.  
Sequencing / DNA virus / Biochemistry / Virology / Cancer / Oncology
- Immunological detection of DNA-carcinogen adducts**  
Saffhill, Dr.R.  
DNA / Cancer / Origin / Immunology / Oncology
- In vitro generation of cytotoxic T-cells against autologous tumours**  
Moore, Dr.M.  
In vitro / Lymphocyte / Tumour / Toxic / Immunology / Cancer / Oncology
- Monoclonal antibodies against human cell-surface antigens**  
Moore, Dr.M.  
Monoclonal / Antibody / Surface / Cell / Antigen / Immunology / Cancer / Oncology
- A potential anti-EBV vaccine**  
Mackett, Dr.M.  
DNA virus / Vaccine / Immunology / Cancer / Oncology
- Influence of TPA on the recovery of drug resistant mutants**  
Kinsella, Dr.A.R.  
TPA / Drug / Resistance / Mutation / Hematology / Cancer / Oncology
- Somatic cell genetics of DNA repair**  
Boyle, Dr.J.M.  
Cell / Genetics / DNA / Repair / Cancer / Oncology
- Immunological quantitation of carcinogen DNA adducts**  
Boyle, Dr.J.M.  
Immunology / DNA / Cancer / Origin / Oncology
- Purification of haemopoietic cell growth factors: structure-function relationships**  
Bazill, Dr.G.W.  
Cell / Growth / Hematology / Cancer / Oncology
- Identification and isolation of EBV-encoded proteins using expression vector systems**  
Arrand, Dr.J.R.  
DNA virus / Recognition / Isolation / Expression / Protein / Vector / Biochemistry / Virology / Cancer / Oncology
- Is some EBV DNA integrated in the host DNA?**  
Arrand, Dr.J.R.  
DNA / DNA virus / Virology / Biochemistry / Cancer / Oncology
- University of Manchester**  
Department of Pharmacy  
Oxford Road  
M13 9PL  
Manchester  
☎ +44 61 2752387
- Analysis of volatile aromatic compounds in plant cell cultures**  
Lockwood, Dr.G.B.  
Plant / Cell / Cultivation / Volatile / Aromatic / Biochemistry
- Biosynthesis and degradation of aromatic compounds by fungi: fungal enzymology, degradation of environmental toxins**  
Barber, Dr.J.A.  
Biosynthesis / Degradation / Aromatic / Fungus / Enzymology / Mycotoxin / Environment / Antibiotic / Biochemistry / Pharmaceutical industry
- University of Manchester**  
Department of Physiological Sciences  
Stopford Building, Oxford Road  
M13 9PT  
Manchester  
☎ +44 61 2738241
- Epidermal growth factor and lung maturation**  
Hollingworth, Dr.M.  
Growth / Lung / Development
- Pharmacological effects of interleukins on the central nervous system**  
Dascombe, Dr.M.J.  
Pharmacology / Interleukine / Nervous system
- Drugs modulating the production of interleukins/endogenous pyrogens by phagocytes**  
Dascombe, Dr.M.J.  
Drug / Interleukine / Pyrogen / Pharmacology
- University of Manchester**  
Department of Science and Technology  
Policy  
Oxford Road  
M13 9PL  
Manchester  
☎ +44 61 2737121
- Policy of biotechnology in Europe**  
Yoxen, Dr.E.J.  
Biotechnology / Research advancement
- The social impact of biotechnology**  
Yoxen, Dr.E.J.  
Biotechnology
- University of Manchester**  
Department of Rheumatology  
Hope Hospital  
M6 8HD  
Manchester  
☎ +44 61 2733333
- Study of immunoglobulin genes in rheumatoid arthritis by examining RFLP 15 obtained with cDNA probes from peripheral blood**  
Grennan, Dr.D.M.  
Immunoglobulin / Gene / Rheumatism / cDNA / Probes / Blood / Biochemistry
- University of Manchester**  
Institute of Science and Technology,  
Department of Biochemistry and Applied  
Molecular Biology  
PO Box 88  
M60 1QD  
Manchester  
☎ +44 61 2363311
- Mode of action of growth factors in promoting the survival, proliferation and development of haemopoietic progenitor cells**  
Whetton, Dr.A.D.  
Growth / Proliferation / Blood / Cell biology / Hematology
- Structure and replication of yeast telomeres**  
Walmsley, Dr.R.M.  
Growth / Proliferation / Blood / Cell biology / Hematology
- Isolation of thermophilic lipolytic microorganisms and study of their lipases**  
Sundaram, Dr.T.K.  
Isolation / Thermophilic / Microorganism / Lipase / Microbiology / Enzymology
- Structure and stability of thermophilic bacterial enzymes**  
Sundaram, Dr.T.K.  
Enzyme / Bacterial / Thermophilic / Enzymology / Biochemistry / Microbiology
- \*alpha\*-amylase synthesis by *Bacillus* spp**  
Sundaram, Dr.T.K.  
Alpha / Amylase / Biosynthesis / Bacillus / Biochemistry / Microbiology
- Oligonucleotide - directed mutagenesis and its application to protein engineering and control of gene expression**  
Sims, Dr.P.F.G.  
Oligonucleotide / Mutation / Origin / Protein design / Regulation / Gene / Expression / Molecular biology
- Plasmid-host interactions in yeast**  
Oliver, Dr.S.G.  
Plasmid / Host / Interaction / Yeast / Molecular biology / Microbiology
- XAS studies of modifications to the superoxide dismutase active site produced by site-directed mutagenesis**  
Oliver, Dr.S.G.  
Modification / Mutation / Origin / Enzyme / Biochemistry / Enzymology
- Enzyme excretion in filamentous fungi**  
Oliver, Dr.S.G.  
Enzyme / Excretion / Fungus / Biochemistry / Microbiology
- Oligonucleotide synthesis**  
Minter, Dr.S.J.  
Oligonucleotide / Synthesis / Organic chemistry / Biochemistry
- Chemical synthesis of peptides**  
Minter, Dr.S.J.  
Peptide / Synthesis / Organic chemistry / Biochemistry
- Analysis of the biological activity of oligonucleotides**  
Minter, Dr.S.J.  
Oligonucleotide / Biochemistry
- Cloning and characterization of clinically important genes from the human malaria parasite *Plasmodium falciparum***  
Hyde, Dr.J.E.  
Cloning / Gene / Malaria / Parasite / Human / Clinical / Molecular genetics
- Mechanism and regulation of methane production by immobilized cultures of methanobacteria**  
Fynn, Dr.G.H.  
Regulation / Methane / Biogas / Immobilization / Cultivation / Methanobacterium / Biochemistry / Microbiology
- Molecular approaches to nitrate transport in yeast**  
Eddy, Prof.A.A.  
Nitrate / Transport / Biochemistry / Molecular biology / Microbiology / Yeast
- Molecular characterization of a pyrimidine edit pump in yeast**  
Eddy, Prof.A.A.  
Pyrimidine / Yeast / Biochemistry / Microbiology / Molecular biology

**Identification and molecular characterization of transposable elements and unstable genes in *Streptomyces* species**

Cullum, Dr.J.A.  
Streptomycete / Gene / Molecular biology / Microbiology

**Biological synthesis of neuropeptides**

Carnie, Dr.J.A.  
Biosynthesis / Nervous system / Peptide / Biochemistry

**Ice nucleation by *Pseudomonas***

Brown, Dr.T.A.  
Ice / *Pseudomonas* / Molecular biology

**Molecular biology of lignocellulose degradation**

Broda, Prof.P.M.A.  
Molecular biology / Lignocellulose / Degradation

 **University of Manchester**

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M60 1QD  
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**Metallo-oligopeptides as 'synthetic enzymes'. Up to 20-mer oligopeptides with sequences designed to bind metal ions are being synthesized as models for metalloenzymes**

Blackburn, Dr.N.J.  
Peptide / Synthesis / Enzyme / Modelling / Metalloprotein / Biochemistry / Physical chemistry

**Protein engineering of metalloenzymes including superoxide dismutase, cytochrome-c-peroxidase and bacterial terminal oxidases; applications to pharmaceuticals, biosensors and electrocatalysis**

Blackburn, Dr.N.J.  
Protein design / Metalloprotein / Cytochrome / Peroxidase / Oxidase / Bacterial / Drug / Biosensor / Catalysis / Biochemistry / Physical chemistry

**Spectroscopy/crystallography of copper-containing oxidative enzymes; understanding the catalytic role of copper; application to biotechnology and medicine**

Blackburn, Dr.N.J.  
Spectrometry / Structure / Copper / Oxidase / Biological / Catalysis / Enzymology / Biochemistry / Physical chemistry

 **University of Manchester**

Institute of Science and Technology,  
Department of Chemical Engineering  
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**Anaerobic treatment of effluents with recovery of biogas**

Wheatley, Dr.A.D.  
Anaerobic / Purification / Waste / Biogas / Environment / Environmental biotechnology

**Beer production using immobilized cells**

Webb, Dr.C.  
Beer / Production / Immobilization / Cell / Industry / Bioprocess engineering

**Optimization of secondary metabolite production by immobilized cells**

Webb, Dr.C.  
Optimization / Secondary / Metabolite / Production / Immobilization / Cell / Bioprocess engineering / Industry

**Optimization of the dextran fermentation process**

Webb, Dr.C.  
Optimization / Dextran / Fermentation technology / Industry

**Production of silage additives**

Webb, Dr.C.  
Production / Additive / Feed / Industry

**Evaluation of immobilized cell technology**

Webb, Dr.C.  
Immobilization / Cell / Bioprocess engineering / Industry

**Production of amyloglucosidase using immobilized *Aspergillus anamori* cells**

Webb, Dr.C.  
Production / Amyloglucosidase / Immobilization / Mycelial fungus / Cell / Bioprocess engineering / Industry

**Process studies on enzyme production scale-up and control**

Sinclair, Dr.C.G.  
Enzyme / Production / Scale-up / Control / Bioprocess engineering / Industry

**Partition coefficients between aqueous mixtures and calcium alginate gels**

Newsham, Dr.D.M.T.  
Mixture / Liquid / Calcium / Alginate / Gel / Physical chemistry

**Process engineering aspects of freely suspended and immobilised plant cell cultures**

Mavituna, Dr.F.  
Bioprocess engineering / Suspension / Immobilization / Plant / Cell / Cultivation / Industry

**Bioreactor design for the production of secondary metabolites by immobilized plant cells**

Mavituna, Dr.F.  
Bioreactor / Production / Secondary / Metabolite / Immobilization / Plant / Cell / Bioprocess engineering / Industry

**Development of yeast retention fermenters for beer production**

Mavituna, Dr.F.  
Fermentation technology / Bioreactor / Beer / Production / Industry

**Coupling of mass transfer with microbial kinetics in immobilized microbial systems**

Mavituna, Dr.F.  
Biomass / Microbial / Kinetics / Immobilization / Bioprocess engineering / Industry

**Novel bioreactor design for immobilized biological systems**

Mavituna, Dr.F.  
Bioreactor / Immobilization / Bioprocess engineering / Industry

**Separation of plant cell products**

Mavituna, Dr.F.  
Separation / Plant / Bioprocess engineering / Industry

**Development of an intensified reactor for biochemical reactions**

Davies, Dr.G.A.  
Bioreactor / Bioprocess engineering / Industry

 **University of Manchester**

Institute of Science and Technology,  
Department of Instrumentation and Analytical Science  
PO Box 88  
M60 1QD  
Manchester  
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**Automation of DNA sequencing**

Martin, W.J.  
Automation / DNA / Sequencing / Instrumentation / Biochemistry

 **University of Nottingham**

School of Agriculture, Department of Applied Biochemistry and Food Science  
Sutton Bonington  
LE12 5RD  
Loughborough  
☎ +44 602 506101

**Improvement of microbial fermentation of milk, meat and cassava**

Waites, Prof.W.M.  
Microbial / Fermentation / Milk / Meat / Useful plant / Tropical / Microbiology / Nutrition sciences / Nutritional branch

**Cloning and expression of *Clostridium perfringens* enterotoxin type A in *Escherichia coli***

Stewart, Dr.G.S.A.B.  
Cloning / Expression / Gene / *Clostridium* / Toxin / *Escherichia* / Gene technology

**Cloning and expression of heterologous genes in *Lactobacillus***

Stewart, Dr.G.S.A.B.  
Gene / Cloning / Expression / *Lactobacillus* / Gene technology

**Nutritional value of cassava and cassava products**

Neale, Dr.R.J.  
Nutrition sciences / Useful plant / Tropical / Nutritional branch

**Ensilage of ruminant waste**

Lawrie, Prof.R.A.  
Waste / Feed

**Use of PAG electrophoresis and HPLC to establish robust, unequivocal index which will quantitatively identify meat protein in processed foods**

Lawrie, Prof.R.A.  
Electrophoresis / HPLC / Protein / Meat / Biochemistry / Nutrition sciences / Nutritional branch

**Polydispersity and interactions of polysaccharides in solution**

Harding, Dr.S.E.  
Polysaccharide / Interaction / Physical chemistry

 **University of Nottingham**

School of Agriculture, Department of Agriculture and Horticulture  
Sutton Bonington  
LE12 5RD  
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☎ +44 602 506101

**Assessment of stability in cryopreserved shoot-tip cultures**

Withers, Dr.L.A.  
Cultivation / Plant / Cryobiology

**Development of a computer data-base on the application of in vitro techniques to the conservation of crop genetic resources**

Withers, Dr.L.A.  
Data base / In vitro / Useful plant / Genetics / Agriculture

**Development of in vitro methods for collection and genetic characterization of cacao germplasm**

Withers, Dr.L.A.  
In vitro / Genetics / Cocoa / Tropical / Germ cell / Agriculture

□ **University of Nottingham**  
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Physiology and Environmental Science  
Sutton Bonington  
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Loughborough  
☎ +44 602 506101

**Transfer of cold tolerant genes between the cultivated tomato and its wild relatives by embryo culture and bridging lines**

Taylor, Dr.I.B.  
Gene technology / Cultivation / Useful plant / Embryo / Agriculture

**Biological control of fungal diseases with antagonistic strain of *Bacillus subtilis***

Rossall, Dr.S.  
Regulation / Fungus / Plant / Bacillus / Agriculture

**Cloning, sequencing and expression of seed storage protein genes**

Lycett, Dr.G.W.  
Cloning / Sequencing / Expression / Gene / Protein / Germ cell / Useful plant / Molecular genetics / Agriculture

**Genetic mapping of rice by molecular methods**

Lycett, Dr.G.W.  
Molecular genetics / Useful plant / Agriculture

**Expression of ripening genes in non-ripening mutant tomatoes**

Grierson, Prof.D.  
Gene / Expression / Mutation / Useful plant / Genetics / Agriculture

**Tissue specific expression of transformed genes in tomato plants**

Grierson, Prof.D.  
Gene / Expression / Tissue / Transformation / Useful plant / Genetics / Agriculture

□ **University of Nottingham**

Department of Botany  
University Park  
NG7 2RD  
Nottingham  
☎ +44 602 506101

**Gametosomal hybrids in the Solanaceae**

Power, Dr.J.B.  
Hybridization / Useful plant / Botany

**Somatic hybridization of *Chrysanthemum***

Power, Dr.J.B.  
Hybridization / Useful plant / Botany

**Somatic hybridization of apple scion and rootstocks**

Power, Dr.J.B.  
Hybridization / Botany / Useful plant

**Genetic manipulation of *Chrysanthemum***

Power, Dr.J.B.  
Gene technology / Useful plant / Botany

**Somatic hybridization and genetic improvement of rubber**

Power, Dr.J.B.  
Hybridization / Gene technology / Useful plant / Botany

**Regulation of beta-fructofuranosidase in *Aspergillus nidulans***

Peberdy, Prof.J.F.  
Regulation / Mycelial fungus / Biochemistry / Microbiology

**Production of sulphur containing secondary metabolites by fungi and streptomycetes: physiology, biochemistry and genetics**

Peberdy, Prof.J.F.  
Metabolite / Secondary / Sulphur / Fungus / Streptomycete / Biochemistry / Genetics / Microbiology

**Somaclonal variation and breeding in *Agaricus bisporus***

Peberdy, Prof.J.F.  
Basidiomycete / Microbiology / Breeding

**Cloning and manipulation of cellulase genes in *Volvariella volvacea***

Peberdy, Prof.J.F.  
Cloning / Gene technology / Cellulose

**Antifungal antibiotics produced by streptomycetes**

Peberdy JF Professor / Bycroft BW Professor / Butler A Peberdy, Prof.J.F.  
Antibiotic / Streptomycete / Microbiology / Pharmaceutical industry

**Vector mediated transformation and gene cloning in fungi**

Peberdy, Prof.J.F.  
Vector / Transformation / Gene / Cloning / Fungus / Gene technology / Microbiology

**Somatic hybridization of forage legumes**

Mendis, M.H.  
Hybridization / Useful plant / Botany / Agriculture / Feed

**Effect of bacterial inoculants on cereal crop growth**

Harris, Miss.J.  
Bacterium / Useful plant / Growth / Botany / Agriculture

***Saccharomyces cerevisiae* 2mu circle plasmid replication**

Dobson, Dr.M.J.  
Yeast / Plasmid / Replication / Molecular biology

**Development of plant vectors**

Davey, Dr.M.R.  
Plant / Vector / Botany

**Transformation of legumes**

Davey, Dr.M.R.  
Transformation / Useful plant / Botany / Agriculture

**Transformation of solanum species**

Davey, Dr.M.R.  
Transformation / Dicotyledon / Botany / Agriculture

**Protoplast culture of rice for plant regeneration and genetic manipulation**

Cocking, Prof.E.C.  
Protoplast / Cultivation / Useful plant / Regeneration / Botany / Gene technology / Agriculture

**Genetic manipulation of crop plants using isolated protoplasts**

Cocking, Prof.E.C.  
Gene technology / Useful plant / Protoplast / Agriculture

**Improvement of Indian medical plants using in vitro methods**

Cocking, Prof.E.C.  
Optimization / Useful plant / Botany / In vitro / Pharmaceutical industry

**Genetic manipulations using *Agrobacterium rhizogenes***

Cocking, Prof.E.C.  
Gene technology / *Agrobacterium* / Plant

**Rhizobium-higher plant interactions**

Cocking, Prof.E.C.  
Rhizobium / Useful plant / Interaction / Botany / Agriculture

**Somatic hybridization of *Compositae***

Al-Atabee, J.  
Hybridization / Botany / Dicotyledon

□ **University of Nottingham**  
Cancer Research Campaign Laboratories  
University Park  
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Nottingham  
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**Monoclonal antibody targeting of therapeutic agents in colorectal cancer**

Baldwin, Prof.R.W.  
Monoclonal / Antibody / Drug / Cancer / Digestive system / Chemotherapy / Immunotherapy

**Diagnosis and therapy of experimental and clinical tumours using radionuclide labelled anti-tumour monoclonal antibodies**

Baldwin, Prof.R.W.  
Diagnosis / Monoclonal / Antibody / Tumour / Cancer / Immunotherapy

**Drug-monoclonal antibody conjugates in cancer treatment**

Baldwin, Prof.R.W.  
Drug / Monoclonal / Antibody / Cancer / Chemotherapy / Immunotherapy

□ **University of Nottingham**  
Department of Chemical Engineering  
University Park  
NG7 2RD  
Nottingham  
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**Production of alpha amylase by *Bacillus subtilis***

Martin, Dr.D.J.  
Amylase / Bacillus / Microbiology / Industry / Nutritional branch / Production

**Anaerobic digestion of wastes from food and drink production**

Martin, Dr.D.J.  
Anaerobic / Fermentation / Waste / Food / Nutritional branch / Microbiology / Environment

□ **University of Nottingham**

Department of Genetics  
University Park  
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Nottingham  
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**The use of DNA "fingerprints" in elucidating the genetic structure of avian populations - and its use in species protection**

Parkin, Dr.D.T.  
DNA / Genetics / Structure / Bird / Ecology

**Genetic stability of plants regenerated from in vitro storage conditions**

Lloyd, Dr.R.G.  
Plant / Regeneration / Genetics / In vitro / Storage

**DNA repair and recombination mechanisms in *Escherichia coli* using in vivo and in vitro techniques for genetic manipulation**

Lloyd, Dr.R.G.  
DNA / Repair / Recombination / *Escherichia* / In vivo / In vitro / Gene technology / Molecular genetics

□ **University of Nottingham**

Medical School, Department of Biochemistry  
Queen's Medical Centre  
NG7 2UH  
Nottingham  
☎ +44 602 700111

**Isolation and characterization of DNA sequences encoding the amyloid protein of Alzheimer's disease**

Glass, Dr.R.E.  
Isolation / DNA / Sequence / Coding / Protein / Brain / Degeneration / Metabolic disease / Biochemistry

**Protein engineering of an aminotransferase**

Glass, Dr.R.E.  
Protein design / Transferase / Biochemistry

**Synthesis and function of a multivalent receptor in *Escherichia coli***

Glass, Dr.R.E.  
Synthesis / Receptor / *Escherichia* / Biochemistry / Bacteriology

**The characteristics and regulation of formation of the extracellular proteins and toxins of *Staphylococcus aureus* and *Aeromonas salmonicida***

Coleman, Dr.G.  
Regulation / Extracellular / Protein / Toxin / *Staphylococcus* / *Aeromonas* / Biochemistry / Bacteriology

□ **University of Nottingham**  
Department of Microbiology  
University Hospital, Queen's Medical Centre  
NG7 2UH  
Nottingham  
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**Use of DNA probes to investigate the epidemiology of antibiotic resistance genes**  
Towner, Dr.K.J.  
DNA / Probes / Antibiotic / Resistance / Gene / Microbiology

**Automation of diagnostic microbiological methods**  
O'Grady, Prof.F.W.  
Automation / Diagnosis / Microbiology

**Evaluation of new antibiotics: in vitro activity and morphological effects**  
Greenwood, Dr.D.  
Antibiotic / In vitro / Microbiology / Pharmacology / Pharmaceutical industry

□ **University of Nottingham**  
Department of Pharmacy  
University Park  
NG7 2RD  
Nottingham  
☎ +44 602 506101

**Bacterial iron uptake mechanisms**  
Williams, Dr.P.  
Bacterial / Iron / Uptake / Biochemistry / Bacteriology

**Production of anti-cancer agents via plant cell cultures**  
Dewick, Dr.P.M.  
Cancer / Chemotherapy / Plant / Cell / Cultivation / Drug / Pharmacy / Production / Pharmaceutical industry

**Monoclonal antibody-drug conjugates for drug targeting**  
Davis, Prof.S.S.  
Monoclonal / Antibody / Drug / Pharmacy

**Synthesis of specific inhibitors of trypsin-related enzymes**  
Bycroft, Prof.B.W.  
Inhibitor / Trypsin / Synthesis / Pharmacy / Pharmaceutical industry

**Biosynthesis and biotransformations of trichothecene mycotoxins**  
Bycroft, Prof.B.W.  
Biosynthesis / Biotransformation / Mycotoxin / Biochemistry / Pharmacology

**Biological chemistry of naturally occurring beta-lactamase inhibitors**  
Bycroft, Prof.B.W.  
Beta / Lactamase / Inhibitor / Biochemistry / Pharmacy

□ **University of Nottingham**  
Department of Physiology and Pharmacology  
University Hospital and Medical School, Queen's Medical Centre  
NG7 2UH  
Nottingham  
☎ +44 602 700111

**Biodegradable polymers as drug delivery systems for intra-articular administration: formulation design**  
Wilson, Dr.C.G.  
Degradation / Biological / Polymer / Drug / Pharmacology

**Assessment of in vitro systems for the detection of metabolism-mediated toxicity**  
Fry, Dr.J.R.  
In vitro / Metabolism / Toxicology

□ **University of Nottingham**  
Department of Surgery  
University Hospital, Floor E, Queen's Medical Centre  
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Nottingham  
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**Immunodiagnosis of colorectal cancer tumour markers**  
Hardcastle, Prof.J.D.  
Tumour / Cancer / Immune / Diagnosis / Immunology / Digestive system

□ **University of Newcastle upon Tyne**  
Department of Agriculture  
Newcastle upon Tyne  
NE1 7RU  
☎ +44 632 328511

**Restoration of land after opencast mining; evaluating current techniques and examining possible alternatives to improve soil and its cropping potential**  
Younger, Dr.A.  
Sanitation / Soil / Agriculture / Optimization

□ **University of Newcastle upon Tyne**  
Department of Agricultural Biochemistry and Nutrition  
Newcastle upon Tyne  
NE1 7RU  
☎ +44 91 232 8511

**Nutritive value of silage made with inoculants**  
Hooper, P.  
Feed / Stock

**Genetic manipulation of bacteria important in livestock nutrition**  
Gilbert, Dr.H.J.  
Gene technology / Stock / Feed / Bacterium

**Isolation and characterization of genes encoding polysaccharide-degrading enzymes from *Pseudomonas***

Gilbert HJ Dr  
Isolation / Gene / Polysaccharide / Degradation / Enzyme / *Pseudomonas* / Molecular genetics

**Action of growth promoters: use of the rat as model for their action**

Finlayson, Dr.H.J.  
Growth / Rat / Physiology

**Mode of action of probiotics in pigs**

Armstrong, Prof.D.G.  
Pig / Veterinary medicine / Bioactive agent

□ **University of Newcastle upon Tyne**  
Department of Agricultural and Environmental Science  
NE1 7RU  
Newcastle upon Tyne  
☎ +44 91 2328511

**Use of biodegradable polymers in agriculture and pest management**  
Wilkins, Dr.R.M.  
Degradation / Agriculture / Environment / Pest / Regulation / Polymer / Environmental biotechnology

**Pathogens of slugs of agricultural importance and their use in pest control**  
Selman, Dr.B.J.  
Pathogen / Agriculture / Pest / Regulation

**Biodegradation of 2-stroke lubricants, cutting oils and related petroleum products**  
Cain, Prof.R.B.  
Degradation / Oil / Crude oil / Derivative / Environment / Environmental biotechnology

**Biodegradation of dye-stuffs intermediates and azo dyes**  
Cain, Prof.R.B.  
Degradation / Oil / Crude oil / Derivative / Environment / Environmental biotechnology

**Acquisition of new metabolic potential by micro-organisms to degrade xenobiotic compounds**  
Cain, Prof.R.B.  
Metabolism / Microorganism / Microbiology / Degradation / Xenobiotic / Environment / Environmental biotechnology

**Uptake of aromatic compounds and lignin model compounds by moulds and yeasts**  
Cain, Prof.R.B.  
Aromatic / Lignin / Fungus / Uptake / Environment / Agriculture / Environmental biotechnology

**Identification and molecular biology of degradative plasmids in soil-dwelling nocardioform actinomycetes**  
Cain, Prof.R.B.  
Molecular biology / Degradation / Plasmid / Soil / Actinomycete / Environment

**Effects of selected and modified micro-organisms on the ensiling process**  
Blackburn, F.  
Agriculture / Microorganism / Supply

□ **University of Newcastle upon Tyne**  
Department of Biochemistry  
Catherine Cookson Building  
NE2 4HH  
Newcastle upon Tyne  
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- The mechanism of action of penicillin acylase is to be investigated by characterizing the active site, kinetics and stability as a function of environmental parameters**  
Viriden, Dr.R.  
Penicillin / Acylase / Kinetics / Biochemistry
- Structure, biosynthesis and function of microbial glycolipids, in particular those present in thermophilic bacteria**  
Shaw, Dr.N.  
Structure / Biosynthesis / Glycolipid / Microbial / Thermophilic / Biochemistry
- Folding, assembly, processing and genetic modification of penicillin acylase**  
Pain, Prof.R.H.  
Folding / Genetic / Modification / Penicillin / Amylase / Biochemistry
- Physical basis of protein stability: mesophilic and thermophilic phosphoglycerate kinase**  
Pain, Prof.R.H.  
Protein / Stable / Mesophilic / Thermophilic / Kinase / Biochemistry
- Characterization of conformation of new recombinant proteins and of their folding pathways**  
Pain, Prof.R.H.  
Structure / Tertiary / Quaternary / Recombination / Protein / Folding / Biochemistry
- Cloning and rapid sequence analysis of cDNA**  
Emmerson, Prof.P.T.  
Cloning / Sequence / Analysis / cDNA / Biochemistry
- University of Newcastle Upon Tyne**  
Department of Dental Radiology  
Richardson Road  
NE2 4AZ  
Newcastle upon Tyne  
☎ +44 91 232 5131
- In vitro cytotoxicity testing of dental materials using human periodontal ligament cells**  
Adams, Mrs.A.M.  
In vitro / Toxic / Test / Cell
- University of Newcastle upon Tyne**  
Department of Genetics  
Ridley Building, Claremont Place  
NE1 7RU  
Newcastle upon Tyne  
☎ +44 91 232 8511
- Isolation of monoclonal antibody-resistant mutants of Newcastle disease virus and location of epitopes by gene sequencing**  
Samson, Dr.A.C.R.  
Isolation / Mutation / Gene / Sequencing / Virology / Monoclonal / Antibody / Resistance / RNA virus / Genetics
- DNA cloning of those genes differentially expressed during the acclimation of barley plants to growth at low temperatures**  
Hughes, Dr.M.A.  
DNA / Cloning / Gene / Expression / Useful plant / Growth / Agriculture
- Cloning and sequencing restriction and modification genes in Escherichia coli**  
Glover, Prof.S.W.  
Cloning / Sequencing / Restriction / Modification / Gene / Escherichia / Molecular genetics
- University of Newcastle upon Tyne**  
Department of Human Genetics  
19 Claremont Place  
NE2 4AA  
Newcastle upon Tyne  
☎ +44 91 232 8511
- Prenatal diagnosis of inherited disorders**  
Papiha, Dr.S.S.  
Prenatal / Diagnosis / Congenital / Disease / Human genetics
- University of Newcastle upon Tyne**  
Department of Inorganic Chemistry  
6 Kensington Terrace  
NE1 7RU  
Newcastle upon Tyne  
☎ +44 91 232 8511
- Electron transfer in biochemical systems: studies on metalloproteins including blue copper proteins, ferredoxins, and cytochromes. Site directed mutagenesis**  
Sykes, Prof.A.G.  
Metalloprotein / Protein / Copper / Cytochrome / Mutation / Origin / Biochemistry
- University of Newcastle upon Tyne**  
Department of Microbiology  
The Medical School  
NE1 7RU  
Newcastle upon Tyne  
☎ +44 91 232 8511
- Search for novel metabolites**  
Williams, Dr.E.  
Metabolite / Microbiology / Industry
- Isolation of novel pharmaceuticals**  
Williams, Dr.E.  
Isolation / Drug / Pharmaceutical industry / Microbiology
- New approaches for the isolation of novel biological material of commercial interest**  
Williams, Dr.E.  
Isolation / Industry / Microbiology / Microorganism
- Isolation, taxonomy and products of novel actinomycetes**  
Williams, Dr.E.  
Isolation / Taxonomy / Actinomycete / Microbiology
- The development of genetic systems in Azotobacter for the investigation of poly-beta-hydroxybutyrate biosynthesis and degradation**  
Ward, Dr.A.C.  
Genetics / Microbiology / Azotobacter / Biosynthesis / Degradation / PHB / Biochemistry
- Adaptive control of penicillin fermentation**  
Ward, Dr.A.C.  
Penicillin / Fermentation / Control / Bioprocess engineering / Microbiology
- DNA probes for diagnostic purposes**  
Kehoe, Dr.M.  
DNA / Probes / Diagnosis / Microbiology
- Distribution of plasmids in Bacillus: their taxonomic, ecological and commercial significance**  
Harwood, Dr.C.R.  
Plasmid / Bacillus / Microbiology / Taxonomy / Ecology / Industry
- New strategies for the relative isolation of novel actinomycetes of industrial importance**  
Goodfellow, Dr.M.  
Actinomycete / Industry / Isolation / Microbiology
- Fluorescent enzyme probes in the identification of clinically significant staphylococci**  
Goodfellow, Dr.M.  
Fluorescence / Enzyme / Probes / Clinical / Staphylococcus / Microbiology
- Studies on Alcaligenes eutrophus: selection of strains having improved fermentation characteristics**  
Archibald, Prof.A.R.  
Alcaligenes / Fermentation / Microbiology
- Mechanism of protein export from Bacillus subtilis; kinetics and genetics**  
Archibald, Prof.A.R.  
Bacillus / Protein / Kinetics / Genetics / Microbiology / Transport
- Fermentation technology: application of modern adaptive control techniques to fermentation and development of pilot plant facility**  
Archibald, Prof.A.R.  
Fermentation technology / Control / Pilot scale / Microbiology
- University of Newcastle upon Tyne**  
Department of Medicine  
Newcastle upon Tyne  
NE2 4HH  
☎ +44 91 232 8511
- Development of radioimmunoassay for atrial natriuretic hormone**  
Baylis, Dr.P.H.  
RIA / Hormone / Clinical / Chemistry
- University of Newcastle upon Tyne**  
Department of Neurology  
Newcastle upon Tyne  
NE1 7RU  
☎ +44 632 328511
- Exploration of biochemical methods for detection of genetic carriers in Duchenne muscular dystrophy**  
Pennington, Dr.R.J.T.  
Biochemistry / Genetics / Muscle / Disease / Neurology
- A controlled trial of the drug oxcarbazepine in adult epileptics**  
Bates, Dr.D.  
Drug / Test / Neurology
- University of Newcastle upon Tyne**  
Department of Physical Chemistry  
Edward's Walk  
NE1 7RU  
Newcastle upon Tyne  
☎ +44 91 232 8511
- Microelectronic devices for measurement of ionic species in solution**  
Covington, Prof.A.K.  
Ion / Physical chemistry
- University of Newcastle upon Tyne**  
Department of Physiological Sciences  
The Medical School, Framlington Place  
NE2 4HH  
Newcastle upon Tyne  
☎ +44 91 232 8511
- Nephron-segment specific binding of monoclonal antibodies**  
Simmons, Dr.N.L.  
Kidney / Monoclonal / Antibody / Immunology / Physiology

- University of Newcastle upon Tyne**  
Department of Pathology  
Royal Victoria Infirmary  
NE1 4LP  
Newcastle upon Tyne  
☎ +44 91 232 8511
- Cloning and characterization of proviral sequences in human DNA that are related to the mouse mammary tumour virus**  
Westley, Dr.B.R.  
Cloning / Sequence / Human / DNA / Mouse / Tumour / Virology / Cancer / Molecular genetics
- Cloning and characterization of oestrogen regulated genes in human breast cancer cells. Regulation of gene expression by oestrogens and antioestrogens**  
Westley, Dr.B.R.  
Cloning / Estrogen / Regulation / Gene / Human / Cancer / Expression / Molecular genetics
- Development of human monoclonal thyroid autoantibodies**  
McLachlan, Dr.S.M.  
Human / Monoclonal / Antibody / Endocrinology
- University of Oxford**  
Department of Biochemistry  
South Parks Road  
OX1 3QU  
Oxford  
☎ +44 865 511261
- Control of vitellogenin gene activation by estrogen receptor, affinity labelling of receptor and cloning its gene; how steroids control genes**  
Knowland, Dr.J.S.  
Regulation / Gene / Activation / Estrogen / Receptor / Cloning / Molecular genetics / Biochemistry
- Analysis of replication functions of the yeast plasmid, 2 microns**  
Kingsman, Dr.S.M.  
Replication / Yeast / Plasmid / Biochemistry / Molecular genetics
- Analysis of the expression signals of the PGK and TRP1 genes of *S cerevisiae***  
Kingsman, Dr.S.M.  
Expression / Gene / Yeast / Biochemistry / Molecular genetics
- Functional analysis of human DNA sequences that replicate in *S cerevisiae***  
Kingsman, Dr.S.M.  
Human / DNA / Sequence / Replication / Yeast / Biochemistry / Molecular genetics
- Construction of yeast expression vectors**  
Kingsman, Dr.A.J.  
Yeast / Expression / Vector / Biochemistry / Molecular genetics
- Factors affecting mammalian gene expression in *S cerevisiae***  
Kingsman, Dr.A.J.  
Gene / Expression / Yeast / Mammal / Biochemistry / Molecular genetics
- Gene activation in yeast and mammalian cells**  
Kingsman, Dr.A.J.  
Gene / Activation / Yeast / Mammal / Biochemistry / Molecular genetics
- Structure and function of dispersed transposable repetitive sequences in *S cerevisiae***  
Kingsman, Dr.A.J.  
Sequence / Yeast / Transposon / Biochemistry
- Role of auxillary oxidoreductases in photosynthetic bacteria: electron transfer reactions in denitrifying bacteria**  
Ferguson, Dr.S.J.  
Oxidoreductase / Photosynthesis / Denitrification / Bacterium / Biochemistry
- Immobilised firefly luciferase for detection of bacterial contamination of fluids**  
Chaplin, Dr.M.F.  
Immobilization / Enzyme / Pollution / Bacterial / Liquid / Biochemistry
- University of Oxford**  
Department of Biochemistry, Microbiology Unit  
South Parks Road  
OX1 3QU  
Oxford  
☎ +44 865 511261
- Microbially-mediated accumulation of heavy metals from dilute solutions, treatment of liquid industrial wastes, and metal recovery**  
Macaskie, Dr.L.E.  
Microbial / Purification / Heavy metal / Liquid / Industrial / Waste / Environment / Environmental biotechnology
- Recombination, transposition and evolution of plasmids of *Staphylococcus aureus*. Evolution and genetic manipulation of beta-lactamases**  
Dyke, Dr.K.G.H.  
Recombination / Plasmid / Evolution / *Staphylococcus* / Beta / Lactamase / Gene technology / Microbiology
- University of Oxford**  
Bioengineering  
Churchill Hospital, Headington  
OX3 7LJ  
Oxford  
☎ +44 865 64841
- Characterization of and improvement to the blood compatibility of clinical transducers and biosensors**  
Martin, Dr.M.  
Biosensor / Engineering / Blood / Optimization
- University of Oxford**  
Department of Plant Sciences  
South Parks Road  
OX1 3RA  
Oxford  
☎ +44 865 53391
- Development of tissue culture and micropropagation for the improvement of forest and ornamental trees**  
Woodward, Dr.S.  
Tissue / Cultivation / Plant / Forestry
- The biological control of weeds using fungal pathogens**  
Wilson, Miss.S.  
Regulation / Biological / Plant / Fungus / Pathogen / Ecology
- Effect of amino acid analogues on wood decay and wood inhabiting fungi**  
Watkinson, Dr.S.C.  
Amino acid / Fungus / Plant / Ecology
- Structure of crystalline ribulose-bis-phosphate carboxylase**  
Whatley, Prof.F.R.  
Carboxylase / Structure / Biophysics
- Plant tissue culture and specific chemical production with particular reference to compounds of medical interest such as antifungals and pharmaceuticals**  
Fuller, Dr.K.W.  
Plant / Tissue / Cultivation / Production / Chemical / Drug / Pharmaceutical industry
- The nature of an extrachromosomal determinant affecting translation in yeast; nonsense suppressor modifier**  
Cox, Dr.B.S.  
Translation / Yeast / Suppression / Molecular genetics
- Genetic control of DNA repair, recombination and mutagenesis in yeast**  
Boyce, Mrs.J.  
Regulation / DNA / Repair / Recombination / Mutation / Origin / Yeast / Molecular genetics
- University of Oxford**  
Nuffield Department of Clinical Biochemistry  
John Radcliffe Hospital  
OX3 9DU  
Oxford  
☎ +44 865 64711
- Studies on the mode of action of hypoglycaemic agents of plant origin**  
Noor, H.  
Bioactive agent / Vegetable / Plant / Clinical / Biochemistry
- Potential protective biochemical functions of the human amnion with reference to glycoprotein biosynthesis**  
Kent, P.W.  
Clinical / Biochemistry / Glycoprotein / Biosynthesis
- Characterization of gluco-conjugates in human urine and their diagnostic value in human disease**  
Adediji, Dr.O.O.  
Diagnosis / Clinical / Biochemistry / Glucose / Diabetes
- University of Oxford**  
Nuffield Department of Clinical Medicine and MRC Molecular Haematology Unit  
John Radcliffe Hospital, Headington  
OX3 9DU  
Oxford  
☎ +44 865 64711
- Analysis of gene expression in cell hybrids**  
Zeitlin, Dr.H.  
Gene / Expression / Molecular genetics / Cell / Hybridization
- Preparation of a genomic library from *P falciparum***  
Robson, Dr.K.J.H.  
Molecular genetics / Genome / Hematology / Parasite / Blood
- Molecular basis of beta thalassaemias**  
Old, Dr.J.M.  
Molecular / Hematology / Blood / Disease
- Genetic and molecular characterization of alpha thalassaemia syndromes**  
Higgs, Dr.D.R.  
Molecular / Hematology / Genetics / Blood / Disease
- University of Oxford**  
Dyson Perrins Laboratory  
South Parks Road  
OX1 3QY  
Oxford  
☎ +44 865 59601
- Amino acid and peptide chemistry; heterocyclic and mechanistic aspects; synthetic methods; biologically active peptides**  
Jones, Dr.J.H.  
Amino acid / Peptide / Synthesis / Organic chemistry / Biological / Activity / Pharmaceutical industry

**Synthesis and biosynthesis of beta-lactam antibiotics**

Baldwin, Prof.J.E.

Synthesis / Biosynthesis / Antibiotic / Pharmacy / Biochemistry / Pharmaceutical industry

**Reversible oxygen carriers as blood substitutes and enrichment devices. Novel membrane separation technology**

Baldwin, Prof.J.E.

Oxygen / Blood / Engineering / Membrane apparatus / Separation

 **University of Oxford**Inorganic Chemistry Laboratory  
South Parks Road  
OX1 3QR  
Oxford

☎ +44 865 53424

**Kinetic studies of electron-transfer between protein molecules. To explore and exploit the catalytic and modulatory properties of specific small molecules**

Armstrong, Dr.F.A.

Kinetics / Protein / Molecular / Catalysis / Biological

 **University of Oxford**Molecular Biophysics Laboratory  
Department of Zoology, South Parks Road  
OX1 3PS  
Oxford

☎ +44 865 56733

**Structure and function of the receptors for epidermal growth factor**

Rees, Dr.A.R.

Structure / Receptor / Growth / Bioactive agent / Biophysics / Molecular

**Studies of antigen-monoclonal antibody interactions using NMR and computer modelling**

Rees, Dr.A.R.

Antigen / Monoclonal / Antibody / Interaction / NMR / Biocomputing / Computer / Modelling / Biophysics / Molecular

**Modification of monoclonal antibodies to proteins by site-directed mutagenesis**

Rees, Dr.A.R.

Modification / Monoclonal / Antibody / Protein / Mutation / Origin / Biophysics / Molecular

**X-ray diffraction studies of the structure and activity of the beta-lactamases of *B. cereus***

Phillips, Sir Prof.D.

Diffraction / Structure / Activity / Beta / Lactamase / Bacillus / Biophysics / Molecular

**X-ray diffraction studies of the structures and interaction of immunoglobulins**

Phillips, Sir Prof.D.

Diffraction / Structure / Interaction / Immunoglobulin / Biophysics / Molecular

**The use of interactive graphics in the study of biological molecules**

Phillips, Sir Prof.D.

Molecular / Biophysics

**Molecular dynamics calculations to simulate the mobility of globular proteins**

Phillips, Sir Prof.D.

Molecular / Dynamics / Protein / Biophysics

**Use of the CRAY-1 computer for the least squares refinement of protein structures using X-ray data**

Phillips, Sir Prof.D.

Protein / Structure / Diffraction / Biocomputing / Biophysics / Molecular

**X-ray diffraction studies of the structure and activation of prothrombin**

Blake, Dr.C.C.F.

Diffraction / Structure / Activity / Protein / Blood / Clotting / Biophysics / Molecular

**X-ray diffraction and NMR studies of the structure and activity of manganese superoxide dismutase**

Blake, Dr.C.C.F.

Diffraction / NMR / Structure / Manganese / Enzyme / Biophysics / Molecular

**X-ray diffraction studies of the structure and binding interactions of the thyroid hormone binding protein, transthyretin (prealbumin)**

Blake, Dr.C.C.F.

Diffraction / Structure / Interaction / Hormone / Protein / Biophysics / Molecular

**X-ray diffraction studies of ribulose-bisphosphate carboxylase (RUBISCO) structure and activity**

Adams, Dr.M.J.

Diffraction / Carboxylase / Structure / Activity / Biophysics / Molecular

**X-ray diffraction studies of glucose-6-phosphate dehydrogenase structure and activity**

Adams, Dr.M.J.

Diffraction / Glucose dehydrogenase / Structure / Activity / Biophysics / Molecular

 **University of Oxford**Osler Chest Unit  
Churchill Hospital, Headington  
OX3 7LJ  
Oxford

☎ +44 865 64841

**DNA, antibody and antigen studies in pneumocystis carinii infection: applications in biology, epidemiology and diagnosis**

Hopkin, Dr.J.M.

DNA / Antibody / Antigen / Infection / Protozoan / Lung / Immunology / Diagnosis

 **University of Oxford**Nuffield Department of Obstetrics and Gynaecology  
John Radcliffe Hospital, Maternity Department, Headington  
OX3 9DU  
Oxford

☎ +44 865 817571

**Anticardiolipin antibodies and thrombosis**

Cederholm-Williams, Dr.S.A.

Antibody / Phospholipid / Blood / Hematology / Immunology

**Role of autoantibodies to vascular endothelium in thrombosis**

Cederholm-Williams, Dr.S.A.

Antibody / Vessels / Endothelium / Blood / Hematology / Immunology

**Examination of blood factors related to acute myocardial infarction**

Cederholm-Williams, Dr.S.A.

Blood / Heart infarction / Cardiology / Hematology

 **University of Oxford**Physical Chemistry Laboratory  
South Parks Road  
OX1 3QZ  
Oxford

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**Binding of small molecules to enzymes studied by quantum mechanics**

Richards, Dr.W.G.

Molecule / Enzyme / Physical chemistry

 **University of Oxford**Sir William Dunn School of Pathology  
South Parks Road  
OX1 3RE  
Oxford

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**Foreign DNA in animal cells**

Rodgers, Dr.A.

DNA / Animal / Cell / Molecular biology

**Regulation of gene expression in somatic cell hybrids**

Goss, Dr.S.J.

Regulation / Gene / Expression / Cell / Hybridization / Molecular genetics

**Genetic analysis of macrophage phenotype by cell hybridization. Synthesis and secretion of plasminogen activator and other products by activated macrophages**

Gordon, Dr.S.

Genetics / Macrophage / Hybridization / Biosynthesis / TPA / Secretion / Activation / Cell biology

**Structure and organization of human globin and lipid carrier protein gene systems**

Baralle, Dr.F.E.

Structure / Protein / Lipid / Gene / Biochemistry

**Biosynthesis of beta lactam antibiotics by *Penicillium chrysogenum*, *Cephalosporium acremonium* and *Streptomyces* species**

Abraham, Sir Prof.E.

Biosynthesis / Antibiotic / Bacterium / Fungus / Microbiology

 **University of Oxford**Nuffield Department of Pathology and Bacteriology  
John Radcliffe Hospital, Headington  
OX3 9DU  
Oxford

☎ +44 865 64711

**Monoclonal antibodies to human macrophages and the role of macrophages in human neoplasia**

McGee, Prof.J.O.D.

Monoclonal / Antibody / Macrophage / Cancer / Cell biology / Immunology

 **University of Oxford**Department of Zoology  
South Parks Road  
OX1 3PS  
Oxford

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**Genetic and biochemical methods are being used to study the control of DNA replication in the yeast *Saccharomyces cerevisiae***

Kearsey, Dr.S.E.

DNA / Replication / Yeast / Molecular biology / Microbiology

 **Queen's University of Belfast**Department of Agricultural Botany  
Agriculture and Food Science Centre,  
Newforge Lane  
BT9 5PX  
Belfast

☎ +44 232 661166

**The micropropagation of coniferous forest trees through tissue culture**

Selby, C.

Cultivation / Plant / Tissue / Botany / Forestry

**Electrophoretic techniques to aid varietal identification and classification**

Gilliland, Dr.T.J.  
Electrophoresis / Recognition / Taxonomy / Botany / Agriculture

**Use of tissue culture techniques to produce somatic variation for potato breeding**

Evans, Dr.N.E.  
Tissue / Cultivation / Potato / Botany / Agriculture

**Electrophoretic labelling of perennial ryegrass cultivars for examination of seed mixtures**

Camlin, Dr.M.S.  
Electrophoresis / Plant / Cultivation / GERM CELL / Botany / Agriculture

**Biochemical and physiological techniques to aid varietal identification and classification**

Camlin, Dr.M.S.  
Botany / Agriculture / Recognition / Taxonomy

□ **Queen's University of Belfast**

Department of Agricultural and Food Bacteriology  
Agriculture and Food Science Centre,  
Newforge Lane  
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Belfast  
☎ +44 232 661166

**Characterization of fungal polygalacturonase pectinase, and associated enzymes for use in the food industry**

McKay, Dr.A.M.  
Fungus / Pectinase / Food / Industry / Nutritional branch / Microbiology / Biochemistry

**Identification of Rhizobia in legume root nodules by DNA-DNA hybridization using strain specific nucleic acid probes**

Cooper, Dr.J.E.  
Recognition / Rhizobium / DNA / Hybridization / Probes / Genetics / Microbiology / Agriculture

**Genetic improvement of food grade yeasts. Develop methods for transfer and expression of genetic determinants in food yeasts**

Collins, Dr.M.A.  
Optimization / Yeast / Food / Nutritional branch / Transfer / Expression / Genetics / Microbiology

**Pigment production in microbes. Aimed at producing food compatible pigments**

Collins, Dr.M.A.  
Pigment / Production / Food / Microbial / Nutritional branch / Microbiology

**Genetic organization in the genus Lactobacillus. Aimed at a further understanding of genetic organization and control in food starter cultures**

Collins, Dr.M.A.  
Genetics / Bacteriology / Lactobacillus / Regulation / Starter culture / Food / Industry / Nutritional branch

□ **Queen's University of Belfast**

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Newforge Lane  
BT9 5PX  
Belfast  
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**Biochemistry and enzymology of halomethane biosynthesis by fungi**

Harper, Dr.D.B.  
Biochemistry / Enzymology / Organic substance / Biosynthesis / Fungus / Microbiology

**Nitrile and oxime biosynthesis and degradation by bacteria**

Harper, Dr.D.B.  
Organic substance / Biosynthesis / Degradation / Bacterium / Microbiology / Biochemistry

**Enzymology and biochemistry of halomethane production by fungi**

Harper, Dr.D.B.  
Enzymology / Biochemistry / Production / Fungus / Organic substance / Microbiology

**Algal culture in farm wastes**

Garrett, Dr.M.K.  
Alga / Cultivation / Waste / Technology / Environment / Agriculture

□ **Queen's University of Belfast**

Department of Biochemistry  
Belfast  
BT7 7BL  
☎ +44 232 245133

**Assay of evaluation of polypeptide disease markers in body fluids**

Wisdom, Dr.G.B.  
Assay / Polypeptide / Disease / Marker / Biochemistry / Clinical

**Cloning of measles and canine distemper virus DNA transcripts in bacteria**

Rima, Dr.B.K.  
Cloning / Infection / Viral / DNA / Transcription / Bacterium / Gene technology / Biochemistry

**Structure-function relations in cholecystokinins**

Murphy, Prof.R.F.  
Structure / Activity / Polypeptide / Hormone / Biochemistry

**Structure-function relationships in gastrins**

Murphy, Prof.R.F.  
Structure / Activity / Polypeptide / Hormone / Biochemistry

**Synthesis of polypeptide hormones and production of specific antibodies**

Murphy, Prof.R.F.  
Synthesis / Polypeptide / Hormone / Antibody / Biochemistry / Immunology

**Examination of 2-D electrophoresis patterns in dystrophic muscle by microcomputer/vidicon camera**

McFerran, Dr.N.V.  
Electrophoresis / Muscle / Computer / Biocomputing / Biochemistry

**Characterization of the mumps genome by cloning and sequencing cDNAs**

Martin, Prof.S.J.  
Genome / Cloning / Sequencing / cDNA / Infection / Viral / Biochemistry / Molecular genetics

**Bovine enterovirus as a vector for carrying immunogenic fragments of other agents**

Martin, Prof.S.J.  
Bovine animal / RNA virus / Vector / Immunology / Biochemistry

**Application of virus specific probes to tissues of patients with multiple sclerosis**

Martin, Prof.S.J.  
Virus / Probes / Tissue / Multiple sclerosis / Biochemistry / Pathology

**Identification of linear epitopes and production of antibodies to protein molecules**

Irvine, Dr.G.B.  
Recognition / Antibody / Protein / Biochemistry / Immunology

**Synthesis and biological activity of thionopeptide analogues of C-terminal fragments of cholecystokinins and gastrin**

Elmore, Prof.D.T.  
Peptide / Synthesis / Activity / Hormone / Biochemistry

**Design and development of new matrices for solid-phase peptide synthesis**

Elmore, Prof.D.T.  
Peptide / Synthesis / Solid / Biochemistry

**Synthesis of peptide derivatives as potential inhibitors of tumour metastasis**

Elmore, Prof.D.T.  
Synthesis / Peptide / Inhibitor / Tumour / Biochemistry

**Automated synthesis and biochemical applications of oligodeoxyribonucleotides**

Davies, Dr.R.J.H.  
Automation / Synthesis / Oligonucleotide / Biochemistry

**Examination of Methanobrevibacter smithii for proteolytic activities: isolation of enzymes, purification, specificity and amino acids associated with their active sites**

Blumsom, Dr.N.L.  
Methanobacterium / Hydrolysis / Enzyme / Amino acid / Biochemistry / Microbiology

□ **Queen's University of Belfast**

Department of Chemical Engineering  
21 Chlorine Gardens  
BT9 5DL  
Belfast  
☎ +44 232 661111

**Synthesis and characterization of polymeric supports for use in immobilized enzyme reactors**

Otterburn, Dr.M.S.  
Synthesis / Polymer / Immobilization / Enzyme / Bioreactor / Chemical engineering / Bioprocess engineering

**Immobilized cell bioreactor for production of enzymes**

Otterburn, Dr.M.S.  
Immobilization / Cell / Bioreactor / Production / Enzyme / Bioprocess engineering

**Mass transfer in fermentations systems**

Holland, Dr.C.R.  
Biomass / Fermentation / Bioprocess engineering

**SCP recovery using dissolved air flotation**

Holland, Dr.C.R.  
SCP / Bioprocess engineering

**Utilization of mollusc resources to produce protein concentrates**

Holland, Dr.C.R.  
Protein / Concentrating / Invertebrate / Physical chemistry

**The preparation of chitosan from Crustacea shells and its use in the adsorption of heavy ions from effluents**

Blair, Dr.H.S.  
Polysaccharide / Crustacean / Adsorption / Heavy metal / Physical chemistry / Environment / Environmental technology

**The adsorption of metal ions by alginic acid, chitosan and other polysaccharides**

Blair, Dr.H.S.  
Adsorption / Metal / Ion / Polysaccharide / Physical chemistry

□ **Queen's University of Belfast**

Department of Microbiology and Immunobiology  
Grosvenor Road  
BT12 6BN  
Belfast  
☎ +44 232 240503

**Preparation of monoclonal antibodies to Fasciola hepatica antigens**

Trudgett, Dr.A.  
Monoclonal / Antibody / Antigen / Parasite / Immunology

**Preparation of monoclonal antibodies to factors controlling B-lymphocyte growth**  
Trudgett, Dr.A.  
Monoclonal / Antibody / Lymphocyte / Growth / Regulation / Immunology

**Preparation of monoclonal antibodies to varicella zoster virus and cytomegalovirus**  
Shirodaria, Dr.P.V.  
Monoclonal / Antibody / Immunology / DNA virus

□ **Queen's University of Belfast**  
Department of Mycology and Plant Pathology  
Newforge Lane  
BT9 5PX  
Belfast  
☎ +44 232 661166

**Development and field evaluation of potato micropropagation methods**  
Copeland, Dr.R.B.  
Cultivation / Potato / Botany / Agriculture

**Protein from potato using filamentous micro-fungi**  
Blakeman, Prof.J.P.  
Protein / Potato / Fungus / Agriculture

□ **Queen's University of Belfast**  
Department of Mental Health  
Belfast  
BT7 1NN  
☎ +44 232 245133

**The behaviour of peptidases towards synthetic modified peptides**  
Williams, Dr.C.H.  
Peptidase / Peptide / Biochemistry

□ **Queen's University of Belfast**  
Department of Pathology  
Royal Victoria Hospital  
BT12 6BL  
Belfast  
☎ +44 232 240503

**Determination of viral gene sequence in multiple sclerosis tissue by nucleic acid hybridization**  
Cosby, Dr.S.L.  
Viral / Gene / Sequence / Multiple sclerosis / Tissue / Nucleic acid / Hybridization / Pathology / Biochemistry

**Determination of viral gene sequences in schizophrenia tissue by nucleic acid hybridization**  
Cosby, Dr.S.L.  
Viral / Gene / Sequence / Nucleic acid / Hybridization / Tissue / Pathology / Biochemistry

□ **Queen's University of Belfast**  
Department of Therapeutics and Pharmacology  
Whitla Medical Building, 97 Lisburn Road  
BT9 7BL  
Belfast  
☎ +44 232 229241

**Interactions between interferons and antioestrogens in cultured breast cancer cells**  
Berg, Dr.H.W. van den  
Interaction / Interferon / Cell / Cultivation / Estrogen / Cancer / Pharmacology

**Studies of viral nucleic acid in schizophrenic post-mortem brain by in situ hybridization**  
King, Dr.D.J.  
Viral / Nucleic acid / Brain / In situ / Hybridization / Pathology / Biochemistry

□ **University of Reading**  
Department of Botany  
Plant Science Laboratories, Whiteknights  
RG6 2AS  
Reading  
☎ +44 734 875123

**Molecular interactions during the recognition processes involved in the self-incompatibility mechanisms of Brassica breeding systems**  
Dickinson, Prof.H.G.  
Molecular / Interaction / Recognition / Cultivation / Useful plant / Botany

□ **University of Reading**  
Department of Chemistry  
PO Box 224  
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Whiteknights  
☎ +44 734 875123

**Wine; fermentation of fruit-based and other musts**  
Fowles, Prof.G.W.A.  
Wine / Fermentation / Biochemistry / Nutritional branch / Industry

□ **University of Reading**  
Department of Food Science and Technology (Food Technology)  
Food Studies Building, Whiteknights  
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**Mathematical modelling of a semi solid phase bioreactor**  
Pyle, Prof.D.L.  
Modelling / Bioreactor / Bioprocess engineering / Industry

**Simultaneous stripping and fermentation: development of novel fermenters**  
Pyle, Prof.D.L.  
Fermentation technology / Bioreactor / Food / Industry / Nutritional branch

**Effects of substrate concentration and hydrodynamics on performance of attached film expanded anaerobic fermenters**  
Pyle, Prof.D.L.  
Substrate / Concentration / Dynamics / Anaerobic / Bioreactor / Fermentation technology / Food / Industry / Nutritional branch

**Fundamental behaviour of immobilized C acetobutylicum cells**  
Pyle, Prof.D.L.  
Immobilization / Cell / Clostridium / Bioprocess engineering / Food / Industry / Nutritional branch

**Application of liquid membrane extraction and related emulsion technology to fermentations**  
Pyle, Prof.D.L.  
Liquid / Membrane apparatus / Extraction / Emulsion / Fermentation technology / Food / Industry / Nutritional branch

**Solid state fermentations: applications to by-product formation and beneficiation**  
Pyle, Prof.D.L.  
Solid / Fermentation technology / Food / Industry / Nutritional branch

**Anaerobic baffled fermenter performance and dynamics**  
Pyle, Prof.D.L.  
Anaerobic / Bioreactor / Dynamics / Fermentation technology / Food / Industry / Nutritional branch

**Biochemical activities of lactic acid bacteria in rice-fish fermentations**  
Lian, Miss.P.H.S.  
Biochemistry / Fermentation / Lactic acid / Lactobacillus / Microbiology / Food / Industry / Nutritional branch

**Properties of immobilized luciferase**  
Kozlov, Dr.I.A.  
Immobilization / Enzyme / Biochemistry

**Purification and properties of oxidation/reduction enzymes involved in lignin biodegradation**  
Jones, Dr.G.D.  
Enzyme / Lignin / Degradation / Oxidation / Reduction / Biochemistry

**Biosynthesis, regulation and characterization of the polymerase/de-polymerase system of polymer granules in bacteria**  
Asenjo, Dr.J.A.  
Biosynthesis / Regulation / Polymerase / Bacterium / Biochemistry

**Design and synthesis of separation sequences and downstream processes in biotechnology**  
Asenjo, Dr.J.A.  
Downstream processing / Bioprocess engineering / Industry

**Design and use of lytic enzyme systems for the controlled lysis of microbial cells**  
Asenjo, Dr.J.A.  
Enzyme / Cell / Microbial / Biochemistry / Degradation

□ **University of Reading**  
Department of Microbiology  
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RG1 5AQ  
Reading  
☎ +44 734 875234

**Carbon dioxide effects in large-scale fermentations including single cell protein production**  
Zatman, Dr.L.J.  
Carbon / Dioxide / Fermentation / SCP / Production scale / Microbiology

**Monoclonal antibodies against Salmonella spp**  
Tiffin, Dr.A.I.  
Monoclonal / Antibody / Salmonella / Bacteriology / Immunology

**Detection of small numbers of spoilage yeasts in soft drinks**  
Tiffin, Dr.A.I.  
Yeast / Pollution / Drink / Microbiology / Industry

**Monoclonal antibodies against Campylobacter jejuni**  
Tiffin, Dr.A.I.  
Monoclonal / Antibody / Bacteriology / Immunology / Spirillaceae

**Use of monoclonal antibodies in the identification and study of bacterial antigens**  
Tiffin, Dr.A.I.  
Monoclonal / Antibody / Recognition / Bacterial / Antigen / Bacteriology / Immunology

**Development of practical microbiology and biotechnology work for schools**  
Grainger, Dr.J.M.  
Microbiology / Biotechnology / Education

**Waste management aspects of environmental biotechnology microbial degradation and re-use of cellulosic materials**  
Grainger, Dr.J.M.  
Environmental biotechnology / Environment / Waste / Microbial / Degradation / Recycling / Cellulose / Microbiology

**Development of new vaccines against poliomyelitis**

Almond, Prof.J.W.  
Vaccine / Virology / Immunology / Infection / Viral

**Development of new vaccines against Hepatitis A**

Almond, Prof.J.W.  
Vaccine / Hepatitis / Virology / Immunology

**Molecular virology of RNA viruses**

Almond, Prof.J.W.  
Molecular / Virology / RNA virus

□ **University of Reading**  
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Reading  
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**Structure and expression of genes for milk proteins**

Skidmore, Dr.C.J.  
Structure / Gene / Expression / Milk / Protein / Biochemistry / Molecular genetics

**Development of a DNA probe for the diagnosis of Toxoplasma infections in humans and in farm animals**

Savva, Dr.D.  
DNA / Probes / Diagnosis / Protozoon / Infection / Man / Animal / Biochemistry / Medicine / Veterinary medicine

**Restriction fragment length polymorphisms as linkage markers for production traits in farm animals (IGAP-University of Reading Joint Molecular Biology Group)**

Perry, Dr.B.N.  
Restriction / Polymorphism / Marker / Molecular biology / Biochemistry / Veterinary medicine / Animal

**Multiple simultaneous syntheses of oligomers of defined sequence**

Nicholson, Dr.B.H.  
Synthesis / Sequence / Biochemistry

**Protein folding predictions**

Nicholson, Dr.B.H.  
Protein / Folding / Biochemistry

**Production of peptides using recombinant DNA procedures**

Lowry, Prof.P.J.  
Peptide / Recombination / DNA / Biochemistry

**Atrial natriuretic peptide/radioimmuno-metric analysis in plasma**

Lowry, Prof.P.J.  
Peptide / RIA / Blood plasma / Clinical / Biochemistry / Endocrinology

□ **University of Reading**  
Department of Soil Science  
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**Selection of Rhizobium inoculants**

Wood, Dr.M.  
Rhizobium / Soil / Microbiology

□ **University of Strathclyde**  
Division of Applied Microbiology,  
Department of Bioscience and Biotechnology  
Royal College, 204 George Street  
G1 1XW  
Glasgow  
☎ +44 41 552 4400

**Proteinases in soy sauce fermentation**

Wood, Dr.B.J.B.  
Protease / Food / Fermentation / Industry / Microbiology / Biochemistry

**Oil biodegradation on the railway track**

Wood, Dr.B.J.B.  
Oil / Degradation / Biological / Environment / Microbiology

**Acetic acid bacteria; growth and metabolic activities in relation to fermenter design**

Todd, R.E.  
Acetic acid / Acetobacter / Microbiology / Bioreactor / Bioprocess engineering

**Microbiology of landfill leachate**

Senior, Dr.E.  
Microbiology / Waste / Leaching / Environment / Environmental biotechnology

**Modelling in situ microbial processes in one landfill site**

Senior, Dr.E.  
Modelling / In situ / Microbiology / Waste / Environment / Environmental biotechnology

**Landfill co-disposal: an option for phenolic wastes**

Senior, Dr.E.  
Waste / Phenol / Degradation / Environmental biotechnology / Environment

**The microbiology and biochemistry of lignin catabolism**

Senior, Dr.E.  
Microbiology / Biochemistry / Lignin / Degradation

**Beta-lactamase studies on Staphylococcus strains**

McIntosh, Dr.A.F.  
Beta / Lactamase / Staphylococcus / Microbiology / Biochemistry

**Genetics and stability of flocculation in yeast**

Johnston, Dr.J.R.  
Genetics / Microbiology / Yeast / Flocculation / Industry

**Flocculation and transformation of industrial strains of yeast**

Johnston, Dr.J.R.  
Flocculation / Transformation / Yeast / Industry / Bioprocess engineering / Microbiology

**Genetic improvement of industrial yeast, in particular by hybridization and transformation**

Johnston, Dr.J.R.  
Gene technology / Industry / Yeast / Hybridization / Transformation / Optimization

**Enzymes as industrial catalysts in low water, mainly organic reaction mixtures - especially syntheses catalysed by hydrolases**

Halling, Dr.P.J.  
Enzyme / Biological / Catalysis / Water / Organic / Reaction / Mixture / Bioprocess engineering / Chemical engineering / Industry

**Interaction of fungal and barley amylases in brewing and distilling processes**

Berry, Dr.D.R.  
Fungus / Amylase / Useful plant / Distillation / Drink / Industry / Bioprocess engineering

**Control of growth and enzyme formation in Saccharomycopsis fibuligera**

Berry, Dr.D.R.  
Regulation / Enzyme / Yeast / Microbiology / Industry

**Factors influencing the formation of glycerol in alcoholic fermentations**

Berry, Dr.D.R.  
Fermentation / Alcohol / Glycerol / Microbiology / Industry

**Effect of different plasmid size and copy number on the process kinetics of yeast growth in aerobic and anaerobic conditions**

Berry, Dr.D.R.  
Plasmid / Kinetics / Bioprocess engineering / Yeast / Microbiology / Aerobic / Industry

**Applications of gene manipulation and yeast physiology to potable spirit and wine production**

Berry, Dr.D.R.  
Gene technology / Yeast / Microbiology / Production / Drink / Industry

**Factors influencing alcohol toxicity in yeast ethanol fermentations role of fusel alcohols**

Berry, Dr.D.R.  
Microbiology / Alcohol / Fermentation / Toxic / Bioprocess engineering / Industry / Yeast

**Physiological studies on flavour production control during whisky fermentation**

Berry, Dr.D.R.  
Microbiology / Flavour / Production / Control / Bioprocess engineering / Fermentation / Drink / Industry

**Development and applications of a novel rotating disc fermenter suitable for the cultivation of filamentous fungi**

Anderson, Dr.J.G.  
Bioreactor / Fermentation technology / Cultivation / Fungus / Industry

**Production of penicillin using rotating disc fermenters**

Anderson, Dr.J.G.  
Production / Penicillin / Bioreactor / Fermentation technology / Pharmaceutical industry

□ **University of Strathclyde**  
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Glasgow  
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**Role of interleukin 1 in rheumatoid arthritis**

Watson, Dr.J.  
Interleukine / Immunology

**Biochemistry of citrate production by Aspergillus niger: understanding the biochemical mechanisms that underlie the commercial process of citric acid production**

Mattey, Dr.M.  
Biochemistry / Citric acid / Mycelial fungus / Microbiology / Production / Industry

**Synthetic blood group antigens and related substances**

Marshall, Prof.R.D.  
Blood group / Antigen / Synthetic / Biochemistry

**Glycoprotein engineering**

Marshall, Prof.R.D.  
Glycoprotein / Protein design / Biochemistry

**Expression of foreign genes in cultured animal cells**

MacDonald, Dr.C.M.  
Gene / Expression / Animal / Cell / Cultivation / Molecular genetics

**Study of lipolytic enzymes of filamentous fungi particularly using non-aqueous system of assay with substrates dissolved in organic solvents**

Blain, Dr.J.A.  
Enzyme / Lipid / Fungus / Assay / Substrate / Solvent / Organic / Biochemistry / Microbiology

- University of Strathclyde**  
Division of Biology, Department of  
Bioscience and Biotechnology  
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Glasgow  
☎ +44 41 552 4400
- Sulphur metabolism in landfill**  
Senior, Dr.E.  
Sulphur / Metabolism / Waste / Biochemistry /  
Microbiology / Environment
- Induction of nodulins in *Alnus* root cells in  
response to infection with the *Frankia*  
endophyte**  
Gardner, Dr.I.C.G.  
Induction / Plant / Bacterium / Botany
- Symbiotic associations in plants, in particular  
the nitrogen fixing root nodules of  
non-leguminous plants - ultrastructural and  
cytochemical investigations**  
Gardner, Dr.I.C.G.  
Symbiosis / Plant / Nitrogen / Fixation / Fine  
structure / Botany
- Molecular cloning of *Toxoplasma gondii* surface  
antigen genes**  
Burdon, Prof.R.H.  
Molecular genetics / Cloning / Antigen / Surface /  
Gene / Protozoon / Parasitic
- University of Strathclyde**  
Division of Chemical and Process  
Engineering, Department of Mechanical  
and Process Engineering  
James Wier Building, 75 Montrose Street  
G1 1XJ  
Glasgow  
☎ +44 41 552 4400
- Production of malic acid by immobilized fungal  
whole cells**  
Todd, Dr.J.R.  
Production / Malic acid / Immobilization / Fungus /  
Cell / Bioprocess engineering / Microbiology /  
Industry
- Rotating disc fermenter applications**  
Todd, Dr.J.R.  
Bioreactor / Bioprocess engineering / Industry
- Production of organic acids by *Acetobacter*  
species in film fermenters**  
Todd, Dr.J.R.  
Production / Organic / AMINO ACID / *Acetobacter* /  
Bioreactor / Bioprocess engineering / Microbiology /  
Industry
- Application of membrane technology to animal  
cell fermentations and product recovery**  
Larsen, Dr.V.F.  
Engineering / Membrane apparatus / Animal / Cell /  
Fermentation / Production / Bioprocess  
engineering / Industry
- Kinetic study of fermentation and metabolic  
pathways in citric acid production from  
carbohydrates by yeasts in conventional and  
novel fermenters**  
Larsen, Dr.V.F.  
Kinetics / Fermentation / Metabolism / Citric acid /  
Polyalcohol / Yeast / Bioreactor / Biochemistry /  
Bioprocess engineering / Industry
- Development of an on-line rheometer for the  
monitoring of polymer production by  
fermentation**  
Larsen, Dr.V.F.  
Apparatus / Measurement / Rheology / Monitoring /  
Polymer / Fermentation / Bioprocess engineering /  
Industry
- Mathematical modelling of genetically  
manipulated yeasts growing in batch and  
continuous culture**  
Larsen, Dr.V.F.  
Modelling / Yeast / Batch / Continuous /  
Cultivation / Modification / Genetic / Microbiology /  
Industry
- Application of high rate low energy input  
bioreactors to ethanol fermentation**  
Larsen V.F.Dr  
Energy / Bioreactor / Ethanol / Fermentation /  
Bioprocess engineering / Industry
- Use of micro- and mainframe computers in the  
evaluation of the kinetic parameters and in the  
simulation of biological processes**  
Larsen, Dr.V.F.  
Computer / Biocomputing / Kinetics / Simulation
- Measurement and control of water in low-water  
systems for enzyme reactors**  
Bell, Dr.G.  
Control / Measurement / Enzyme / Water /  
Bioreactor / Bioprocess engineering / Industry
- University of Strathclyde**  
Energy Studies Unit  
Glasgow  
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☎ +44 41 552 4400
- Overview of current developments in industrial  
microbiology of potential commercial  
importance**  
Lewis, Dr.C.W.  
Microbiology / Industrial / Consulting
- University of Strathclyde**  
Division of Food Science, Department of  
Bioscience and Biotechnology  
James P Todd Building, 131 Albion Street  
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- Thermal resistance of spores of mesophilic and  
thermophilic spore forming bacteria in model  
systems, and effects of growth and recovery  
conditions**  
Scholefield, Dr.J.  
Thermal / Resistance / Mesophilic / Thermophilic /  
Bacterium / Microbiology / Food / Nutritional  
branch
- Application of direct fluorochrome staining to  
the rapid detection and enumeration of bacteria  
in biological materials**  
Scholefield, Dr.J.  
Colour / Recognition / Analysis / Bacterium / Food /  
Nutritional branch
- Differential enumeration of micro-organisms  
and somatic cells in biological fluids**  
Scholefield, Dr.J.  
Recognition / Microorganism / Cell / Liquid / Food /  
Nutritional branch / Analysis
- Determination of structure/function  
relationship of synergistic cellulases of  
*Penicillium pinophilum***  
Paterson, Dr.A.  
Structure / Activity / Cellulase / Fungus /  
Biochemistry / Microbiology / Food / Nutritional  
branch
- Enzymic degradation of starch granules and size  
fractions differing in surface area**  
Morrison, Prof.W.R.  
Enzymatic / Degradation / Starch / Food  
technology / Nutritional branch
- University of Strathclyde**  
Immunology Division, Department of  
Bioscience and Biotechnology  
Todd Centre, 31 Taylor Street  
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Glasgow  
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- Immunodiagnosics for mycotoxins**  
Stimson, Prof.W.H.  
Immune / Diagnosis / Immunology / Mycotoxin
- Monoclonal antibodies to mycotoxins and  
production of diagnostic kits**  
Stimson, Prof.W.H.  
Monoclonal / Antibody / Mycotoxin / Production /  
Diagnosis / Immune / Kit / Immunology
- Production of human monoclonal antibodies to  
rhesus D blood group antigen: use in diagnosis  
and therapy of rhesus disease**  
Stimson WH Professor / MacDonald CM Dr /  
Mitchell R Dr / Fraser RH Dr Stimson, Prof.W.H.  
Production / Human / Monoclonal / Antibody /  
Blood group / Antigen / Diagnosis /  
Immunotherapy / Immunology / Serology
- Commercial production of lymphokines**  
Stimson, Prof.W.H.  
Production / Lymphokine / Immunology
- Production of human T lymphocyte hybrid cells  
and lymphokines**  
Stimson, Prof.W.H.  
Human / Lymphocyte / Lymphokine / Immunology /  
Production
- Monoclonal antibody production**  
Stimson, Prof.W.H.  
Monoclonal / Antibody / Immunology / Production
- Overcoming limitations to the use of  
mammalian cell culture: genetic and  
physiological approaches**  
MacDonald, Dr.C.M.  
Mammal / Cell / Cultivation / Cell biology
- Recovery of product from mammalian cell  
culture medium**  
MacDonald, Dr.C.M.  
Mammal / Cell / Cultivation
- Expression of foreign genes in cultured animal  
cells and identification of suitable recipient cell  
lines**  
MacDonald, Dr.C.M.  
Gene / Expression / Cultivation / Cell / Animal /  
Molecular genetics / Immunology
- Development of vaccines against congenital  
toxoplasmosis using a mouse model**  
Alexander, Dr.J.  
Vaccine / Immunology / Congenital / Disease /  
Mouse
- University of Strathclyde**  
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Thomas Graham Building, 295 Cathedral  
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- Catalytic activity of enzymes in non-natural  
environments**  
Sucling, Prof.C.J.  
Biological / Catalysis / Enzyme / Physical chemistry /  
Biochemistry / Industry
- Enzymes in synthesis in water-immiscible  
solvents**  
Suckling, Prof.C.J.  
Enzyme / Synthesis / Solvent / Physical chemistry /  
Biochemistry / Industry

**Selectively modified enzymes in synthesis**

Suckling, Prof.C.J.  
Protein / Physical chemistry / Biochemistry / Analysis / Industry / Enzyme / Modification / Synthesis / Physical chemistry / Biochemistry / Industry

**Potentiometric determination of proteins**

Hitchman, Prof.M.L.  
Protein / Physical chemistry / Biochemistry / Analysis / Industry

**Pulsatile and uniform controlled release from biodegradable matrices**

Graham, Prof.N.B.  
Release / Control / Degradation / Biological / Industry

**Influence of the genetic code on the structural and functional evolution of proteins**

Dufton, Dr.M.J.  
Molecular genetics / Evolution / Protein / Biochemistry

 **University of Strathclyde**

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Royal College, 204 George Street  
G1 1XW  
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☎ +44 41 552 4400

**Monoclonal antibodies as imaging agents and drug delivery systems**

Whateley, Dr.T.L.  
Monoclonal / Antibody / Drug / Immunology / Pharmacy

**Identification, function and systematic significance of natural products from African rain forest trees of Rutaceae, Annonaceae, Guttiferae and Ebenaceae**

Waterman, Prof.P.G.  
Bioactive agent / Dicotyledon / Pharmacy

**Studies on the resin products of Kenyan and Ethiopian Burseraceae**

Waterman, Prof.P.G.  
Resin / Dicotyledon / Pharmacy

**Identification of seed proteins**

Thorpe, Dr.J.W.  
Germ cell / Protein / Biochemistry

**Biosynthesis of neurotransmitter amines**

Midgley, Prof.J.M.  
Biosynthesis / Neurotransmitter / Amine / Biochemistry / Pharmacy

 **University of Salford**

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**Metabolite production in plant tissue culture**

Villiers, Prof.T.A.  
Metabolite / Plant / Tissue / Cultivation / Biochemistry / Botany

**Host-parasite relations in experimental filariasis with special reference to possible vaccination régimes**

Storey, Dr.D.M.  
Host / Parasite / Parasitology / Vaccine / Immunology

**Bioactive products from gliding bacteria**

Foster, Dr.H.A.  
Bioactive agent / Bacterium / Microbiology

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**Development of drug selective electrodes as sensors for analytical purposes**

Wyn-Jones, Prof.E.  
Drug / Electrode / Sensor / Engineering / Analysis / Physical chemistry

**Chiral induction via enantioselective proton removal**

Leonard, J  
Chiral / Induction / Organic chemistry

 **University of Sheffield**

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**Development of the technique of aqueous phase partitioning and its application to studies of the surface of biomembranes**

Treffry, Dr.T.E.  
Membrane biology / Surface / Physical chemistry / Biochemistry

**Isoenzymes as tissue-specific markers for use in the development of clinical diagnostic tests**

Taylor, Dr.C.B.  
Isoenzyme / Tissue / Marker / Clinical / Diagnosis / Test / Biochemistry

**Photoinhibition of photosynthesis**

Horton, Dr.P.  
Inhibition / Photosynthesis / Biochemistry

**Advanced computational support for protein engineering and molecular biology**

Harrison, Prof.P.M.  
Biocomputing / Protein design / Molecular biology / Biochemistry

**Science of crystallization of proteins**

Ford, Dr.G.C.  
Crystallization / Protein / Biochemistry

**Microdensitometry in X-ray diffraction studies of proteins**

Ford, Dr.G.C.  
Protein / Structure / Diffraction / Biochemistry / Molecular / Biophysics

**5 circle diffractometry in protein structures**

Ford, Dr.G.C.  
Protein / Structure / Diffraction / Biochemistry / Molecular / Biophysics

**Multichannel X-ray analysis of protein structures**

Ford, Dr.G.C.  
Protein / Structure / Diffraction / Biochemistry / Molecular / Biophysics

**Correlation of 3-dimensional structure with function for a NAD-linked bacterial glutamate dehydrogenase: crystal structure, gene sequence, chemical modification and in vitro mutagenesis**

Engel, Dr.P.C.  
Structure / Activity / Cofactor / Bacterial / Glutamic acid / Oxidoreductase / Gene / Sequence / In vitro / Mutation / Origin / Biochemistry

**Shapes of immunologically important molecules**

Burton, Dr.D.R.  
Molecule / Immunology / Biochemistry

**Development and applications of monoclonal antibodies against human osteosarcoma cells**

Burton, Dr.D.R.  
Monoclonal / Antibody / Cancer / Immunotherapy / Immunology

 **University of Sheffield**

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**Mechanism of virus resistance in plants; selection for virus resistance in cell cultures**

Warren, Dr.G.S.  
Virus / Resistance / Plant / Selection / Cell / Cultivation

**Selection of fused plant protoplasts**

Warren, Dr.G.S.  
Selection / Fusion / Protoplast / Plant

**Growth studies and enzyme levels in plant cell culture**

Stepan-Sarkissian, Dr.G.  
Growth / Enzyme / Plant / Cell / Cultivation / Biochemistry

**Enhancement of onion flavour production**

Stepan-Sarkissian, Dr.G.  
Flavour / Nutritional branch / Food

**Enzymes of secondary product synthesis in plant cell cultures**

Stepan-Sarkissian, Dr.G.  
Enzyme / Synthesis / Plant / Cell / Cultivation / Biochemistry

**Genetic mechanisms underlying phenotypic instability in plant cell cultures**

Stafford, Dr.A.M.  
Genetics / Plant / Cell / Cultivation / Unstable

**Regulation of product synthesis in plant cell cultures**

Stafford, Dr.A.M.  
Regulation / Synthesis / Plant / Cell / Cultivation

**Terpenoid synthesis by plant cell and tissue cultures**

Scragg, Dr.A.H.  
Terpene / Derivative / Plant / Cell / Tissue / Cultivation

**Large scale growth of plant cells; bioreactor design**

Scragg, Dr.A.H.  
Production scale / Growth / Plant / Cell / Bioreactor / Bioprocess engineering

**Growth and alkaloid synthesis in plant cell aggregates in suspension culture**

Scragg, Dr.A.H.  
Growth / Alkaloid / Synthesis / Plant / Cell / Cultivation / Suspension

**Alkaloid synthesis by cultured plant cells**

Scragg, Dr.A.H.  
Alkaloid / Synthesis / Cultivation / Plant / Cell

**Production of SCP and amino acids from whey fermentation**

Marison, Dr.I.W.  
SCP / Amino acid / Whey / Fermentation technology / Industry

**Production of SCP, alcohol, amino acids and high fructose syrups through molasses fermentation**

Marison, Dr.I.W.  
Production / SCP / Alcohol / Amino acid / Fructose / Syrup / Molasses / Fermentation technology / Industry

**Composition of/and alkaloid synthesis by plant cell suspensions in batch and continuous culture**

Marison, Dr.I.W.  
Alkaloid / Synthesis / Plant / Cell / Suspension / Cultivation / Batch / Continuous

**Growth and alkaloid synthesis of plant cells in continuous stirred tank reactors**

Leckie, Miss.F.  
Growth / Alkaloid / Synthesis / Plant / Cell / Bioreactor / Continuous / Stirring / Bioprocess engineering



- Biopolymer synthesis in plant cell systems**  
Fowler, Prof.M.W.  
Polymer / Synthesis / Plant / Cell / Biochemistry
- Carbohydrate and nitrogen utilization by cultures of plant cells**  
Fowler, Prof.M.W.  
Polyalcohol / Nitrogen / Cultivation / Plant / Cell / Biochemistry
- Regulation and role of the pathways of carbohydrate oxidation in cultured plant cells**  
Fowler, Prof.M.W.  
Regulation / Plant / Cell / Cultivation / Oxidation / Polyalcohol / Biochemistry
- Plant propagation through tissue culture**  
Ellse, M.  
Plant / Cultivation / Tissue
- Selection of herbicide-resistant plants**  
Cresswell, Dr.R.C.  
Plant / Resistance / Selection / Herbicide / Agriculture
- Selection of plant cells for the production of alkaloids**  
Cresswell, Dr.R.C.  
Plant / Cell / Production / Alkaloid / Selection
- University of Sheffield**  
Department of Botany  
Sheffield  
S10 2TN  
☎ +44 742 768555
- The structure and function of mycelial strands of mycorrhizal roots with special reference to their role in nutrient and water transport**  
Read, Dr.D.J.  
Fungus / Plant / Water / Nutrient / Ecology / Botany
- Role of ectomycorrhizas in water relations and nitrogen nutrition of tree species**  
Read, Dr.D.J.  
Ecology / Botany / Plant / Soil / Fungus / Water / Nitrogen
- Biology of endomycorrhizas in natural ecosystems with special reference to nitrogen and phosphorus nutrition and water relations**  
Read, Dr.D.J.  
Ecology / Botany / Plant / Nitrogen / Phosphorus / Water / Soil / Fungus
- Ecology and physiology of mycorrhiza in Ericaceae**  
Read, Dr.D.J.  
Ecology / Botany / Plant / Soil / Fungus
- University of Sheffield**  
Department of Chemistry  
Sheffield  
S3 7HF  
☎ +44 742 768555
- Luminescence of rare-earth ions attached to proteins**  
Brocklehurst, Dr.B.  
Luminescence / Ion / Protein / Chemistry
- University of Sheffield**  
Department of Chemical Engineering and Fuel Technology  
Mappin Street  
S1 3JD  
Sheffield  
☎ +44 742 768555
- Production from yeast of cytochrome P-450 (enzyme)**  
Cliffe, Dr.K.R.  
Production / Yeast / Cofactor / Cytochrome / Enzyme / Bioprocess engineering
- Scale-up of stirred tank fermenters for growth of plant cells and production of secondary metabolites**  
Cliffe, Dr.K.R.  
Scale-up / Stirring / Bioreactor / Plant / Cell / Growth / Production / Secondary / Metabolite / Bioprocess engineering
- Synthesis of esters of dicarboxylic acids using fungal cell-bound enzymes**  
Cliffe, Dr.K.R.  
Synthesis / Ester / Fungus / Enzyme / Bioprocess engineering
- University of Sheffield**  
Department of Genetics  
Sheffield  
S10 2TN  
☎ +44 742 768555
- Molecular characterization of genes which control cell division in *Saccharomyces cerevisiae***  
Sudbery, Dr.P.E.  
Molecular genetics / Microbiology / Cell / Regulation / Gene / Yeast
- Development of *Hansenula polymorpha* as a cloning vehicle for the expression of heterologous genes of commercial interest**  
Sudbery, Dr.P.E.  
Yeast / Cloning / Expression / Gene technology / Microbiology
- Genetic control of cell size and cell division in *Saccharomyces cerevisiae***  
Sudbery, Dr.P.E.  
Regulation / Cell / Yeast / Molecular genetics / Microbiology
- University of Sheffield**  
Department of Human Metabolism and Clinical Biochemistry  
Medical School, Beech Hill Road  
S10 2RX  
Sheffield  
☎ +44 742 26484
- Control by lymphokines and monokines of production of prostaglandins, collagenase and other destructive agents by human rheumatoid synovial tissue**  
Russell, Prof.R.G.G.  
Regulation / Lymphokine / Prostaglandin / Collagenase / Rheumatism / Tissue / Metabolism / Clinical / Biochemistry
- University of Sheffield**  
Department of Microbiology  
Sheffield  
S10 2TN  
☎ +44 742 768555
- Protein engineering of citric acid cycle and related enzymes**  
Guest, Prof.J.R.  
Protein design / Citric acid / Enzyme / Biochemistry / Microbiology
- University of Sheffield**  
Department of Medicine  
Royal Hallamshire Hospital, Floor M,  
Glossop Road  
S10 2JF  
Sheffield  
☎ +44 742 26484
- Natural cytotoxicity and response to interferon in malignant lymphoma**  
Hancock, Dr.B.W.  
Toxic / Cell biology / Interferon / Malignant / Lymph node / Tumour / Immunology
- University of Sheffield**  
Department of Medical Microbiology  
Medical School, Beech Hill Road  
S10 2RX  
Sheffield  
☎ +44 742 766222
- Rapid antibiotic susceptibility testing by ATP bioluminescence**  
Hastings, Dr.J.G.M.  
Antibiotic / Monitoring / ATP / Bioluminescence / Microbiology
- University of Sheffield**  
Department of Medical Physics and Clinical Engineering  
Royal Hallamshire Hospital, Glossop Road  
S10 2JF  
Glossop Road Sheffield  
☎ +44 742 766222
- Development of techniques for tumour localization and therapy using radioisotope-labelled monoclonal and polyclonal antibodies**  
Sherriff, Miss.S.B.  
Tumour / Recognition / Monoclonal / Polyclonal / Antibody / Immunology / Immunotherapy
- University of Sheffield**  
Research Institute for Photosynthesis  
Sheffield  
S10 2TN  
☎ +44 742 768555
- Determination of quantum yield of photosynthesis as a diagnostic tool for plant breeding, stress studies etc**  
Walker, Prof.D.A.  
Photosynthesis / Botany / Plant / Cultivation / Agriculture
- Use of chlorophyll fluorescence as a probe of nutrient deficiency, genetic and chemical intervention**  
Sivak, Dr.M.N.  
Chlorophyll / Fluorescence / Botany / Photosynthesis / Nutrient / Agriculture / Plant
- University of Sheffield**  
Department of Virology  
Beech Hill Road  
S10 2RX  
Sheffield  
☎ +44 742 26484
- Characterization and preparation of herpes virus hominis glycoproteins as potential vaccines**  
Jennings, Dr.R.  
DNA virus / Glycoprotein / Vaccine / Virology / Immunology
- University of Southampton**  
Department of Biochemistry  
School of Biochemical and Physiological Sciences, Bassett Crescent East  
SO9 3TU  
Southampton  
☎ +44 703 559122

**Synthesis of biologically-active peptides and analogues of peptide hormones with modified residues**

Sharma, Dr.R.P.

Synthesis / Peptide / Hormone / Biochemistry

**Synthesis of small peptides for antipeptide antibody production**

Sharma, Dr.R.P.

Synthesis / Peptide / Antibody / Biochemistry

**Molecular dissection of a bacterial membrane protein that mediates resistance to the bactericidal effects of blood**

O'Connor, Dr.C.D.

Membrane biology / Molecular biology / Resistance / Bacterium / Blood

**Cytoplasmic male sterility - studies using protoplast fusion**

Jordan, Dr.P.M.

Cytoplasm / Male / Sterility / Protoplast / Fusion / Cell biology

**Mechanism of enzyme reactions involving prochiral centres**

Jordan, Dr.P.M.

Enzyme / Reaction / Mechanism / Biochemistry

**Chemical and genetic manipulation of glycerol dehydrogenase from *Bacillus stearothermophilus***

Gore, Dr.M.G.

Chemical / Modification / Gene technology / Glycerol / Oxidoreductase / Bacillus / Biochemistry

**Application of computers in biochemistry: kinetic and sequencing data analysis**

Giles, Dr.I.G.

Biocomputing / Kinetics / Sequencing / Biochemistry

**Monoclonal antibodies to membrane proteins**

East, Dr.J.M.

Monoclonal / Antibody / Protein / Membrane biology / Biochemistry

**Synthesis of oligonucleotides labelled with fluorescent probes**

Connolly, Dr.B.A.

Synthesis / Oligonucleotide / Fluorescence / Probes / Biochemistry

**Enzymology of the restriction endonuclease and methylase *eco* rv**

Connolly, Dr.B.A.

Enzymology / Restriction / Endonuclease / Biochemistry

**Regulation of nitrogenase synthesis by oxygen**

Anthony, Prof.C.

Regulation / Nitrogenase / Oxygen / Biosynthesis / Biochemistry

**Carbon assimilation pathways of bacteria able to grow on compounds with one carbon atom**

Anthony, Prof.C.

Carbon / Assimilation / Bacterium / Biochemistry / Microbiology

**The variation in cell yields of methylotrophs in continuous culture with variations in electron transport components**

Anthony, Prof.C.

Cell / Methylotrophic / Continuous / Cultivation / Microbiology / Biochemistry

**Biosynthesis of aminocyclitol antibiotics**

Akhtar, Prof.M.

Biosynthesis / Antibiotic / Biochemistry

**Biosynthesis of steroids and porphyrins**

Akhtar, Prof.M.

Biosynthesis / Steroid / Pigment / Biochemistry

**Synthesis of new antibiotics**

Akhtar, Prof.M.

Synthesis / Antibiotic / Biochemistry

□ **University of Southampton**

Department of Biology

Highfield

SO9 5NH

Southampton

☎ +44 703 559122

**Development of a model cell system for studying toxic chemicals using *Salmonella*, *Amoeba proteus*, rat liver cells and human lymphocytes**

Ord, Dr.M.J.

Modelling / Cell / Toxic / Chemicals / Salmonella / Protozoon / Rat / Liver / Human / Lymphocyte / Toxicology

**Introduction of novel cloned genes into eggs of rainbow trout, thus inducing genetic transformation**

Maclean, Dr.N.

Gene / Cloning / Fish / Genetic / Transformation / Gene technology

**Tissue culture of food legumes directed to crop improvement**

Evans, Dr.P.K.

Tissue / Cultivation / Plant / Agriculture / Nutritional branch / Food

**Plant tissue and cell culture directed to improvement of the winged bean**

Evans, Dr.P.K.

Plant / Tissue / Cell / Cultivation / Nutritional branch / Agriculture

□ **University of Southampton**

Department of Child Health

Southampton General Hospital, Centre

Block, CG56, Tremona Road

SO9 4XY

Southampton

☎ +44 703 777222

**Use of DNA technology in X-linked diseases in the Wessex region**

Collins, Dr.A.L.

DNA / Recombination / X-chromosome / Congenital / Disease / Genetics

□ **University of Southampton**

Institute of Cryogenics

Highfield

SO9 5NH

Southampton

☎ +44 703 559122

**Removal of metal ions from solution by micro-organisms, and the use of magnetic separation**

Watson, Dr.J.H.P.

Metal / Ion / Microorganism / Separation / Magnetic / Cryobiology

□ **University of Southampton**

Department of Human Reproduction and

Obstetrics

Princess Anne Hospital, Coxford Road

SO9 4HA

Southampton

☎ +44 703 777222

**Human oocyte maturation prior to in vitro fertilization**

Masson, G.M.

Egg cell / Human / Development / In vitro / Fertilization / Reproduction / Medicine

□ **University of Southampton**

Department of Microbiology

Southampton General Hospital, South

Laboratory and Pathology Block, Tremona

Road

SO9 4XY

Southampton

☎ +44 703 777222

**Molecular biology and immunochemistry of respiratory syncytial virus: development of novel vaccines**

Watt, Prof.P.J.

Molecular / Chemistry / Immune / RNA virus / Vaccine / Immunology

**Immunochemistry of varicella-zoster virus: development of new vaccines and immunoprophylaxis**

Ogilvie, Dr.M.M.

Chemistry / Immune / Vaccine / Prophylaxis / Virus / Immunology

□ **University of Southampton**

Department of Medicine

Highfield

SO9 5NH

Southampton

☎ +44 703 559122

**Raising of monoclonal antibodies to species variants of insulin with a view to developing immunoassays capable of discriminating the variants**

Mirza, I.H.

Monoclonal / Antibody / Insulin / Immunoassay / Immunology

□ **University of Southampton**

CRC Wessex Regional Medical Oncology

Unit

Southampton General Hospital, Centre

Block, CF99, Tremona Road

SO9 4XY

Southampton

☎ +44 703 34288

**Monoclonal antibodies to desmosomes as epithelial markers in cancer diagnosis**

Garrod, Dr.D.R.

Monoclonal / Antibody / Epithelium / Marker / Cancer / Diagnosis / Oncology / Immunology

**To make monoclonal antibodies against extracellular portions of desmosomal adhesion molecules and use them to study role of desmosomes in mammalian development**

Garrod, Dr.D.R.

Monoclonal / Antibody / Extracellular / Epithelium / Development / Mammal / Immunology / Oncology

**Determination of primary structure of adhesive glycoproteins of desmosomes by sequencing cDNA clones**

Garrod, Dr.D.R.

Primary / Structure / Glycoprotein / Epithelium / Sequencing / cDNA / Cloning / Oncology / Molecular biology

□ **University of Southampton**

Department of Pathology

Southampton General Hospital, South

Laboratory and Pathology Block, Tremona

Road

SO9 4XY

Southampton

☎ +44 703 777222

**Immunocytochemical staining of serous fluids using human milk fat globule and carcinoembryonic antigen antisera in diagnosis of malignancy**  
Herbert, Dr.A.  
Cell biology / Immune / Antigen / Antiserum / Human / Milk / Fat / Diagnosis / Malignant / Tumour

□ **University of Sussex**  
Department of Biology  
School of Biological Sciences  
Brighton  
Falmer  
☎ +44 273 606755

**Identification, isolation and molecular cloning of the human gene for cellular immortalization**  
Murray, Dr.J.  
Recognition / Isolation / Cloning / Molecular / Human / Gene / Cell biology / Molecular genetics

□ **University of Sussex**  
School of Biological Sciences and School of Chemistry and Molecular Sciences,  
Biochemistry Group  
Biology Building  
BN1 9QG  
Brighton (Falmer)  
☎ +44 273 606755

**Protein engineering of pituitary growth hormone and prolactin**  
Wallis, Dr.M.  
Protein design / Hypophysis / Growth / Hormone / Biochemistry

**Biochemistry of polypeptide hormones: applications of HPLC**  
Wallis, Dr.M.  
Biochemistry / Polypeptide / Hormone / HPLC

**Biochemistry of bovine somatomedins**  
Wallis, Dr.M.  
Biochemistry / Bovine animal / Peptide / Veterinary medicine

**Analysis of binding-site specificity of monoclonal antibodies to human growth hormone**  
Wallis, Dr.M.  
Monoclonal / Antibody / Human / Growth / Hormone / Biochemistry

**Physiological effects on protein synthesis in terms of mechanisms operating at the level of translation**  
Pain, Dr.V.M.  
Physiology / Biochemistry / Protein / Synthesis / Translation

**Phycobiliproteins as fluorescent probes in immunoassays**  
MacGillivray, Dr.A.J.  
Protein / Fluorescence / Probes / Immunoassay / Pigment

**Immunoblotting of cereal proteins**  
MacGillivray, Dr.A.J.  
Immune / Blotting / Useful plant / Protein / Biochemistry

**Molecular cloning of regulatory cardiovascular neuropeptides from the pond snail *Lymnaea***  
Burke, Dr.J.F.  
Molecular biology / Cloning / Regulation / Nervous system

□ **University of Sussex**  
School of Chemistry and Molecular Sciences  
Sussex House  
BN1 9QJ  
Brighton (Falmer)  
☎ +44 273 606755

**Preparation of novel beta-lactam antibiotics by biosynthetic methods**  
Young, Dr.D.W.  
Antibiotic / Biosynthesis / Biochemistry / Pharmaceutical industry

**Kinetic and spectroscopic techniques applied to nitrogenase and other 'Nif' gene products to determine the mechanism of biological nitrogen fixation**  
Thomeley, Dr.R.N.F.  
Kinetics / Spectrometry / Nitrogenase / Nitrogen / Fixation / Biochemistry

**Structure, function and biosynthesis of iron-molybdenum cofactor, nitrogenase and other proteins involved in biological nitrogen fixation using chemical and spectroscopic techniques**  
Smith, Dr.B.E.  
Structure / Biosynthesis / Iron / Molybdenum / Cofactor / Nitrogenase / Protein / Nitrogen / Fixation / Biochemistry

**Biosynthesis, control and chemical structure: activity relationships of the gibberellin plant growth hormones; microbiological transformations with the fungus, *Gibberella fujikuroi***  
Hanson, Dr.J.R.  
Biosynthesis / Regulation / Structure / Activity / Plant / Gibberellin / Fungus / Biochemistry / Microbiology

**Biosynthesis of the steroidal antibiotic desmethoxy-viridin by the fungus *Nodulisporium hinuleanum* and its chemical transformation into compounds related to the steroid hormones**  
Hanson, Dr.J.R.  
Biosynthesis / Steroid / Antibiotic / Fungus / Hormone / Biochemistry

**Structural elucidation of novel diterpenoid natural products isolated from medicinal plants, mainly of the Labiatae family**  
Hanson, Dr.J.R.  
Structure / Derivative / Terpene / Natural substance chemistry / Dicotyledon

□ **University of Sussex**  
Centre for Medical Research  
Mantell Building  
BN1 9RF  
Brighton (Falmer)  
☎ +44 273 606755

**Cloning of human DNA repair genes, in particular the gene(s) responsible for Cockayne's syndrome**  
Mayne, Dr.L.V.  
Cloning / Human / DNA / Repair / Gene / Molecular genetics

□ **University of Sussex**  
Science Policy Research Unit  
Mantell Building  
BN1 9RF  
Brighton (Falmer)  
☎ +44 273 686758

**Monitoring and evaluation of Protein Engineering Club**  
Sharp, Mrs.M.L.  
Protein design / Expertize

**Evolution of government policy towards biotechnology - a comparison between Britain and France**  
Sharp, Mrs.M.L.  
Biotechnology / Research advancement / Economy stimulation

**Linkages between academic and industrial research: the case of biotechnological research in the pharmaceutical industry**  
Faulkner, Ms.W.R.  
Biotechnology / Pharmaceutical industry / Research

□ **University of St Andrews**  
Department of Biochemistry and Microbiology  
Irvine Building, North Street  
KY16 9AL  
St. Andrews (Fife)  
☎ +44 334 76161

**Molecular cloning and characterization of plant nitrate reductase and nitrite reductase genes**  
Wray, Dr.J.L.  
Molecular / Cloning / Plant / Nitrate / Reductase / Nitrite / Gene / Molecular genetics / Biochemistry

**Development and characterization of antigenic and nucleic acid probes for certain mycoplasmas implicated in human disease**  
Thirkell, Dr.D.  
Antigen / Nucleic acid / Probes / Mycoplasma / Biochemistry / Disease

**Isolation from human plasma of acid proteinases capable of degrading fibrinogen**  
Kemp, Dr.G.D.  
Isolation / Human / Blood plasma / Protease / Clotting / Biochemistry / Hematology

**Determination of DNA sequence and design of diagnostic probes for enteric adenoviruses**  
Hay, Dr.R.T.  
DNA / Sequence / Probes / Diagnosis / Adenovirus / Biochemistry / Virology

**The detection of human DNA polymorphisms not recognized by restriction enzymes**  
Burdon, Dr.M.G.  
Human / DNA / Polymorphism / Restriction / Enzyme / Biochemistry

□ **University of St Andrews**  
Department of Chemistry  
Purdie Building  
KY16 9ST  
St Andrews (Fife)  
☎ +44 334 76161

**Commercial exploitation of oils containing gamma linolenic acid**  
Gunstone, Prof.F.D.  
Oil / Chemistry

□ **University of Stirling**  
Institute of Aquaculture  
Stirling  
FK9 4LA  
☎ +44 786 73171

**Cryopreservation of fish gametes and embryos using *Tilapia* species as a model**  
McAndres, Dr.B.J.  
Cryobiology / Preservation / Fish / Embryo / Aquaculture

**Formulation of vaccines against bacterial fish diseases for commercial application and related immunological studies**  
Horne, Dr.M.T.  
Vaccine / Bacterial / Fish / Disease / Immunology / Aquaculture

□ **University of Stirling**  
Department of Biological Science  
Stirling  
FK9 4LA  
☎ +44 786 73171

**Occurrence, function and production of marine lipids and polyunsaturated fatty acids**  
Sargent, Prof.J.R.  
Marine / Lipid / Fatty acid / Biochemistry

**Non-starch seed storage polysaccharides - structure, metabolism, biosynthesis**  
Reid, Dr.J.S.G.  
Germ cell / Polysaccharide / Structure / Metabolism / Biosynthesis / Biochemistry / Industry

**Analysis of the proteolytic enzymes of protozoan parasites, especially flagellates**  
North, Dr.M.J.  
Hydrolysis / Enzyme / Protozoan / Parasite / Biochemistry / Zoology

□ **University of Surrey**  
Department of Biochemistry  
Guildford  
GU2 5XH  
Surrey  
☎ +44 483 571281

**Microprocessor control of fermentation processes**  
Wiseman, Dr.A.  
Microprocessor / Control / Fermentation / Bioprocess engineering / Industry

**Proteins of plasma, whey and egg. Modification of functional groups and subsequent properties**  
Walker, Dr.R.  
Protein / Blood plasma / Whey / Modification / Biochemistry / Nutrition sciences

**Production of somatomedin C antibodies and the development of an assay system for its detection in human samples**  
Teale, Dr.J.D.  
Antibody / Assay / Peptide / Biochemistry / Immunology

**Production of autoimmune human monoclonal antibodies against pancreatic islet cells**  
Tan K Dr / De Silva MG / Marks V Professor Wright, Dr.J.  
Autoimmune / Human / Monoclonal / Antibody / Pancreas / Immunology / Biochemistry

**Production of interspecies monoclonal antibodies**  
Tan, Dr.K.  
Monoclonal / Antibody / Immunology / Biochemistry

**Electrical field induced cell fusion**  
Stace, Dr.B.C.  
Cell / Fusion / Induction / Biochemistry

**Production of recombinant antibodies to the gonadal steroid hormones for use in the passive immunization of cattle to improve their fecundity**  
Morris, B.A.  
Recombination / Antibody / Steroid / Hormone / Immunology / Biochemistry / Stock / Veterinary medicine

**Immunoassays to detect enzymes used as food additives**  
Morris, B.A.  
Immunoassay / Enzyme / Food / Additive / Biochemistry / Nutritional branch

**Development and application of immunoassays for potato glycoalkaloids and their relationship with the incidence of neural tube defects**  
McMillan, Dr.M.  
Immunoassay / Alkaloid / Neurology / Biochemistry

**Purification of insulinotropic peptides from human gut**  
Kwasowski, Dr.P.  
Insulin / Peptide / Human / Gut / Biochemistry

**Functional and nutritional aspects of chemically modified blood plasma and egg albumen proteins**  
Howell, Dr.N.  
Blood plasma / Albumin / Biochemistry / Nutrition sciences

**Measurement of rat C-peptide**  
Hampton, Dr.S.  
Assay / Peptide / Rat / Biochemistry

**Prenatal diagnosis of cystic fibrosis**  
Goldfarb, Dr.P.  
Prenatal / Diagnosis / Congenital / Disease / Pancreas / Biochemistry

**Gene transfer in mammalian cells**  
Goldfarb, Dr.P.  
Gene / Transfer / Mammal / Cell / Molecular genetics / Biochemistry

**Raising monoclonal antibodies to parathyroid hormone and related peptides**  
Chakraborty, Dr.J.  
Monoclonal / Antibody / Hormone / Peptide / Biochemistry / Immunology

**Measurement of an anti-breast cancer drug**  
Chakraborty, Dr.J. / Aherne, Dr.G.W. / Khubieh, J.  
Cancer / Drug / Assay / Biochemistry / Pharmacology

**Novel approach to the preparation of affinity purified enzyme-labelled conjugation**  
Beyzavi, Dr.K.  
Affinity / Enzyme / Biochemistry

**Development and application of an immunoassay for morphine-6-glucuronide**  
Aherne, Dr.G.W.  
Immunoassay / Bioactive agent / Biochemistry

□ **University of Surrey**  
Department of Chemical and Process Engineering  
Guildford  
GU2 5XH  
Surrey  
☎ +44 483 509239

**Microprocessor-controlled, environmentally-profiled batch fermentation for optimizing yield of intracellular microbial products (specifically enzymes from brewer's yeast) leading to feedback ('semi-intelligent') control of fermentation**  
Winkler, M.A.  
Microprocessor / Control / Batch / Fermentation / Optimization / Intracellular / Microbial / Production / Enzyme / Yeast / Fermentation technology / Industry

**Continuous immobilized reaction system, for continuous removal, reprocessing, washing and product recovery and return of immobilized catalysts and organisms**  
Winkler, M.A.  
Continuous / Immobilization / Reaction / Downstream processing / Catalysis / Bioprocess engineering / Industry

**Inhibiting conditions in microbiological removal of nitrogenous pollutants from wastewaters**  
Winkler, M.A.  
Inhibition / Degradation / Nitrogen / Pollution / Waste water / Microbiology / Environment

**Hydrodynamics of multi-impeller systems for gas dispersion and mass transfer in chemical reactors and fermenters**  
Smith, Prof.J.M.  
Dynamics / Gas / Dispersion / Bioreactor / Biomass / Bioprocess engineering / Chemical engineering / Industry

**Hydrodynamics of loop reactor or fermenter systems with conveyed carrier particles**  
Smith, Prof. J.M.  
Dynamics / Bioreactor / Carrier material / Bioprocess engineering / Industry / Fermentation

**Mathematical simulation of the effects of interactions between separate growth sites in cell-matrix cultures**  
Smith, Prof.J.M.  
Stimulation / Interaction / Cell / Cultivation / Bioprocess engineering / Industry

**Fermentation in gas-fluidized beds**  
Seville, Dr.J.P.K.  
Fermentation technology / Bioreactor / Industry

□ **University of Surrey**  
The Robens Institute of Industrial and Environmental Health and Safety  
Guildford  
GU2 5XH  
Surrey  
☎ +44 483 509203

**Use of human tissue in toxicity testing**  
Lawrence, J.N.  
Human / Tissue / Toxicology / Test

**Use of cytotoxicity assays for the assessment of water toxicity**  
Good, S.  
Cell / Water / Toxicology / Environment / Monitoring

**Evaluation of differentiating skin cell cultures for toxicological assessment**  
Bridges, Prof.J.W.  
Skin / Cell / Cultivation / Differentiation / Toxicology

**Validation of the use of RTE cell cultures as a model system for screening for cutaneous toxicity**  
Benford, Dr.D.J.  
Cell / Cultivation / Screening / Skin / Toxicology

□ **University of Surrey**  
Department of Microbiology  
Guildford  
GU2 5XH  
Surrey  
☎ +44 483 571281

**Growth of plant cells and organs, both axenically and in combination with micro-organisms, to produce commercially useful products**  
Whitney, Dr.P.J.  
Cultivation / Plant / Cell / Microorganism / Production / Industry / Cell biology / Microbiology

**In vitro assessment of protective effects of monoclonal antibodies to clostridial toxins**  
Tilleray J (Wellcome Biotechnology) / Knight P Dr (Wellcome Biotechnology) / Langley DJ Dr Langley, Dr.D.J.  
In vitro / Monoclonal / Antibody / Clostridium / Toxin / Microbiology / Immunology

**Investigation of matrix culture systems for the generation of products from cultured animal cells**  
Spier, Prof.R.E.  
Cultivation / Animal / Cell / Industry / Production

- Investigation of physiochemical parameters which influence the viability, integrity and productivity of cultured animal cells**  
Spier, Prof.R.E.  
Cultivation / Animal / Cell / Production / Industry / Physical chemistry
- Identification of lethal target analogues in microbial systems for use in screening for agrochemical/agrobiological products**  
Smith, Dr.F.B.  
Screening / Microbiology / Agriculture / Microbial / Industry / Production
- Passive immunization to improve the fecundity of cattle; the application of recombinant DNA technology**  
Sanders, Dr.P.G.  
Recombination / DNA / Stock / Biochemistry / Veterinary medicine / Immunology
- Development of animal suspension cell lines for optimal product generation in bioreactors using bovine papillomavirus vectors**  
Sanders, Dr.P.G.  
Suspension / Animal / Cell / Production / Bioreactor / Industry / DNA virus / Vector / Bioprocess engineering
- Rubella molecular biology: cloning of the genome, sequencing, identification of coding regions, expression of antigens in animal cells. Vaccine studies**  
Sanders, Dr.P.G.  
Cloning / Genome / Sequencing / Coding / Expression / Antigen / Animal / Cell / Vaccine / Molecular biology / Immunology
- Exploitation of immobilized animal cells for production of extracellular products and development of media, immobilization technology, bioreactors and computer control**  
Musgrave, Dr.S.C.  
Immobilization / Animal / Cell / Extracellular / Production / Medium / Bioreactor / Computer / Control / Bioprocess engineering / Industry
- Monitoring and control of toxic metabolites produced by animal cells in culture**  
Murdin, Dr.A.D.  
Metabolite / Toxic / Animal / Cell / Cultivation / Control / Monitoring / Bioprocess engineering / Industry
- Use of bioassays for the discriminative screening of mycotoxins**  
Moss, Dr.M.O.  
Assay / Screening / Mycotoxin / Toxicology / Microbiology / Food
- Preparation of monoclonal antibodies to rhinovirus serotypes**  
Kumar, A.  
Monoclonal / Antibody / RNA virus / Immunology / Virology
- Evaluation of the ability of various natural and model ecosystems to support antibiotic producing micro-organisms**  
Huck, Miss.T.  
Antibiotic / Microorganism / Microbiology / Production / Pharmaceutical industry
- Application of rapid diagnostics tests to the epidemiology of bovine coronavirus infections**  
El-Ghorr, A.A.  
Diagnosis / Test / Virology / Infection / RNA virus / Stock / Veterinary medicine
- The nature and control of an R-factor mediated penicillinase**  
Dale, Dr.J.W.  
Penicillin / Hydrolase / Microbiology / Biochemistry / Regulation / Pharmaceutical industry
- Physical forces associated with attachment and detachment of animal cells from different surfaces**  
Clayton, T.M.  
Animal / Cell / Interface / Biophysics
- Structural and segregational stability of plasmid bearing micro-organisms in fermenter culture systems**  
Carrington, F.J.  
Plasmid / Microorganism / Cultivation / Fermentation technology / Bioreactor / Microbiology
- Influence of the stoichiometry of microbial biomass and product formation is being evaluated with the objective of enhancing productivity by the development of rational nutrient feeding strategies**  
Bushell, Dr.M.E.  
Biomass / Microbial / Production / Nutrient / Medium / Microbiology / Bioprocess engineering / Industry
- Use of mixed cultures for the assimilation of sulphur in coal**  
Bushell, Dr.M.E.  
Mixed culture / Assimilation / Sulphur / Coal / Microbiology / Environment
- Development of rapid methods for the detection of Salmonella in foods**  
Blackburn, C.W.  
Assay / Salmonella / Food / Microbiology / Nutritional branch
- Nucleotide sequences of the yellow fever 17D vaccine virus involved in reversion of neurovirulence**  
Barrett, Dr.A.D.T.  
Nucleotide / Sequence / Yellow fever / Vaccine / Virus / Virology / Biochemistry
- University of Surrey**  
Department of Physics  
Guildford  
GU2 5XH  
Surrey  
☎ +44 483 571281
- Dielectric properties of biological materials and their medical significance**  
Spyrou, N.M.  
Biophysics / Medical
- University of Ulster**  
Department of Biology  
Cromore Road  
BT52 1SA  
Coleraine, Northern Ireland  
☎ +44 265 4141
- Development of a mammalian cell mutational assay system for industrial products**  
McKenna, Dr.P.G.  
Cell / Mutation / Assay / Industry / Mammal
- Use of monoclonal antibody technology for estimating cytotoxic properties of anticancer drugs**  
McKenna, Dr.P.G.  
Monoclonal / Antibody / Toxic / Cancer / Drug / Pharmacology
- Electrophoretic detection of proteins of diagnostic value for coronary heart disease**  
Marshall, Dr.T.  
Electrophoresis / Protein / Diagnosis / Heart / Cardiovascular disease / Biochemistry / Cardiology
- Development of electrophoretic separation and ultrasensitive detection methods for analysis of proteins**  
Marshall, Dr.T.  
Electrophoresis / Separation / Protein / Biochemistry
- Semi-immobilized organisms in fermentation systems**  
Marchant, Dr.R.  
Immobilization / Fermentation technology / Industry
- The development of pilot-scale plant for treatment of whiskey distillery effluent to produce animal feedstuffs**  
Marchant, Dr.R.  
Pilot scale / Feed / Animal / Drink / Industry / Bioprocess engineering
- Investigations of microbial flora in flax retting**  
Haylock, Dr.R.W.  
Natural fibre / Microbiology
- Use of DNA probes for identification of mycorrhizal isolates**  
Haylock, Dr.R.W.  
DNA / Probes / Fungus / Plant / Biochemistry
- Purification and characterization of haemopoietic growth factors**  
Gilmore, Dr.W.S.  
Bioactive agent / Growth / Blood / Hematology / Biochemistry
- University of Ulster**  
Department of Chemistry  
Cromore Road  
BT52 1SA  
Coleraine, Northern Ireland  
☎ +44 265 4141
- Luminescence of intramolecular charge transfer excited states; fluorescence probes of enzymes and membranes**  
Cowley, Dr.D.J.  
Luminescence / Fluorescence / Probes / Enzyme / Molecular / Biophysics / Biochemistry / Membrane biology
- Starch degrading enzymes; synthesis of alpha-amylase inhibitors**  
Adams, Dr.K.R.  
Starch / Alpha / Amylase / Inhibitor / Biochemistry
- University of Wales**  
University College of Wales, Aberystwyth,  
School of Agricultural Sciences,  
Department of Agricultural Botany  
School of Agricultural Sciences  
Aberystwyth  
Penglais  
☎ +44 970 3111
- Genetic studies of the white clover: Rhizobium symbiosis**  
Jones, Prof.D.G.  
Genetics / Botany / Agriculture / Useful plant / Rhizobium / Symbiosis
- University of Wales**  
University College of Wales, Aberystwyth,  
Department of Biochemistry and  
Agricultural Biochemistry  
Penglais  
SY23 3DD  
Aberystwyth  
☎ +44 970 3111
- Microbial metabolism of monoterpenes**  
Trudgill, Dr.P.W.  
Metabolism / Terpene / Microbiology / Biochemistry
- Metabolic versatility and enzymology associated with cleavage of the alicyclic ring by micro-organisms**  
Trudgill, Dr.P.W.  
Metabolism / Enzymology / Alicyclic / Microbiology / Biochemistry

**The metabolism of environmentally relevant cyclic hydrocarbons by mixed bacterial cultures**  
Trudgill, Dr.P.W.  
Metabolism / Cyclic / Hydrocarbon / Bacterial / Cultivation / Microbiology / Biochemistry / Environment

**Microbial metabolism of commercially interesting bicyclic terpene hydrocarbons**  
Trudgill, Dr.P.W.  
Metabolism / Microbial / Terpene / Hydrocarbon / Microbiology / Biochemistry / Cyclic

**Purification and characterization of natural products of commercial interest from naturally occurring algae and laboratory-cultured micro-organisms**  
Rogers, Dr.L.J.  
Natural substance / Alga / Microorganism / Microbiology / Biochemistry

**Unusual products of cyanobacterial and algal metabolism, their impact on other organisms and their biotechnological exploitation**  
Rogers, Dr.L.J.  
Cyanobacterium / Alga / Metabolism / Production / Biotechnological / Biochemistry

**Structure, function and evolution of electron transfer proteins in cyanobacteria and algae**  
Rogers, Dr.L.J.  
Structure / Evolution / Protein / Cyanobacterium / Alga / Biochemistry

**Metabolic pathways for the microbial degradation of aromatic compounds and the properties and control of the enzymes involved**  
Hopper, Dr.D.J.  
Metabolism / Microbial / Degradation / Aromatic / Regulation / Enzyme / Microbiology / Biochemistry

**University of Wales**  
University College of Wales, Aberystwyth,  
Department of Botany and Microbiology  
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Aberystwyth  
☎ +44 970 3111

**Origin and nature of variation in plant cell cultures**  
Wareing, Prof.P.F.  
Plant / Cell / Cultivation / Cell biology

**Biotransformations by species of Clostridium**  
Morris, Prof.J.G.  
Biotransformation / Clostridium / Microbiology

**Control of solvent production in fermentations accomplished by species of Clostridium**  
Morris, Prof.J.G.  
Solvent / Control / Fermentation / Microbiology / Clostridium / Industry

**University of Wales**  
University College, Cardiff, Department of Biochemistry  
PO Box 78  
CF1 1XL  
Cardiff  
☎ +44 222 874829

**Diagnostic procedures for Gardnerella infections in vaginitis**  
Winterburn, Dr.P.J.  
Diagnosis / Infection / Bacteriology / Biochemistry / Urogenital system

**Effects of environmental factors on distribution of detergent-degrading bacterial populations in polluted rivers and estuaries**  
White, Dr.G.F.  
Degradation / Bacterial / Detergent / Microbiology / Biochemistry / Pollution / Environment

**Microbial degradation of aiphatic sulphonated surfactants**  
White, Dr.G.F.  
Degradation / Microbial / Bioactive agent / Biochemistry / Environment

**Bacterial degradation of short-chain alkylsulphate esters**  
White, Dr.G.F.  
Degradation / Bacterial / Ester / Biochemistry / Environment

**Sulphohydrolase enzymes involved in the microbial degradation of sulphated detergents, herbicides and related compounds**  
White, Dr.G.F.  
Hydrolase / Degradation / Microbial / Detergent / Herbicide / Biochemistry / Environment

**Temperature adaptation and membrane lipid biosynthesis in synchronously growing bacteria**  
Russell, Dr.N.J.  
Temperature / Adaptation / Membrane biology / Lipid / Biosynthesis / Bacterium / Microbiology / Biochemistry

**Membrane lipid composition and metabolism in the osmoregulatory response to food preservatives by spoilage bacteria**  
Russell, Dr.N.J.  
Metabolism / Lipid / Membrane biology / Osmosis / Regulation / Food / Preservation / Bacterium / Biochemistry / Nutritional branch

**Relationships between the metabolism of membrane lipids and membrane-derived oligosaccharides or lipoteichoic acid in the sensing and response to low water activity by food-spoilage bacteria**  
Russell, Dr.N.J.  
Metabolism / Lipid / Membrane biology / Oligosaccharide / Food / Bacterium / Biochemistry / Nutritional branch

**Biological effects of hyaluronidase**  
Olavesen, Dr.A.H.  
Biochemistry / Enzyme

**Prorenin processing**  
Kay, Dr.J.  
Biochemistry / Enzyme / Precursor

**Aspartic proteinases (natural and recombinant enzymes)**  
Kay, Dr.J.  
Aspartic acid / Protease / Recombination / Biochemistry

**Structural and functional investigations of the proteinase encoded by the pol-gene of AIDS virus**  
Kay, Dr.J.  
Structure / Protease / Gene / Aids / Virus / Biochemistry

**Antibody production for the immunoassay of human and fish metallothioneins**  
Kay, Dr.J.  
Antibody / Immunoassay / Human / Fish / Betain / Immunology / Biochemistry

**Tertiary and quaternary structure of glutamate decarboxylase from Escherichia coli**  
John RA Dr / Jansonius JN Professor / Housley Z Dr  
John, Dr.R.A.  
Structure / Tertiary / Quaternary / Glutamic acid / Lyase / Escherichia / Biochemistry

**Proteolysis of enzymes in open and closed conformations**  
John, Dr.R.A.  
Hydrolysis / Enzyme / Biochemistry

**Phospholipids in photosynthetic bacteria**  
Harwood, Prof.J.L.  
Phospholipid / Photosynthesis / Bacterium / Biochemistry

**Lipid metabolism in yeasts**  
Harwood, Prof.J.L.  
Lipid / Metabolism / Yeast / Biochemistry / Microbiology

**Purification of fatty acid elongation enzymes**  
Harwood, Prof.J.L.  
Fatty acid / Enzyme / Biochemistry

**Glycosaminoglycans bound to biological and artificial surfaces**  
Gacesa, Dr.P.  
Surface / Artificial / Polysaccharide / Biochemistry

**Cloning of genes encoding alginate-modifying enzymes**  
Gacesa, Dr.P.  
Gene / Cloning / Alginate / Modification / Enzyme / Biochemistry / Molecular genetics

**Purification and properties of leech hyaluronidases (endo beta glucuronidases)**  
Gacesa, Dr.P.  
Enzyme / Biochemistry / Pharmaceutical industry

**Production of monoclonal antibodies for use in research and clinical immunoassay systems**  
Cryer, Dr.A.  
Monoclonal / Antibody / Clinical / Immunoassay / Immunology / Biochemistry

**Immunological detection of xenobiotics**  
Cryer, Dr.A.  
Immunology / Xenobiotic / Industry

**University of Wales**  
University College, Cardiff, Department of Plant Science  
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CF1 1XL  
Cardiff  
☎ +44 222 874000

**Cell cycle studies on Cocos nucifera L (coconut palm)**  
Francis, Dr.D.  
Palm / Botany / Cellular / Regulation / Food / Industry

**University of Wales**  
University College, Cardiff, Department of Microbiology  
Newport Road  
CF2 1TA  
Cardiff  
☎ +44 222 874268

**Selection of novel strains, species or groups of novel bacteria using the gradostat**  
Wimpenny, Dr.J.W.T.  
Bacteriology / Selection / Apparatus

**Bioenergetics of plasmid-bearing yeasts**  
Lloyd, Prof.D.  
Energy / Plasmid / Yeast / Microbiology

**Development of thermotolerance in Saccharomyces cerevisiae**  
Dickinson, Dr.J.R.  
Temperature / Tolerance / Yeast / Regulation / Microbiology / Food

**Cell cycle control in Saccharomyces cerevisiae**  
Dickinson, Dr.J.R.  
Cellular / Regulation / Yeast / Microbiology

**Exploitation of the cellular control of metabolism and temporal regulation of gene expression in Saccharomyces cerevisiae for biotechnological purposes**  
Dickinson, Dr.J.R.  
Cellular / Regulation / Metabolism / Gene / Expression / Yeast / Microbiology / Molecular genetics / Industry

**Effects of oil-spill dispersants on the degradation of oils by marine micro-organisms**

Callely, Dr.A.G.  
Oil / Degradation / Marine / Microorganism / Microbiology / Environment

**University of Wales**

University College, Cardiff, Department of Zoology  
PO Box 78  
CF1 1XL  
Cardiff  
☎ +44 222 874804

**Microbial control of *Heliothis* spp in food crops in the tropics**

Hagkell, Dr.P.T.  
Regulation / Microbial / Tropical / Useful plant / Food

**Development of sensitive cell-assays in *Mytilus edulis* in relation to acute and chronic pollution**

Bellamy, Prof.D.  
Cell / Assay / Pollution / Environment / Zoology

**University of Wales**

College of Medicine, Department of Cardiology  
Heath Park  
CF4 4XN  
Cardiff  
☎ +44 222 755944 ext 3332

**Comparative study of invasive or medical treatment following anisoylated plasminogen streptokinase activator complex (APSAC) in acute myocardial infarction**

Fox, Dr.K.A.A.  
Heart infarction / Cardiology / Fibrinolysis / Enzyme / Pharmaceutical industry

**Safety and efficacy of different doses of BW t-PA in patients with acute myocardial infarction**

Fox, Dr.K.A.A.  
TPA / Heart infarction / Cardiology / Pharmaceutical industry

**University of Wales**

College of Medicine, Tenovus Institute for Cancer Research  
The Heath  
CF4 4XX  
Cardiff  
☎ +44 222 755944

**Microtitre plate enzyme immunoassays for measurement of salivary steroids**

Walker, Dr.R.  
Enzyme / Immunoassay / Steroid / Clinical / Biochemistry / Immunology

**Chemiluminescence immunoassays for the determination of biologically active compounds in body fluids**

Turkes, Dr.A.  
Chemoluminescence / Immunoassay / Bioactive agent / Clinical / Biochemistry / Immunology

**Purification and development of immunoassays for human prostate specific markers**

Turkes, Dr.A.  
Immunoassay / Marker / Cancer / Immunology / Oncology

**Factors influencing efficient production of monoclonal antibodies for steroids**

Ducroq, D.  
Monoclonal / Antibody / Steroid / Immunology / Biochemistry

**Immunohistochemical localization of proteins, oncogenes and antigens in prostate and breast with gold labelled antibodies**

Chandler, Dr.J.A.  
Histochemistry / Immune / Protein / Antigen / Cancer / Antibody / Immunology / Oncology

**University of Wales**

College of Medicine, Department of Haematology  
Heath Park  
CF4 4XN  
Cardiff  
☎ +44 222 755944

**DNA analysis by flow cytometry in preleukaemic patients**

Hoy, Dr.T.G.  
DNA / Cell / Measurement / Leukemia / Biochemistry / Clinical

**Use of DNA probes in diagnosis of haemophilia A and detection of gene defect in haemophilia A**

Bloom, Prof.A.L.  
DNA / Probes / Blood / Congenital / Disease / Gene / Hematology / Diagnosis / Biochemistry / Clinical

**University of Wales**

College of Medicine, Department of Medical Biochemistry  
University Hospital of Wales, Heath Park  
CF4 4XW  
Cardiff  
☎ +44 222 755944

**Development of sensitive immunoassays using chemiluminescent labels as alternatives to radioactive compounds**

Woodhead, Dr.J.S.  
Immunoassay / Chemoluminescence / Biochemistry / Clinical

**Investigation of differentiation in bovine adipocytes using cellular immunoassays for specific plasma membrane components**

Cryer, Dr.A.  
Cell / Differentiation / Immunoassay / Cell biology / Biochemistry

**Chemiluminescence as an analytical tool in biology**

Campbell, Dr.A.K.  
Chemoluminescence / Analysis / Biochemistry / Clinical

**University of Wales**

College of Medicine, Department of Medicine  
Heath Park  
CF4 4XN  
Cardiff  
☎ +44 222 755944

**In vivo synergistic lysis of erythrocytes and lymphocytes by monoclonal antibodies**

Yousaf, N.  
In vivo / Erythrocyte / Lymphocyte / Monoclonal / Antibody

**Extraction of active sodium transport inhibition from cultured hypothalamic cells**

Morgan, K.  
Inhibitor / Transport / Extraction / Cell / Cultivation / Biochemistry / Clinical

**Sequence determination of inhibitin, a sodium transport inhibitor secreted by cultured cancer cells**

Mir, Dr.M.A.  
Inhibitor / Transport / Sequencing / Secretion / Cell / Cultivation / Cancer / Biochemistry / Clinical

**Sequence determination of an active sodium transport inhibitor (ASTI) secreted by cultured hypothalamic cells**

Mir, Dr.M.A.  
Inhibitor / Transport / Sequencing / Secretion / Cell / Cultivation / Biochemistry / Clinical

**Growth factor characteristics of inhibitin, a sodium transport inhibitor secreted by leukaemic promyelocytes**

Mis, Dr.M.A.  
Inhibitor / Growth / Transport / Secretion / Leukemia / Biochemistry / Clinical

**Gene mapping by recombinant DNA techniques. Application to muscular dystrophies, Huntington's chorea and other human genetic disorders**

Harper, Prof.P.S.  
Gene / Mapping / Recombination / DNA / Congenital / Disease / Molecular genetics

**University of Wales**

College of Medicine, Dental School, Department of Oral Medicine and Oral Pathology  
Heath Park  
CF4 4XY  
Cardiff  
☎ +44 222 755944

**Antigenic profiles of *Capnocytophaga* species using SDS-PAGE and immunoreactivity on Western blotting**

Wade, W.G.  
Antigen / Anaerobic / Gramnegative / Electrophoresis / Immune / Blotting / Immunology / Biochemistry

**University of Wales**

University College of North Wales, Department of Biochemistry and Soil Science  
Memorial Buildings  
LL57 2UW  
Bangor  
☎ +44 248 351151

**Interaction of electrodes, immobilized proteins and electrolytes**

Zaba, Dr.B.N.  
Interaction / Electrode / Immobilization / Protein / Biochemistry / Physical chemistry

**Bacterial assays for nutritionally available protein amino acids in biological materials**

Payne, Prof.J.W.  
Assay / Bacterial / Protein / Amino acid / Biochemistry / Microbiology

**Optimizing the design of carrier structures for use in antimicrobial drug targeting**

Payne, Prof.J.W.  
Carrier material / Antibacterial / Drug / Optimization

**Microbiological and chemical changes occurring in ageing soil mounds and reclaimed land during and following opencast mining operations**

Johnson, Dr.D.B.  
Soil / Microbiology / Chemistry

**University of Wales**

University College of North Wales, School of Plant Biology  
Bangor  
LL57 2UW  
☎ +44 248 351151

**Plant growth promoting rhizobacteria.**

Physiology of infection by biotrophs

Whitbread, Dr.R.

Botany / Plant / Growth / Rhizobiaceae

 **University of Wales**

University College of North Wales, School of Electronic Engineering Science

Dean Street

LL57 1UT

Bangor

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**Electrochemical and spectroscopic studies of biomaterials in development of biosensors**

Pethig, Prof.R.

Electrochemical / Spectrometry / Biosensor /

Physical chemistry

**Studies of the physical state of water associated with biomacromolecules**

Pethig, Prof.R.

Water / Macromolecular / Physical chemistry

**Biotechnological applications of dielectrophoresis**

Pethig, Prof.R.

Electrophoresis / Electronics / Physical chemistry

**Electronic and dielectric properties of biopolymers**

Pethig, Prof.R.

Organic substance / Polymer / Electronics / Physical chemistry

 **University of Wales**

University College of North Wales, School of Ocean Sciences

Menai Bridge

LL59 5EY

☎ +44 248 351151

**Ecological genetics of mussels involving triploidy induction and laboratory rearing**

Beaumont, A.R.

Ecology / Genetics / Environment / Animal

**Reprocessing waste transuranic and fission product activity variations in seaweeds as bioindicators of Sellafield discharges**

Assinder, Dr.D.J.

Waste / Nuclear / Pollution / Environment / Plant /

Monitoring / Salt water

 **University of Wales**

Institute of Science and Technology, Department of Applied Biology

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Cardiff

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**Extracellular enzymes in fungi concerned with aromatic substrate metabolism**

Weightman, Dr.A.J.

Extracellular / Enzyme / Fungus / Aromatic /

Substrate / Metabolism / Biochemistry /

Microbiology

**Genetic fingerprinting of prokaryotic and eukaryotic micro-organisms**

Weightman, Dr.A.J.

Recognition / DNA / Prokaryote / Eukaryote /

Microbiology / Molecular genetics

**Fingerprinting cultivars of *Pisum sativum* by DNA: DNA hybridization: isolation of DNA probes for identification of restriction fragment polymorphisms**

Weightman, Dr.A.J.

DNA / Hybridization / Probes / Isolation /

Recognition / Restriction / Polymorphism / Useful plant /

Cultivation / Molecular genetics

**Stability of recombinant bacteria and cloned genes in activated sludge**

Weightman, Dr.A.J.

Recombination / Bacterium / Cloning / Gene /

Activated sludge / Environment / Gene technology

**Biodegradation of halogenated compounds by anaerobic micro-organisms, especially sulphate-reducers**

Weightman, Dr.A.J.

Degradation / Organic substance / Anaerobic /

Sulphate / Reduction / Microbiology / Environment

**Soil bacteria producing dehalogenases specific for halogenated aromatic compounds**

Slater, Prof.J.H.

Soil / Bacterium / Dehalogenase / Aromatic /

Microbiology / Environment

**Microbial communities and N<sub>2</sub> fixation**

Slater, Prof.J.H.

Nitrogen / Fixation / Microbiology

**Substrate-specific dehalogenases**

Slater, Prof.J.H.

Substrate / Dehalogenase / Biochemistry /

Microbiology

**Microbial enzymes to degrade herbicides**

Slater, Prof.J.H.

Microbial / Enzyme / Degradation / Herbicide /

Microbiology / Biochemistry / Environment

**Microbial dehalogenases**

Slater, Prof.J.H.

Microbial / Dehalogenase / Microbiology /

Biochemistry

**Protoplast mediated genetics of thermophilic bacilli**

Dancer, Dr.B.N.

Genetics / Thermophilic / Protoplast / Bacillus /

Microbiology

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**Electrochemical biosensors based on enzymes**

Thomas, Dr.J.D.R.

Physical chemistry / Biosensor / Enzyme

 **University of Wales**

Institute of Science and Technology, The Welsh School of Pharmacy

King Edward VII Avenue

CF1 3NU

Cardiff

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**Effects of interferons on drug metabolizing status**

Taylor, Dr.G.

Interferon / Drug / Metabolism / Pharmacy /

Pharmacology

**Transformation of steroidal compounds by plant tissue cultures**

Brain, Dr.K.R.

Transformation / Steroid / Plant / Tissue /

Cultivation / Pharmacy

**Transformation of xenobiotics by plant tissue cultures**

Brain, Dr.K.R.

Transformation / Xenobiotic / Plant / Tissue /

Cultivation / Pharmacy

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Singleton Park

SA2 8PP

Swansea

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**Biochemistry of cyanobacterial acyl lipid; lipid metabolism in relation to nitrogen fixation**

Walton, Dr.T.J.

Biochemistry / Cyanobacterium / Lipid /

Metabolism / Nitrogen / Fixation

**Nitrogen fixation, photosynthesis and intermediary metabolism in cyanobacteria (blue-green algae)**

Gallon, Dr.J.R.

Nitrogen / Fixation / Photosynthesis / Metabolism /

Cyanobacterium / Biochemistry

 **University of Wales**

University College of Swansea, School of Biological Sciences

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SA2 8PP

Swansea

☎ +44 792 295361

**Isolation and characterization of medically useful substances from leeches; genetic manipulation of the anticoagulants from leech salivary glands**

Sawyer, Dr.R.T.

Bioactive agent / Isolation / Gene technology /

Clotting / Biochemistry

**Microbial diseases of insects with particular reference to *Bacillus cereus***

Rowley, Dr.A.F.

Microbial / Disease / Insect / Bacillus / Entomology /

Microbiology

**Protein engineering of the lectin concanavalin A to examine the molecular basis of saccharide-binding specificity, metal ion chelation, and subunit interactions**

Jones, Dr.D.H.

**Carbohydrate and nitrogen metabolism in yeasts**

Hipkin, Dr.C.R.

Polyalcohol / Nitrogen / Metabolism / Yeast /

Microbiology / Biochemistry

**Biotechnology of the metabolism, utilization and disposal of lignocellulosic biomass and wastes, especially cellulose, by microbial transformation to energy sources, chemicals and microbial protein**

Halliwell, Dr.G.

Metabolism / Lignocellulose / Biomass / Waste /

Transformation / Microbial / Energy / Chemicals /

Protein / Microbiology / Biochemistry /

Environment

**Protein biosynthesis and regulation in microbes with reference to the nature of the enzymic metabolism of glucans, particularly cellulose**

Halliwell, Dr.G.

Protein / Biosynthesis / Regulation / Metabolism /

Cellulose / Microbiology / Biochemistry

**Regulation of nitrate reductase in yeasts**

Cannons, A.C.

Regulation / Nitrate / Reductase / Yeast /

Microbiology / Biochemistry

 **University of Wales**

University College of Swansea,

Department of Chemistry

Singleton Park

SA2 8PP

Swansea

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- Investigation of biologically important natural products from marine sources**  
Ballantine, Dr.J.A.  
Bioactive agent / Marine / Natural substance chemistry
- University of Wales**  
University College of Swansea,  
Department of Chemical Engineering  
Singleton Park  
SA2 8PP  
Swansea  
☎ +44 792 205678
- Ethanol removal by a yeast in aerobic culture within a tubular membrane bioreactor**  
Knights, Dr.A.J.  
Ethanol / Yeast / Aerobic / Cultivation / Bioreactor / Bioprocess engineering / Industry
- Polysaccharide gel entrapment as an aid to viable freeze dried storage of brewing yeast**  
Knights, Dr.A.J.  
Polysaccharide / Gel / Storage / Freeze-drying / Brewer's yeast / Bioprocess engineering / Industry
- Effects of culture history (physiology) on the kinetics of microbial cultures (yeast)**  
Knights, Dr.A.J.  
Cultivation / Yeast / Kinetics / Microbiology / Bioprocess engineering / Industry
- Growth of cells on the surface of a structured bio-support material as a means of producing a highly concentrated biomass product**  
Knight, Dr.A.J.  
Cell / Growth / Surface / Carrier material / Production / Biomass / Bioprocess engineering / Industry
- Development of an alginate tube bioreactor for solvent-ethanol production by immobilized cells and using mass transfer limitations to enhance solvent recovery**  
Knights, Dr.A.J.  
Alginate / Bioreactor / Solvent / Ethanol / Production / Immobilization / Cell / Bioprocess engineering / Biomass / Industry
- Fouling of heat transfer surfaces by biological process fluids**  
Knight, Dr.A.J.  
Bioprocess engineering / Industry / Heat / Surface / Biological / Liquid
- Yeast cell physiology and kinetics for alginate gel immobilization as gel discs in air-lift fermenter with retention/age/viability of cells in gel matrix**  
Knights, Dr.A.J.  
Yeast / Cell / Kinetics / Alginate / Gel / Immobilization / Bioreactor / Bioprocess engineering / Industry
- Development of an ethanol fermenter utilizing low temperature in situ evaporation**  
Knights, Dr.A.J.  
Ethanol / Bioreactor / Fermentation / In situ / Evaporation / Bioprocess engineering / Industry
- Determination of kinetic parameters of microbial growth from a single batch culture experiment**  
Knights, Dr.A.J.  
Kinetics / Microbial / Growth / Batch / Cultivation / Microbiology / Bioprocess engineering / Industry
- Mass and thermal transfer properties of alginate gel containing immobilized yeast cells**  
Knights, Dr.A.J.  
Transfer / Alginate / Gel / Immobilization / Yeast / Cell / Bioprocess engineering / Industry
- Effect of culture environment on flocculation of yeast cells in batch and continuous fermenters**  
Knights, Dr.A.J.  
Cultivation / Flocculation / Yeast / Batch / Continuous / Bioreactor / Bioprocess engineering / Industry
- Pressure drop assay of protease activity in a dead end ultrafiltration cell**  
Hubble, Dr.J.  
Pressure / Protease / Activity / Filtration / Chemical engineering / Industry
- Effects of concentration polarisation on enzyme distribution in a constant flux ultrafiltration reactor**  
Hubble, Dr.J.  
Concentration / Enzyme / Distribution / Bioreactor / Filtration / Chemical engineering / Bioprocess engineering / Industry
- Large scale chromatographic separation of proteins**  
Conder, Dr.J.R.  
Production scale / Chromatography / Separation / Protein / Chemical engineering / Industry
- Interaction of proteins with inorganic membranes**  
Bowen, Dr.W.R.  
Interaction / Protein / Inorganic / Membrane apparatus / Chemical engineering / Industry
- Surface properties of yeast dispersions**  
Bowen, Dr.W.R.  
Surface / Yeast / Dispersion / Bioprocess engineering / Industry
- Enzyme synthesis of fine chemicals and pharmaceuticals**  
Bowen, Dr.W.R.  
Enzyme / Synthesis / Fine chemical / Drug / Chemical engineering / Chemical industry / Pharmaceutical industry
- University of Warwick**  
Department of Chemistry  
Coventry  
CV4 7AL  
☎ +44 203 523523
- Sequencing of proteins by fast atom bombardment mass spectrometry**  
Hutchinson, Dr.D.W.  
Sequencing / Protein / MS / Biochemistry / Physical chemistry
- Mechanism of smell in man and animals using biochemical, electrophysiological and psychophysical methods; importance of human pheromones for perfumery. Artificial noses**  
Dodd, Dr.G.H.  
Smell / Biochemistry / Physiology / Pheromone / Human / Perfume
- University of York**  
Department of Biology  
Heslington  
YO1 5DD  
York  
☎ +44 904 430000
- Protein association-dissociation reactions and metabolic regulation. Mechanistic studies of the glycolytic enzymes phosphofructokinase and hexokinase**  
Kellelt, Dr.G.L.  
Protein / Metabolism / Regulation / Kinase / Biochemistry
- Synthesis and export of heat labile enterotoxin of E coli**  
Hardy, Dr.S.J.S.  
Biosynthesis / Transport / Toxin / Escherichia / Microbiology
- Synthesis of exported proteins on membrane bound ribosomes of E coli**  
Hardy, Dr.S.J.S.  
Protein / Biosynthesis / Membrane biology / Ribosome / Escherichia / Biochemistry / Microbiology
- Measurement of carcinogen exposure in human and animal tissue by the use of monoclonal antibodies to carcinogen-nucleic acid adducts**  
Garner, Dr.R.C.  
Cancer / Origin / Nucleic acid / Monoclonal / Antibody / Oncology / Tissue
- Development of novel process variants for waste water treatment using attached microbial films**  
Davies, Dr.M.  
Purification / Waste water / Environmental biotechnology / Microbial
- Methodology for quantitative assessment of bioflocculation; mechanism of, and role of metals in, yeast flocculation**  
Davies, Dr.M.  
Flocculation / Metal / Yeast / Microbiology
- University of York**  
Department of Chemistry  
Heslington  
YO1 5DD  
York  
☎ +44 904 430000
- Structure-function relationships in a peptide hormone and enzymes**  
Hubbard, Dr.R.E.  
Structure / Peptide / Hormone / Enzyme / Biochemistry
- Computer representation of protein structure, function and surfaces**  
Hubbard, Dr.R.E.  
Protein / Structure / Surface / Computer / Biocomputing / Biochemistry
- Kinetics of conformational transitions in biopolymers**  
Goodall, Dr.D.M.  
Kinetics / Structure / Polymer / Organic substance / Physical chemistry / Industry
- Biotechnological exploitation of penicillin acylase**  
Dodson, Prof.G.G.  
Penicillin / Acylase / Biochemistry / Industry
- Inhibition of transformed RAS oncogene proteins**  
Bailey, Dr.P.D.  
Inhibition / Cancer / Protein / Oncogenic / Biochemistry
- University of York**  
Department of Physics  
Heslington  
YO1 5DD  
York  
☎ +44 904 430000
- High resolution X-ray and neutron crystallographic refinement of concanavalin As with specific metal site substitution (Cd, Mn, Ni, Co, Ca) and different bound sugars**  
Helliwell, Dr.J.R.  
Molecular / Biophysics / Plant / Blood / Antibody
- Protein crystallography using white beam diffraction: instrumentation at SRS and ESRF, diffraction theory and radiation damage studies underway to study enzyme catalysis**  
Helliwell, Dr.J.R.  
Protein / Diffraction / Instrumentation / Radiation / Enzyme / Biological / Catalysis / Biophysics / Molecular

## IRELAND

**National focal point: BioResearch Ireland / EOLAS**

Glasnevin (Old Finglas Road)

Dublin 9

Tel.: +353 1 370177

Telex: 32501

Fax : +353 1 370176

Contact persons: Dr. J. Ryan, Ms. A. Fitzgerald

 **Trinity Medical School, St. James**

Hospital

Department of Clinical Medicine

8

Dublin

☎ +353 1 543922

**Analysis of vitamins and amino acids of animal and plant origin**

Scott, Dr.J.

Analysis / Amino acid / Vitamin / Vegetable / Plant / Animal / Metabolism / Growth / Determination / Food / Tissue / Biochemistry

 **An Foras Taluntais (The Agricultural Institute)**

Moorepark Research Centre

Fermoy,

Co. Cork

☎ +353 25 31422

**Metabolism of atypical Group N streptococci**

Cogan, Dr.T.M.

Microbiology / Streptococcus / Lactic acid / Polyalcohol / Metabolism / Nutritional branch

**Expansion of the mesophilic defined strain starter system**

Cogan, Dr.T.M.

Mesophilic / Starter culture / Streptococcus / Lactobacillaceae / Citric acid / Metabolism / Cheese / Nutritional branch / Microbiology

**Isolation of phage-insensitive mutants of Group N Streptococci**

Cogan, Dr.T.M.

Bacteriophage / Resistance / Streptococcus / Starter culture / Cheese / Mesophilic / Nutritional branch / Microbiology

**Development of defined strain thermophilic starter cultures**

Cogan, Dr.T.M.

Starter culture / Thermophilic / Bacteriophage / Resistance / Cheese / Nutritional branch / Microbiology / Bacterium

**Cloning bacteriophage resistant genes in Streptococcus lactis**

Geoghegan, Dr.C.

Streptococcus / Cloning / Gene / Bacteriophage / Resistance / Stable / Transfer / Cheese / Production / Gene technology / Microbiology / Nutritional branch

**Analysis of bacteriocins from lactic acid bacteria**

Geoghegan, Dr.C.

Lactic acid / Bacterium / Toxin / Inhibition / Genetics / Microbiology / Nutritional branch

**Development of a rapid method to detect contaminating Clostridia spp. in liquid milk using a homologous DNA probe**

Geoghegan, Dr.C.

Clostridium / DNA / Probes / Cheese / Food technology / Nutritional branch

**Usefulness of bacteriocin producing starter cultures in cheese ripening**

Geoghegan, Dr.C.

Cheese / Lactic acid / Corynebacteriaceae / Starter culture / Toxin / Inhibition / Microbiology / Clostridium / Food technology / Nutritional branch

 **An Foras Taluntais (The Agricultural Institute)**

Kinsealy Research Centre

Malahide Road,

17

Dublin

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**In vitro radiation induced mutations in potato cultivars**

Ahloowalia, Dr.B.S.

Potato / Mutation / In vitro / Radiation / Genetics / Agricultural sciences / Agriculture / Induction / Useful plant

**Micropropagation of potato and sitka spruce**

Ahloowalia, Dr.B.S.

Potato / Tissue / Regeneration / Agricultural sciences / Agriculture / Useful plant

**Production of herbicide resistant brassicas by mutagenesis and selection in vitro**

Douglas, Dr.G.

Herbicide / Resistance / Dicotyledon / Mutation / Origin / Selection / In vitro / Protoplast / Regeneration / Gene / Transfer / Fusion / Botany / Cultivation / Agriculture / Genetics / Useful plant

**Bypassing self and interspecific incompatibility by in vitro fertilization in Trifolium**

Douglas, Dr.G.

Dicotyledon / In vitro / Fertilization / Botany / Agricultural sciences / Agriculture / Useful plant / DNA / Uptake

**Interaction of mycorrhizal fungi with plants under sterile conditions**

Douglas, Dr.G.

Mycelial fungus / Dicotyledon / Symbiosis / Agricultural sciences / Botany / Agriculture / Useful plant

**Micropropagation, formation of adventitious shoots and novel variants in ornamental woody plants**

Douglas, Dr.G.

Dicotyledon / Cultivation / Regeneration / Botany / Agricultural sciences / Agriculture / Tissue

**Micropropagation and production of genetic variants of Populus (Poplar)**

Douglas, Dr.G.

Dicotyledon / Cultivation / Regeneration / Cell / Embryo / Stable / Botany / Cell biology / Agricultural sciences / Agriculture / Selection

 **Dublin Institute of Technology**

Department of Biology

Kevin Street,

2

Dublin

☎ +353 1

**Preparation and purification of endoglycosidases using a new lectin titration procedure**

MacEvilly, Dr.U.

Endoglycosidase / Production / Eubacterium / Streptomycete / Purification / Assay / Monitoring / Biochemistry

 **An Foras Taluntais (The Agricultural Institute)**

Animal Reproduction Centre

Belclare, Tuam,

Co. Galway

☎ +353 91 24411

**The development of transgenic animals and fish with novel characteristics**

Sreenan, Dr.J.

Transgenic / Gene / Transfer / Bovine animal / Fish / Zoology / Agricultural sciences / Agriculture

**The role of inhibin in the control of ovulation rate in the bovine**

Sreenan, Dr.J.

Bovine animal / Ovulation / Hormone / Immune / Zoology / Veterinary medicine / Agricultural sciences / Agriculture

**The local (ovarian) control of ovulation**

Sreenan, Dr.J.

Ovulation / Bovine animal / Follicle / Growth / Development / In vitro / In vivo / Zoology / Veterinary medicine / Agricultural sciences / Agriculture

**Steroid immunisation to enhance bovine ovulation rate**

Sreenan, Dr.J.

Bovine animal / Ovulation / Steroid / Zoology / Agricultural sciences / Agriculture / Veterinary medicine

 **Regional Technical College Galway**

Department of Biology

Dublin Road,

Co. Galway

☎ +353 91 53161

**Biodegradable detergents**

O'Muircheartaigh, Dr.M.

Detergent / Industrial / Industry / Organic chemistry

**Alginate extraction and analysis**

O'Muircheartaigh, Dr.S.

Alginate / Extraction / Analysis / Organic chemistry

 **Regional Technical College Tralee**

Department of Science

Tralee,

Co. Kerry

☎ +353 66 24666

**Anaerobic digestion of mixtures of wood and animal wastes**

Lyons, Dr.H.J.

Composting / Waste / Bovine animal / Pig / Anaerobic / Pollution / Environmental biotechnology / Environment / Agriculture

 **Waterford Regional Technical College**

Department of Science

Cork Road,

Co. Waterford

☎ +353 51 75934

**Production of flavour compounds by fermentation**

Godicks, Dr.M.

Fermentation / Flavour / Natural / Microorganism / Microbiology / Nutritional branch

 **Trinity College Dublin**

Department of Biochemistry

2

Dublin

☎ +353 1 772941

**Targetted delivery of drugs to the central nervous system**

Tipton, Prof.K.F.  
Nervous system / Drug / Pharmacology / Biochemistry / Disease / Preventive

**Preparation and analytical uses of enzymes in non-aqueous media**

Tipton, Prof.K.F.  
Enzyme / Activity / Fine chemical / Synthesis / Waste / Decontamination / Biochemistry

**Preparation and application of covalently-linked enzyme-coenzyme derivatives**

Tipton, Prof.K.F.  
Oxidoreductase / Cofactor / Covalent / Biosensor / Recycling / Biochemistry

**Structure-activity relationships of antidepressant and antiparkinsonism drugs**

Tipton, Prof.K.F.  
Drug / Structure / Activity / Pharmacy / Pharmacology / Pharmaceutical industry

**The development of enzyme-activated anticonvulsants and other drugs**

Tipton, Prof.K.F.  
Drug / Pharmacy / Synthesis / Pharmaceutical industry

**Role of the intestine in the detoxification/toxication of xenobiotics**

Tipton, Prof.K.F.  
Xenobiotic / Toxicology / Gut / Antioxidant / Drug

**Selective purification of enzymes by affinity precipitation and related techniques**

Tipton, Prof.K.F.  
Affinity / Precipitation / Enzyme / Purification / Biochemistry

**Development of high-value antidotes for life-threatening drug overdoses**

Williams, Dr.D.C.  
Monoclonal / Antibody / Drug / Immunotherapy / Pharmacology / Toxicology

**Development of an assessment system for the interaction of uptake inhibitor antidepressants with their target sites**

Williams, Dr.D.C.  
Drug / Uptake / Inhibitor / Neurotransmitter / Pharmacology / Pharmaceutical industry

**Trinity College Dublin**

Department of Botany  
2  
Dublin  
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**Tissue culture of plants of medicinal importance**

Richardson, Prof.D.  
Tissue / Cultivation / Drug / Plant / Pharmaceutical industry / Botany

**Embryogenesis in roses**

Richardson, Prof.D.  
Development / Dicotyledon / Cultivation / Tissue / Botany / Agriculture

**Trinity College Dublin**

Department of Chemistry  
2  
Dublin  
☎ +353 1 772941

**A molecular framework for the design of artificial enzymes**

Davis, Dr.A.P.  
Artificial / Oxidoreductase / Organic chemistry / Steroid

**Development of novel passive and electrically assisted transdermal drug delivery systems**

Corish, Prof.J.  
Pharmacy / Drug / Skin

**Trinity College Dublin**

Department of Genetics  
Lincoln Place Gate, Trinity College,  
2  
Dublin  
☎ +353 1 772941

**An investigation of the anti-viral or cross-protection potential of chimaeric genes encoding the coat protein of potato virus X (PVX) in transgenic potato plants**

Kavanagh, Dr.T.  
Potato / Virus / Transgenic / Protein / Gene / Agrobacterium / Plasmid / Vector / Expression / Molecular genetics / Agricultural sciences / Agriculture

**Secretion of heterologous proteins by *Bacillus subtilis***

Devine, Dr.K.  
Bacillus / Protein / Secretion / Amylase / Alpha / Glucanase / Beta / Protease / Biochemistry / Microbiology

**Genetic control systems of the PBSX prophage of *Bacillus subtilis***

McConnell, Prof.D.  
Bacillus / Gene / Expression / Cloning / Bacteriophage / DNA / Analysis / Molecular genetics / Microbiology

**Cloning and expression of *Bacillus subtilis* beta-glucanase gene in brewer's yeast**

McConnell, Prof.D.  
Bacillus / Gene / Glucanase / Beta / Brewer's yeast / Cloning / Expression / Sequencing / Molecular genetics / Microbiology / Nutritional branch

**Catabolite repression of the *Bacillus licheniformis* gene for alpha-amylase**

McConnell, Prof.D.  
Bacillus / Gene / Amylase / Alpha / Cloning / Regulation / Sequence / Molecular genetics / Microbiology

**Location and isolation of the genes for retinitis pigmentosa**

McConnell, Prof.D.  
Isolation / Recognition / Gene / Disease / DNA / Probes / Molecular genetics

**Molecular genetic analysis of cytoplasmic male sterility in meadow grass**

Sharp, Dr.P. / Kavanagh, Dr.T. / Connolly, Dr.V.  
Molecular genetics / Cytoplasm / Male / Sterility / Monocotyledon / Agriculture

**Molecular genetic manipulation of the biosynthesis of d-pseudoephedrine**

Kavanagh, Dr.T.  
Molecular genetics / Biosynthesis / Cloning / Gene / Benzyl alcohol / Drug / Biochemistry / Dicotyledon / Pharmaceutical industry

**Segregational analysis of plasmids in *Bacillus subtilis***

Devine, Dr.K.  
Plasmid / Bacillus / Stable / Cloning / Molecular genetics / Microbiology

**Photolysis of DNA as a new method of DNA sequencing**

Kelly, Prof.J. / Blau, Dr.W.  
DNA / Sequencing / Light / Molecular genetics

**Molecular genetic analysis of the pyruvate decarboxylase gene of yeast**

McConnell, Prof.D.  
Molecular genetics / Gene / Yeast / Cloning / Mutation / Origin / Carboxylase / Pyruvic acid

**Integrating plasmids as tools for amplification of gene expression in *Bacillus subtilis***

Devine, Dr.K.  
Plasmid / Gene / Expression / Bacillus / Regulation / Amplification / Molecular genetics / Microbiology

**Molecular cloning and expression of novel cellulase genes**

McConnell, Prof.D.  
Gene / Cloning / DNA / Sequencing / Corynebacteriaceae / Endonuclease / Cellulase / Expression / Mutation / Origin / Molecular genetics / Microbiology

**Bovine aspartyl protease genes**

McConnell, Prof.D.  
Gene / Cloning / Sequencing / Pepsin / Bovine animal / Molecular genetics / DNA

**Molecular cloning and expression of pig growth hormone**

McConnell, Prof.D.  
Gene / Cloning / Expression / Pig / Hormone / Growth / Molecular genetics

**Molecular cloning and characterisation of a gene for alcohol dehydrogenase of *Bacillus stearotheophilus***

McConnell, Prof.D.  
Bacillus / Gene / Cloning / Oxidoreductase / Alcohol / Molecular genetics / Escherichia

**Trinity College Dublin**

Department of Microbiology  
2  
Dublin  
☎ +353 1 772941

**Improved impedance test media for rapid detection of pathogens in food**

Russell, Dr.R.J.  
Pathogen / Food / Test / Bacterial / Activity / Microbiology / Nutritional branch

**Development of ELISA for water-borne viruses**

Russell, Dr.R.J.  
ELISA / Virus / Antigen / Test / Immunology / Virology

**Development of Staphylococcal mastitis vaccine**

Russell, Dr.R.J.  
Staphylococcus / Vaccine / Immunology / Infection / Microbiology

**Genetic basis and control of Staphylococcal enterotoxins in clinical and bovine mastitis strains**

Russell, Dr.R.J.  
Staphylococcus / Toxin / Bovine animal / Human / Infection / Gene / Cloning / Mapping / Molecular genetics / Microbiology

**Development of rapid water testing kits for faecal pollution**

Russell, Dr.R.J.  
Water / Test / Kit / Pollution / Physical chemistry / Environment

**Development of ELISA for low molecular weight tranquilisers in equine and canine serum**

Russell, Dr.R.J.  
ELISA / Mammal / BLOOD SERUM / Low-molecular / Drug / Immunology

**Development of monoclonal antibody-based rapid chlamydial detection assay**

Russell, Dr.R.J.  
Monoclonal / Antibody / Microorganism / Immunoassay / Pathogen / Screening / Diagnosis / Immunology

**Studies on photodynamic therapy of cancer**

McHale, Dr.A.P. / McHale, Dr.L.  
Cancer / Therapy / Laser / Tumour / Cell / Oncology / Immunology

**Development of protein A expression systems for proteins of value: novel protein A-enzyme conjugates for ELISA detection**  
Foster, Prof.T.  
Staphylococcus / Gene / Expression / Fusion / In vitro / ELISA / Protein / Biochemistry / Microbiology

**Attenuated Staphylococcus aureus mutants as a live mastitis vaccine**  
Foster, Prof.T.  
Staphylococcus / Infection / Vaccine / Immunology / Veterinary medicine / Agriculture

**Genetic analysis and biologic assessment of virulence determinants of Staphylococcus aureus: towards a subunit vaccine for mastitis**  
Foster, Prof.T.  
Staphylococcus / Vaccine / Infection / Gene / Cloning / Mutation / Origin / Immunology / Veterinary medicine / Agriculture

**Identification of virulence factors of Aeromonas salmonicida, the causative organism of furunculosis in salmonid fish**  
Foster, Prof.T. / Smith, Dr.P.  
Aeromonas / Fish / Vaccine / Infection / Immunology / Veterinary medicine / Protease / Antibody / Gene / Mutation / Origin

**Development of a vaccine for bovine viral diarrhoea and border disease virus**  
Atkins, Dr.G.J.  
Vaccine / Cell / Cultivation / Probes / Nucleic acid / Infection / Immunology / Veterinary medicine / Agriculture

**Analysis of the mechanism of virus-induced demyelination using cell culture techniques**  
Atkins, Dr.G.J.  
Neuron / Cultivation / Purification / Virus / Multiplication / Cell biology

**Use of nucleic acid probes for detection of viruses in infected tissue**  
Atkins, Dr.G.J.  
DNA / Probes / RNA / Virus / Infection / Antibody / Virology

**Development of artificial organ systems**  
McHale, Dr.A.P. / McHale, Dr.L.  
Gene technology / Man / Mammal / Gene / Cell / Cultivation / Human / Microbial / Expression / In vitro / Amylase / Enzyme / Fungus

□ **Trinity College Dublin**  
School of Pharmacy, Department of Pharmacology  
Shrewsbury Road,  
4  
Dublin  
☎ +353 1 772941

**The synthesis and evaluation of novel 4-aryl-substituted 1, 4-dihydropyridines as potential calcium antagonists**  
Esmonde, Dr.A.G.  
Drug / Pharmacy / Pharmacology / Structure / Activity

**Development of novel drug delivery systems**  
Deasy, Dr.P.B.  
Drug / Pharmacology

**Evaluation of plant cell cultures for pharmacologically active or industrially useful compounds**  
Hook, Dr.I. / Sheridan, H.  
Dicotyledon / Cell / Cultivation / Drug / Extraction / Immobilization / Metabolite / Biotransformation / Waste / Cell biology / Botany / Pharmaceutical industry

**In vitro and in vivo evaluation of potential cholelithalytic**  
Corrigan, Dr.O.I.  
Digestive system / Disease / Pharmacology

**Biopharmaceutical aspects of intramammary drug delivery**  
Corrigan, Dr.O.I.  
Drug / Antibiotic / Pharmacy

**Transdermal drug delivery systems**  
Corrigan, Dr.O.I. / Corish, Prof.J.  
Drug / Skin / Pharmacy

**Mechanism of dissolution of drug-exipient systems**  
Corrigan, Dr.O.I.  
Pharmacy / Drug / Physical chemistry / Pharmaceutical industry

**Mechanisms of gastrointestinal absorption of drugs: influence of excipients on the mechanism and rate of absorption**  
O'Driscoll, Dr.K.M. / Corrigan, Dr.O.I.  
Pharmacology / Drug / Absorption / Digestive system

**Investigation of the potential of milk proteins as novel excipients in pharmaceutical products**  
Corrigan, Dr.O.I.  
Milk / Protein / Drug / Pharmacy / Pharmaceutical industry

**Synthesis of novel dihydropyridines and their evaluation as calcium antagonists and antihypertensives**  
Frankish, N.H. / Esmonde, Dr.A.G.  
Drug / Pharmacy / Pharmacology / Pharmaceutical industry

**Release of polyamines from brain tissue**  
Shaw, Prof.G.G.  
Amine / Brain / Neurotransmitter / Pharmacology / Neurology

□ **National Institute for Higher Education Dublin**  
School of Biological Sciences  
Glasnevin,  
9  
Dublin  
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**Production of germplasm of lettuce with tolerance to low temperatures**  
Douglas, Dr.G.  
Cold / Tolerance / Dicotyledon / Useful plant / Germ cell / Regeneration / Botany / Cell biology / Agriculture

**Production of beta-glucanase using immobilised recombinant yeast cells**  
Walsh, P.  
Immobilization / Yeast / Glucanase / Beta / Production / Bioreactor / Plasmid / Stable / Fermentation technology / Industry

**The development of specialised vectors for the genetic analysis of cellulolytic Clostridia**  
O'Connell, Dr.M.  
Clostridium / Vector / Transfer / DNA / Plasmid / Grampositive / Molecular biology / Microbiology

**Comparison of the late sym genes in Rhizobium species and construction of improved strains**  
O'Connell, Dr.M.  
Rhizobium / Symbiosis / Dicotyledon / Lipid / Polysaccharide / Cell / Surface / Strain development / Microbiology / Botany / Agriculture

**To study the relationship between estrogen receptor positive/negative breast cancer subclones and non-hormone binding forms of steroid hormone receptors**  
O'Connor, Dr.L.  
Hormone / Receptor / Cancer / Monoclonal / Antibody / Human / Progesterone / Estrogen / Tumour / Malignant / Immunology / Oncology

**Studies on lactic acid bacteria in grass ensiled in Ireland**  
Quilty, Dr.B.  
Monocotyledon / Preservation / Bacterium / Fermentation / Lactic acid / Agricultural sciences / Agriculture / Microbiology / Useful plant

**Stable inheritance of foreign genes in yeast**  
Ryan, Dr.T.  
Stable / Gene / Yeast / Brewer's yeast / Expression / Gene technology / Microbiology / Nutritional branch

**Isolation of novel yeast promoters**  
Ryan, Dr.T.  
Yeast / Gene / Expression / Regulation / Transcription / Gene technology / Molecular genetics / Cloning

**Optimisation of conditions to achieve stable expression and efficient secretion of foreign proteins in yeast**  
Ryan, Dr.T.  
Yeast / Protein / Production / Extracellular / Expression / Secretion / Mutation / Origin / Microbiology / Gene technology / Strain development

**Extracellular enzyme production using immobilized recombinant yeast cells**  
Ryan, Dr.T.  
Immobilization / Yeast / Cell / Extracellular / Enzyme / Production / Plasmid / Stable / Microbiology / Fermentation technology / Industry

**Use of hepatocytes and other differentiated in vitro systems for hormone bioassay, in particular insulin and proinsulin**  
Devery, Dr.R.  
Liver / Cell / In vitro / Cultivation / Assay / Insulin / Cholesterol / Biosynthesis / Diabetes / Endocrinology

**The liver; control of bile acid and cholesterol secretion by the cultured hepatocyte**  
Devery, Dr.R.  
Liver / Cholesterol / Secretion / Cell / Cultivation / Diabetes / Insulin / Endocrinology

**Applications of animal cells in culture to pharmaceutical bioassays**  
Devery, Dr.R.  
Animal / Cell / Cultivation / In vitro / Assay / Hormone / Drug / Diabetes / Cholesterol / Biosynthesis / Pharmacology / Pharmaceutical industry / Endocrinology

**Production and application of monoclonal antibodies to the enzyme glutamate dehydrogenase**  
O'Kennedy, Dr.R.  
Monoclonal / Antibody / Production / Oxidoreductase / Glutamic acid / Degeneration / Metabolic disease / Immunology / Diagnosis

**The production and characterization of monoclonal antibodies to leukaemia cells**  
O'Kennedy, Dr.R.  
Monoclonal / Antibody / Leukemia / Lymphocyte / BLOTTING / Tumour / Immunology / Cell biology / Production / Recognition

**Production of monoclonal antibodies to human brain tumour cells**  
O'Kennedy, Dr.R.  
Human / Monoclonal / Antibody / Cell / Brain / Tumour / Fusion / Screening / ELISA / Blotting / Cell biology / Immunology

**The development of methods relating to the production of human monoclonal antibodies**  
O'Kennedy, Dr.R.  
Human / Monoclonal / Antibody / Production / Lymphocyte / In vitro / Immune / Cell / Fusion / Immunology / Cell biology

- The stabilization of soluble enzymes**  
O'Kennedy, Dr.R.  
Enzyme / Stable / Enzyme technology / Soluble / Industry
- Development of cell culture-based diagnostic kits**  
Clynes, Prof.M.  
Antibody / Kit / Diagnosis / Autoimmune / Disease / Immunology / Pharmaceutical industry
- Setting up an animal cell culture collection and characterisation facility**  
Clynes, Prof.M.  
Animal / Cell / Cultivation / Organism collection / Recognition / Chromosome / Isoenzyme / Analysis / Mycoplasma / Microbiology
- Development of methods for transfection of mammalian cells**  
Clynes, Prof.M.  
Mammal / Human / Cultivation / Cell / Drug / Resistance / Protein / Production / Pharmaceutical industry / Metabolism / Gene technology
- Investigation of growth factor and serum control of animal cell growth in vitro**  
Clynes, Prof.M.  
Biochemistry / Industry / Cell / Research advancement / Animal / Industrial / Growth / In vitro / Cultivation / Blood serum / Bovine animal / Prenatal / Bioactive agent / Cell
- Autocrine growth factors in human cancer cells**  
Clynes, Prof.M.  
Bioactive agent / Growth / Human / Cultivation / Biochemistry / Cancer / In vitro / Cell
- Scale-up of animal cell culture**  
Clynes, Prof.M.  
Animal / Cultivation / Scale-up / Growth / Monoclonal / Antibody / Microcarrier / Suspension / Fermentation technology / Industry / Bioactive agent / In vitro / Cell
- Effects of cancer chemotherapeutic agents on human cell cultures**  
Clynes, Prof.M.  
Human / Cultivation / Cancer / Primary / Chemotherapy / In vitro / Pharmacology
- Investigation of human primary cell lines for use in in vitro toxicology**  
Clynes, Prof.M.  
Human / Primary / Cultivation / In vitro / Toxicology / Toxic / Test
- National Institute for Higher Education Limerick**  
Department of Industrial Chemistry  
Plassey Technological Park,  
Co. Limerick  
☎ +353 61 333644
- Studies on plasmid R391, a UV sensitizing inc J group plasmid**  
Pembroke, Dr.J.T.  
Plasmid / Mutation / Origin / Gene / Cloning / Molecular genetics / Microbiology
- Extracellular enzyme production in *Cellulomonas flavigena***  
Pembroke, Dr.J.T.  
Corynebacteriaceae / Escherichia / Extracellular / Production / Cellulase / Amylase / Protease / Mutation / Origin / Vector / Biochemistry / Molecular genetics / Microbiology
- St Patrick's College Maynooth**  
Department of Biology  
Maynooth,  
Co. Kildare  
☎ +353 1 285222
- A monoclonal antibody based dipstick enzyme immunoassay for myoglobin**  
Cotter, Dr.T.  
Monoclonal / Antibody / Immunoassay / Myoglobin / Blood serum / Human / Immunology / Biochemistry
- Commercial-scale and other investigations of a mite for the control of mushroom pests**  
Downes, Prof.M.J.  
Basidiomycete / Pest / Regulation / Biological / Agricultural sciences / Agriculture / Insect
- Genetic and physiological examination of antibiotic synthesis in a particular fungal species**  
Whittaker, Prof.P.  
Antibiotic / Synthesis / Fungus / Microbiology / Genetics / Pharmaceutical industry
- Cloning of yeast mitochondrial genes**  
Whittaker, Prof.P.  
Mitochondrion / Gene / Cloning / Yeast / Microbiology / Molecular biology
- Ethanol production in xylose-fermenting yeasts**  
Whittaker, Prof.P.  
Ethanol / Production / Yeast / Xylose / Fermentation / Genetics / Microbiology / Chemical industry
- Yeast protoplast formation, fusion and regeneration**  
Whittaker, Prof.P.  
Yeast / Protoplast / Fusion / Regeneration / Gene / Transfer / Microbiology / Gene technology
- Stress responses in *Bacillus subtilis***  
Dowds, Dr.B.  
Bacillus / Resistance / Cloning / Gene / Microbiology / Gene technology
- The production of peroxidase by cultured plant cells and roots**  
Dix, Dr.P.  
Cultivation / Cell / Peroxidase / Dicotyledon / In vitro / Production / Extracellular / Bioprocess engineering / Industry
- in vitro studies on higher plant chloroplast genetics**  
Dix, Dr.P.  
Tobacco / Potato / Streptomycin / Resistance / Chloroplast / Mutation / In vitro / PRODUCTION / Protoplast / Fusion / Uptake / Transfer / Genetics / Botany / Useful plant / Agriculture
- Studies on salt tolerance in plant cell cultures**  
Dix, Dr.P.  
Salt / Tolerance / Cell / Cultivation / Tobacco / Proline / Botany / Agricultural sciences / Agriculture
- Plant cell culture technology in the production of herbicide resistant oilseed rape, swede and cauliflower**  
Dix, Dr.P.  
Cell / Cultivation / Dicotyledon / Herbicide / Resistance / Gene / Transfer / Protoplast / Fusion / Mutation / Origin / In vitro / Selection / Botany / Gene technology / Agricultural sciences / Agriculture / Useful plant
- In vitro studies on cold and frost tolerance in sugar beets**  
Dix, Dr.P.  
Cold / Tolerance / Dicotyledon / Stable / Cultivation / Tissue / Cloning / In vitro / Test / Botany / Agricultural sciences / Agriculture / Useful plant
- University College Cork**  
Department of Biochemistry  
Lee Maltings, Prospect Row,  
Co. Cork  
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- Provision of an amino acid analysis and sequence analysis of proteins service**  
Doonan, Prof.S.  
Amino acid / Analysis / Biochemistry / Sequence / Protein / Contract analysis
- Mechanism and regulation of class switch recombination of immunoglobulin genes**  
McCarthy, Dr.T.  
Gene / Regulation / Immunoglobulin / Antibody / Molecular biology
- Maximisation of expression and secretion of products from cloned genes in yeast**  
McCarthy, Dr.T. / Atkins, Dr.J.  
Cloning / Gene / Expression / Secretion / Yeast / Protein / DNA / Vector / Stable / Molecular genetics / Microbiology
- University College Cork**  
Department of Dairy and Food Microbiology  
Co. Cork  
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- Genetic engineering of the iron uptake system in fluorescent *Pseudomonas* involved in the biological control of phytopathogens**  
O'Gara, Dr.F.  
Pseudomonas / Gene / Cloning / Iron / Uptake / Regulation / Microbiology / Genetic / Engineering
- Development of DNA transformation systems for industrially useful *Lactobacillus* species**  
Daly, Prof.C.  
Lactobacillus / Microbiology / Molecular biology / Nutritional branch / DNA / Recombination / Streptococcus / Transposon / Plasmid / Gene technology / Gene
- Identification and characterisation of chromosomal genes of *Streptococcus lactis***  
Condon, Prof.S. / O'Gara, Dr.F.  
Streptococcus / Gene / Molecular biology / Nutritional branch / Chromosomal
- Physiology and genetics of flavour metabolites**  
Condon, Prof.S.  
Pyruvic acid / Metabolism / Streptococcaceae / Lactobacillaceae / Flavour / Microbiology / Nutritional branch / Genetic / Engineering
- Development and commercial exploitation of microbial inoculants for improved crop production**  
O'Gara, Dr.F.  
Gene / Engineering / Rhizobium / Carbon / Energy / Metabolism / Pseudomonas / Gene technology / Microbiology / Agriculture / Pathogen
- Soil fertility/productivity and microbial activity**  
O'Gara, Dr.F.  
Soil / Fertility / Microbial / Activity / Agriculture / Nutrient
- The role of new sensing systems in quality assurance in the Irish food industry**  
Daly, Prof.C.  
DNA / Probes / Monoclonal / Antibody / Nutritional branch / Food / Pathogen / Biosensor / Quality control / Microbial / Food technology
- Affinity chromatography systems for purification of bovine lactotransferrin, lactoperoxidase and lysozyme**  
Collins, Dr.J.K.  
Affinity / Chromatography / Purification / Bovine animal / Globulin / Peroxidase / Lysozyme / Monoclonal / Antibody / Biochemistry

**Isolation and characterisation of bacteriocin (inhibitor) producing strains of lactic acid bacteria**

Fitzgerald, Dr.G. / Daly, Prof.C.

Lactic acid / Bacterium / Toxin / Inhibitor / Pathogen / Cheese / Microbiology / Genetics / Nutrition sciences / Nutritional branch / Gene / Transfer

**Biochemical and genetic studies on proteinase systems in lactic streptococci**

Daly, Prof.C. / Fox, Prof.P.F.

Streptococcus / Protease / Hydrolysis / Cheese / Gene / Plasmid / Stable / Biochemistry / Molecular genetics / Food chemistry / Nutritional branch / Microbiology

**Genetic manipulation of lactic acid bacteria for improved dairy fermentations**

Daly, Prof.C.

Microbiology / Modification / Genetics / Lactic acid / Fermentation / Nutritional branch / Bacterium / Nutrition sciences

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**A novel method for coagulating skim milk in acid casein manufacture**

Mulvihill, Dr.D.M.

Milk / Acidic / Clotting / Phosphoprotein / Food chemistry / Nutritional branch / Protein

**Functional properties of food related proteins**

Mulvihill, Dr.D.M.

Whey / Additive / Protein / Food chemistry / Nutritional branch

**Characterisation and acceleration of cheese ripening**

Fox, Prof.P.F.

Cheese / Hydrolysis / Flavour / Biochemistry / Nutritional branch / Protease / Enzymology / Food chemistry

**Improving the functionality of whey protein concentrate**

Fox, Prof.P.F.

Whey / Phosphoprotein / Food chemistry / Nutritional branch / Protein

**Industrial fractionation and modification of casein**

Fox, Prof.P.F.

Protein / Phosphoprotein / Food technology / Nutritional branch / Separation / Modification / Industrial

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**Seasonal changes in cheese quality and their relationship with milk composition**

Foley, Prof.J.

Cheese / Quality control / Milk / Hydrolysis / Protease / Activity / Assay / Biochemistry / Nutrition sciences / Nutritional branch

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**Membrane lipid peroxidation and meat quality**

Buckley, Dr.J. / Morrissey, Prof.P.A.

Vitamin / Meat / Lipid / Agricultural sciences / Cholesterol / Nitrite / Agriculture / Bovine animal / Muscle

□ **University College Cork**  
Department of Microbiology  
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**Molecular biology of a novel dicarboxylic acid transport gene in *Rhizobium meliloti***

O'Gara, Dr.F.

Gene / Rhizobium / Carboxylic acid / Transport / Molecular genetics / Nitrogen / Fixation / Symbiosis

**Development of a rapid method to detect contaminating *Clostridia* spp. in liquid milk**

Condon, Prof.S.

Clostridium / DNA / Probes / Pathogen / Milk / Anaerobic / Food technology / Molecular biology / Nutritional branch

**Genetic engineering applied to "antibiotic" metabolites in *Pseudomonas* species designed for biological control**

O'Gara, Dr.F.

Pseudomonas / Genetic / Engineering / Inhibition / Growth / Fungus / Microbiology / Agriculture

**Development of monoclonal antibody based affinity chromatography systems for the rapid recovery of specific proteins from bovine milk**

Collins, Dr.J.K. / Fox, Prof.P.F.

Monoclonal / Antibody / Affinity / Chromatography / Milk / Protein / Purification / Bovine animal / Biochemistry / Nutritional branch

□ **University College Cork**  
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**Detecting and quantifying the extent of atherosclerosis by tests on blood samples**

Duggan, Dr.F.

Cardiovascular system / Cardiovascular disease / Blood / Test / Hematology

□ **University College Cork**  
Department of Nutrition  
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**Membrane lipid peroxidation and its relationship to meat quality**

Morrissey, Prof.P.A.

Meat / Oxidation / Lipid / Antioxidant / Nitrite / Iron / Food chemistry / Nutritional branch / Quality control

**Metal ion complexation by products of the Maillard browning reaction**

Morrissey, Prof.P.A.

Food chemistry / Metal / Ion / Toxicology / Nutritional branch

**Bioavailability of dietary nutrients**

Morrissey, Prof.P.A. / Fox, Prof.P.F.

Food / Nutrient / Trace element / Assay / Food technology / Nutritional branch

**Mineral and trace element interactions in foods**

Morrissey, Prof.P.A.

Trace element / Food / Zinc / Iron / Calcium / Phosphate / Interaction / Nutrition sciences / Nutritional branch

**Functional properties of blood proteins**

Morrissey, Prof.P.A.

Protein / Hemoglobin / Food chemistry / Nutritional branch / Blood plasma

**Functional properties of muscle proteins**

Morrissey, Prof.P.A.

Muscle / Globulin / Surface / Food chemistry / Nutritional branch

□ **University College Cork**  
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**Use of natural hatching agents in the control of cyst nematodes**

Jones, Dr.P.

Nematode / Parasite / Dicotyledon / Low-molecular / Molecule / Botany / Agricultural sciences / Agriculture

**Comparison of in vivo and in vitro methods for the generation and selection of disease-resistant variants of oilseed rape**

Jones, Dr.P.

Dicotyledon / Resistance / Pathogen / In vivo / In vitro / Selection / Botany / Agricultural sciences / Agriculture

□ **University College Dublin**  
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**Development of a sexed cattle embryo bank**

Boland, Dr.M.P.

Embryo / Transplantation / Agriculture / Stock / Freeze / Bovine animal / Prenatal

**In vitro maturation and in vitro fertilization of bovine follicular oocytes**

Gordon, Prof.I.

In vitro / Fertilization / Development / Embryo / Transplantation / Stock / Bovine animal / Egg cell / Agriculture

**Breeding faba bean (*Vicia faba* L) varieties with adaptation to Irish conditions**

Walsh, Dr.E.J.

Dicotyledon / Useful plant / Gene / Breeding / Adaptation / Agricultural sciences / Agriculture

**Breeding faba beans for leaf and spot (*Ascochyta fabae*) resistance.**

Walsh, Dr.E.J. / Bannon, Dr.E.

Dicotyledon / Useful plant / Disease / Agricultural sciences / Agriculture / Resistance / Gene / Hybridization / rDNA

**Spring wheat breeding**

Walsh, Dr.E.J.

Wheat / Agriculture / Breeding / Optimization / Agricultural sciences / Useful plant

□ **University College Dublin**  
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Dublin  
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**Influence of ammonium and nitrate on the infection of *Trifolium repens* L. by *Rhizobium trifolii* Dang.**

Curran, Dr.P.L.

Rhizobium / Dicotyledon / Nutrient / Ammonium / Nitrate / Useful plant / Agricultural sciences / Agriculture

**Bulk extraction of hydrolytic enzymes and products from enhanced plant sources**

Reilly, Dr.M.L.

Hydrolysis / Enzyme / Plant / Enzyme technology

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Department of Agricultural Zoology and Genetics  
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Dublin  
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**Development of biopsy tests for the prediction of the efficiency of growth in animals**  
McCarthy, Prof.J.C.

Growth / Test / Cell / Dynamics / Zoology / Genetics

**Development of tests for the identification of high responder livestock to tick infestation**

Gray, Dr.J.S.

Immunology / Agriculture / Stock / Resistance / Parasite / Immunoassay

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**Cloning and site-directed mutagenesis of flavodoxin gene**

Mayhew, Dr.S.G.

Cloning / Mutation / Gene / Anaerobic / Bacterium / Amino acid / Protein / Biochemistry

**Structure and mechanism of hydrogenases**

Mayhew, Dr.S.G.

Hydrogenase / Anaerobic / Bacterium / Biochemistry / Physical chemistry

**Structures and mechanisms of action of flavoproteins from anaerobic bacteria**

Mayhew, Dr.S.G.

Structural analysis / Protein / Hydrogenase / Transferase / Cofactor / Physical chemistry / Enzymology / Anaerobic / Bacterium

**Structural studies on flavodoxins by 13C NMR**

Mayhew, Dr.S.G. / Malthouse, Dr.J.P.J.

NMR / Structural analysis / Protein / Physical chemistry / Biochemistry

**Tryptophan synthase catalysed biosynthesis of tryptophan and H/D exchange of tryptophan and serine**

Bailey, Dr.C.

Biosynthesis / Tryptophan / Serine / NMR / Physical chemistry / Biochemistry

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**The isolation and cloning of trans-acting factors involved in the photoregulation of gene expression**

Gallagher, Dr.T.F.

Gene / Expression / Cloning / Protein / cDNA / Transgenic / Plant / Light / Molecular biology

**The interaction of trans-acting factors with photoregulated genes of Pisum**

Gallagher, Dr.T.F.

Dicotyledon / Gene / Regulation / Protein / Nucleus / Botany / Genetics / Interaction

**Cloning of histone genes from Pisum**

Gallagher, Dr.T.F.

Dicotyledon / Cloning / Gene / Nucleus / Protein / Sequence / Expression / Transgenic / In vitro / Transcription / Botany / Genetics

**Chromatin organization of photoregulator genes in Pisum**

Gallagher, Dr.T.F.

Dicotyledon / Gene / Botany / Chromatin / Genetics / Tobacco / Transgenic

**In vitro transcription of plant genes**

Gallagher, Dr.T.F.

In vitro / Transcription / Plant / Gene / Expression / Regulation / Botany / Molecular biology

**Strawberry polyhaploid production by intergenic crossing followed by embryo rescue**

Hennerty, Dr.M.J.

Dicotyledon / Useful plant / Genetics / Agriculture / Tissue / Cultivation / Embryo

**Isolation of melalaxyl resistance gene in Phytophthora infections**

Harmey, Dr.M.A.

Gene / Resistance / Molecular genetics / Agriculture / Isolation

**Use of repeated sequences in genotyping Phytophthora isolates**

Harmey, Dr.M.A.

DNA / Sequence / Hybridization / Blotting / Molecular genetics

**Biogenesis of mitochondria in Vicia faba**

Harmey, Dr.M.A.

Mitochondrion / Dicotyledon / Biosynthesis / Precursor / Protein / cDNA / Transcription / Translation / ATPase / Development / Biochemistry / Gene technology

**Sequence homology between strains of potato virus X**

Harmey, Dr.M.A.

Sequence / DNA / Potato / Molecular genetics / Agriculture / Recognition / Virus / Microbiology

**Genotyping of barley varieties using DNA fingerprinting**

Harmey, Dr.M.A.

DNA / Monocotyledon / Sequence / Molecular genetics / Agriculture / Useful plant / Recognition

**The role of endomycorrhizal fungus in the carbohydrate and phosphorus nutrition of plants belonging to the Ericaceae**

Mitchell, Dr.D.T.

Plant / Mycelial fungus / Soil / Polyalcohol / Phosphorus / Nutrition / Botany

**The application of Mycorrhizae to nursery seedling production of Sitka spruce**

Mitchell, Dr.D.T.

Plant / Mycelial fungus / Production / Botany / Forestry / Soil

**The influence of mycorrhizae and phosphorus nutrition on wood production on mixed forest stands**

Mitchell, Dr.D.T.

Plant / Nutrient / Uptake / Mycelial fungus / Production / Botany / Soil / Acidic / Forestry

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**Design of transdermal penetration enhancer vehicles for topical drug delivery**

Ward, Dr.A.

Drug / Pharmacology / Skin / Pharmaceutical industry

**The application of NMR to mechanistic enzymology and protein chemistry**

Malthouse, Dr.P.G.

NMR / Isotope / Enzyme / Protein / Structural analysis / Hydrolysis / Biochemistry / Physical chemistry

**Enzymatic biosynthesis of isotopically enriched amino acids**

Malthouse, Dr.J.P.J.

Biosynthesis / Amino acid / Isotope / Enzymatic / Organic chemistry / Stereospecific

**Optimisation of complexing between polysaccharides and hydrophobic organic molecules, by means of synthetic chemistry and physical methods**

Darcy, Dr.R.

Cyclodextrin / Organic / Hydrophobic / Physical chemistry / Organic chemistry / NMR / Fluorescence / Analysis / Radiology / Synthetic

□ **University College Dublin**

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**Measurement of fluid shear effects on cultured plant cells**

Malone, Dr.D.M.

Plant / Cultivation / Bioreactor / Cell

□ **University College Dublin**

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Dublin  
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**Interfacing micropropagation and nutrient solution culture**

Hennerty, Dr.M.J.

Cultivation / Nutrient / Plant / Agricultural sciences / Agriculture / Regeneration / Tissue

**Micropropagation of Sitka spruce (Picea sitchensis)**

Gardiner, Dr.J.J. / Hunter, Dr.A.

Dicotyledon / Useful plant / Forestry / Agricultural sciences / Germ cell / In situ / Breeding / Regeneration / Tissue

**In vitro propagation of Pinus contorta**

Hunter, Dr.A. / Gardiner, Dr.J.J.

In vitro / Dicotyledon / Forestry / Agricultural sciences / Useful plant / Growth / Production / Cell / Tissue / Cultivation

**Somaclonal variation in Rhododendron -**

**Tolerance to alkalinity**

Hunter, Dr.A.

Dicotyledon / Useful plant / Soil / Acidic / Tolerance / Alkaline / Genetics / Agricultural sciences / Agriculture / Selection / Cell / Tissue / Cultivation

**Acceleration of breeding of Faba bean by embryo rescue and embryogenesis**

Hennerty, Dr.M.J.

Dicotyledon / Useful plant / Embryo / Breeding / Agricultural sciences / Agriculture / Cultivation

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**Immobilization as a mechanism for maintaining viable inoculum**

McLoughlin, Dr.A.J. / Upton, Dr.M.

Immobilization / Nutritional branch / Freeze-drying / Freeze / Lactobacillaceae / Microbiology

**Rapid methods of detecting viable cells in foods**

McLoughlin, Dr.A.J. / Upton, Dr.M.

Food technology / Nutritional branch / Microorganism / Fluorescence / Analysis

**The influence of irradiation on microbial cells**  
McLoughlin, Dr.A.J. / Upton, Dr.M.  
Light / UV / X-rays / Gramnegative /  
Microorganism / Microbiology / Resistance

**The production of extracellular products by *Pseudomonas aeruginosa***  
McLoughlin, Dr.A.J.  
Pseudomonas / Pigment / Microbiology /  
Ecological / Production / Extracellular / Toxin

**The immobilization of fungal hyphae**  
McLoughlin, Dr.A.J.  
Immobilization / Mycelial fungus / Microbiology /  
Metabolism

**Whey-utilisation and a new lactase for the dairy and food industries**  
Kelly, Dr.C.T.  
Whey / Galactosidase / Lactase / Nutritional  
branch / Fungus / Microbiology / Industry /  
Upstream processing

**New bacterial starch degrading enzymes producing dextrose only or maltose only as end-product**  
Kelly, Dr.C.T.  
Starch / Hydrolysis / Maltose / Bacterium / Glucose /  
Microbiology

**Anaerobes as sources of extracellular enzymes**  
Kelly, Dr.C.T.  
Anaerobic / Microorganism / Extracellular /  
Enzyme / Microbiology / Hemicellulose / Starch /  
Hydrolysis

**Yeasts as sources of amylolytic enzymes**  
Kelly, Dr.C.T.  
Yeast / Starch / Hydrolysis / Enzymology /  
Microbiology / Industry

**Microbial alpha-glucosidases**  
Kelly, Dr.C.T.  
Glucosidase / Microbial / Enzymology /  
Microbiology / Industry / Alpha

**Fundamental studies on amyloglucosidase**  
Fogarty, Prof.W.M.  
Amyloglucosidase / Enzymology / Hydrolysis

**Screening of microorganisms for production of enzymes and other metabolites**  
Fogarty, Prof.W.M.  
Screening / Enzyme technology / Microorganism /  
Enzyme / Metabolite / Production

**Utilisation of cut-away bog for energy production**  
McEvoy, Dr.J.J.  
Energy supply / Cloning / Gene / Zymomonas /  
Ethanol / Production / Hydrolysis / Polysaccharide /  
Dicotyledon / Fermentation / Genetics /  
Microbiology / Useful plant

**Strain development for amino acid overproduction in *Coryneform* bacteria by the methods of rDNA technology**  
McEvoy, Dr.J.J.  
Strain development / Cloning / Gene /  
Brevibacterium / rDNA / Genetics / Tryptophan /  
Biosynthesis / Molecular genetics / Industry

**Development of cloning vectors for strain development in Streptomyces by recombinant DNA technology**  
McEvoy, Dr.J.J.  
Streptomyces / rDNA / Genetic / Engineering /  
Genetics / Vector / Cloning / Industry / Strain  
development

**Feedstocks for fermentation processes**  
Fogarty, Prof.W.M.  
Fermentation / Feed / Enzyme

**Process factors which influence stability of recombinant bacteria under fermentation conditions**  
McLoughlin, Dr.A.J. / Hussey, Dr.C.  
Plasmid / Stable / Bacillus / Gene / Expression / pH /  
Temperature / Nutrient / Fermentation technology /  
Bioprocess engineering

**The survival of recombinant plasmids under environmental conditions**  
Hussey, Dr.C. / McLoughlin, Dr.A.J.  
Plasmid / Natural / Safety research / Microbiology /  
Environment

**Immobilization of plasmid-containing cells as a strategy to increase stability and optimise product yield**  
McLoughlin, Dr.A.J. / Hussey, Dr.C.  
Immobilization / Plasmid / Stable / Cell / Gene /  
Expression / Cell biology / Bioprocess engineering

**Reactor design for the optimisation of yields of products of cloned genes**  
McLoughlin, Dr.A.J. / Hussey, Dr.C.  
Gene / Cloning / Software / Bioreactor / Bacillus /  
Plasmid / Informatics / Bioprocess engineering

**The kinetics of plasmid replication and partition**  
McLoughlin, Dr.A.J. / Hussey, Dr.C. / Williams, Dr.D.  
Plasmid / Replication / Bacillus / Molecular  
genetics / Software / Kinetics / Informatics

**The effect of high level expression of plasmid coded genes on plasmid stability**  
Hussey, Dr.C. / McLoughlin, Dr.A.J.  
Plasmid / Gene / Expression / Stable / Molecular  
genetics / Cloning

**The relationship between plasmid copy number and stability of plasmid-coded phenotypes in *Bacillus subtilis***  
Hussey, Dr.C. / McLoughlin, Dr.A.J.  
Plasmid / Bacillus / Nutrient / Temperature /  
Molecular genetics / Stable / Cloning

**Rapid methods for detection of plasmid-containing cells**  
Hussey, Dr.C. / McLoughlin, Dr.A.J.  
Plasmid / Genetic / Engineering / Monitoring /  
Screening / Cell / Bacterium / Electron microscope /  
Fluorescence / Microbiology

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**IgM antibody capture assay for Human Immunodeficiency Virus (HIV)**  
Shattock, Dr.A.G.  
HIV / Antibody / Immunoglobulin / Assay /  
Immunology

**Search for etiologic causes of Non-A, Non-B hepatitis**  
Shattock, Dr.A.G.  
Hepatitis / Assay / Immunology

**Development of enzyme-immunoassays for the detection of cell-mediated immunity to human and animal diseases**  
Shattock, Dr.A.G.  
Immunoassay / Infection / Antigen / Immune  
system / Lymphocyte / Lymphokine / Hepatitis /  
Virus / Mycobacterium / Immunology

**Development of assays to detect Hepatitis D virus markers**  
Shattock, Dr.A.G.  
Hepatitis / Virus / Immunoassay / Antigen /  
Diagnosis / Immunology

**University College Dublin**  
Department of Pharmacology  
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Co. Dublin  
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**Development of in vitro systems for evaluating nephrotoxicity of drugs and other chemicals**  
Ryan, Prof.M.P. / Pratt, Dr.I.  
In vitro / Kidney / Toxicology / Pharmacology /  
Drug / Cell / Cultivation

**Use of cardiac cells as models for investigating cardiovascular drugs**  
Ryan, Prof.M.P.  
Heart / Drug / Cell / Cultivation / Animal / Human /  
Pharmacology / Leukocyte / Pharmaceutical  
industry

**In vitro assessment of drug receptor-effector systems involving measurement of drug effects on transmitter turnover and on receptor-linked adenylate and guanylate cyclases**  
Keenan, Dr.A.  
Pharmacology / Pharmaceutical industry / Drug /  
Receptor / Nerve / Cardiovascular system

**Hormonal and tissue-specific regulation of mammalian gene expression**  
Martin, Dr.F.  
Gene / Expression / Mammal / Cell / Cultivation /  
Hormone / Receptor / Assay / Steroid / Peptide /  
Transfection / Genetics / Pharmaceutical industry

**Lung toxicity and toxicology of biotechnology products**  
Pratt, Dr.I.  
Toxicology / In vitro / Cell / Cultivation / Assay /  
Test / Mutation / Cancer / Origin / Pharmaceutical  
industry

**Tissue specific regulation of prolactin and growth hormone gene expression**  
Martin, Dr.F.  
Gene / Regulation / Expression / Growth /  
Hormone / Transcription / Cloning / Hypophysis /  
Molecular genetics

**Development of immunodiagnostic tests for the screening of open neural tube defects**  
Regan, Dr.C.M.  
Nervous system / Disease / Immunoassay /  
Diagnosis / Protein

**In vitro screening for anticonvulsant teratogenesis in neural primary cultures and cell lines**  
Regan, Dr.C.M.  
In vitro / Screening / Malformation / Origin /  
Nervous system / Disease / Cell / Cultivation /  
Pharmacology / Pharmaceutical industry

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**Endocrine function of placenta of pig and cow**  
Evans, T.  
Pig / Bovine animal / Endocrinology / Hormone

**Histology and electron microscopy of the bovine corpus luteum**  
Rhatigan, Prof.P.  
Microscopy / Histology / Yellow body / Bovine  
animal / Cytoplasm / Steroid / Endocrinology

**Structural aspects of luteal function and regression in the ovary of the domestic dog**  
Dore, Dr.M.A.  
Yellow body / Mammal / Gynecology /  
Immunocytochemistry / Microscopy



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**The cloning and expression of the gene for the PI antigen from the dust mite Dermatophagoides pteronyssinus**  
Joyce, Dr.P.  
Cloning / Expression / Gene / Antigen / Insect / Pathogen / Allergy / Molecular genetics / Immunology / Allergology

**Enhancement of naturally occurring insecticides**  
Ryan, Dr.M.F.  
Insecticide / Natural / Plant / Botany / Agriculture

**Chemical and cell culture studies to characterise carrot varieties resistant to carrot fly (*Psila rosae*)**  
Ryan, Dr.M.F. / Wilson, Dr.G.  
Useful plant / Resistance / Parasite / Cultivation / Agricultural sciences / Agriculture

**Immunology of Strongylus spp. parasite in the performance horse**  
Ryan, Dr.M.F.  
Stock / Parasite / Protein / Antigen / Immune system / Blotting / ELISA / Antibody / Immunology / Agriculture

□ **University College Galway**  
Department of Biochemistry  
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**Diagnostic test for the enzyme delta-6-desaturase**  
Headon, Dr.D.  
Assay / Test / Enzyme / Fatty acid / Antibody / Biochemistry

**Development of an immunoassay for human inhibin**  
Headon, Dr.D.  
Immunoassay / Hormone / Human / Antibody / Biochemistry

**Development of enzyme immunoassay kits for monitoring bone metabolism**  
Fottrell, Prof.P. / Gosling, Dr.J.P.  
Immunoassay / Metabolism / Organ / Antibody / Monoclonal / Biochemistry / Immunology

**Development of enzyme immunoassay kits for steroid hormones**  
Fottrell, Prof.P. / Gosling, Dr.J.P.  
Antibody / Monoclonal / Immunoassay / Hormone / Progesterone / Estrogen / Testosterone / Biochemistry / Immunology

**Development of assays for viral antibodies which employ cloned antigens or hybrid molecules containing both antigen and marker enzyme**  
Gosling, Dr.J.P.  
Viral / Antibody / Assay / Immunoglobulin / Immunology / Biochemistry

**The use of protein G as an affinity binder for the purification of IgG from a wide range of species**  
Gosling, Dr.J.P.  
Immobilization / Immunoglobulin / Affinity / Purification / Biochemistry

**Development of solid phase systems with negligible affinity for non-specific components of plasma and saliva**  
Gosling, Dr.J.P.  
Solid / Immobilization / Immunoassay / Antibody / Antigen / Biochemistry / Analytical engineering

**Further investigations into the preparation of solid phase immunodiagnostic components**  
Gosling, Dr.J.P.  
Diagnostic agent / Immune / Protein / Uptake / Solid / Adsorption / Biochemistry / Analytical engineering

**Production of enzymes for industrial application by solid-state fermentation of wastes**  
Coughlan, Prof.M.P.  
Cellulase / Hemicellulase / Pectinase / Glucanase / Beta / Production / Industry / Waste / Fermentation / Fermentation technology

□ **University College Galway**  
Department of Botany  
Co. Galway  
☎ +353 91 24411

**In vitro isolation of agar-producing marine algae**  
Guiry, Dr.M.D.  
Red alga / Cultivation / Growth / Reproduction / Temperature / Light / Microbiology / Marine / Industry

□ **University College Galway**  
Department of Microbiology  
Co. Galway  
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**Diagnostic kits for salmonid diseases**  
Smith, Dr.P.  
Diagnosis / DNA probes / ELISA / Pancreas / Infection / Antigen / Vaccine

**Methods for diagnosis of Epstein Barr virus-DNA probe**  
Gannon, Dr.F.  
DNA virus / DNA / Probes / Diagnosis / Antigen / Molecular biology / Immune / Diagnostic agent / Immunology

**An analysis of the 3 untranslated region of the estrogen receptor gene**  
Gannon, Dr.F.  
Gene / Estrogen / Receptor / Hormone / Molecular genetics

**Method of using DNA probes in diagnostics which is compatible with immunodiagnostic instrumentation**  
Gannon, Dr.F.  
DNA / Probes / Diagnosis

**Fungal conversion of lignocellulosic wastes to high protein animal feeds**  
Colleran, Dr.E.  
Fungus / Fermentation / Waste / Lignocellulose / Protein / Feed / Optimization / Microbiology / Fermentation technology / Agriculture

**The development and selection of industrially useful strains of microorganisms by continuous culture techniques**  
Patching, Dr.J.W.  
Microorganism / Strain development / Selection / Continuous / Cultivation / Chemostat / Plasmid / Stable / Microbiology / Industry

**The application of semen analysis, fertility assessment and sperm sexing to the livestock production industry**  
Houghton, Prof.J.A.  
Sperm / Analysis / Fertility / Chromosome / Spermatology / Agriculture / Mammal

**The application of sperm analysis techniques to livestock production**  
Houghton, Prof.J.A.  
Sperm / Analysis / Fertility / Spermatology / Agriculture / Mammal

**Bacterial culture technology**  
Dunican, Prof.L.K.  
Bacterium / Cultivation / Microbiology / Service

**Genetic engineering and transposon mutagenesis in amino acid producing Corynebacterium**  
Dunican, Prof.L.K.  
Corynebacterium / Amino acid / Production / Transposon / Mutation / Origin / Genetic / Engineering / Molecular genetics / Microbiology

**Genetic construction of superior amino acid-producing Corynebacterium capable of utilizing lactose**  
Dunican, Prof.L.K.  
Corynebacterium / Lactose / Amino acid / Cloning / Gene / Plasmid / Production / Microbiology / Molecular / Genetics / Industry

**Development of cloning systems in Clostridia**  
Dunican, Prof.L.K.  
Clostridium / Cloning / Molecular genetics / Plasmid / Transposon

**The cloning of genes encoding starch-degrading enzymes into Saccharomyces cerevisiae**  
Stevens, Dr.E.  
Molecular genetics / Industry / Escherichia / Yeast / Gene / Microbial / Industrial / Fermentation / Cloning / Coding / Pullulanase / Amyloglucosidase / Brewer's yeast / Starch / Degradation / Drink

**Assay of Clostridia in raw milk**  
Dunican, Prof.L.K.  
Microbiology / Immunology / Nutritional branch / Bacillus / Bacterial / Industrial / Antibody / Immunoassay

□ **University College Galway**  
Department of Pathology  
Co. Galway  
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**Production of murine monoclonal antibodies to human immunoglobulin subclasses**  
Greally, Prof.J.  
Monoclonal / Antibody / Immunoglobulin / Human / Biochemistry / Immunology

## ITALY

### National focal point (first stage): Consiglio Nazionale delle Ricerche (CNR)

Progetto Finalizzato B.B.S. Biotecnologie e  
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20131 Milano  
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□ **Spedali Civili di Brescia**  
Servizio Analisi  
Piazzale Spedali Civili, 1  
25123  
Brescia  
☎ +39 30 3995554

#### Production of T cell clones from umbilical cord blood.

Produzione di cloni T da sangue di cordone ombelicale.  
Imberti, luisa  
Lymphocyte / Immune / Suppression / Cloning / Gene / Immunology / Molecular genetics

#### Production of monoclonal antibodies and of innovative methods for the measurement of protein S.

Produzione di anticorpi monoclonali e messa a punto di metodiche innovative per la proteina S.  
Ghielmi, salvatore  
Monoclonal / Antibody / Glycoprotein / Blood plasma / Biochemistry / Immunology / Assay

□ **HSR**  
Laboratorio di Ricerca in Coagulazione  
Centro S. Romanello Monte Tabor  
Via Olgettina, 60  
20132  
Milano  
☎ +39 2 21702308

#### Monoclonal antibodies for the measurement of antithrombin III and C4B-binding protein.

Impiego di anticorpi monoclonali nel dosaggio di antitrombina III e C4B-binding protein.  
d'angelo, armando  
Monoclonal / Antibody

□ **Centro Trasfusionale e di Immunologia dei Trapianti Ospedale Policlinico**  
Via Francesco Sforza, 35  
20122  
Milano  
☎ +39 2 55181346

#### Development of new diagnostic and therapeutic approaches to modulation of the immune system in tissue and organ transplantation.

Sviluppo di nuovi approcci diagnostici e terapeutici per la modulazione del sistema immunocompetente con particolare attenzione al trapianto di organi e tessuti.  
Sirchia, gerolamo  
Immune system / Tissue / Organ / Transplantation / Nervous system / Peptide / Leukocyte / Lymphocyte / Regulation / Immunology / Endocrinology / Pharmacology

□ **Fidia S.p.A.**  
Via Ponte della Fabbrica, 3a  
35031  
Abano Terme (PD)  
☎ +39 49 810444

**Mathematical scale-up in fermentation processes.**  
Approccio matematico nel up-scaling di processi fermentativi  
Solimbergo, mario  
Fermentation / Bioprocess engineering / Scale-up

**Biochemical characterization of human keratinocytes cultured on biomaterials.**  
Caratterizzazione biochimica di cheratinociti umani coltivati in "vitro" su biomateriali  
Rastrelli, alessandro  
Cell / Cultivation / In vitro

**Purification and characterization of neurotrophic factors.**  
Purificazione e caratterizzazione di fattori neuronotrofici.  
Leon, alberta  
Bioactive agent / Neurobiology / Industry

□ **Consorzio "Mario Negri" Sud**  
Via Nazionale  
66030  
S. Maria Imbaro (CH)  
☎ +39 872 578480

#### Development of new reagents and therapeutic tools: production and immunohistochemical utilization of specific monoclonal antibodies to fibrinogen, fibrin; and lipocortin.

Sviluppo di nuovi diagnostici e strumenti terapeutici: anticorpi monoclonali specifici per il fibrinogeno, la fibrina e la lipocortina  
Bini, alessandra  
Fibrin / Kidney / Pathology / Monoclonal / Antibody / Immunology / Immune / Cell biology / Fluorescence / Image analysis

□ **Informatica Data System**  
Corso Vinzaglio, 16  
10121  
Torino  
☎ +39 163 253227-8

#### Automated microscopy system in cytomorphology and DNA probes analysis: prototyping and industrial implementation.

Sistemi di microscopia automatica per l'analisi citomorfologica e mediante sonde di DNA: sviluppo dei prototipi e realizzazioni industriali.  
Cavagliano, paolo  
Informatics / Instrumentation / Automation / Microscopy / Cell / Hardware / Software / Industry / DNA / Probes / Marketing

□ **Consiglio Nazionale delle Ricerche**  
Istituto di Tipizzazione Tissutale e Problemi della Dialisi.  
Piazzale Collemaggio  
67100  
l'Aquila  
☎ +39 862 27129

#### Characterization of histocompatibility of a pancreas bioreactor.

Trapianto caratterizzazione della biocompatibilità di un bioreattore pancreatico.  
Di giulio, salvatore  
Bioreactor / Pancreas / Artificial / Thrombocyte / Adhesion / Engineering / Medicine / Membrane apparatus

#### Rejection in organ transplantation: phenotypic and functional analysis markers.

Studio fenotipico e funzionale di marcatori precoci di rigetto d'organo. Produzione di anticorpi monoclonali ad uso terapeutico.  
Adorno, domenico  
Immunology / Transplantation / Lymphocyte / Activation / Marker / IMMUNE SYSTEM

□ **Consiglio Nazionale delle Ricerche**  
Istituto di Biochimica delle Proteine ed Enzimologia  
Via Toiano, 6  
80072  
Arco Felice (NA)  
☎ +39 81 8671255-8661341

#### Isolation, characterization and production of enzymatic activities from thermophilic bacteria.

Isolamento, caratterizzazione e produzione di attività enzimatica da batteri termofili: potenziali applicazioni biotecnologiche.  
Rossi, mose'  
Thermophilic / Alcohol / Oxidoreductase / DNA / Polymerase / Beta / Galactosidase / Kinetics / Structure / Genome / Sulfolobus / Expression / Vector / Biochemistry / Molecular genetics

#### Enzymes and factors controlling sperm-egg recognition and their relevance in reproduction.

Ruolo di enzimi e fattori che regolano il riconoscimento uovo-spermatozoo.  
Cacace, G. Marcello  
Enzyme / Sperm / Egg cell / Reproduction / Biochemistry / Medicine

□ **Consiglio Nazionale delle Ricerche**  
Istituto per la Chimica delle Molecole di Interesse Biologico  
Via Toiano, 6  
80072  
Arco Felice (NA)  
☎ +39 81 8671255-8661444

#### Analysis of recombinant proteins by FAB mass spectrometry.

Analisi mediante spettrometria di massa FAB di proteine ricombinanti  
Malorni, antonio  
Recombination / Protein design / MS / Gene / Expression / Mapping / Polymerase / Biochemistry

#### New biotechnologies based on utilization of extremophilic microorganisms.

Nuove biotecnologie basate sull'utilizzo di microrganismi estremofili.  
Gambacorta, agata  
Extremophilic / Thermophilic / Enzyme / Microbiology / Biochemistry / Archaeobacterium / Industry / Cell / Biotransformation / Immobilization

□ **Consiglio Nazionale delle Ricerche**  
Centro Studi Mitochondri e Metabolismo Energetico  
Via Amendola, 165a  
70126  
Bari

#### Synthesis and subcellular compartmentation of modified mitochondrial proteins and fusion proteins

Sintesi e compartimentazione subcellulare di proteine mitocondriali modificate e di proteine di fusione.  
Marra, ersilia  
Mitochondrion / Aspartic acid / Transferase / Transcription / Translation / Transport / Protein / Mutation / Origin / Nucleotide / Sequence / Gene / Fusion / Expression / Biochemistry

□ **Istituto di Ricerche Farmacologiche "Mario Negri"**  
Via Gavazzeni, 11  
24100  
Bergamo  
☎ +39 35 233455

**Development of new tools for the functional analysis of matrix components and their receptors in the metastatic processes and in angiogenesis.**

Messa a punto di nuovi strumenti di analisi di componenti della matrice e loro recettori e studio del ruolo nei processi di metastatizzazione e angiogenesi.

Taraboletti, giulia

Tumour / Endothelium / Extracellular / Cellular / Enzyme / Peptide / Monoclonal / Antibody / Receptor / In vitro / In vivo / Vessels / Development

**Immunological biochemical and vascular mechanisms of xenografts rejection.**

Aspetti immunologici, biochimici e vascolari nel meccanismo di rigetto dell'organo trapiantato.

Rambaldi, alessandro

In vitro / Kidney / Transplantation / Immunology / Vessels / Tissue / Immune / Suppression / Monoclonal / Antibody

**Istituto Nazionale per la Ricerca Sul Cancro**

Viale Benedetto XV, 10  
16132  
Genova

☎ +39 10 35341

**Intracellular transport of membrane and secretory proteins. Construction of recombinant antibodies with optimal secretion rates.**

Metodologie per l'ottimizzazione della secrezione di anticorpi ricombinanti.

Sitia, roberto

Recombination / Antibody / Immunoglobulin / Polymerization / Secretion / Protein / Transport / Intracellular / Mutation / Biochemistry / Cell biology

**In vitro and in vivo antitumor activity of lymphokines and differentiating agents alone or in combination with monoclonal antibodies in human colon tumors.**

Attività antitumorale in vitro ed in vivo di linfocine e agenti differenzianti da soli o in associazione con anticorpi monoclonali

Santi, leonardo

Antigen / Expression / In vivo / In vitro / Lymphokine / Differentiation / Monoclonal / Antibody / Cancer / Diagnosis / Immunotherapy / Immunology / Oncology

**Production of DNA probes and human and murine monoclonal antibodies for the study of polymorphism of the histocompatibility antigens.**

Produzione di sonde di acidi nucleici e anticorpi monoclonali umani e murini per lo studio dei polimorfismi degli antigeni di istocompatibilità.

Ferrara, giovanni battista

DNA / Probes / Monoclonal / Antibody / Human / Mouse / Polymorphism / Antigen / Pathology / Transplantation / Organ / Gene / Transfection / Sequencing / Peptide / Immunotherapy / Cancer

**In vitro culture of human epidermis.**

Coltura "in vitro" di epidermide umana.

Cancedda, ranieri

Cultivation / Preservation / In vitro / Skin / Artificial / Growth / Proliferation / Differentiation / Cancer / Regulation / Transplantation

**Consiglio Nazionale delle Ricerche**  
Centro per lo Studio della Farmacologia delle Infrastrutture Cellulari

Via Vanvitelli, 32  
20129  
Milano

☎ +39 2 795157-7490574

**Generation of autoreactivity by gene transfer.**

Modificazione del patrimonio genetico in vivo

Ricciardi castagnoli, paola

Gene / Transfer / In vivo / Thymus / Mouse / Lymphocyte / Receptor / Cloning / cDNA / Retrovirus / Vector / Transfection / mRNA / Blotting / Hybridization / Transcription / Molecular genetics

**Development of procedures and systems for acquisition and analysis of microscopic images obtained using ion sensitive or DNA-bound fluorochromes.**

Sviluppo di metodologie e sistemi per l'acquisizione e l'analisi di immagini da microscopio con fluorofori sensibili a ioni o associati a sonde di DNA.

Fumagalli, guido

Microscopy / Instrumentation / Fluorescence / Automation / Image analysis / Hybridization / DNA / Probes / Biophysics / Optical / Cell / Fine structure

**Molecular biology of intracellular transport of proteins and production of chimaeric proteins with predetermined loci**

Biologia molecolare del trasporto intracellulare di proteine e produzione di neoproteine a localizzazione predeterminata.

Borgese, nica

Molecular biology / Intracellular / Transport / Protein / Cytochrome / Reductase / Biochemistry / Tobacco / Protoplast / Recombination / Antibody

**Consiglio Nazionale delle Ricerche**

Istituto Fisiologia Clinica Pisa, Sezione  
Milano c/o Ente Ospedale Niguarda  
Piazza Ospedale Maggiore, 3  
20126  
Milano

☎ +39 2 64442605-6429552

**Morphological, biochemical and functional changes following preservation and reperfusion and their prevention in the isolated and heterotopic transplanted pig heart.**

Alterazioni morfobiochimiche-funzionali da conservazione e riperfusione. Prevenzione nel cuore isolato ed eterotrapiantato di maiale.

Rossi, cristiano

Preservation / Transplantation / Heart

**Consiglio Nazionale delle Ricerche**

Istituto di Chimica degli Ormoni  
Via Mario Bianco, 9  
20131  
Milano

☎ +39 2 2847737-2853348

**Development of methodologies for the regeneration of nicotinamide cofactors and of enzymatic processes in organic solvents.**

Sviluppo di metodologie per la rigenerazione dei cofattori nicotinamidici e di processi enzimatici in solventi organici

Carrea, giacomo

Enzyme / Cofactor / Flow / Bioreactor / Membrane apparatus / Biochemistry / Organic / Solvent / Pharmaceutical industry

**Consiglio Nazionale delle Ricerche**  
Istituto di Fisiologia Clinica Sezione di

Milano  
Piazza Ospedale Maggiore, 3  
20162  
Milano

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**Non invasive diagnostic approach to the immune events occurring in allograft recipients (heart, kidney, liver).**

Monitoraggio degli eventi immuni nel trapianto d'organo.

De maria, renata

Organ / Transplantation / Immunology

**Consiglio Nazionale delle Ricerche**

Istituto Macchine Utensili  
Via Ampere, 56  
20131  
Milano

☎ +39 2 26680193

**Robotized system for automatic DNA sequencing sample preparation.**

Sistema robotizzato per la preparazione dei campioni all'analisi automatica del DNA.

Rinaldi, roberto

Automation / DNA / Sequencing / Instrumentation

**Consiglio Nazionale Delle Ricerche**

Istituto Tecnologie Biomediche Avanzate  
Via Ampere, 56  
20131  
Milano

☎ +39 2 2367188

**Development of instrumentation for the automated sequencing of nucleotides on DNA fragments.**

Sviluppo di metodologie e strumenti per la determinazione automatica della sequenza di nucleotidi su frammenti di DNA

Vezzoni, paolo

Instrumentation / Automation / DNA / Sequencing / Nucleotide / Software / Data base / Biocomputing

**Istituto di Ricerche Farmacologiche "Mario Negri"**

Via Eritrea, 62  
20157  
Milano

☎ +39 2 357941

**Studies on regulation mechanisms of gene expression for the aspecific alkaline murine phosphatase.**

Studi sui meccanismi di regolazione dell'espressione del gene per la fosfatasi alcalina aspecifica murina.

Garattini, enrico

Cloning / Molecular genetics / Gene / Isoenzyme / Coding / Phosphatase / Alkaline / Regulation / Expression / Transfection / Transcription

**Specificity of DNA sequence binding and changes in gene transcription of chemicals which interact with DNA.**

Relazione tra specificità di sequenza del legame al DNA di composti chimici e modificazioni della trascrizione genica.

d'incalci, maurizio

DNA / Sequence / Gene / Transcription / Chemical / Expression / Pharmacology / Molecular genetics

**Istituto Sieroterapico Milanese S.**

Belfanti  
Via Darwin, 22  
20143  
Milano

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**Production of fibronectin (fn) and its variants to be tested as wound healing agents.**

Produzione mediante tecniche di DNA ricombinante di fibronectina e sue varianti da utilizzare quali agenti cicatrizzanti.

Baralle, francisco E.

rDNA / Recombination / Medicine

**Istituto Nazionale per lo Studio e la Cura dei Tumori**  
Via Venezian, 1  
20133  
Milano  
☎ +39 2 2390

**Humanization by protein engineering of murine monoclonal antibodies with restricted specificity for human tumors.**  
Umanizzazione per ingegneria genetica di anticorpi monoclonali murini a specificita' ristretta per tumori umani.  
Orlandi, rosaria  
Mouse / Monoclonal / Antibody / Cancer / Diagnosis / Immunotherapy / Recombination / rDNA / cDNA / Transcription / Amplification / Polymerase / Cloning / Vector / Sequencing / Expression / Transfection / Immunology / Molecular genetics

**New automated systems for the flow and static cytofluorimetric analysis of lymphocyte subsets by multiple immunofluorescence and human tumor cells.**  
Analisi automatizzata in citofluorimetria statica e a flusso tramite immunofluorescenza multipla di cellule umane.  
Delia, domenico  
Instrumentation / Lymphocyte / Monoclonal / Antibody / Fluorescence / Immune / Automation / Biocomputing / Cancer / Tumour

**Consiglio Nazionale delle Ricerche**  
Centro di Endocrinologia e Oncologia Sperimentale  
Via Sergio Pansini, 5  
80131  
Napoli  
☎ +39 81  
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**Regulatory role of HLA class I and II antigens and of cyclosporins in the immune response to xenografts.**  
Ruolo regolatorio degli antigeni HLA di classe I e II e delle ciclosporine nella risposta immuno contro gli xenotrapianti.  
Zappacosta, serafino  
Monoclonal / Antibody / Lymphocyte / Regulation / Antigen / Immune system / Lymphokine / Expression / Immunology / Transplantation / Biochemistry

**Experimental models of thyroid carcinomas in transgenic mice.**  
Modelli sperimentali di carcinomi tiroidei e tumori embrionali in topi transgenici  
Vecchio, giancarlo  
Oncology / Thyroid gland / Cancer / Transgenic / Mouse / Tumour / Origin / Recombination / Transferase / Gene / Transcription / Molecular genetics

**Laser-light interactions with chromophores.**  
Fluorometro laser impulsato per misure di sonde di DNA.  
Andreoni, alessandra M.  
Laser / Interaction / DNA / Probes / Biophysics / Spectrometry / Fluorescence / Medicine

**Consiglio Nazionale delle Ricerche**  
Istituto Internazionale di Genetica e Biofisica  
Via Guglielmo Marconi, 10  
80125  
Napoli  
☎ +39 081 7257

**Molecular cloning of the gene for a protein of the pollen of paritaria allergenic for man.**  
Clonaggio molecolare ed espressione in E. coli del gene per un allergene del polline di parietaria.  
Ruffilli, anna  
Gene / Cloning / Allergy / Antigen / Immunology / Biochemistry / Glycoprotein / mRNA / Expression

**Heterologous promoters in yeast.**  
Potenziamento di promotori eterologhi in lievito.  
Pulitzer finali, john  
Expression / Vector / Sulfolobus / Yeast / Beta / Galactosidase / Gene / DNA / Polyomavirus / Molecular genetics / Biochemistry

**Seminal immunosuppressive and anti-inflammatory proteins: biochemical-biological characterization and use in medicine.**  
Proteine immunosoppressive ed anti-infiammatorie seminali: caratterizzazione chimico-biologica e applicazioni in medicina.  
Metafara, salvatore  
Immune system / Suppression / Immunology / Biochemistry / Spermatology / Protein / Monoclonal / Antibody / Gene / Cloning / Expression / Vector / Cell / Cultivation / Differentiation / Proliferation / Transformation / Transplantation / AIDS / Infertility / Male

**Molecular cloning of the adrenoleukodystrophy gene.**  
Isolamento del gene responsabile dell'adrenoleucodistrofia  
Martini, giuseppe  
Gene / Cloning / Molecular / Congenital / Disease / Chromosome / Artificial / Yeast / DNA / Transfection / Genetics

**Genetic transformation of insects.**  
Trasformazione genetica degli insetti  
Malva, carla  
Genetic / Transformation / Drosophila / Gene / Fusion / Vector / Insertion / Molecular genetics

**Regulation of human MHC class II gene expression.**  
Espressione dei geni MHC di classe II: dissezione genetica dei meccanismi di regolazione in linee cellulari umane e nel sistema linfoeritropoietico murino.  
Guardiola, john  
Regulation / Gene / Expression / DNA / Sequence / Molecular genetics / Vector / Retrovirus / In vivo / Transgenic / Immunology

**Immobilization of fungal polygalacturonases.**  
Immobilizzazione della poligalatturonasi da fungo  
Di prisco, guido  
Fungus / Enzyme / Immobilization

**Inhibition of eukariotic gene expression by antisense RNA.**  
Inibizione dell'espressione di geni eucariotici mediante RNA antisense  
Di nocera, pierpaolo  
Eukaryote / Gene / Expression / Hybridization / Plasmid / Mutation / RNA / Transfection / Molecular genetics

**Construction of high gene expression vectors in the yeast Schizosaccharomyces pombe.**  
Costruzione di vettori ad alto livello di espressione genica nel lievito Schizosaccharomyces pombe.  
Del giudice, luigi  
Gene / Expression / Vector / Yeast / Cloning / Plasmid / DNA / Molecular genetics

**Microbial processes for the industrial production of proteins and amino acids.**  
Processi microbici per la produzione industriale di proteine ed amminoacidi.  
De felice, maurilio  
Protein / Amino acid / Production / Industry / Biochemistry / Gene / Cloning / Enzyme / Microbiology

**Homeogenes and congenital malformations.**  
Diagnosi prenatale e precoce dei dismorfismi congeniti, geni omeotici e patologia dell'intestino.  
Boncinelli, edoardo  
Genetics / Human / Genome / Chromosome / Drosophila / Mutation / Congenital / Malformation

**Construction of a recombinant pro-urokinase missing the growth factor-like domain.**  
Produzione di proteine ibride di attivatori del plasminogeno mediante fusione genica, delezioni e mutagenesi sito-specifica  
Blasi, francesco  
Urokinase / Peptide / Recombination / Growth / Bioactive agent / Receptor / Mutation / Gene / Insertion / Expression / Antibody / Biochemistry

**Cloning of nematode genes coding for protein components of chemoreceptors to use as a new type of vaccine and to produce antibodies for diagnostic and therapeutic purposes.**  
Clonaggio di geni per proteine costituenti i chemiorecettori dei nematodi, da usare come vaccini e per produrre anticorpi a scopo diagnostico e terapeutico.  
Bazzicalupo, paolo  
Protein / Nematode / Vaccine / Gene / Cloning / Molecular genetics / Parasitology / Veterinary medicine / Infection

**Immunological analysis of ethanol metabolizing enzymes with monoclonal antibodies.**  
Analisi immunologica con anticorpi monoclonali degli enzimi del metabolismo dell'etanolo.  
Adinolfi, anna  
Immunology / Biochemistry / Monoclonal / Antibody / Oxidoreductase / Isoenzyme

**Consiglio Nazionale delle Ricerche**  
Centro di Chimica del Farmaco e dei Prodotti Biologicamente Attivi  
Via F. Marzolo, 5  
35121  
Padova  
☎ +39 49 831646

**Surface modification by soluble polymers and immobilization of enzymes with therapeutic potentials.**  
Modifica superficiale con polimeri solubili ed immobilizzazione di enzimi di interesse terapeutico.  
Veronese, francesco  
Surface / Modification / Immobilization / Enzyme / Therapy / Biological / Catalysis / Polymer / Solvent / Physical chemistry / Biochemistry

**Consiglio Nazionale delle Ricerche**  
Centro di Studio sui Biopolimeri  
Via Marzolo, 1  
35131  
Padova  
☎ +39 49 831242

**Characterization of enzymes obtained from thermophilic bacteria and by protein engineering.**  
Caratterizzazione di enzimi ottenuti da batteri termofili e mediante ingegneria proteica  
Fontana, angelo  
Protease / Thermophilic / Protein design / Extremophilic / Bacillus / Mutation / Folding / Spectrometry / Fluorescence / Oxidoreductase / Beta / Galactosidase / Sulfolobus / Biochemistry

**Consiglio Nazionale delle Ricerche**  
Centro Studi Fisiologia dei Mitocondri  
Via Loredan 16  
35131  
Padova  
☎ +39 49 831689-831691

**Tetanus and diphtheria toxins: structure, biological activity and new vaccines.**

Tossine tetanica e difterica: struttura, attività biologica e nuovi vaccini.  
Montecucco, cesare  
Toxin / Amino acid / Mutation / Escherichia / Vaccine / Biochemistry / Immunology

**Growth factors: characterization of intracellular events triggered by the interaction with membrane receptors.**

Fattori di crescita: caratterizzazione degli eventi intracellulari precoci generati dall'interazione con recettori di membrana.  
Di virgilio, francesco  
Bioactive agent / Growth / Intracellular / Membrane biology / Receptor / Neurotransmitter / Fluorescence / Measurement

 **Consiglio Nazionale delle Ricerche**

Istituto per Ricerche di Dinamica dei Sistemi e Bioingegneria  
Corso Stati Uniti, 4  
35020  
Padova  
☎ +39 49 845212

**Monitoring and controlling of continuous and fed-batch fermentation processes with normal and recombinant yeasts.**

Monitoraggio e il controllo di processi fermentativi continui e fed-batch con lieviti normali e ricombinanti.  
Mariani, luigi  
Modelling / Yeast / Control / Bioreactor / Continuous / Batch / Simulation / Biomass / Production / Monitoring / Recombination / Expression / Protein / Bioprocess engineering / Industry

 **Consiglio Nazionale delle Ricerche**

Istituto di Biologia dello Sviluppo  
Via Archirafi, 20  
90123  
Palermo  
☎ +39 91 6161892-6164501

**Improvement of bacterial growth. Production of antibiotics by genetic engineering.**

Miglioramento della crescita batterica. Produzione ed incremento di antibiotici mediante ingegneria genetica.  
Mutolo, vincenzo  
Growth / Bacterial / Production / Antibiotic / Gene technology / rRNA / Nocardia / Streptomyces / Restriction / Probes / Genome / Cloning / Mutation / Regulation

**Monoclonal antibodies specific for tumor antigens: their potential therapeutic interest in vivo.**

Anticorpi monoclonali specifici per antigeni tumorali: loro potenziale interesse terapeutico "in vivo"  
Matranga, valeria  
Monoclonal / Antibody / Tumour / Antigen / Immunotherapy / In vivo / Cell / Differentiation / Cultivation / Development / Neurobiology / Immunology

**Characterization of murine initiation (IF2) factor.**

Caratterizzazione del fattore di inizio (IF2) murino  
Di carlo, marta  
cDNA / Macrophage / Mouse / Cloning / Genome / Escherichia / Induction / Gene / Expression / Vector / Polyclonal / Antibody / Molecular genetics

**Studies on a histamine releasing factor by human embryo (EHRF) and its influence on the uterine mast cells in relation to the embryo implantation.**

Studio di un fattore secreto da embrioni umani, capace di far rilasciare istamina (EHRF) e suo meccanismo d'azione sui mastociti uterini in relazione all'impianto.  
Cocchiara, roberta  
Embryo / Development / Implantation / Immunology / Cell / Cultivation

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Centro di Studio per l'Istochimica  
Piazza Botta, 10  
27100  
Pavia  
☎ +39 382 22347

**Instrumental and methodological development of flow cytometry.**

Nuovi sviluppi metodologici e strumentali della citofluorimetria a flusso.  
Mazzini, giuliano  
Instrumentation / Cell / Measurement / Flow / Cell biology / Immune / DNA / Proliferation / Marker / Histochemistry

**Fluorochromized DNA probe suitable for the resolved cytofluorometry: study of methodological aspects.**

Metodologie di fluorocromazione di sonde di DNA per analisi citofluorimetrica risolta in tempo.  
Bottiroli, giovanni  
In situ / DNA / Probes / Fluorescence / Histochemistry

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Via Abbiategrasso, 207  
27100  
Pavia  
☎ +39 382 422411-422384

**Isolation of DNA probes for genes of the Xq27-qter region.**

Isolamento di sonde di DNA corrispondenti a geni della regione Xq 27-Qq ter.  
Toniole, daniela  
DNA / Probes / Genome / Hybridization / Cloning / Vector / Amplification / Molecular genetics

**Viral and protozoan thymidine kinases as target for non-substrate base and/or nucleoside analogues.**

Le timidina chinasi di virus e protozoi quali bersaglio di nuovi analoghi di basi e/o nucleosidi pirimidinici e purinici.  
Spadari, silvio  
Pyrimidine / Purine / Inhibition / Kinase / Herpes / Virus / Infection / Biochemistry

**Site directed modification of transcription factor from human cells.**

Modificazione mirata di fattori trascrizionali umani.  
Riva, silvano  
Modification / Transcription / Human / Cell / Mutation / Origin / Gene / Splicing / Expression / Escherichia / Insertion / Biochemistry / Molecular genetics

**Collection and characterization of cells from patients with DNA repair defects.**

Malattie della riparazione del DNA: raccolta e caratterizzazione di cellule da pazienti per lo studio della correlazione con i tumori.  
Nuzzo, fiorella  
DNA / Repair / Fibroblast / Skin / Tumour / Biosynthesis / Chromosome / Cloning / Oncology / Genetics

**Production of recombinant antigens for the diagnosis and prophylaxis of viral infections.**

Produzione di antigeni ricombinanti per la diagnosi e la profilassi di infezioni virali.  
Milanesi, gabriele  
Recombination / Antigen / Diagnosis / Prophylaxis / Viral / Infection / Cloning / Expression / Escherichia / Gene / Hepatitis / Immunology / Biochemistry / Molecular genetics

**New technology to obtain human and murine monoclonal antibodies to nuclear proteins.**

Nuove tecnologie per ottenere anticorpi monoclonali umani e murini specifici per proteine nucleari.  
Astaldi ricotti, giulia  
Human / Mouse / Monoclonal / Antibody / Protein / Nucleus / Immunology / Isomerase / Blood serum / Lymphocyte

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Via San Lorenzo, 26  
56100  
Pisa  
☎ +39 50 501501-513242

**Automated microscopy system in cytomorphology and DNA probe: development of instrumentation.**

Sistemi di microscopia automatica per l'analisi citomorfologica e mediante sonde del DNA: sviluppo di strumentazione.  
Evangelista, valtere  
Microscopy / DNA / Probes / Instrumentation / Automation / Fluorescence / In situ / Hybridization / Cell / Measurement / Biophysics

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Centro Chimica dei Recettori e delle Molecole Biologicamente Attive  
Largo F. Vito, 1  
00168  
Roma  
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**Immobilization of enzymes and plant cell cultures for the production of valuable molecules.**

Immobilizzazione di enzimi e cellule vegetali per la produzione di molecole ad alto valore aggiunto  
Delle monache, giuliano  
Immobilization / Cell / Cultivation / Plant / Enzyme / Flavone / Secondary / Metabolite / Biochemistry

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Centro di Studio di Biologia Molecolare  
Pizzalle Aldo Moro, 5  
00185  
Roma  
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**Characterization and engineering of liposomes and erythrocytes as carriers of molecules of biological relevance.**

Caratterizzazione e manipolazione di liposomi ed eritrociti per veicolare molecole biologicamente attive  
Sarti, paolo  
Artificial / Membrane biology / Erythrocyte / Carrier material / Dynamics / Enzyme / Inhibitor / Tumour / Cell / Cultivation / Antibiotic / Therapy

**Immobilized proteins in bioreactors for analytical, preparative and biomedical applications.**

Proteine immobilizzate per bioreattori con applicazioni analitiche, preparative e biomediche.  
Chiancone, emilia  
Immobilization / Protein / Alpha / Amylase / Bacillus / Globulin / Bioreactor / Oxidase / Membrane apparatus / Cytochrome / Peptide / Biosensor / Molecular biology / Industry

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Istituto di Biologia Cellulare  
Viale C. le Marx, 15  
00156  
Roma  
☎ +39 6 822850-8271553

**Immunochemical and immunogenetic analysis of molecules controlled by the human major histocompatibility system.**

Analisi immunochimica e immunogenetica delle molecole controllate dal sistema maggiore di istocompatibilita' umano  
Tosi, roberto

Immune / Chemistry / Genetics / Immunology / Serology / Nucleotide / Sequence / Polymerase / Oligonucleotide / Hybridization / Mouse / Human / Transfection

**Cloning of schistosome proteins of potential value for vaccine development.**

Clonaggio di proteine di Schistosoma di potenziale interesse per lo sviluppo di un vaccino  
Cioli, donato

Cloning / Protein / Immunology / Parasitology / Antigen / Expression / Fusion / Vaccine

**Establishment of clonal cell lines from neuronal stem cells using retroviral vectors.**

Generazione di linee clonali da cellule staminali del sistema nervoso per mezzo di vettori retrovirali  
Alema, stefano

Expression / Gene / Nervous system / Oncology / Retrovirus / Vector / Cell / Differentiation / Cloning / Cell biology

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00196  
Roma  
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**Conversion of binding sites into catalytic sites.**

Conversione di "binding sites" in siti catalitici.  
Tocchini valentini, glauco  
Escherichia / Suppression / Mutation / Nuclease / Cloning / Cell biology

**Gene transfer in Xenopus embryos.**

Trasferimento di geni in embrioni Xenopus  
Pierandrei amaldi, paola  
Gene / Transfer / Amphibian / Vector / DNA / Replication / Expression / Embryo / Cloning / Development / Cell biology / Molecular genetics

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Viale C. Marx, 15  
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**Molecular mechanisms which control endogenous and microinjected proto-oncogene expression during embryonal development.**

Sistemi di regolazione della trascrizione di proto-oncogeni endogeni o microiniettati durante l'embriogenesi.  
Fazio vito, michele

Cancer / Gene / Expression / Transgenic / Mouse / Plasmid / DNA / Fertilization / Embryo / Development / Genetics

**Molecular characterization of HBV-DNA in lymphocytes from chronic carriers and leukemic patients.**

Ricerca e caratterizzazione della struttura molecolare del DNA del virus dell'epatite B nei linfociti dei portatori cronici e dei pazienti leucemici  
Carloni, Guido

Hepatitis / Virus / DNA / Lymphocyte / Blotting / Leukemia / HIV / Infection / Pathology

□ **Consiglio Nazionale delle Ricerche**  
Istituto di Neurobiologia  
Viale C. Marx, 15  
00156  
Roma  
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**Analysis of the functional significance and mechanism of action of NGF.**

Elucidazione del significato funzionale e del meccanismo di azione dell'NGF  
Levi montalcini, rita

Neurobiology / Bioactive agent / Growth / Nervous system

**Identification of NGF-inducible genes as probes of neuronal differentiation.**

Identificazione di geni NGF-inducibili come sonde del differenziamento neuronale  
Levi, andrea

Gene / Expression / Differentiation / Neurobiology / Transcription / Regulation / Plasmid / Molecular genetics

**Isolation and characterization of trophic and differentiative serum factor acting on CNS and PNS. Expression of specific immunoglobulin genes in neuronal cells.**

Isolamento e caratterizzazione di un fattore serico ad azione trofica e differenziativa su neuroni del SNC e SNP.  
Calissano, Pietro

Neurobiology / Neuron / Expression / Differentiation / Cultivation / Gene / Expression / Immunoglobulin / Cloning / Monoclonal / Antibody / Intracellular / Vector / Secretion / Mutation

□ **Istituto Superiore di Sanita'**  
Viale Regina Elena, 299  
00161  
Roma  
☎ +39 6 4990

**Isolation of murine and human monoclonal antibodies for immunodiagnosis and development of new vaccines.**

Isolamento di anticorpi monoclonali murini e umani per sistemi immunodiagnostici e messa a punto di vaccini innovativi.  
Vicari, giuseppe

Mouse / Human / Monoclonal / Antibody / Immune / Diagnosis / Vaccine / Antigen / Hybridization / Hybridoma / Streptococcus / Immunology

**Early detection of infection and possibility of multiple infection by several HIVs in the same patients.**

Rilevazione precoce di infezione e possibilita' di infezione multipla nello stesso soggetto con piu' varianti di HIV  
Rossi, giovan battista

HIV / AIDS / Lymphocyte / Cultivation / Molecular / Probes / Genome / Viral / Infection / Virology

**Dna probes for identification of clinically important anaerobic bacteria and leptospirae.**

Sonde di DNA per l'identificazione di batteri anaerobi e leptospire di rilevanza clinica.  
Mastrantonio, paola

DNA / Probes / Anaerobic / Clostridium / Pathogen / Penicillin / Resistance / Hybridization / Toxin / Cloning / Polymorphism / Bacteriology / Taxonomy

**Functions of glial cells and their interactions with the immune system: studies with cell cultures.**

Funzioni delle cellule gliali e loro interazioni con il sistema immunitario: studi con cellule in coltura.  
Levi, giulio

Immune system / Cell / Cultivation / Cell biology / Immunology

**Differential expression patterns and stage specific targets in plasmodia.**

"pattern" di espressione differenziali e bersagli specifici per vari stadi differenziativi del plasmodio  
Frontali, clara

Expression / Yeast / Secretion / Vector / Transformation / Plasmid / Protein / Production / Ribosome / Nucleus / Transport / Interaction / RNA / Molecular biology

**Development of advanced methods for characterization structure and composition of natural and synthetic lipid carriers.**

Sviluppo di metodologie avanzate per caratterizzare composizione e struttura di carriers lipidici naturali e sintetici.  
Cantafora, alfredo

Lipid / Carrier material / Natural / Synthetic / Biochemistry

**Development of advanced ultrastructural methods and applications to the study of subcellular modifications induced by antineoplastic drugs.**

Metodologie di indagine ultrastrutturale non convenzionale e loro applicazione allo studio delle modificazioni subcellulari indotte da farmaci  
Arancia, giuseppe

Cell biology / Fine structure / Modification

□ **Istituto Nazionale della Nutrizione**  
Via Ardeatina 546  
00179  
Roma  
☎ +39 6 5032412

**Establishment of intestinal cell lines for the production of molecules that regulate intestinal metabolism of B-nuclear proteins binding regions 5'HLA-Dr gene.**

Linee cellulari intestinali per la produzione di molecole che ne regolano il metabolismo; proteine nucleari leganti regioni al 5' delgene HLA-Dr  
Gaetani, sancia

Cell / Differentiation / cDNA / Epithelium / Gene / Expression / Cultivation / Digestive system / Molecular biology / Biochemistry

□ **Consiglio Nazionale delle Ricerche**  
Centro per lo Studio dell'Immunogenetica ed Istocompatibilita'  
Via Santena, 19  
10126  
Torino  
☎ +39 11 690215-633772

**Synthesis of oligonucleotide probes as markers of clonality in normal and leukemic lymphocytes.**

Sintesi di sonde oligonucleotidiche da impiegarsi come marcatori di clonalita' in popolazioni linfocitarie normali e leucemiche.  
Migone, nicola

Oligonucleotide / Probes / Marker / Lymphocyte / Leukemia / Cloning / DNA / Sequence / Genetics / Immune

**Structural and functional analysis of HLA gene products and study of their relevance in the immune response.**

Analisi strutturale funzionale di prodotti genici HLA e studio della loro rilevanza per la capacita' di reattivita' immunologica ai trapianti  
Curtoni, emilio sergio

Antigen / Monoclonal / Antibody / Leukemia / Immune system / mRNA / Probes / Polymorphism / Kidney / Genetics / Immunology

**Molecular genetics of immunoglobulin isotype deficiencies.**

Genetica molecolare dei deficit di isotipi dell'immunoglobuline.  
Carbonara, angelo

Molecular genetics / Immunoglobulin / Deficiency / Gene / Recombination / Polymorphism

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Dipartimento di Scienze e Tecnologie  
Biomediche e di Biometria  
Via Collemaggio  
67100  
l'Aquila  
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**Biotyping of Candida albicans through the analysis of genomic structure.**

Biotipizzazione di *Candida albicans* mediante analisi delle strutture genomiche.  
Carruba, giuseppe  
Yeast / Molecular biology / DNA / Polymorphism / Genome / Chemotherapy / Pathogenic

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Istituto di Anatomia Umana Normale - Policlinico, Cattedra di Bioacustica  
Piazza Giulio Cesare  
70124  
Bari  
☎ +39 80 228745-227423

**Homograft in middle ear reconstruction surgery. Phenotypic characteristics of cultured mesangial cells and their in vitro response to new drugs.**

Omotrasplanti nella chirurgia dell'orecchio medio. Studio fenotipico e farmacologico di cellule mesangiali  
Zambonin-zallone  
Cell / Cultivation / In vitro / Data base / Transplantation / Receptor

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Dipartimento di Biochimica e Biologia Molecolare  
Via Amendola 165a  
70126  
Bari  
☎ +39 80 243303-243304-243305

**A work-station applied to the analysis off-line/on-line of the data generated with automatic sequencing system.**

Work-station per l'analisi off-line/on-line dei dati prodotti da sistemi di sequenziamento automatico. Saccone, cecilia  
Automation / Sequence / Data base / Biocomputing

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Piazza Giulio Cesare  
70124  
Bari  
☎ +39 80 365697-271341

**In vivo and in vitro experimentation of human keratinocyte cultures.**

Studio e sperimentazione in vitro e in vivo delle culture di cheratinociti umani: possibilita' applicative su vari substrati.  
Dioguardi, domenico  
In vivo / In vitro / Cell / Cultivation / Human

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Dipartimento Farmaco-Biologico  
Trav. 200 Re David, 4  
70125  
Bari  
☎ +39 80 243374

**Targeting of liposome carriers containing mitochondrial transport proteins.**  
Veicoli liposomiali tessuto-specifici contenenti proteine di trasporto mitocondriali  
Palmieri, ferdinando  
Artificial / Membrane biology / Mitochondrion / transport / Protein / Fusion / Erythrocyte / Macrophage / Leukocyte / Cultivation

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Bari  
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**Subcellular and molecular mechanisms of some nervous system natural proteid constituents.**

Studio dei meccanismi d'azione subcellulari e molecolari di costituenti protidici naturali del sistema nervoso (SN).  
Di benedetta, carlo  
Proteid / Nervous system / Biochemistry / Physiology

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Via Irnerio, 48  
40126  
Bologna  
☎ +39 51 243369-242186

**New immunological and flow cytometric methods for automated analysis of cell cycle.**

Nuove metodologie immunocitochimiche e in citometria a flusso per l'analisi automatizzata del ciclo cellulare.  
Mazzotti, giovanni  
Cell biology / Cell / Flow / Measurement / DNA / Marker / Kinetics / Automation / Image analysis / Immunology

**Nuclear phosphoinositides involvement in the action of growth and differentiation factors.**

Ruolo dei polifosfoinositidi nucleari nel controllo del meccanismo d'azione dei fattori di crescita e differenziativi.  
Manzoli, francesco antonio  
Metabolism / Nucleus / Growth / Differentiation / Protein / Kinase / DNA / Biosynthesis / Biochemistry / Cell biology

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40126  
Bologna  
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**Role of oxy-radicals as potential mediator of reperfusion injury in the heart muscle and protective mechanisms.**

Radicali dell'ossigeno nel danno miocardico da riperfusione post-ischemica e produzione di anticorpi monoclonali anti superossido dismutasi  
Caldarera, claudio  
Heart / Oxidation / Antioxidant / Catalase / Antibody / Monoclonal / Hybridoma / Mouse / ELISA / Cell biology / Immune / Biochemistry / Cardiology

□ **Universita' di Bologna**  
Dipartimento di Biologia Evoluzionistica Sperimentale  
Via Belmeloro, 8  
40126  
Bologna  
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**Manipulation and bioenergetics of mitochondrial and bacterial membranes.**  
Manipolazioni e bioenergetica di membrane mitocondriali e batteriche  
Lenaz, giorgio  
Membrane biology / Aerobic / Sulfolobus / Photosynthesis / Thermophilic / Chloroflexus / Mitochondrion / Eukaryote / Thermodynamics / Protein / Modification

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Istituto di Clinica Chirurgica e Cardiocirurgia  
Via Massarenti, 9  
40138  
Bologna  
☎ +39 51 341700

**Small bowel transplantation: problems on organ preservation and mechanisms of cellular damage by post-ischemic injury.**

Trapianto intestino tenue: problemi di conservazione d'organo e studi dei meccanismi di danno cellulare da riperfusione postischemica.  
Gozzetti, giuseppe  
Gut / Transplantation / Preservation

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Dipartimento di Chimica Organica  
Via Risorgimento, 4  
40136  
Bologna  
☎ +39 51 6443664

**Nucleic acids: chemical synthesis, molecular interactions, biotechnological applications.**

Acidi nucleici: sintesi chimica, interazioni molecolari ed applicazioni biotecnologiche.  
Samori', bruno  
Nucleic acid / Synthesis / Interaction / Molecular / Organic chemistry

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Cattedra di Farmacologia e Farmacognosia  
Via Irnerio, 48  
40126  
Bologna  
☎ +39 51 242025

**Development of molecular probes for the study of peptide and protein expression, as diagnostic and therapeutical tools.**

Sviluppo di sonde molecolari per lo studio dell'espressione di peptidi e proteine: strumenti diagnostici e farmacoterapeutici.  
Ferri, sergio  
Molecular / Probes / Peptide / Protein / Expression / Gene / cDNA / RNA / In vivo / In vitro / Induction / Transfection / Eukaryote / Transgenic / Animal / Nervous system / Pharmacology / Biochemistry / Diagnosis / Therapy

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Bologna  
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**Molecular systems for the diagnosis and the pathogenetic study of some viral infections (cytomegalovirus, human parvovirus (B19), respiratory syncytial virus).**

Sistemi molecolari per la diagnosi etiologica e lo studio patogenetico di alcune malattie da virus (cytomegalovirus, virus respiratorio)

La placca, michele

Diagnosis / Viral / Infection / Herpes / Parvovirus / DNA / Probes / Genome / Hybridization / In situ / Expression / Vector / Antigen / Antibody / Monoclonal / cDNA / Serology / Immunology / Virology

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40126  
Bologna  
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**Production of conjugates of toxins, enzymes or antiviral drugs with cell-specific carriers.**

Produzione di coniugati di tossine, enzimi o farmaci antivirali con vettori proteici cellulo-specifici.

Stirpe, fiorenzo

Plant / Ribosome / Protein / Cloning / Monoclonal / Antibody / Toxin / Tumour / Bone marrow / Transplantation / Immunology / Albumin / rDNA / Recombination / Drug / Herpes / Virus / Expression / Vector / Molecular biology

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Dipartimento Scienze Biomediche e Biotecnologie  
Via Valsabbina, 19  
25124  
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**Construction of recombinant proteins with selective fibrinolytic and coagulative activity: mechanisms of action and therapeutical applications.**

Produzione di proteine ingegnerizzate con attivita' selettiva fibrinolitica o coagulativa; meccanismi d'azione e applicazioni terapeutiche.

Barlati, sergio

Protein / Recombination / Fibrinolysis / Clotting / Hematology / cDNA / Bioactive agent / Growth / TPA / Vector / Transfection / Cell biology / Regulation

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Dipartimento Materno Infantile e di Tecnologie Biomediche  
Piazzale Spedali Civili, 1  
25123  
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**Production of virus-specific human monoclonal antibodies by hybridization with murine lines or transfection with retroviral vectors.**

Tecniche di produzione di anticorpi monoclonali umani virus-specifici mediante fusione con linee murine o transfezione con vettori retrovirali.

Primi, daniela

Human / Monoclonal / Antibody / Hybridization / Mouse / Cell / Transfection / Retrovirus / Vector / Immunology

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25124  
Brescia  
☎ +39 30 39441-3995650

**Production of anti-gamma interferon monoclonal antibodies to realize new immunodiagnostic system by flow cytometry.**

Produzione anticorpi monoclonali anti-gamma interferon per la realizzazione di nuovi sistemi immunodiagnostici in citofluorimetria

Turano, adolfo

Gamma / Interferon / Lymphocyte / Monoclonal / Antibody / Immune system / Fluorescence / Immunology / Diagnosis / Cell / Flow / Measurement

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Istituto di Chimica Biologica  
Via della Pineta, 77  
09125  
Cagliari  
☎ +39 70 300728

**Development of new technologies for production and immobilization of cellulolytic enzymes on solid supports and their use.**

Sviluppo di nuove tecnologie per la produzione e l'immobilizzazione di enzimi cellulolitici su supporti solidi e loro applicazioni.

Rinaldi, augusto

Production / Immobilization / Cellulase / Microorganism / Solid / Carrier material / Industry / Biochemistry

□ **Universita' di Cagliari**  
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Via S. Giorgio, 12  
09100  
Cagliari  
☎ +39 70-668428

**Bone marrow transplantation (bmt): evaluation of new methods for a better selection of donors, within the same family and unrelated donors.**

Trapianto di midollo osseo: valutazione di nuovi metodi per una migliore selezione dei donatori in ambito familiare ed extrafamiliare.

Contu, licinio

DNA / Blotting / Gene / Amplification / Monoclonal / Antibody / Lymphocyte / Bone marrow / Transplantation / Selection / Genetics / Immunology

□ **Universita' di Catania**  
Istituto di Farmacologia Medica  
Viale Andrea Doria, 6  
95124  
Catania  
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**Gangliosides as intracellular modulator of biological transduction mechanism.**

I gangliosidi come modulatori intracellulari dei meccanismi di trasduzione del segnale.

Amico-roxas, matilde

Ganglioside / Neuron / GLUTAMIC ACID / Cultivation / Pharmacology / Biochemistry

□ **Universita' G. d'Annunzio**  
Istituto di Medicina Sperimentale, Cattedra di Microbiologia  
Via dei Vestini  
66100  
Chieti  
☎ +39 871 59544

**Utilization of bacterial GSH transferases in the inactivation of toxic compounds.**

Utilizzo di enzimi delle GSH transferasi batteriche nella degradazione di prodotti tossici.

Piccolomini, raffaele

Transferase / Bacterial / Prokaryote / Isoenzyme / Eukaryote / Degradation / Toxin / Environment / Biochemistry / Bacteriology

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Istituto di Patologia Umana e Medicina Sociale - Cattedra di Anatomia Patologica  
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66100  
Chieti  
☎ +39 871 698210-698352

**Modulation of organ immunogenicity with irradiation, pharmacological agents and/or monoclonal antibodies in allogeneic and xenogeneic transplantation. Role of histocompatibility antigens in T cell stimulation.**

Modulazione dell'immunogenicit  dell'organo da trapiantare con irradiazione, agenti farmacologici e/o anticorpi monoclonali e ruolo degli antigeni HLA in alcune funzioni delle cellule T.

Musiani, piero

Organ / Transplantation / Immunology / Monoclonal / Antibody / Radiation / Bone marrow / Cell biology / Immune / Histochemistry / Antigen / Expression / Cloning / Lymphokine / Regulation

□ **Universita' di Catanzaro**  
Facolta' di Medicina, Sede di Catanzaro  
Via T. Campanella  
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Catanzaro  
☎ +39 961 55007-55354

**Growth factors involved in the thyroid carcinogenesis, and their possible diagnostic and prognostic use.**

Fattori di crescita implicati nella carcinogenesi tiroidea e loro possibile impiego diagnostico e prognostico e studi di mutagenesi sito specifica.

Palumbo, giuseppe

Growth / Bioactive agent / Transformation / Cell / Cultivation / Expression / Cancer / Tumour / Diagnosis / Thyroid gland / Epithelium / Cell biology / Oncology

□ **Universita' di Ferrara**  
Istituto di Genetica Medica  
Via Luigi Borsari, 46  
44100  
Ferrara  
☎ +39 532 35021-395491

**Cell antigens: monoclonal antibodies against membrane receptors as modulators of cell cycle and expression of viral antigens in human cells and their diagnostic and vaccination utilization.**

Anticorpi monoclonali contro recettori di membrana come modulatori del ciclo cellulare ed espressione di geni virali in cellule umane a scopo diagnostico e vaccinale.

Gandini, enrico

Monoclonal / Antibody / Lymphocyte / Human / Protein / Kinase / Cloning / Sequencing / Cytoplasm / Fluorescence / Probes / Expression / Herpes / Virus / Glycoprotein / Gene / Vector / Immunology / Cell biology / Molecular genetics

□ **Universita' di Firenze**  
Dipartimento di Chimica  
Via G. Capponi, 7  
50121  
Firenze  
☎ +39 55 2467949

**Study on the relationship between structure and function of natural and modified metalloenzymes.**

Indagine sulla relazione struttura funzione di metalloenzimi naturali e modificati

Bertini, ivano

Metalloproteid / Enzyme / Biochemistry



□ **Universita' di Firenze**  
Istituto Malattie Nervose e Mentali  
Viale Morgagni, 85  
50134  
Firenze  
☎ +39 55 432224-4399536-417777

**Human cells and biological tissue bank for studies of nervous system diseases.**  
Banca dei tessuti biologici e di colture cellulari per lo studio delle malattie del sistema nervoso.  
Sorbi, sandro  
Nervous system / Disease / Data base / Molecular genetics

□ **Universita' di Firenze**  
Dipartimento di Scienze Biochimiche  
Viale Morgagni, 50  
50134  
Firenze  
☎ +39 55 413765

**Studies on site-directed mutagenesis of phosphomonoesterase for applications in bioconversion reactions.**  
Studi di mutagenesi sito-specifica di fosfomonoesterasi per applicazioni in reazioni di bioconversione  
Ramponi, giampietro  
Mutation / Origin / Hydrolase / Biotransformation / Oligonucleotide / cDNA / Cloning / Vector / Expression / Insertion / Escherichia / Yeast / Biochemistry / Molecular genetics

□ **Universita' di Genova**  
Istituto Policattedra di Chimica Biologica  
Viale Benedetto XV, 10  
16132  
Genova  
☎ +39 10 515034-517371-517372

**Construction and characterization of erythrocytes as carriers and bioreactors for applications in human and veterinary medicine.**  
Costruzione e caratterizzazione di eritrociti come "carriers" e bioreattori per applicazioni in medicina umana e veterinaria.  
Benatti, umberto  
Microencapsulation / Erythrocyte / Bioactive agent / Immune system agent / Bioreactor / Carrier material / Medicine / Veterinary medicine

□ **Universita' di Genova**  
Cattedra di Chirurgia Sostitutiva e Trapianti d'Organo  
Viale Benedetto XV, 10  
16132  
Genova  
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**Analysis of cellular mechanism responsible for allograft rejection and acceptance and new strategies of immunomanipulation and rejection therapies.**  
Trapianti d'organo: meccanismi cellulari responsabili del rigetto e dell'accettazione di trapianti sperimentali e nell'uomo. Nuove strategie di immunomanipolazione.  
Valente, umberto  
In situ / Organ / Transplantation / Immunology / Immune / Suppression / Cell biology / Monoclonal / Antibody / Lymphocyte / Antigen

□ **Universita' di Genova**  
Cattedra di Ematologia  
Viale Benedetto XV, 6  
16132  
Genova  
☎ +39 10 530191

**Optimization of polymerase chain reaction for hematological and legal medical study.**  
Ottimizzazione della polymerase chain reaction per studi ematologici e medico legali.  
Gaetani, gian franco  
Polymerase / Mutation / Hematology / DNA / Blood / Amplification / Optimization

□ **Universita' di Genova**  
Cattedra di Immunologia  
Viale Benedetto XV, 10  
16132  
Genova  
☎ +39 10 354008

**Modulation of human T lymphocytes functions by hybrid monoclonal antibodies (mabs).**  
Modulazione della funzione dei linfociti T umani con anticorpi ibridi bifunzionali o con anticorpi diretti verso determinati antigeni di superficie.  
Lanzavecchia, antonio  
Human / Lymphocyte / Monoclonal / Antibody / Immunology / Hybridoma / Antigen / Tumour / Immunotherapy

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Centro Interdipartimentale di Tecnologie Biomediche e Biofisicochimiche.  
Viale Benedetto xv, 2  
16132  
Genova  
☎ +39 10 3538808

**Cids spectrometry.**  
Spettrometria CIDS  
Nicolini, claudio  
Spectrometry / Cell / Fine structure / Light / In vitro / In situ / Instrumentation / Automation / Biocomputing / Biophysics

□ **Universita' di Genova**  
Istituto di Microbiologia  
Viale Benedetto XV, 10  
16132  
Genova  
☎ +39 10 502756

**Identification of retrovirus sequences through DNA amplification and radioactive or biotinilated probes of synthetic oligonucleotides.**  
Identificazione di sequenze retrovirali mediante amplificazione di DNA e uso di sonde radioattive e biotinilate da oligonucleotidi sintetici.  
Schito, giancarlo  
HIV / Sequence / DNA / Amplification / Probes / Oligonucleotide / Polymerase / Diagnosis / Infection / AIDS / HTLV / Screening / Virology

□ **Universita' di Genova**  
Istituto Scientifico di Medicina Interna  
Viale Benedetto XV, 6  
16132  
Genova  
☎ +39 10 530191

**Molecular basis of growth factors: mechanism of action, signal recognition and transduction.**  
Basi molecolari del meccanismo d'azione di fattori di crescita: riconoscimento e trasduzione del messaggio biologico.  
Minuto, francesco  
Protein / Receptor / Growth / Kinase / Cell / Cultivation / Insulin / Gene / Regulation / Biochemistry

□ **Universita' di Genova**  
Istituto Scientifico di Medicina Interna  
Cattedra Metodologia Clinica  
Viale Benedetto XV, 6  
16132  
Genova  
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**Monoclonal antibodies to idiotype of monoclonal antibodies anti HLA class II antigens as immunosuppressant.**  
Anticorpi antiidiotipici di anticorpi anti-HLA nella terapia immunosoppressiva.  
Indiveri, francesco  
Antibody / Monoclonal / Antigen / Immune / Suppression / Immunology / Immunotherapy / Organ / Transplantation

□ **Universita' di Genova**  
Clinica Ostetrica e Ginecologica  
Viale Benedetto XV  
16131  
Genova  
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**Creation of transgenic mice.**  
Produzione di topi transgenici come modelli di malattie ereditarie.  
De cecco, luigi  
Transgenic / Mouse / Cell / Cultivation / Recombination / Glucose dehydrogenase / Transfection / Chromosome / DNA / Polymorphism / Congenital / Disease / Genetics

□ **Universita' di Messina**  
Istituto Universitario Microbiologia Medica  
Piazza XX Settembre, 4  
98100  
Messina  
☎ +39 90 712110

**Immunological evaluation of genetically engineered herpes simplex virus vaccines.**  
Individuazione di vaccini ricombinanti verso agenti microbici e loro valutazione immunologica.  
Mastroeni, pasquale  
Immunology / Herpes / Virus / Vaccine / Recombination / Glycoprotein / Escherichia / Grampositive / Gramnegative / Monoclonal / Antibody / Polysaccharide / Infection / Immune system / Microbiology

□ **Universita' di Milano**  
Dipartimento di Biologia e Genetica per le Scienze Mediche  
Via Viotti 3-5  
20133  
Milano  
☎ +39 2 235103-2367956

**Idiotypic analysis of human antibodies to HIV targeted to an idiotypic vaccine.**  
Analisi idiotipica degli anticorpi umani anti HIV, finalizzata alla preparazione di un vaccino idiotipico.  
Viale, giovanna  
Human / Antibody / HIV / Vaccine / Polyclonal / Monoclonal / Expression / Immunology / Immune system

□ **Universita' di Milano**  
Dipartimento di Chimica e Biochimica Medica  
Via Saldini, 50  
20133  
Milano  
☎ +39 2 2365536-2364094-2363873

**Functional modifications of the plasma membrane properties following incorporation of exogenous gangliosides.**

Bioingegneria di membrana: modificazioni chimiche mirate di membrane naturali e artificiali allo scopo di orientarne le proprietà funzionali.  
Tettamanti, Guido  
Membrane biology / Glycolipid / Calcium / ATP / Hydrolase / Adenylate cyclase / Nervous system / Cell / Cultivation

□ **Università di Milano**  
Istituto di Endocrinologia  
Via Balzaretti, 9  
20133  
Milano  
☎ +39 2 29406576

**Biotechnological approach to the study of receptors for hormones, lipoproteins and neuropeptides as well as of related proteolytic enzymes.**

Studio dei recettori degli ormoni, delle lipoproteine, dei neuropeptidi e degli enzimi proteolitici.  
Martini, Luciano  
Receptor / Hormone / Lipoprotein / Enzyme / Tumour / Probes / Blotting / Polymerase / cDNA / Molecular biology / Gene / Expression / Nervous system / Endocrinology

□ **Università di Milano**  
Dipartimento di Fisiologia e Biochimica Generali  
Via Celoria, 26  
20133  
Milano  
☎ +39 2 2364218

**Protein engineering of lipase: development of high performance enzyme and their utilization.**

Ingegneria proteica della lipasi: sviluppo di enzimi ad elevata performance e loro utilizzazione  
Alberghina, Lilia  
Lipase / Protein design / Gene / Cloning / Expression / Yeast / Mutation / Origin / Industry / Molecular genetics / Downstream processing / Immobilization

□ **Università di Milano**  
Dipartimento di Fisiologia e Biochimica Generali Sezione di Biochimica Comparata  
Via G. Celoria, 26  
20133  
Milano  
☎ +39 2 2364218

**Preparation of fructose 1-6 diphosphate and of NAD+ analogues in bioreactors with immobilized cells and enzymes.**

Preparazione di fruttosio 1-6 difosfato e di analoghi del NAD+ mediante bioreattori a cellule ed enzimi immobilizzati.  
Martegani, Enzo  
Production / Yeast / Fructose / Phosphate / Cloning / Expression / Kinase / Continuous / Immobilization / Cell / Cofactor / Hydrolase / Bioreactor / Optimization / Bioprocess engineering / Industry

□ **Università di Milano**  
Istituto di Fisiologia Veterinaria e Biochimica  
Via G. Celoria, 10  
20133  
Milano  
☎ +39 2 235313-2664343

**Protein engineering of flavoproteins.**

Ingegneria proteica di flavoproteine  
Ronchi, Severino  
Protein design / Oxidase / Reductase / Cloning / cDNA / Sequencing / Expression / Vector / Bacterial / Optimization / Escherichia / Mutation / Molecular genetics

**Red blood cells as carriers of histidine, beta-adrenergic agonist and interferon**

Globuli rossi usati in medicina veterinaria come trasportatori di istidina, beta-adrenergici ed interferone  
Aguggini, Giovanni  
Veterinary medicine / Pig / Bovine animal / Erythrocyte / Histidine / Interferon / Milk / Production

□ **Università di Milano**  
Dipartimento di Genetica e di Biologia dei Microrganismi  
Via Celoria, 26  
20133  
Milano  
☎ +39 2 230823-2367686

**Control of expression and improvement of the production of homologous and heterologous proteins in yeast.**

Controllo dell'espressione ed ottimizzazione della produzione di proteine omologhe ed eterologhe in lievito.  
Plevani, Paolo  
Regulation / Expression / Protein / Production / Drug / DNA / Transcription / Gene / Cloning / Sequencing / Cell biology / Molecular genetics

**Dna-binding proteins from leukemic cells.**

"DNA binding proteins" da cellule leucemiche trattate con chemioterapici e fattori di crescita.  
Purificazione, clonaggio  
Ottolenghi, Sergio  
Leukemia / Cell / Differentiation / In vitro / In vivo / Drug / DNA / Transcription / Gene / Cloning / Sequencing / Cell biology / Molecular genetics

**Analysis and experimental evolution of Pseudomonas strains capable of degrading environmental pollutants.**

Studio e miglioramento di ceppi di Pseudomonas implicati nella degradazione di sostanze inquinanti.  
Galli, Enrica  
Biochemistry / Molecular genetics / Environmental biotechnology / Degradation / Pseudomonas / Soil / Waste water / Industrial / Gene / Regulation / Chromosome / Benzene / Plasmid / Vector / Cloning

□ **Università di Milano**  
Centro Grossi Paoletti - Istituto di Scienze Farmacologiche  
Via Balzaretti, 9  
20133  
Milano  
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**Expression of apolipoproteins with potential pharmacological activity.**

Espressione di apolipoproteine con potenziale attività farmacologica  
Franceschini, Guido  
Expression / Protein / Pharmacology

□ **Università di Milano**  
Istituto di Medicina Interna  
Via Pace, 9  
20122  
Milano  
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**Production of monoclonal antibodies and development of new methods for assaying protein C, a natural anticoagulant.**

Produzione di anticorpi monoclonali e messa a punto di metodiche innovative di dosaggio della proteina C, un anticoagulante naturale  
Mannucci, Pier Mannuccio  
Monoclonal / Antibody / Blood plasma / Clotting / Cloning / Immunoglobulin / Immunoassay / Immunology / Electrophoresis / HPLC / Biochemistry

□ **Università di Milano**  
Istituto di Patologia Generale  
Via Mangiagalli, 31  
20133  
Milano  
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**Cell damage and cell protection in liver transplantation.**

Danno e protezione cellulare nel trapianto di fegato (omo-e xeno-trapianto).  
Bernelli Zazzera, Aldo  
mRNA / Liver / Transplantation / Cell / Metabolism / Medicine / HPLC / Biochemistry

□ **Università di Milano**  
Dipartimento di Scienze e Tecnologie Biomediche  
Via Olgettina, 60  
20132  
Milano  
☎ +39 2 21701

**New applications of the differential pH technology to the monitoring of whole blood substrates and enzymes.**

Ph-metria differenziale per il monitoraggio di metaboliti ed enzimi nel sangue intero.  
Mosca, Andrea  
pH / Measurement / Blood / Enzyme / Immobilization / Electrode / Optimization / Assay / Instrumentation / Biochemistry / Physical chemistry

**Clinical applications of radiolabelled monoclonal antibodies in cancer diagnosis and therapy.**

Applicazioni cliniche di anticorpi monoclonali radiomarcanti nella diagnosi e nella terapia dei tumori.  
Fazio, Ferruccio  
Monoclonal / Antibody / Cancer / Diagnosis / Immunotherapy / Radioactive / Kinetics / Distribution / Clinical / Radiology

**Protein bioengineering: site-directed mutagenesis on the human ferritin molecules in E. coli and labelling by chelated lanthanides**

Bioingegneria di proteine: mutagenesi sito-specifica in molecole di ferritina umana e marcatura con chelati lantanidi  
Arosio, Paolo  
Protein design / Human / Mutation / Origin / Plasmid / Expression / Escherichia / Monoclonal / Antibody / Assay / Biochemistry

□ **Università di Milano**  
Dipartimento di Scienze e Tecnologie Biomediche Sezione Chimica Organica  
Via G. Celoria, 2  
20133  
Milano  
☎ +39 2 2666498-2364288

**Autobuffered enzyme reactors.**

Sintesi di bioreattori enzimatici immobilizzati autotamponati.  
Righetti, Pier Giorgio  
Bioreactor / Enzyme / pH / Bioprocess engineering / Immobilization / Industry

**Development of biosensors for monitoring urea, lactate and acetate.**

Sviluppo di biosensori per il monitoraggio di urea, lattato e acetato.

Pietta, Pietro Giorgio

Urease / Immobilization / Biosensor /

Oxidoreductase / Synthetase / Uretic substance /

Lactic acid / Acetic acid / Biochemistry / Physical chemistry

□ **Universita' di Modena**

Cattedra di Istologia ed Embriologia

Generale

Via del Pozzo, 71

41100

Modena

☎ +39 59 364810

**Automated microscopy systems in cytomorphology and DNA probes analysis: application in clinical cytogenetics.**

Sistemi di microscopia automatica per l'analisi citomorfológica e mediante sonde del DNA:

applicazione alla citogenetica clinica.

Forabosco, Antonio

Automation / Microscopy / Cell / DNA / Probes /

Cytogenetics / Clinical / Image analysis / Software /

Data processing / In situ / Hybridization / Biophysics

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Dipartimento di Biochimica e Biofisica

Via Costantinopoli, 16

80138

Napoli

☎ +39 81 210531-343580-341568

**Structural studies and planning of biotechnologically interesting thermostable proteins.**

Studi strutturali e progettazione di proteine termostabili di interesse biotecnologico.

Colonna, Giovanni

Amino acid / Protein / Thermodynamics /

Thermophilic / Activity / Biological /

Recombination / DNA / Biophysics / Molecular /

Structure

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Dipartimento di Biochimica e

Bioteologie Mediche

Via Sergio Pansini, 5

80131

Napoli

☎ +39 81 253026-7463065-5453033

**Development and validation of molecular probes (nucleic acids and proteins) for the diagnosis of hereditary diseases and analysis of gene frequency and segregation analysis of rflp in selected family. 73**

Sonde molecolari (acidi nucleici e proteine) per la rilevazione e lo studio di malattie genetiche, e analisi delle frequenze genetiche di rflp.

Salvatore, Francesco

Probes / Diagnosis / Gene / Congenital / Disease /

Deficiency / Polymorphism / Enzyme / Protein design / DNA / Molecular genetics / Biochemistry /

Hybridization / Metabolism

**Molecular engineering of prothrombin and antithrombin III by site directed mutagenesis.**

Fattori di crescita e differenziamento cellulare.

Pietro Paolo, Concetta

Clotting / Cell / Eukaryote / Expression /

Recombination / DNA virus / cDNA / Mutation /

Origin / Growth / Differentiation / Cell biology

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Istituto di Biochimica delle Macromolecole

Via Costantinopoli, 16

80138

Napoli

☎ +39 81 217052-2136668-7819111

**Synthesis and biological effects of transition state analogs (tsa) of methyltransferases and related enzymes.**

Sintesi ed azione biologica di analoghi dello stato di transizione di metiltransferasi ed enzimi correlati.

Zappia, Vincenzo

Transferase / Kinetics / Inhibition / Biochemistry /

Monoclonal / Antibody / Biological / Catalysis

**Extremophilic microorganisms: biochemistry, metabolism and their application in biocatalysis.**

Microrganismi estremofili: biochimica ed impiego

nella biocatalisi; clonaggio ed espressione di geni.

De Rosa, Mario

Extremophilic / Prokaryote / Biochemistry /

Metabolism / Biological / Catalysis / Fermentation /

Industry / Enzyme / Bioprocess engineering

□ **Universita' di Napoli**

Dipartimento di Chimica Organica e

Biologia

Via Mezzocannone, 16

80134

Napoli

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**Natural factors and protein constructs for the control of neoplastic proliferation.**

Fattori naturali e costrutti proteici per il controllo

della proliferazione neoplastica

d'Alessio, Giuseppe

Tumour / Proliferation / Protein design /

Ribonuclease / Differentiation / Transcription /

Drosophila / Induction / Suppression / Ecdysone /

Molecular biology

□ **Universita' di Napoli**

Dipartimento di Genetica, Biologia

Generale e Molecolare

Via Mezzocannone, 8

80134

Napoli

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**Development of DNA probes to diagnose pathogenetic bacteria and viruses in waters for human utilization.**

Sviluppo di sonde per la diagnosi di batteri patogeni e virus in acque destinate al consumo umano

Polito, Catello

DNA / Probes / Diagnosis / Pathogen / Water /

Environment

□ **Universita' di Napoli**

IIa Facolta' di Medicina e Chirurgia Istituto

di Biochimica Cellulare e Molecolare

Via Sergio Pansini, 5

80131

Napoli

☎ +39 81 253026-253027

**Transgenic mice as model system for the study and therapy of human diseases.**

Topi transgenici come sistema per lo studio e

terapia di malattie

Ciliberto, Gennaro

Transgenic / Mouse / Therapy / Disease

□ **Universita' di Napoli**

Istituto di Scienze Biochimico-Fisiche II

Facolta' di Medicina e Chirurgia

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80131

Napoli

☎ +39 81 7463120

**Elongation and initiation factors and gapd from thermophilic archaeobacteria and eubacteria: molecular and functional properties.**

Fattori di allungamento e di inizio e gapd da archeobatteri ed eubatteri termofili: caratteristiche molecolari e funzionali.

Bocchini, Vincenzo

Oxidoreductase / Acidophilic / Thermophilic /

Sulfolobus / Induction / Bacillus / Gene / Coding /

Biochemistry / Microbiology

□ **Universita' di Napoli**

II Facolta' di Medicina Cattedra di

Nefrologia

Via Sergio Pansini 5

80131

Napoli

☎ +39 81 466844

**Prevention of cyclosporin a acute nephrotoxicity in the immunosuppressive treatment of kidney transplantation.**

La prevenzione della nefrotossicità acuta da ciclosporina a nel trattamento immunosoppressivo del trapianto renale.

Andreucci, Vittorio

Kidney / Transplantation / Immune / Suppression /

Immunology

□ **Universita' di Napoli**

I Facolta' Medica, Istituto Psicologia Medica

e Psichiatria

Piazza Miraglia, 2

80138

Napoli

☎ +39 81 444836

**Analysis of DNA samples in cell lines from manic-depressive patients.**

Analisi di campioni di DNA in linee cellulari

ottenute da pazienti maniaco depressivi.

Kemali, Dargut

DNA / Cell / Analysis

□ **Universita' di Napoli**

Istituto di Strutture Biologiche ed

Ultrastruttura Cellulare

Via Sergio Pansini, 5

80131

Napoli

☎ +39 81 7463416-7463403

**Temperature-modulated bacterial expression vectors.**

Vettori di espressione in batteri modulati dalla

temperatura.

Chinali, Gianni

Expression / Vector / Bacterial / Gene / Cloning /

Temperature / Plasmid / Transcription / Molecular

genetics

□ **Universita' di Padova**

Dipartimento di Chimica Biologica

Via Marzolo, 3

35131

Padova

☎ +39 49 651400

**Catalytic current biosensors.**

Biosensori utilizzanti il principio delle correnti catalitiche.  
Rigo, adelio  
Biosensor / Enzyme / Medicine / Environment / Analysis / Catalysis / Biological / Electrode / Electrochemical / Physical chemistry / Biochemistry

□ **Universita' di Padova**

Istituto di Chirurgia Cardiovascolare  
Via Giustiniani, 2  
35128  
Padova  
☎ +39 49 8212411

**Organ transplantation: monoclonal antibodies myocardial preservation, ischemic injury, donor monitoring.**

Trapianto d'organo: anticorpi monoclonali, preservazione miocardica, danno ischemico, monitoraggio del donatore.  
Gallucci, vincenzo  
Heart / Kidney / Transplantation / Monoclonal / Antibody / Preservation / Monitoring / Biochemistry / Immunology

□ **Universita' di Padova**

Istituto di Istologia ed Embriologia Generale  
Via Falloppio, 50  
35100  
Padova  
☎ +39 49 23540-35610

**Optimized expression of cDNA molecules for extracellular matrix proteins by selection in a vector with random promoter sequences.**

Ottimizzazione della produzione di proteine della matrice extracellulare mediante vettori batterici di espressione con promotori a sequenza casuale.  
Bressan, giorgio  
Expression / Vector / Gene / Coding / cDNA / Extracellular / Protein / Marker / Cloning / In vitro / Vessels / Artificial / Molecular biology

□ **Universita' di Padova**

Istituto di Microbiologia  
Via Aristide Gabelli, 63  
35121  
Padova  
☎ +39 49 660395-661338

**Structure and function of thymidine kinase from herpesviridae and biotechnological implications.**

Studio della struttura e della funzione della timidina chinasi di herpesviridae con particolare riferimento alle ricadute biotecnologiche.  
Meloni, giovanni antonio  
Kinase / Herpes / Virus / Gene / Sequencing / Mutation / Expression / Escherichia / Biochemistry / Virology

□ **Universita' di Padova**

Istituto di Oncologia  
Via Gattamelata, 64  
35128  
Padova  
☎ +39 49 8071859-63

**Lymphokine-activated killer cells (lak) and human monoclonal antibodies as vectors of antineoplastic and antiviral drugs.**

Cellule killer attivate da linfocine e anticorpi monoclonali umani quali vettori di farmaci antineoplastici e antivirali.  
Zanovello, paola  
Chemotherapy / Cancer / Tumour / Drug / In vitro / Lymphokine / Monoclonal / Antibody / Vector

□ **Universita' di Parma**

Istituto di Chimica Biologica  
Via Gramsci, 14  
43100  
Parma  
☎ +39 521 206232-206379

**Morphological, structural and functional characterization of liposomes as drug carriers.**

Caratterizzazione morfologica, strutturale e funzionale di liposomi quali vettori di farmaci.  
Masotti, lanfranco  
Artificial / Membrane biology / Drug / Lipid / Physical chemistry / Fluorescence / Probes / Receptor / Antibody / Pharmacology

□ **Universita' di Parma**

Istituto di Patologia Generale  
Via Gramsci, 14  
43100  
Parma  
☎ +39 521 34037-39843

**Growth optimization and immortalization of cultured human fibroblasts.**

Ottimizzazione della crescita ed immortalizzazione di fibroblasti umani in coltura  
Guidotti, guido G.  
Human / Fibroblast / Cultivation / Optimization / Production / Protein / Growth / Cell biology

□ **Universita' di Parma**

Istituto di Scienze Biochimiche  
Viale delle Scienze  
43100  
Parma  
☎ +39 521 580640-1

**Protein-protein interaction in catalysis, transport and transcription.**

Interazioni proteina-proteina nella catalisi nel trasporto e nella trascrizione.  
Rossi, gian luigi  
Interaction / Protein / Metabolism / Enzyme / Bioreactor / Biochemistry / Transcription / In vitro / Toxin / Yeast / Receptor / Antibiotic / Pharmacology

□ **Universita' di Pavia**

Dipartimento di Biochimica  
Via Bassi, 21  
27100  
Pavia  
☎ +39 382 3871

**Utilization of loaded erythrocytes and of cell cultures for diagnostic and transfusional purposes and characterization of their functional efficiency.**

Uso di eritrociti manipolati e di colture cellulari per fini diagnostici e trasfusionali e caratterizzazione della loro efficienza funzionale.  
Brovelli, augusta  
Membrane biology / Erythrocyte / Modification / Cell / Cultivation / Biochemistry / Skin / Gene / Expression / Diagnosis / Clinical

□ **Universita' di Pavia**

Dipartimento di Genetica e Microbiologia  
Via S. Epifanio, 14  
27100  
Pavia  
☎ +39 382 392528-392529

**Development of techniques for the identification of genes and rflps in the bovine genome.**

Isolamento e caratterizzazione di sonde molecolari cromosoma specifiche e ottimizzazione di sistemi di mappaggio genico.  
Sgaramella, vittorio  
Chromosome / Gene / Genome / Probes / Hybridization / Cloning / Polymorphism / Bovine animal / Genetics

**Models for protein engineering: study of three-dimensional structure of enzymes and transport proteins by X-ray crystallography and computer graphics.**

Struttura tridimensionale di enzimi e proteine di trasporto con cristallografia a raggi X.  
Coda, alessandro  
Protein design / Structural analysis / Enzyme / Transport / Protein / X-rays / Physical chemistry / Biochemistry

□ **Universita' di Pavia**

Istituto Malattie Infettive  
Via Taramelli, 6  
27100  
Pavia  
☎ +39 382 388633

**Monoclonal antibodies and DNA probes for diagnosis of human cytomegalovirus and herpes simplex virus infection.**

Anticorpi monoclonali e sonde di DNA per la diagnosi di infezione da citomegalovirus umano e da virus dell'herpes simplex.  
Gerna, giuseppe  
Monoclonal / Antibody / DNA / Probes / Diagnosis / Human / Herpes / Virus / Infection / Immunology / In situ / Hybridization

□ **Universita' di Perugia**

Istituto di Patologia Speciale Medica e Metodologia Clinica  
Via Enrico dal Pozzo  
06100  
Perugia  
☎ +39 75 21366-23623

**Realization of control systems for the diagnosis and therapy of the metabolic alterations of diabetes mellitus.**

Realizzazione di sistemi di controllo per la diagnosi e la terapia delle alterazioni metaboliche del diabete mellito.  
Massi benedetti, massimo  
Diabetes / Diagnosis / Therapy / Regulation / Drug / Pharmacology / Recombination / DNA / Insulin / Computer / Glucose / Simulation / Biocomputing / Endocrinology

□ **Universita' di Pesaro**

Istituto di Chimica Biologica  
Via Saffi, 2  
61029  
Urbino  
☎ +39 722 305211-305245

**Construction of enzyme loaded erythrocytes as bioteactors and immunotargeting of drug-carrier erythrocytes.**

Costruzione di eritrociti con incapsulati enzimi quali bioreattori e immunotargeting di eritrociti come carriers di farmaci.  
Magnani, mauro  
Erythrocyte / Drug / Carrier material / Lymphocyte / Macrophage / Antibody / Immobilization / Immunology / Enzyme / Bioreactor / Biochemistry

□ **Universita' di Pisa**  
Cattedra di Endocrinologia  
Via del Tirreno, 64  
56018  
Tirrenia (PI)  
☎ +39 50 32590

**Advanced analytical methodologies for the study of growth factors for thyroid cells, molecular probes for the diagnosis of coxakie virus infections, endogenous factors modulating gaba-ergic neurotransmission**

Metodologie cliniche avanzate applicate allo studio di fattori di crescita tiroidei, di infezioni da virus Cocksackie e neurotrasmissione gabaergica.

Pinchera, aldo

Growth / Thyroid gland / Molecular / Probes / RNA virus / Neurotransmitter / Hormone / Receptor / Monoclonal / Antibody / Cell / Endocrinology / Pharmacology

□ **Universita' di Pisa**  
Dipartimento di Fisiologia e Biochimica  
Via S. Zeno, 31 - Via Santa Maria, 55  
56100  
Pisa  
☎ +39 50 554074-500292

**Enzymes of base interconversion and of purine and pyrimidine salvage as a tool for metabolite detection and synthesis of new pro-drugs.**

Studio di metaboliti e sintesi di farmaci citotossici mediante l'uso di enzimi del recupero purinico e pirimidinico.

Ipata, piero luigi

Biochemistry / Nucleoside / Pyrimidine / Purine / Hydrolase / Phosphorylase / Human / Bacillus / Metabolism / Drug / Resistance

**Computerized image analysis: characterization of tissue, cellular and subcellular structures.**

Analisi computerizzata dell'immagine: caratterizzazione di tessuti, cellule e strutture subcellulari.

Bagnoli, paola

Tissue / Cell / Structure / Image analysis / Automation / Microscopy / Clinical / Diagnosis

□ **Universita' di Pisa**  
Centro E. Piaggio  
Via Diotallevi, 2  
56100  
Pisa  
☎ +39 577 44478-500827

**Fiber optic immunosensors for environmental pollutants monitoring.**

Immunosensori optoelettronici per monitoraggio De rossi, danilo

Biosensor / Immune / Pollution / Monitoring / Environmental technology / Instrumentation

□ **Universita' di Potenza**  
Istituto di Microbiologia e Tecnologie Agrarie Forestali  
Via Nazario Sauro, 85  
85100  
Potenza  
☎ +39 971 334326/7

**Optimal design and operation of fermentation systems of rdna microorganisms.**

Dimensionamento ottimale dei sistemi di fermentazione per microrganismi ricombinanti Moresi, mauro

Optimization / Recombination / rDNA / Fermentation technology / Agriculture / Industry

□ **Universita' Cattolica**  
Istituto di Clinica Chirurgica  
Largo F. Vito, 1  
00161  
Roma  
☎ +39 6 33054437-33054300

**Immunologic mechanism of allograft acceptance in clinical and experimental transplantation.**

Studio clinico sperimentale dell'induzione di "tolleranza" immunologica post-trapianto.

Castagneto, marco

Immunology / Transplantation

□ **Universita' Cattolica**  
Facolta' di Medicina e Chirurgia, Istituto di Farmacologia  
Largo Francesco Vito, 1  
00168  
Roma  
☎ +39 6 33054253-33054367

**Biologically active polypeptides of natural or recombinant origin with pharmacological and immunological activity.**

Polipeptidi biologicamente attivi di origine naturale o ricombinante ad attivita' farmacologica ed immunologica.

Preziosi, paolo

Polypeptide / Recombination / Pharmacology / Immunology / Nervous system / RIA / ELISA / Monoclonal / Antibody / Antigen / Infection / Pig / Mouse

□ **Universita' di Roma 1 (La Sapienza)**  
Dipartimento di Scienze Biochimiche  
Piazzale Aldo Moro, 5  
00185  
Roma  
☎ +39 6 4450291

**Structure and function of cytotoxic proteins and their conjugates: chemical modifications, enzymatic and pharmacological properties and intracellular dynamics.**

Struttura e funzione di proteine citotossiche e loro coniuga modificazioni chimiche, proprieta' enzimatiche e farmacologiche e

Stefanini, simonetta

Ribosome / Toxin / Plant / Fluorescence / Microscopy / Membrane biology / Biochemistry / Protein / Nucleic acid

□ **Universita' di Roma 1 (La Sapienza)**  
Dipartimento Biologia Cellulare e dello Sviluppo  
Piazzale Aldo Moro, 5  
00185  
Roma  
☎ +39 6 4453950

**New techniques of gene cloning and expression in industrial yeasts.**

Nuove tecnologie di clonazione e di espressione genica in lieviti industriali.

Paparo frontali, laura

Gene / Cloning / Expression / Yeast / Industry / Vector / Plasmid / Amplification / Protein / Ribosome / Nucleus / RNA / Cell biology

□ **Universita' di Roma 1 (La Sapienza)**  
Dipartimento di Biopatologia Umana  
Viale Regina Elena, 324  
00161  
Roma  
☎ +39 6 4940463-494776

**Membrane bioengineering: liposomes and proteoliposomes as carriers of cholesterol biosynthesis inhibitors, of modulators of cellular metabolism and of neurotoxins.**

Bioingegneria di membrana: liposomi e proteoliposomi come veicoli di inibitori della biosintesi del colesterolo, di modulatori del metabolismo cellulare e di neurotossine.

Strom, roberto

Artificial / Membrane biology / Cell / Receptor / Toxin / Cytoplasm / Bioactive agent / Metabolism / Cholesterol / Endothelium / Vessels / Biochemistry

**Expression of genes controlling processes of proliferation and differentiation in transgenic mice. Tissue specific vectors.**

Espressione di geni che controllano processi di proliferazione e differenziamento in topi transgenici. Vettori tessuto specifici

Amati, paolo

Gene / Expression / Regulation / Proliferation / Differentiation / Transgenic / Mouse / Vector / Tissue / Cell biology / Molecular genetics

□ **Universita' di Roma 1 (La Sapienza)**  
Dipartimento di Biopatologia Umana Sez. di Biologia Cellulare  
Policlinico Umberto I  
00161  
Roma  
☎ +39 6 4453731-4954613

**Expression in Escherichia coli of the elongation factor tu gene of extreme thermophilic bacteria, and mutagenesis of tu proteins.**

Espressione in E. coli del gene per il fattore di allungamento tu di batteri termofili estremi e mutagenesi delle proteine tu.

Cammarano, piero

Protein / Synthesis / tRNA / Gene / Coding / Thermophilic / Escherichia / Cloning / Mesophilic / Expression / Mutation / Biochemistry / Molecular genetics

□ **Universita' di Roma 1 (La Sapienza)**  
Istituto di Chirurgia del Cuore e Grossi Vasi  
Viale del Policlinico, 255  
00161  
Roma  
☎ +39 6 77

**Preservation of isolated heart for transplantation: study by nuclear magnetic resonance.**

Preparazione e conservazione del cuore isolato per trapianto: studio mediante risonanza magnetica nucleare.

Gaudio, carlo

Heart / Transplantation / Preservation / NMR / Biophysics

□ **Universita' di Roma 1 (La Sapienza)**  
Istituto di Istologia ed Embriologia Generale  
Via A. Scarpa, 14  
00161  
Roma  
☎ +39 6-492851

**Mechanisms of action of growth factors in the regulation of cell proliferation and differentiation.**

Meccanismo d'azione dei fattori di crescita nella regolazione della proliferazione e del differenziamento cellulare.

Conti, marco

Bioactive agent / Growth / In vitro / Cultivation / Regulation / Proliferation / Differentiation / Hormone / Secretion / Receptor / Expression / Transformation / Gene / Cell biology

□ **Universita' di Roma 1 (La Sapienza)**  
 Facolta' di Medicina e Chirurgia, Istituto di  
 Microbiologia  
 Piazzale Aldo Moro, 5  
 00185  
 Roma  
 ☎ +39 6 492208

**Bioleaching by Thiobacillus ferrooxidans and its improvement by genetic engineering.**

Biolisciviazione da parte di Thiobacillus ferrooxidans: suo miglioramento a mezzo di tecniche d'ingegneria genetica.  
 Orsi, nicola  
 Thiobacillus / Leaching / Metal / Cultivation / Bacteriology / Plasmid / DNA / Gene technology

□ **Universita' di Roma 1 (La Sapienza)**  
 Dipartimento di Medicina Sperimentale (Sez. Oncologia)  
 Viale Regina Elena, 324  
 00161  
 Roma  
 ☎ +39 6 492791-4940097

**Characterization of keratinocytes in culture: effect of growth factors.**

Caratterizzazione di cellule umane in coltura.  
 Frati, luigi  
 Cell / Cultivation / Optimization / Bioactive agent / Growth / In vivo / In vitro / Skin / Transplantation / Oncology

□ **Universita' di Roma 1 (La Sapienza)**  
 Ila Patologia Chirurgica  
 Policlinico Umberto I  
 00161  
 Roma  
 ☎ +39 6 4050297

**IL-2 production, cellular and soluble, IL-2R. New diagnostic and therapeutic aspects in organ transplantation.**

Produzione di IL-2, IL-2R cellulari e solubili. Nuovi approcci diagnostici e terapeutici nei trapianti d'organo.  
 Cortesini, raffaello  
 Interleukine / Immunology / Diagnosis / Therapy / Organ / Transplantation

□ **Universita' di Roma 1 (La Sapienza)**  
 Istituto di Terapia Medica Sistemica  
 Policlinico Umberto I  
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 Roma  
 ☎ +39 6 4951354-493534-490972

**Assessment of long-term LDL-apheresis for therapy of mono- and polygenic hypercholesterolaemia.**

Valutazioni a lungo termine della terapia con LDL-aferesi nella ipercolesterolemia mono- e poligenica.  
 Mazzarella, bruno  
 Lipoproteid / Cholesterol / Therapy

□ **Universita' di Roma 1 (La Sapienza)**  
 Istituto di Virologia  
 Viale Porta Tiburtina, 28  
 00185  
 Roma  
 ☎ +39 6 4452846-492306

**In vitro construction of "chimeric" viruses containing sequences of the genomes of polio and hepatitis A viruses by means of recombinant DNA techniques.**  
 Costruzione in vitro di virus "chimerici" poliovirus/epatite a e di sonde diagnostiche.  
 Perez-berkoff, raoul  
 Virology / RNA virus / Vaccine / Genome / Hepatitis / Transfection / In vitro / Gene technology

**Biotechnology reagents for diagnosis of immunodeficiencies.**

Reagenti biotecnologici per la diagnosi di infezioni prenatali e di stati di immunodeficienza.  
 Dianzani, ferdinando  
 Diagnosis / Immune system / Deficiency / AIDS / Lymphokine / Infection / Viral / Immunology / Kit / Serology / Cloning

□ **Universita' di Roma 2 (Tor Vergata)**  
 Dipartimento di Biologia  
 Via Orazio Raimondo  
 00173  
 Roma  
 ☎ +39 6 24990376-24990370-24990376

**Dna and protein sequences analysis for diagnostic and vaccine development purposes.**

Analisi di sequenze di DNA e di proteine a fini diagnostici e per lo sviluppo di vaccini  
 Terrenato, luciano  
 Restriction / Polymorphism / Chromosome / Genome / DNA / Protein / Sequence / Probes / Vaccine / Molecular genetics

**Role of polyamines in differentiating keratinocytes in primary culture.**

Ruolo delle poliammine nel differenziamento dei cheratinociti in coltura.  
 Piacentini, mauro  
 Cell / Cultivation / Differentiation / Cell biology

**Bioengineering of antioxidative enzymes.**

Bioingegneria di enzimi antiossidanti.  
 Desideri, alessandro  
 Biological / Catalysis / Chemical industry / Pharmaceutical industry / Enzyme / Metabolism / Cloning / Mutation / Biochemistry / Physical chemistry / Modelling / Software

□ **Universita' di Roma 2 (Tor Vergata)**  
 Dipartimento Medicina Interna - Cattedra di Ematologia - Piazzale dell'Umanesimo 10  
 00144  
 Roma  
 ☎ +39 6 5913939

**Adoptive immuno-chemotherapy and haematopoietic stem cel transplantation in the treatment of adult acute leukemia**

Chemio-immunoterapia adottiva e trapianto di cellule staminali ematopoietiche nel trattamento della leucemia acuta dell'adulto.  
 Papa, giuseppe  
 Leukemia / Immunotherapy / Chemotherapy / Transplantation

□ **Universita' di Roma 2 (Tor Vergata)**  
 Dipartimento Medicina Sperimentale e Scienze Biomediche  
 Via Orazio Raimondo  
 00173  
 Roma  
 ☎ +39 6 79791

**Molecular probes in the diagnosis of human T-lymphotropic retroviruses HTLV I and V.**

Sonde molecolari per la diagnosi di infezione da retrovirus T-linfotropi umani HTLV I e HTLV V  
 Manzari, vittorio  
 Molecular / Probes / HTLV / Lymphocyte / Viral / Genome / Cloning / Virology

**Control of human retrovirus infection in the CNS and T-cells through lymphocytes carrying chemotherapeutic drugs.**

Controllo dell'infezione da retrovirus umani nel SNC e nelle cellule T mediante linfociti vettori di chemioterapici.  
 Macchi, beatrice  
 Regulation / Nervous system / Infection / Retrovirus / Lymphocyte / Chemotherapy

**Detection of biological molecules with time resolved fluorescence and monoclonal antibodies.**

Monitoraggio di molecole di interesse biologico mediante fluorescenza risolta in tempo.  
 Finazzi-agro', alessandro  
 Fluorescence / Monoclonal / Antibody / Immunoassay / Biophysics

**Graft of allogeneic lymphocytes subjected to deletion of histocompatibility antigens.**

Trapianto allogenico di linfociti semplificati per antigeni di istocompatibilita'  
 De vecchis, liana  
 Transplantation / Immunology / Lymphocyte / Antigen

□ **Universita' di Roma 2 (Tor Vergata)**  
 Dipartimento Sanita' Pubblica e Biologia Cellulare

Via Orazio Raimondo, 8  
 00173  
 Roma  
 ☎ +39 6 79792025

**Study on the transduction mechanisms and the genetic control of transforming growth factor beta 1 (tgfb1), and on the mechanisms of action of cytokines as antitlastic and antiviral biomolecules in HTLV-leukemia.**

Studio di meccanismi di trasduzione e di controllo genico del transforming growth factor beta 1 (tgfb1)  
 Geremia, raffaello  
 Molecular genetics / Biochemistry / Transduction / Growth / Cell / Cultivation / Tumour / Modification / Gene / Expression / Prostaglandin / Interferon / Interleukine / HTLV / In vitro / Infection / Genome / Viral / Regulation

□ **Universita' di Roma 2 (Tor Vergata)**  
 Dipartimento Scienze e Tecnologie Chimiche

Via Orazio Raimondo  
 00173  
 Roma  
 ☎ +39 6 79792413

**Biosensors for development of a wearable artificial pancreas.**

Biosensori per lo sviluppo di un pancreas artificiale portatile.  
 Mascini, marco  
 Biosensor / Artificial / Pancreas / Glucose / Insulin / Physical chemistry / Instrumentation

□ **Universita' di Siena**  
 Istituto di Anatomia e Istologia Patologica

Strada delle Scotte, 6  
 53100  
 Siena  
 ☎ +39 577 285001

**Innovative immunodiagnostic for cancer histopathology, with special emphasis to papillomavirus-associated neoplasias and soft tissue tumors.**

Tecnologie innovative per la diagnosi precoce di tumori con particolare riguardo alle neoplasie virus-associate e a predisposizione ereditaria.  
Tosi, piero  
Immunology / Immune / Diagnosis / Histochemistry / Antibody / Antigen / Marker / Cancer / Tumour / Papilloma virus

- **Universita' di Siena**  
Dipartimento di Chimica  
Pian dei Mantellini, 44  
53100  
Siena  
☎ +39 577 47054 int. 12

**Comparative NMR study of bioconversion with wild and engineered microorganisms.**  
Studio comparativo, tramite spettroscopia NMR, su bioconversione con microorganismi selvaggi ed ingegnerizzati.

Tiezzi, enzo  
Glucose / Ethanol / Yeast / NMR / Escherichia / Gene / Cloning / Cellulase / Glucosidase / Hydrolysis / Cellulose / Biotransformation / Streptomycete / Biochemistry / Microbiology

- **Universita' di Siena**  
Istituto di Microbiologia  
Via Laterina, 8  
53100  
Siena  
☎ +39 577 280940-280903

**Cloning of bacterial genes useful for preparation of improved vaccines and diagnostic probes.**

Clonazione di geni batterici per la preparazione di nuovi vaccini e di sonde ad uso diagnostico e tassonomico.  
Satta, giuseppe  
Bacterial / Gene / Cloning / Vaccine / Probes / Nucleic acid / Monoclonal / Antibody / Clinical / Food / Microbiology / Staphylococcus / Salmonella / Escherichia / Enzyme / Streptococcus / Lactobacillus / Immunology

- **Universita' di Torino**  
Dipartimento di Scienze Biomediche e Oncologia Umana  
Corso Massimo d'Azeglio, 52  
10126  
Torino  
☎ +39 11 687516-6690416

**New growth factors triggering tyrosine kinase.**  
Nuovi fattori di crescita attivanti tirosina chinasi

Comoglio, paolo M.  
Cell / Cultivation / In vitro / Bioactive agent / Growth / Tyrosine / Kinase / Receptor / Membrane biology / Biochemistry / Cancer / Oncology

- **Universita' di Torino**  
Istituto di Chimica Farmaceutica Applicata  
Corso Raffaello, 31  
10125  
Torino  
☎ +39 11 657926

**Targeting of cytotoxins with monoclonal antibodies for the therapy of cancer.**

Direzionamento di citotossine con anticorpi monoclonali per la terapia del cancro  
Cattel, luigi  
Cell / Toxin / Monoclonal / Antibody / Cancer / Chemotherapy / Pharmacy

- **Universita' di Torino**  
Dipartimento di Genetica, Biologia e Chimica Medica  
Via Santena, 5bis; 19  
10126  
Torino  
☎ +39 11  
6967954-6963106-679752-633772

**Analysis and characterization of angiogenesis regulating factors.**

Analisi dei fattori angiogenetici e ruolo dei recettori per la matrice dell'angiogenesi.  
Silengo, lorenzo  
Receptor / Bioactive agent / Expression / Vector / Recombination / cDNA / Antibody / mRNA / Regulation / Vessels / Development / Biochemistry

**Genetic structures of italian population and direct detection of genetic diseases by DNA analysis.**

Polimorfismo DNA per lo studio della popolazione italiana e per l'identificazione diretta di mutazioni patologiche  
Piazza, alberto  
DNA / Analysis / Molecular / Probes / Genetics / Mutation / Hybridization / Polymerase / Amplification / Oligonucleotide

**Mechanisms of recognition, adhesion and removal of altered and artificially loaded erythrocytes.**

Meccanismi di riconoscimento, adesione e rimozione di eritrociti alterati o trasformati in bioreattori.  
Arese, paolo  
Membrane biology / Erythrocyte / Recognition / Antibody / Immune system / Biochemistry / Lymphokine / TNF / Thrombocyte / Hematology

- **Universita' di Trieste**  
Dipartimento di Biochimica, Biofisica e Chimica delle Macromolecole  
Via A. Valerio, 32  
34127  
Trieste  
☎ +39 40 2260-104

**Production and characterization of antimicrobial peptides and of DNA probes for HBV.**

Produzione e caratterizzazione di peptidi antimicrobici e di sonde di DNA per HBV.  
Romeo, domenico  
Polypeptide / DNA / cDNA / mRNA / Expression / Recombination / Diagnosis / Hepatitis / Virus / Infection / Polymerase / Molecular biology / Virology

- **Universita' di Trieste**  
Istituto Bicattedra di Clinica Pediatrica  
Via dell'Istria, 65/1  
34137  
Trieste  
☎ +39 40 7787276

**Therapy of congenital enzyme defects by implantation of purified amniotic cells in primary culture**

Correzione di difetti congeniti mediante impianto di cellule epiteliali amniotiche umane da colture primarie  
Agosti, eriberto  
Transplantation / Implantation / Cell / Cultivation / Congenital / Cell biology / Biochemistry / Enzyme / Cryobiology

- **Universita' di Trieste**  
Istituto di Patologia Generale  
Via A. Fleming, 22  
34127  
Trieste  
☎ +39 40 572012

**Human eosinophil and neutrophil cytotoxins (eosinophil peroxidase and myeloperoxidase) as possible pharmacological agents.**

Le citotossine di neutrofili ed eosinofili umani (eosinofilo-perossidasi e mieloperossidasi) come potenziali agenti farmacologici.  
Patriarca, pierluigi  
Toxin / Peroxidase / Pharmacology / Biochemistry

- **Universita' di Udine**  
Istituto di Biologia  
Via Gervasutta, 48  
33100  
Udine  
☎ +39 432 522389

**Storage and characterization of human cells expressing altered differentiative patterns and of cells used in clinical bioassays.**

Conservazione e caratterizzazione di cellule umane con patologie differenziative e di cellule utilizzate in dosaggi biologici di interesse clinico.  
Ambesi impiombato, saverio  
Cell / Cultivation / Molecular biology / Pathology / Assay / Clinical / Data base / Cloning / Genome / Human / Sequencing

- **Universita' di Verona**  
Istituto di Chimica Biologica e Istituto di Scienze Biologiche  
Strada le Grazie  
37134  
Verona  
☎ +39 45 584630

**Identification and mechanism of action of genes and cellular products involved in control of cell proliferation and in genetic and viral diagnosis.**

Identificazione e meccanismo d'azione di geni e prodotti cellulari coinvolti nel controllo della proliferazione cellulare e nella diagnostica genetica e virale  
Libonati, massimo  
Regulation / Cell / Growth / Proliferation / Transcription / Gene / Polymerase / Induction / Cell biology / Sequencing / Herpes / Virus / Replication / Mutation / Tumour / Probes / Molecular / Diagnosis

- **Universita' di Verona**  
Istituto di Scienze Immunologiche (I.S.I.)  
Policlinico di Borgo Roma  
Via Delle Menegone  
37100  
Verona  
☎ +39 45 933256-933645

**Structure and regulation of major and minor histocompatibility complex genes.**

Struttura e regolazione dell'espressione dei geni maggiori e minori di istocompatibilita'.  
Accolla, roberto  
Immunology / Cytogenetics / Immune system / Regulation / Gene / Expression / rDNA / Recombination / Structure / Monoclonal / Antibody / Transplantation

- **Universita' di Verona**  
Istituto di Microbiologia  
Strada le Grazie, 8  
37134  
Verona  
☎ +39 45 584606

**Development of DNA probes for detection and study of infectious agents.**

Sviluppo e validazione diagnostica di sonde molecolari per la rilevazione e lo studio di agenti infettivi.

Fontana, roberta

DNA / Probes / Infection / Antibiotic / Gene / Cloning / Resistance / Bacterial / Sequence / Restriction / Bacteriology / Molecular genetics / Neisseriaceae

□ **Universita' di Verona**

Cattedra di Malattie del Metabolismo

Via delle Menegone, 10

37134

Verona

☎ +39 45 933403-584588

**Effect of oral hypoglycemic agents of regional metabolism of glucose, fatty acids and amino acids evaluated by positron emission tomography.**

Effetto degli ipoglicemizzanti orali sul metabolismo distrettuale del glucosio, degli acidi grassi e degli aminoacidi valutato mediante tomografia ad emissione di positroni (pet)

Muggeo, michele

Metabolism / Glucose / Fatty acid / Amino acid / Biochemistry

□ **Universita' di Verona**

Istituto di Patologia Generale

Strada le Grazie

37134

Verona

☎ +39 45 8098120

**Mechanisms of activation and deactivation of the toxic oxygen molecules generating system (NADPH oxidase) in phagocytes and molecular basis of phagocytes activation by cytokines.**

Meccanismi di attivazione e deattivazione del sistema produttore

Rossi, filippo

Toxic / Oxygen / Cofactor / Oxidase / Biochemistry



GRAND DUCHY OF LUXEMBURG

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Whiting, Mr. M. Hetto

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**Société pour la Recherche sur le Cancer  
et les Maladies du Sang asbl**  
Z.I. Grasbusch  
3370  
Leudelange  
☎ +352 483198

**Study of cellular drug resistances**

Etude des résistances cellulaires aux drogues

Michels, Dr.J.-M.

Drug / Resistance / Restriction / Polymorphism /

Gene / Metabolism / Yeast / Protein / Inhibition /

Cell biology / Biochemistry / Pharmacology

## THE NETHERLANDS

### National focal point: Library and Information Centre of the Royal Netherlands Academy of Arts and Sciences (KNAW)

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Fax: +31 20 6685079  
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**Nederlands Kanker Instituut**  
Plesmanlaan 121  
1066 CX  
Amsterdam  
☎ +31 20 5129111

#### In vitro immortalization of dendritic cells and T-cells

In vitro immortalisatie van dendritische cellen en T-cellen  
Melief, Dr.C.J.M. / Zijlstra, Dr.M.  
In vitro / Immunology / Gene / Lymphokine / Lymphocyte / Cell / Retrovirus / Vector

#### Differentiation and progression of human breast tumours in vitro

Differentiatie en progressie van humane borsttumoren in vitro  
Michalides, Dr.R.J.A.M.  
Probes / Monoclonal / Antibody / In vitro / Tumour / Human / Differentiation / Cell / Cultivation / Oncology / Cancer / Gland

#### Construction of modified live vaccine against Aujeszky's disease virus

Bereiding van vaccin tegen de ziekte van Aujeszky  
Berns, Dr.A.J.M.  
Vaccine / Genome / Virus / Veterinary medicine / Molecular genetics / DNA virus / Preparation / Immunology

#### Human monoclonal antibodies for therapy and diagnosis in thyroid carcinoma (I)

Humane monoclonale antistoffen bij de behandeling en diagnose van schildklierkarcinoom (I)  
Bruning, Dr.P.F.  
Monoclonal / Antibody / Human / Cancer / Thyroid gland / Diagnosis / Therapy / Hormone / Receptor / Immunology / Preparation

#### Gene transpositions and gene expression in trypanosomes

Gen-transposities en gen-expressie in trypanosomen  
Borst, Prof.Dr.P.  
Gene / Expression / Molecular genetics / Immunology / Glycoproteid / DNA / Parasite / Host / Mammal / Infection

#### Mouse gene localization

Lokalisatie van genen bij de muis  
Hilgers, Dr.J.H.M.  
Gene / Recognition / Mouse / Chromosome / Recombination / Hybridization / Molecular genetics

#### Melanoma membrane antigens

Melanoom-antigenen  
Figdor, Dr.C.G.  
Antigen / Monoclonal / Antibody / Immunology / Diagnosis / Tumour / Immunotherapy / Cancer / Preparation

**Centraal Laboratorium van de Bloedtransfusiedienst van het Nederlandse Rode Kruis**  
Plesmanlaan 125  
1066 CX  
Amsterdam  
☎ +31 20 5129222

#### Transgenic mice as a tool for studies on the expression and function of HLA genes. (HLA transgenic mice)

HLA transgene muizen  
Iványi, Dr.P. / Ploegh, Dr.H.Z.  
Transgenic / Mouse / Expression / Gene / Immune / Immunology / Antigen

#### A molecular biological study on the synthesis and assembly of the human factor VIII-von Willebrand factor complex (vWF)

Een moleculair biologische studie naar de synthese en assemblage van het humane factor VIII-von Willebrand-factor-complex (vWF)  
Pannekoek, Dr.H. / Mourik, Dr.J.A.van  
Molecular biology / Human / Man / Factor VIII / cDNA / Gene / Glycoproteid / Mutation / Expression / Cell / Cultivation / Interaction

#### Characterization of B-cell growth and differentiation factors

Karakterisering van B-cel groei- en differentiatiefactoren  
Aarden, Dr.L.A.  
Immunology / Lymphocyte / Growth / Differentiation / Cloning / cDNA / Expression / Escherichia / Recombination / Protein

#### Structure and function of human tissue-type plasminogen activator (t-PA)

Structuur en functie van humaan weefsel-type plasminogeen activator (t-PA)  
Pannekoek, Dr.H.  
Immunology / TPA / Human / Man / Expression / Cultivation / cDNA / Vector / Mutation / Transfection / Cloning / SV40 / Plasmid / Escherichia

#### Methods for the production of human monoclonal antibodies (MCA)

Methoden voor de productie van menselijke monoclonale antistoffen (MCA)  
Zeijlemaker, Dr.W.P. / Aarden, Dr.L.A.  
Monoclonal / Antibody / Human / Man / In vitro / In vivo / Production / Immunology / Cloning / Lymphocyte / DNA

#### Production of monoclonal antibodies in (semi-)large-scale tissue culture

Productie van monoclonale antistoffen in (semi-)grootschalige weefselkweek  
Zeijlemaker, Dr.W.P.  
Monoclonal / Antibody / Cultivation / In vitro / Production / Immunology / Human / Man / Cell

#### Isolation, characterization and quantitative determination of human erythropoietin

Isolatie, karakterisering en kwantitatieve bepaling van humaan erythropoietine  
Zeijlemaker, Dr.W.P.  
Human / Man / Monoclonal / Antibody / Diagnosis / Immunology / Kidney / Cloning / Gene / Expression / Escherichia / Receptor / Isolation / Assay / Glycoproteid / Blood / Disease

#### Human procoagulation factor VIII: cloning of the gene(s) and an investigation of the genetic organization

Humaan bloedstollingsfactor VIII: klonering van het gen (de genen) in micro-organismen en bestudering van de genetische organisatie  
Pannekoek, Dr.H.  
Human / Man / Hematology / Blood / Factor VIII / Cloning / Gene / rDNA / Expression / Molecular genetics

#### Production of human blood proteins in Escherichia coli

Productie van humane bloedeiwitten in Escherichia coli  
Borst, Prof.Dr.P.  
Production / Human / Man / Protein / Blood / Escherichia / cDNA / Cloning / Clotting / Molecular genetics / Fibrinolysis / Gene / Expression / Vector / Hematology

#### Preparation and applications of murine and human monoclonal antibodies

Bereiding en toepassingen van muize- en menselijke monoclonale antistoffen  
Zeijlemaker, Dr.W.P.  
Man / Mouse / Monoclonal / Antibody / Human / Hybridoma / Diagnosis / Leukocyte / Immunoglobulin / Antigen / Lymphocyte / DNA virus / Cell / Fusion / In vitro / Cultivation / Clinical / Immunology / Preparation

#### Centraalbureau voor Schimmelcultures

Oosterstraat 1  
3742 SK  
Baarn  
☎ +31 2154 11841

#### Permanent preservation techniques for fungi

Technieken voor langdurige bewaring van schimmels  
Stalpers, Dr.J.A.  
Fungus / Preservation / Microbiology / Freeze-drying / Deepfreezing

#### A European network of microbial culture collections, strain data, data banks

Een Europees netwerk van databanken van micro-organismen  
Kokke, Dr.R.  
Data base / Organism collection / Microorganism / Information dissemination / Online searching

#### Rijksinstituut voor Natuurbeheer

Kemperbergerweg 67  
6816 RM  
Arnhem  
☎ +31 85 452991

#### Decomposition of hexachlorocyclohexane (HCH) isomers in microbially activated soil

De afbraak van hexachloorcyclohexaan (HCH) isomeren in microbieel geactiveerde grond  
Eijsackers, Dr.H.J.P. / Doelman, Dr.Ir.P.  
Degradation / Hydrocarbon / Soil / Pollution / Purification / Environmental technology / Microorganism / Homogenization / Mixing / Biological / Microbial / Environment

#### Instituut voor Rationele Suikerproductie

Van Konijnenburgweg 24  
4611 HL  
Bergen op Zoom  
☎ +31 1640 34970

#### Preservation of pressed beet pulp with a minimum of 20% of dry matter

Conservering van perspulp met minimaal 20% droge stof  
Bos, Ir.B.C.  
Preservation / Degradation / Bacillus / Yeast / Food technology / Nutritional branch / Sweetener / Cellulose / Pectin

#### Rijksinstituut voor Volksgezondheid en Milieuhygiëne

Antonie van Leeuwenhoeklaan 9  
3721 MA  
Bilthoven  
☎ +31 30 749111

**Large scale production and purification of *Treponema pallidum* protein (TnpA)**

Opschaling van productie en zuivering van het *Treponema pallidum*-eiwit (TnpA)  
Embden, Dr.J.D.A.van  
Production scale / Purification / Protein / Scale-up /  
Diagnosis / Biochemistry

**Development and production of rabies vaccine on continuous cell lines**

Ontwikkeling en productie van rabiësvaccin op continue cellijnen  
Beuvery, Dr.E.C. / Steenis, Dr.G.van  
Production / Vaccine / Continuous / Cell / RNA virus / Cultivation / Homogeneous /  
Chromatography / Purification / DNA / Immunology / Virology

**Production of HTLV-III/LAV virus for diagnostic purposes and vaccine development**

Productie van HTLV-III/LAV-virus ten behoeve van diagnostiek en vaccinontwikkeling  
Beuvery, Dr.E.C.  
HTLV / Diagnosis / Vaccine / Preparation /  
Cultivation / HIV / Cell / Protein / Glycoproteid / Immunology / Biochemistry / HPLC / Affinity /  
Chromatography / Monoclonal / Antibody / Viral / Production / Virology

**Preliminary study of risk analysis of genetically engineered microorganisms in the environment**

Oriënterende studie ten aanzien van risico-analyse van het gebruik van genetisch gemodificeerde micro-organismen in het milieu  
Beelen, P.van  
Gene technology / Environmental biotechnology / Microorganism / Consulting / Projecting / Research advancement / Microbiology

**Remedial action techniques for contaminated soil**

Referentietraak bodemsaneringstechnieken  
Soczo, E.R.  
Environmental biotechnology / Soil / Sanitation / Technology / Purification / Pollution / Consulting / Education / Projecting

**Development of a meningococcal vaccine**

Ontwikkeling van een vaccin tegen meningococci  
Poolman, Dr.J.Th.  
Vaccine / Preparation / Oligosaccharide / Lipid / Polysaccharide / Protein / Peptide / NMR / Antigen / Immunology / Monoclonal / Antibody / Synthesis / Membrane biology / Biochemistry

**Removal of oil in the soil by in-situ bioremediation**

Sanering van met olie verontreinigde bodems door stimulering van de microbiologische activiteit in de diepere ondergrond  
Berg, R.van den  
Environmental biotechnology / Oil / Soil / Sanitation / Microbial / In situ / Technology / Purification / Degradation / Crude oil / Derivative / Pollution / Laboratory scale / Consulting / Microbiology

**Development of conjugate vaccines against *Haemophilus influenzae* type b and pneumococci**

Ontwikkeling van conjugaatvaccins tegen *Haemophilus influenzae* type b (Hib) en pneumococci  
Poolman, Dr.J.Th.  
Vaccine / Biochemistry / Membrane biology / Protein / Oligosaccharide / Organic chemistry / Preparation / Immunology

**Development of rabies vaccine production for technology transfer in the framework of WHO/RF projects**

Ontwikkeling van rabiësvaccinproductie ten behoeve van technology transfer in het kader van WHO/Rockefeller Foundation (RF) projecten  
Wezel, Ir.A.L.van  
Vaccine / Production / Technology / Preparation / Cell / Immunology / Cultivation / RNA virus / Reagent

**Development of vaccines based upon liposomes, iscoms and complexes**

Ontwikkeling van vaccins op basis van liposomen, iscoms en complexen  
Beuvery, Dr.E.C.  
Vaccine / Artificial / Membrane biology / Immunology / Biochemistry / Physical chemistry / Hydrophobic / Interaction / Lipophilic / Production scale

**Poliovirus and vaccine studies for vaccine development and production**

Onderzoek aan poliovirus en -vaccin ten behoeve van vaccinontwikkeling en -productie  
Beuvery, Dr.E.C.  
Vaccine / Production / Virus / Optimization / Cultivation / Antigen / Monoclonal / Antibody / Recombination / rDNA / Cloning / ELISA / Synthesis / Peptide / Protein / Immunology / Molecular biology / Organic chemistry / Virology

**Supervision of biotechnologically prepared medicinal products**

Toezicht op langs biotechnologische weg geproduceerde geneesmiddelen  
Donk, Dr.H.J.M.van de  
Pharmacology / Serology / Toxicology / Pharmaceutical industry / Vaccine / Blood serum / Licence granting / Consulting / Analysis / Test / Laboratory scale / Monitoring

**Biodegradation of aliphatic and aromatic hydrocarbons**

Microbiologische afbraak van alifatische en aromatische koolwaterstoffen  
Soczo, E.R.  
Microbiology / Microbial / Hydrocarbon / Aliphatic / Aromatic / Environmental biotechnology / Pollution / Soil / Optimization / Degradation / Research advancement / Projecting

**Inventory of waste treatment methods**

Inventarisatie van be- en verwerkingsmethoden ten behoeve van het thema verwijdering van afvalstoffen  
Visscher, K.  
Environmental biotechnology / Waste / Purification / Degradation / Industry / Data base / Thermal / Chemical / Research advancement / Projecting

**Coordination of the execution of the research and development programme environmental biotechnology**

Coördinatie van de uitvoering van het onderzoeken ontwikkelingsprogramma milieubiotechnologie  
Visscher, K.  
Environmental biotechnology / Agriculture / Industry / Research advancement / Financing / Projecting

**Feasibility of biodegradation of xenobiotics e.g. as present in sludge from soil clean-up techniques**

Haalbaarheid van de biodegradatie van xenobiotica in afvalstromen, bijvoorbeeld zoals aanwezig in slib van extractie-technieken  
Andel, Dr.J.G.van  
Xenobiotic / Degradation / Sludge / Soil / Purification / Laboratory scale / Bioprocess engineering / Environmental biotechnology / Waste / Microorganism

**Induction of protective immune response by immunization with monoclonal anti-idiotypic antibodies**

Inductie van een beschermende immuunrespons door immunisatie met monoclonale anti-idiotypische antilichamen  
UytdeHaag, Dr.A.G.C.M.  
Monoclonal / Antibody / Immune system / Immunology

**Production of monoclonal antibodies**

Productie van monoclonale antistoffen  
Osterhaus, Dr.A.D.M.E.  
Monoclonal / Antibody / Optimization / Production / Hybridoma / Mouse / Cell / Immunology / Antigen / Virus / Lymphocyte / Human / Man / Diagnosis / Vaccine

**Monoclonal antibodies against *Bordetella pertussis***

Monoclonale antilichamen tegen *Bordetella pertussis*  
Poolman, Dr.J.Th.  
Production / Monoclonal / Antibody / Vaccine / Immunology / Antigen / Blood / Assay / Toxin / Lipid / Polysaccharide / Adenylate cyclase

**Diagnosis and treatment of rheumatoid arthritis**

Diagnose en behandeling van reumatoïde artritis  
Embden, Dr.J.D.A.van  
Diagnosis / Therapy / Rheumatism / Mycobacterium / Lymphocyte / Peptide / Molecular genetics / Antigen / Cloning / Immunology

**Cloning and expression of pertussis toxin in *E. coli***

Klonering en expressie van pertussis-toxine in *E. coli*  
Mooi, Dr.F.R.  
Cloning / Expression / Toxin / In vivo / Recombination / rDNA / Escherichia / Mutation / In vitro / Molecular genetics / Immunology

**Cloning and expression of *Bordetella pertussis* adhesins in *E. coli***

Klonering en expressie van *Bordetella pertussis* adhesines in *E. coli*  
Mooi, Dr.F.R.  
Cloning / Expression / Escherichia / Vaccine / Immunology / Disease / Origin / Mutation / Infection / Monoclonal / Antibody / Molecular genetics

**Cloning and expression of *Mycobacterium tuberculosis* in *Escherichia coli* K12**

Klonering en expressie van *Mycobacterium tuberculosis* in *Escherichia coli* K12  
Embden, Dr.J.D.A.van  
Cloning / Expression / Mycobacterium / Escherichia / Gene bank / rDNA / Recombination / Protein / Antigen / Diagnosis / Tuberculosis / Molecular genetics / Serology / Production / Bacteriology

**Analysis of DNA, RNA and protein sequence data**

Analyse van DNA-, RNA-, en eiwitsequenties  
Kranen, Ing.H.J.van  
Analysis / DNA / RNA / Protein / Sequence / Sequencing / Software / Restriction / Molecular biology / Amino acid / Structure / Secondary / Data processing / Bacteriology

**Cloning and expression of *Treponema pertenuis* DNA in *E. coli* K12**

Klonering en expressie van *Treponema pertenuis*-DNA in *E. coli* K12  
Embden, Dr.J.D.A.van  
Cloning / Expression / DNA / Escherichia / Antigen / Diagnosis / Molecular genetics / Bacteriology / Serology / Gene bank / Vaccine

**Cloning of outer membrane protein genes of group B meningococci, type 2b**

Klonering van de genen van buitenmembraan-eiwitten van groep B, type 2b meningococci  
Poolman, Dr.J.Th.  
Cloning / Protein / Gene / Vaccine / Expression / Escherichia / Molecular genetics / Lipid / Polysaccharide / Nucleotide / Sequence / Amino acid / Neisseriaceae

**Development of computer controlled fermentation equipment**

Ontwikkeling van computergestuurde fermentatie-apparatuur  
Wezel, Ir.A.L.van†  
Fermentation technology / Computer / Control / Bioreactor / Cultivation / Optimization / Bioprocess engineering / Production / Industry

**The cloning of Streptolysin O**

De klonering van Streptolysine O  
Embden, Dr.J.D.A.van  
Cloning / Streptococcus / DNA / Escherichia / Bacillus / Molecular genetics

**Cloning of Treponema DNA**

Klonering van Treponema DNA  
Embden, Dr.J.D.A.van  
rDNA / Cloning / Gene / Expression / Protein / Antigen / Escherichia / Diagnosis / Recombination / Molecular genetics

 **Nederlands Instituut voor Zuivelonderzoek**

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**Cloning and expression of the gene coding for a non-bitter proteinase**

Het kloneren en tot expressie brengen van het gen dat codeert voor een niet-bitter proteïnase  
Vos, Dr.W.M.de  
Cloning / Expression / Gene / Coding / Protease / Hydrolysis / Milk / Amino acid / Peptide / Flavour / Cheese / Streptococcus / Plasmid / Molecular genetics / Cell wall / Starter culture / Nutritional branch

**The genetic backgrounds of bacteriophage resistance mechanisms in lactic acid streptococci**

De genetische achtergronden van bacteriofaag-resistentiemechanismen in melkzuurstreptococci  
Vos, Dr.W.M.de  
Bacteriophage / Resistance / Lactic acid / Streptococcus / Adsorption / Plasmid / Molecular genetics / Restriction / Modification / Microbiology / Nutritional branch / DNA

**Differentiation of flavour in cheese by means of different starter bacteria; an orientation**

Smaakdifferentiatie bij kaas met behulp van verschillende zuurselbacteriën; een oriëntatie  
Northolt, Dr.Ir.M.D.  
Cheese / Starter culture / Flavour / Food technology / Nutritional branch

**Acceleration of the ripening of cheese sorts, in which thermophilic cultures are used as starters**

Het versnellen van de rijping van kaassoorten waarbij thermofiele culturen als zuursel worden gebruikt  
Northolt, Dr.Ir.M.D.  
Cheese / Thermophilic / Starter culture / Hydrolysis / Bacteriology / Enzymology / Nutritional branch

**Acceleration of the ripening of traditional cheese by means of inclusion of mesophilic starter bacteria**

Het versnellen van de rijping van traditionele kaas met behulp van mesofiele zuurselbacteriën  
Exterkate, Dr.F.A.  
Cheese / Mesophilic / Starter culture / Nutritional branch / Bacteriology / Enzymology / Hydrolysis

**Application of membrane fermentors for the production of starter bacteria**

Toepassing van membraanfermentoren voor de productie van zuurselbacteriën  
Stadhouders, Dr.Ir.J.  
Bioprocess engineering / Fermentation technology / Nutritional branch / Streptococcus / Optimization / Downstream processing / Fermentation / Starter culture / Yoghurt / Bioreactor / Membrane apparatus

**Isolation and characterization of phosphopeptides from casein: components**

Isolatie en karakterisering van fosfopeptiden uit caseïnecomponenten  
Vreeman, Dr.H.J.  
Isolation / Peptide / Hydrolysis / Enzymology / Milk / Trypsin / Chymotrypsin / Pepsin / Bioreactor / Production scale / Food technology / Nutritional branch / Chromatography / Batch / Preparation

**Development and application of immunological techniques in dairy research**

Ontwikkeling en toepassing van immunologische technieken bij het zuivelonderzoek  
Koning, Dr.P.J.de / Veringa, Drs.H.A.  
Immunology / Antibody / Antiserum / Whey / Protein / Membrane apparatus / Filtration / Monoclonal / Antibody / Bacteriophage / Lactic acid / Streptococcus / Adsorption / Microbiology / Biochemistry / Nutritional branch / Food technology

**Development of phage-resistant cultures for the preparation of Dutch cheese sorts**

Samenstellen van faagresistente culturen voor het bereiden van Nederlandse kaassoorten  
Northolt, Dr.Ir.M.D.  
Bacteriophage / Cultivation / Starter culture / Cheese / RESISTANCE / Preparation / Streptococcus / Protease / Whey / Food technology / Nutritional branch / Microbiology / Enzymology

**Molecular genetic research on the citrate metabolism of Leuconostoc spp**

Moleculair genetisch onderzoek van het citraat-metabolisme van Leuconostoc spp  
Vos, Dr.W.M.de  
Molecular genetics / Citric acid / Salt / Metabolism / Starter culture / Vector / Plasmid / Streptococcus / Protoplast / Lactic acid / Reductase / Nutritional branch / Coding / Genetic / Mutation / Bacteriology / Enzymology

**Causes of growth inhibition of starter bacteria during cheese making**

Oorzaken van de groeiremming van zuurselbacteriën tijdens de bereiding van kaas  
Northolt, Dr.Ir.M.D.  
Starter culture / Cheese / Growth / Inhibition / Amino acid / Peptide / Milk / Lactic acid / Thermophilic / Food technology / Nutritional branch / Biochemistry / Bacteriology / Preparation

**Production of lipolytic enzymes by starter bacteria**

Productie van lipolytische enzymen door zuurselbacteriën  
Exterkate, Dr.F.A.  
Starter culture / Enzymology / Bacteriology / Lactic acid / Assay / Nutritional branch / Lipid

**Specific peptidases in Streptococcus cremoris**

Specifieke peptidasen in Streptococcus cremoris  
Exterkate, Dr.F.A.  
Peptidase / Streptococcus / Enzymology / Bacteriology / Proline / Purification / Peptide / Nutritional branch / Lactic acid

**Prevention of phage accumulation during cheese making**

Voorkómen van faagophoping tijdens de kaasbereiding  
Stadhouders, Dr.Ir.J.  
Bacteriophage / Cheese / Milk / Starter culture / Inoculation / Pollution / Microbiology / Food technology / Nutritional branch / Preparation / Production

**Phages and phage prevention in the preparation of yoghurt**

Fagen en faagpreventie bij de yoghurtbereiding  
Stadhouders, Dr.Ir.J.  
Yoghurt / Bacteriophage / Cultivation / Optimization / Streptococcus / Inoculation / Kinetics / Growth / Incubation / Pollution / Sterilization hygiene / Food technology / Nutritional branch / Microbiology / Preparation / Production

**Application of membrane reactors in the preparation of starter permeation**

Toepassing van membraanreactoren bij de bereiding van zuurselpermeaat  
Driessen, Dr.F.M.  
Food technology / Nutritional branch / Membrane apparatus / Starter culture / Preparation / Lactic acid / Cultivation / Medium / Bioreactor / Biochemistry / Microbiology / Bioprocess engineering

**Application of membrane reactors in the preparation of buttermilk**

Toepassing van membraanreactoren bij de bereiding van karnemelk  
Driessen, Dr.F.M.  
Food technology / Nutritional branch / Flavour / Biochemistry / Milk / Process / Bacterium / Bioreactor / Membrane apparatus / Preparation / Microbiology / Bioprocess engineering

**Formation of peptides from casein under the influence of cell wall proteinases and degradation of these peptides by the membrane-bound peptidase system**

Vorming van peptiden uit caseïne onder invloed van celwandproteïnases en afbraak van deze peptiden door het membraangebonden peptidase systeem  
Exterkate, Dr.F.A. / Visser, Dr.S.  
Peptide / Protease / Peptidase / Degradation / Cell wall / Enzymology / Microbiology / Lactic acid / Nutritional branch / Hydrolysis / Streptococcus / Amino acid / Nitrogen / Purification / Peptide

**Enzymatic modification of milk proteins**

Enzymatische modificatie van melkeiwitten  
Visser, Dr.S.  
Enzymatic / Modification / Milk / Protein / Hydrolysis / Cheese / Flavour / Starter culture / Enzymology / Microbiology / Food technology / Nutritional branch / Peptide

 **Proefstation voor de Champignoncultuur**

Peelheideweg 1  
5966 PJ  
Horst-America  
☎ +31 4764 1944

**The use of genetic manipulation in breeding edible mushrooms**

De toepassing van moleculair-biologische technieken bij de veredeling van Agaricus spp.  
Griensven, Dr.Ir.L.J.L.D.van / Wessels, Prof.Dr.J.G.H.  
Molecular genetics / Protoplast / Fungus / Assay / Gene / Hybridization / Transfer / Cloning / Oxidase / Cell wall / Protein / Growth / Cultivation / Regeneration / Modification

 **Stichting Laboratorium voor Bloembolienonderzoek**

Vennestraat 22  
2161 LE  
Lisse  
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**Application of monoclonal antibodies in serological tests for detection of viruses in bulb crops**

Toepassing van monoclonale antilichamen bij serologische toetsing van bloembolgewassen op virussen

Franssen, Dr.J.M.

Monoclonal / Antibody / Serology / Screening / Virus / ELISA / Agriculture / Dicotyledon

**The production of monoclonal antibodies for screening and quality control of agricultural and horticultural crops**

De productie van monoclonale antistoffen ten behoeve van diagnostiek en kwaliteitscontrole bij land- en tuinbouwgewassen

Boonekamp, Dr.P.M.

Monoclonal / Antibody / Screening / Quality control / Immunology / Agriculture / Virology / Potato / Plant / Hormone / Xanthomonas / Antiserum / ELISA / Dicotyledon

 **Centraal Diergeneeskundig Instituut**

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Lelystad

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**Development of synthetic peptide vaccines**

Ontwikkeling van synthetische peptiden-vaccins

Meloen, Dr.R.H.

Peptide / Vaccine / Infection / Viral / Protein / Recombination / rDNA / Antibody / ELISA / Immunology / Veterinary medicine

**Production of virological diagnostic agents and support of their use**

Productie van virologische diagnostica en begeleiding van het gebruik

Leeuw, Dr.P.W.de

Diagnosis / ELISA / Monoclonal / Antibody / Immunology / Virology / Veterinary medicine

**Maedi-visna in sheep**

Zwoegerziekte bij schapen

Houwers, Drs.D.J.

ELISA / Monoclonal / Antibody / Immunology / Screening / Veterinary medicine

**Mucosal immunity in the chicken**

Mucosale immuniteit bij de kip

Koch, Dr.G.

Immunoglobulin / Immunology / Veterinary medicine / Monoclonal / Antibody / Immune system

**Infectious bronchitis in poultry**

Infectieuze bronchitis bij pluimvee

Koch, Dr.G.

Infection / Virus / Veterinary medicine / Monoclonal / Antibody / Immunology / In vitro / In vivo

**Enzootic leukosis in cattle**

Enzoötische leukose bij het rund

Boer, Dr.G.F.de

Bovine animal / Stock / Veterinary medicine / ELISA / Monoclonal / Antibody / Virus / Infection / Screening / Assay

**Avian leukosis in chickens**

Aviaire leukose bij kippen

Boer, Dr.G.F.de

Veterinary medicine / Virus / Infection / ELISA / Monoclonal / Antibody / Immunology / Reagent / Screening / Assay

**Bovine virus diarrhea in cattle**

Bovine virus diarree bij rundvee

Leeuw, Dr.P.W.de

Bovine animal / Stock / Veterinary medicine / Infection / Virus

**Development of diagnostic methods for viral diarrhea in swine**

Ontwikkeling van diagnostische technieken voor virale diarree bij varkens

Terpstra, Dr.C.

Diagnosis / Pig / Veterinary medicine / Infection / Virus

**Aujeszky's disease: diagnosis, epizootiology, pathogenesis, vaccination**

Ziekte van Aujeszky: diagnostiek, epizootiologie, pathogenese, vaccinatie

Oirschot, Dr.J.Th.van

Monoclonal / Antibody / Veterinary medicine / Recombination / rDNA / Vaccine / Preparation / Immunology / DNA virus

**Viral infections in cattle (bovine respiratory syncytial virus)**

Virusinfecties bij rundvee (pinkengriep)

Leeuw, Dr.P.W.de

Infection / Virus / Veterinary medicine / Bovine animal / Stock

**Diagnostics, epizootiology and control of swine fever (in swine and boars)**

Diagnostiek, epizootiologie en bestrijding van varkenspest

Terpstra, Dr.C.

Diagnosis / Pig / Veterinary medicine / Antibody / Monoclonal / Immunology / Virus / Infection / Serology / ELISA

**Foot-and-mouth disease virus**

Mond- en klauwzeervirus

Barteling, Drs.S.J. / Terpstra, Dr.C.

Virus / Immunology / Veterinary medicine / Monoclonal / Antibody / ELISA / Diagnosis / Vaccine / Infection

**Bovine and swine immunoglobulin (Ig) classes**

Runder- en varkens immunoglobuline (Ig)-klassen

Bianchi, Dr.A.P.J. / Zaane, Dr.D.van

Bovine animal / Pig / Immune system / Immunoglobulin / Immunology / Veterinary medicine / Infection / Antibody / Monoclonal / ELISA / Affinity / Chromatography / Diagnosis / Stock

**Neonatal enterotoxic colibacillosis in piglets**

Neonatale enterotoxische colibacillose bij biggen

Zijderveld, Drs.F.G.van

Pig / Veterinary medicine / Escherichia / Infection

**Diarrhea in neonatal calves**

Neonatale kalverdiarree

Leeuw, Dr.P.W.de

Bovine animal / Escherichia / Gut / Agglutination / Assay / Antiserum / ELISA / Monoclonal / Antibody / Immunology / Veterinary medicine

 **Instituut voor Veevoedingsonderzoek**

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8219 PK

Lelystad

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**Biotechnological research on the fermentative feed preservation of grass, fodder maize and various by-products and wastes**

Biotechnologisch onderzoek met betrekking tot de fermentatieve voederconservering van gras, snijmaïs en bij- en afvalproducten

Spoelstra, Dr.Ir.S.F.

Feed / Monocotyledon / Maize / Microbiology / Agriculture / Waste / Fermentation / Preservation

**Improvement of the nutritive value determination of feeds by means of chemical and/or animal replacing enzymatic methods**

Optimalisering van de voederwaardebepaling van veevoerders door middel van chemische en/of (diervervangende) enzymatische methoden

Meer, Dr.J.M.van der

Feed / Enzymology / Analysis / Physical chemistry / Agriculture / Digestive system / Industry / Optimization

 **Rijksinstituut voor Zuivering van Afvalwater**

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**Biological water purification**

Biologische waterzuivering

Beersum, Ir.C.van

Biological / Water / Purification / Environmental biotechnology / Environment / Chemicals / Sensor / Optimization / Smelling substance / Degradation / Installation

**Future waste water purification plants**

Toekomstige rioolwaterzuiveringsinstallaties

Starkenborg, Ir.W.van

Waste water / Purification / Environmental biotechnology / Environment / Thermophilic / Sludge / Anaerobic / Carrier material / Phosphate / Degradation / Installation

**Ground water purification**

Grondwatersanering

Luin, Ir.A.B.van

Environmental technology / Environment / Ground water / Pollution / Purification

 **Instituut voor het Onderzoek van de Bewaring, de Bewerking en de Verwerking van Landbouwproducten**

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Wageningen

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**Removal of heavy metals from solid wastes by means of two-step anaerobic fermentation**

Verwijdering van zware metalen uit vaste afvalstoffen door middel van tweetraps anaërobe vergisting

Voetberg, Ir.J.W.

Degradation / Heavy metal / Solid / Waste / Anaerobic / Fermentation / Bioprocess engineering / Environmental biotechnology / Environment / Laboratory scale / Bioreactor / Organic / Urban / Mixture / Optimization / Methane / Microbiology

**The biological extraction of products from agricultural crops**

De biologische extractie van producten uit landbouwgewassen

Rijkens, Drs.B.A.

Biological / Extraction / Vegetable / Raw material / Industry / Agriculture / Industry / Agriculture / Nutritional branch / Projecting

**Automation of anaerobic water purification plants**

Automatisering van anaërobe waterzuiveringsinstallaties

Hofenk, Ir.G.

Bioreactor / Automation / Anaerobic / Water / Purification / Installation / Bioprocess engineering / Environmental biotechnology / Environment / Sensor / Laboratory scale / Control / Pilot scale

**The influence of organic substances and salts on the methane fermentation of vegetable material**

De invloed van organische stoffen en zouten op de methaanvergisting van plantaardig materiaal

Wieringa, Dr.Ir.G.W.

Organic substance / Salt / Methane / Fermentation / Vegetable / Microbiology

**Consulting on the anaerobic fermentation of the organic fraction of household refuse**

Adviesgeving bij de anaërobe vergisting van de organische fractie van huisvuil

Hofenk, Ir.G.

Bioprocess engineering / Fermentation technology / Waste / Urban / Anaerobic / Consulting / Organic

**Processing of sorting and peeling wastes of onions**

Verwerking van sorteer- en schilafval van uien  
Lips, Ing.S.J.J.  
Bioprocess engineering / Fermentation technology / Bioreactor / Waste / Biogas / Industry / Pilot scale / Vegetable

**The preparation of paper raw materials from agricultural crops**

Het vervaardigen van papiergrondstoffen uit landbouwgewassen  
Lips, Ing.S.J.J.  
Accessories / Raw material / Natural fibre / Microbial / Biogas / Preparation / Production / Consumables industry / Bioprocess engineering / Vegetable

**Consulting with regard to biotechnological processing techniques**

Adviesgeving met betrekking tot biotechnologische verwerkingsprocessen  
Rijkens, Drs.B.A.  
Environmental biotechnology / Environment / Consulting / Projecting

**Anaerobic purification of waste water from the potato processing industry**

Anaërobe zuivering van afvalwater van de aardappelverwerkende industrie  
Voetberg, Ir.J.W.  
Environmental biotechnology / Environment / Industry / Potato / Anaerobic / Purification / Waste water / Consulting / Optimization / Monitoring / Bioreactor / Calcium / Sulphur / Methane

**Biotechnological processing of potatoes for foodstuffs or food components**

Biotechnologische verwerking van aardappelen tot voedingsmiddelen of bestanddelen daarvan  
Biekman, Ir.E.S.A.  
Food technology / Nutritional branch / Potato / Food / Enzymology / Microbiology / Glucose / Fructose / Glucose oxidase / Baking yeast / Brewer's yeast / Cyclodextrin / Transferase / Fermentation / Cultivation / Preparation

**□ Instituut voor Mechanisatie, Arbeid en Gebouwen**

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**Improvement of the production and use of biogas with anaerobic digestion of slurry**

Verbetering van biogasproductie en -gebruik bij mestvergisting  
Hoeksma, Ing.P.  
Biogas / Anaerobic / Fermentation / Bioprocess engineering / Animal / Waste / Energy supply / Economic / Agriculture / Bioreactor / Installation

**The perspectives for psychrophilic digestion of slurry**

De perspectieven van koude vergisting van mest  
Hoeksma, Ing.P.  
Bioprocess engineering / Fermentation / Installation / Bioreactor / Animal / Waste / Mixture / Mesophilic / Energy supply / Economic / Agriculture / Anaerobic / Cold / Pilot scale / Organic / Methane / Economic / Biogas

**□ Instituut voor Plantenziektenkundig Onderzoek**

Binnenhaven 12  
6709 PD  
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**The production of monoclonal antibodies for the diagnosis of plant viruses and bacteria**

De productie van monoclonale antistoffen voor de diagnose van plantevirussen en -bacteriën  
Boonekamp, Dr.P.M.  
Monoclonal / Antibody / Immunology / Diagnosis / Test / Plant / Virus / Bacterium / Agriculture

**□ Stichting ITAL (Association Euratom-ITAL)**

Keyenbergseweg 6  
6704 PJ  
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**Survival and dynamics of selected micro-organisms in the rhizosphere and bulk soil**

Overlevingsstrategieën en populatiedynamica van micro-organismen in de rhizosfeer en wortelvrije grond  
Elsas, Dr.Ir.J.D.van  
Soil / Microbiology / Ecology / Microorganism / Pseudomonas / Bacillus / Actinomycete / Symbiosis

**Improvement of the biotechnological production of insecticides by Bacillus thuringiensis**

Verbetering van de biotechnologische productie van insecticiden door Bacillus thuringiensis-  
Visser, Dr.Ir.L.  
Insecticide / Production / Bacillus / Modification / Pathogen / Agriculture / Molecular genetics / Recombination / rDNA / Endotoxin / Entomology / Economic / Microbial

**Biotechnological production of non-persistent bioinsecticides by means of plant cells in vitro**

Biotechnologische productie van milieu-vriendelijke bio-insecticiden door middel van plantecellen in vitro  
Breteler, Dr.H.  
Insecticide / Production / In vitro / Plant / Cell / Cultivation / Tissue / Vegetable / Botany / Optimization / Scale-up / Differentiation / Industry

**Monofactorial transformation of plant cells**

Monofactoriële transformatie van plantecellen  
Groot, Prof.Dr.B.de  
Transformation / Plant / Cultivation / Genome / Molecular genetics / Recombination / rDNA / Vector / Plasmid / Agrobacterium / Protoplast / Potato / Transfer / Expression / Agriculture / Cloning / Genetic / Economic

**Chromosome transplantation and somatic hybridization**

Chromosoom-transplantatie en somatische hybridisatie  
Gilissen, Dr.L.J.W.  
Chromosome / Transplantation / Hybridization / Cultivation / Plant / Genetics / Cell biology / Protoplast / Regeneration / Gene / Agriculture

**Plant regeneration from protoplasts and single cells**

Regeneratie van planteprotoplasten en cellen in vitro tot plant  
Sree Ramulu, Dr.K.  
Regeneration / Plant / Protoplast / Tissue / Isolation / Cultivation / Agriculture / Suspension / Differentiation / Botany / In vitro / Growth / Vegetable / Cell biology / Genetics / Biochemistry

**□ Instituut voor de Veredeling van Tuinbouwgewassen**

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6708 PH  
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**Species crosses in Allium on behalf of onion breeding**

Soortkruisingen bij Allium ten behoeve van de uieveredeling  
Vries, Dr.J.N.de  
Plant / Cultivation / Agriculture / Resistance / Transfer / Modification / Cytogenetics / Pathogen

**Selection at the cellular level for increased stress tolerance in tomato**

Selectie op celniveau op verhoogde stresstolerantie in tomaat  
Kool, Dr.A.J. / Lindhout, Dr.W.H.  
Resistance / Plant / Cultivation / Agriculture / Tolerance / Cytogenetics / Regeneration / Cell / Suspension

**Isolation of lines of tomato with decreased energetic requirement by hybridisation and somaclonal variation**

Isolatie van tomatenlijnen met verlaagde energiebehoefte door cybridisatie en somaclonale variatie  
Kool, Dr.A.J. / Colijn-Hooymans, Dr.C.M.  
Biomass / Plant / Cultivation / Mutation / Agriculture / Cytogenetics

**Transfer of characteristics from related species into cucumber by callus from hybrid embryos**

Overdracht van eigenschappen vanuit verwante soorten in komkommer middels calluscultuur van hybride embryo's  
Custers, Ir.J.B.M.  
Tissue / Vegetable / Cytogenetics / Agriculture / Cultivation / Plant / Resistance / Hybridization / Chromosome / Recombination / Genome

**Introducing valuable characteristics from wild relatives (e.g. disease resistances, tolerance to low temperature) into the cucumber by somatic cell genetic techniques**

Overbrengen van voor cultuur belangrijke eigenschappen (o.a. ziekteresistenties en lage temperatuur-tolerantie) uit wilde verwante soorten in komkommer met somatische celgenetica-technieken  
Nijs, Dr.Ir.A.P.M.den  
Cytogenetics / Regeneration / Plant / Tissue / Vegetable / Genetic / Recombination / Transfer / Protoplast / Cultivation / Hybridization / Agriculture / DNA / Differentiation

**□ Rijks-Kwaliteitsinstituut voor Land- en Tuinbouwproducten**

Bornsesteeg 45  
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**Development of immunochemical assays**

Ontwikkeling van immunochemische bepalingmethoden  
Vries, Ir.P.de  
Chemistry / Immune / Immunoassay / Polyclonal / Monoclonal / Antiserum / Immunology / Agriculture

**□ Sprenger Instituut**

Haagsteeg 6  
6708 PM  
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**Biological and microbial aspects with regard to the handling of products to be processed or of already processed products**

Biologische en microbiële aspecten met betrekking tot de handling van voor verwerking bestemde of verwerkte producten  
Steinbuch, Ir.E.  
Food technology / Nutritional branch / Vegetable / Enzymology / Fermentation / Biological / Microbial / Process / Lactic acid / Liquid

**Stichting voor Plantenveredeling**  
Droevendaalsesteeg 1  
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**Regeneration, transformation and somatic hybridization in Brassica napus**

Regeneratie, transformatie en somatische hybridisatie bij Brassica napus  
Eenink, Dr.Ir.A.H. / Huizing, Dr.H.J. / Krens, Dr.F.A.  
Regeneration / Transformation / Hybridization / Resistance / Genetics / Cell biology / Agriculture / Chromosome / Cloning / Gene / Agrobacterium / Vector / Sterility / Protoplast / Fusion

**Isolation, characterization and transfer of a gene coding for resistance to Heterodera schachtii in beet**

Isolatie, karakterisering en overdracht van een gen dat codeert voor biotecnycystenaaltjes-resistentie bij biet  
Huizing, Dr.H.J.  
Isolation / Gene / Transfer / Coding / Resistance / Plant / Agrobacterium / Growth / Kanamycin / Chromosome / Cell / Cultivation / Agriculture / Transformation

**Regeneration of plants from gametophytic and sporophytic cells or protoplasts by tissue culture in some grasses**

Regeneratie van planten uit gametofytische en sporofytische cellen of protoplasten via weefselkweek bij enkele grassoorten  
Eenink, Dr.Ir.A.H. / Huizing, Dr.H.J.  
Tissue / Cultivation / Regeneration / Genetics / Protoplast / Monocotyledon / DNA / Agrobacterium / Industry / Agriculture

**Plant regeneration of gametophytic and sporophytic cells from maize, wheat, barley and some grasses through in vitro culture techniques**

Regeneratie van planten uit gametofytische en sporofytische cellen via weefselkweek bij de gramineëën mais, tarwe, gerst en enkele grassoorten  
Huizing, Dr.H.J.  
Regeneration / Monocotyledon / In vitro / Cultivation / Protoplast / Genetics / Agriculture / Industry / DNA / Agrobacterium / Hybridization

**Pollen transformation in maize and other crops**

Pollentransformatie bij mais en andere gewassen  
Huizing, Dr.H.J. / Dolstra, Dr.Ir.O.  
Maize / DNA / Expression / Genetics / Agriculture

**Research on cytoplasmic male sterility (CMS) in beets**

Onderzoek aan cytoplasmatische mannelijke steriliteit (CMS) bij bieten  
Mesken, Ir.M.  
Sterility / Plant / DNA / Mitochondrion / Electrophoresis / Enzyme / Restriction / Genetics / Agriculture

**A study of beet (Beta) protoplast regeneration, cybrid production and cytoplasmic male sterility (CMS)**

Onderzoek aan plantregeneratie uit protoplasten, de productie van cybriden en cytoplasmatische mannelijke steriliteit (CMS) bij biet (Beta)  
Huizing, Dr.H.J.  
Protoplast / Regeneration / Sterility / Fusion / Chromosome / Plant / Industry / Transfer / DNA / Gene / In vitro / Genetics / Agriculture

**Instituut voor Veeoetkundig Onderzoek "Schoonoord"**

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**The effect of chronic treatment of dairy cattle with recombinantly derived bovine somatotropin**

Het effect van langdurige toediening van recombinant runder-somatotropine bij melkvee  
Oldenbroek, Ir.J.K.  
Recombination / Bovine animal / Stock / Hormone / Protein / Hypophysis / Veterinary medicine / Agriculture / Production / Breeding

**Sexing of bovine embryos by monoclonal antibodies against H-Y antigen**

Het bepalen van het geslacht van runderembryo's met behulp van monoclonale antilichamen tegen het H-Y antigeen  
Booman, Ir.P.  
Bovine animal / Embryo / Monoclonal / Antibody / Antigen / Transplantation / Stock / Breeding / Veterinary medicine

**Application of hybridomas as a source of monoclonal antibodies in the field of animal production**

Toepassing van hybridomas als bron van monoclonale antilichamen in de dierlijke productiesfeer  
Booman, Ir.P.  
Hybridoma / Monoclonal / Antibody / Animal / Production / Fusion / Immunology / Genetic / Screening / Diagnosis / Hormone / Assay / Veterinary medicine

**Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**

Hoofdgroep Maatschappelijke Technologie TNO, Locatie Apeldoorn  
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7334 DT  
Apeldoorn  
☎ +31 55 773344

**Treatment of manure**

Mestverwerking  
Rulkens, Dr.Ir.W.H.  
Agriculture / Bioprocess engineering / Process / Pig / Bovine animal / Purification / Waste

**Biofiltration for cleaning air**

Toepassing van biofilters voor reiniging van lucht  
Don, Dr.Ir.J.A.  
Filtration / Purification / Air / Industry / Smelling substance / Environmental biotechnology

**Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**

Hoofdgroep Maatschappelijke Technologie TNO, Locatie Delft  
Schoemakerstraat 97  
2628 VK  
Delft  
☎ +31 15 569330

**Aerobic treatment of waste water**

Aëroë zuivering voor afvalwater  
Rulkens, Dr.Ir.W.H. / Kreuk, Ir.J.F.de  
Aerobic / Waste water / Purification / Pollution / Ground water / Environmental biotechnology / Environment

**Microbial decontamination of polluted soils**

Microbiële bodemreiniging  
Kreuk, Ir.J.F.de / Eikelboom, Ir.D.H.  
Environmental biotechnology / Microbial / Environment / Decontamination / Soil / In situ

**Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**

Vezelinstituut TNO  
Schoemakerstraat 97  
2628 VK  
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☎ +31 15 569330

**Improvement of paper making by using biotechnological methods**

Verbetering van de papierfabricage met gebruikmaking van biotechnologische methoden  
Nederveen, Dr.Ir.C.J.  
Accessories / Consumables industry / Production / Degradation / Bioprocess engineering

**Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**

Nederlands Instituut voor Koolhydraatonderzoek TNO  
Rouaanstraat 27  
9723 CC  
Groningen  
☎ +31 50 130341

**Biochemistry and carbohydrates; production and application of enzymes from microbial or vegetable material in cereal and potato starch industry**

Biochemie en koolhydraten; winning en toepassingsmogelijkheden van enzymen uit microbiële of plantaardig materiaal in de graan- en aardappelzetmeelindustrie  
Beldman, Dr.G.  
Biochemistry / Polyalcohol / Enzyme / Microbial / Vegetable / Potato / Starch / Industry

**Waste water problems in the potato starch industry**

Afvalwaterproblemen in de aardappelzetmeelindustrie  
Wijbenga, Drs.D.J.  
Waste water / Potato / Starch / Industry / Purification / Aerobic / Anaerobic / Methane / Bioreactor / Biogas / Bioprocess engineering / Environmental biotechnology / Environment / Aeration

**Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**

Gaubius Instituut TNO  
Herenstraat 5d  
2313 AD  
Leiden  
☎ +31 71 131345, 134548

**Development of procedures for production of natural and (by chemical or molecular-biological means) improved plasminogen activators for thrombolytic therapies**

Ontwikkeling van productieprocedures voor natuurlijke en door modificatie op DNA en eiwitniveau verbeterde plasminogeenactivatoren ten behoeve van thrombolytische therapieën  
Verheijen, J.H.  
Therapy / tPA / Production / Urokinase / Enzyme / Cultivation / DNA / Protein / Modification / Molecular biology / Hematology

**Clinical applications of monoclonal antibodies**

Klinische toepassing van monoclonale antilichamen  
Nieuwenhuizen, Dr.W.  
Clinical / Monoclonal / Antibody / Immunology / Diagnosis / Cardiovascular disease / Production

□ **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**  
 Medisch Biologisch Laboratorium TNO  
 Lange Kleiweg 139  
 2288 GJ  
 Rijswijk  
 ☎ +31 15 138777

**Monoclonal antibodies directed against enterotoxins produced by Staphylococcus aureus**  
 Monoclonale antilichamen gericht tegen enterotoxinen van Staphylococcus aureus  
 Hofstra, Dr.H.  
 Monoclonal / Antibody / Toxin / Staphylococcus / Food / Toxicology / Immunoassay / Immunology / Bacteriology / Nutritional branch

**The use of synthetic epitopes for the generation of monoclonal antibodies**  
 Het gebruik van synthetische epitopen bij het opwekken van monoclonale antilichamen voor diagnostisch gebruik  
 Boersma, Dr.W.J.A.  
 Synthetic / Monoclonal / Antibody / Diagnosis / Peptide / Immunology / Clinical

**The detection of DNA modifications with monoclonal antibodies**  
 Het gebruik van monoclonale antilichamen in de genetische toxicologie  
 Baan, Dr.R.A. / Fichtinger-Schepman, Dr.A.J. / Schans, Dr.G.P.van der / Vos, Prof.Dr.O.  
 DNA / Modification / Monoclonal / Antibody / Genetic / Toxicology / Immune / Chemistry / Immunology / Irradiation / Fluorescence / Assay / Pathology

**New immunoassay methodology based on monoclonal antibodies**  
 Het gebruik van monoclonale antilichamen in nieuwe immunochemische bepalingstechnieken  
 Boersma, Dr.W.J.A. / Claassen, Dr.E. / Hennink, W. / Nieuwenhuizen, Dr.W.  
 Immunoassay / Immunology / Monoclonal / Antibody / Chemistry / Immune / Antigen / Polymer / Coating / Surface

**Monoclonal antibodies directed against human and animal immunoglobulins**  
 Monoclonale antilichamen gericht tegen menselijke en dierlijke immunoglobulinen  
 Boersma, Dr.W.J.A. / Claassen, Dr.E.  
 Monoclonal / Antibody / Immunoglobulin / Immunology / Serology / Assay / Blood / Cell biology / Immune / Diagnosis / Clinical

**Gene expression and regulation of gene expression in Aspergillus**  
 Genexpressie en regulatie van genexpressie in Aspergillus  
 Hondel, Dr.C.A.M.J.van den  
 Gene / Expression / Regulation / Mycelial fungus / Molecular genetics / Protein / Secretion / Biochemistry / Microbiology

**Development of a subunit vaccine against the foot-and-mouth virus**  
 Het bereiden van een subunit-vaccin tegen het mond- en klauwzeerivirus met behulp van recombinant-DNA-technieken  
 Enger-Valk, Dr.Ir.B.E.  
 Vaccine / Recombination / rDNA / Virus / Pig / Bovine animal / Antibody / Molecular biology / Veterinary medicine / Immunology

**Development of host-vector system for Lactobacillus**  
 Ontwikkeling van een gastheer-vectorsysteem voor Lactobacillus  
 Pouwels, Dr.P.H.  
 Lactobacillus / Host / Vector / Agriculture / Industry / Nutritional branch / Molecular biology

**Development of a subunit vaccine against poliovirus**  
 Het bereiden van een subunit-vaccin tegen poliovirus met behulp van recombinant-DNA-technieken  
 Enger-Valk, Dr.Ir.B.E.  
 Preparation / Vaccine / Recombination / rDNA / Antibody / Protein / Synthesis / Cloning / Molecular biology / Virus / Immunology

**Regulation of gene expression in animal cells**  
 Regulatie van genexpressie in zoogdiercellen  
 Pouwels, Dr.P.H.  
 Regulation / Gene / Expression / Escherichia / Molecular genetics / Cell

□ **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**  
 Radiobiologisch Instituut TNO  
 Lange Kleiweg 151  
 2288 GJ  
 Rijswijk  
 ☎ +31 15 140930

**Development of staining techniques for photodamage of cells in flow cytometers**  
 Ontwikkeling van kleuringstechnieken voor lichtgeïnduceerde celbeschadiging in flow cytometers  
 Visser, Dr.J.W.M.  
 Cell / Flow / Measurement / Cell sorter / Light / Laser / Colour / Radiation / Hybridoma / Leukemia / Mutation / Monoclonal / Antibody / Production / Isolation / Molecular genetics / Clinical / Bone marrow / Transplantation / In vivo / In vitro

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 Instituut voor Graan, Meel en Brood TNO  
 Lawickse Allee 15  
 6701 AN  
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 ☎ +31 8370 19051

**The application of enzymes for the preparation of food and feeding stuffs from cereals**  
 Toepassing van enzymen bij de bereiding van voedings- en voedermiddelen  
 Hamer, Dr.R.J.  
 Enzyme / Food / Nutritional branch / Feed / Food technology / Industry

□ **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**  
 Centraal Instituut voor Voedingsonderzoek TNO, Instituut CIVO-Analyse TNO  
 Utrechtseweg 48  
 3704 HE  
 Zeist  
 ☎ +31 3404 52244

**Biohydrogenation of edible oils and fats; selection and isolation of microorganisms**  
 Biohydrogenering van eetbare oliën en vetten; selectie en isolatie van micro-organismen  
 Wijsman, Ir.J.A.  
 Oil / Fat / Microbiology / Biological / Hydrogenation / Nutritional branch / Microorganism / Food technology

**Biological degradation of vegetable cell wall materials**  
 Biologische afbraak van plantaardige celwandmaterialen  
 Huis in 't Veld, Dr.J.H.J.  
 Biological / Degradation / Vegetable / Cell wall / In vitro / Continuous / Fermentation / Microbiology / Nutritional branch / Production / Enzyme / Extraction / Oil / Food technology

**Application of DNA probes in food microbiology**  
 Toepassing van DNA-probes in de voedingsmiddelenmicrobiologie  
 Hofstra, Dr.H.  
 Probes / DNA / Food technology / Microbiology / Nutritional branch / Recognition / Test / Salmonella / Escherichia / Pathogenic / Microorganism

**Feasibility of biocatalysis and fermentation in supercritical carbon dioxide**  
 Mogelijkheden van biokatalyse en fermentatie in superkritisch koolzuur  
 Eijs, Ir.T.van  
 Biological / Catalysis / Fermentation technology / Nutritional branch / Carbon / Dioxide / Bioprocess engineering / Food technology

**Production of bacteriocins by lactic acid bacteria**  
 Productie van bacteriocinen met behulp van lactobacillen  
 Brink, Dr.B.ten  
 Lactobacillus / Production / Bacterium / Toxin / Optimization / Cultivation / Nutritional branch / Fermentation technology / Food technology

**Modification of vegetable protein by means of enzymes**  
 Modificatie van plantaardig eiwit door middel van enzymen  
 Bos, Dr.K.  
 Modification / Vegetable / Protein / Wheat / Enzymatic / Nutritional branch / Bioprocess engineering / Food technology

**Production of lactobacillus cultures**  
 Productie van lactobacillen-bevattende entcultures  
 Brink, Dr.B.ten  
 Production / Lactobacillus / Cultivation / Fermentation technology / Nutritional branch / Freeze-drying / Freeze / Food technology

□ **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**  
 Instituut voor Toegepaste Chemie TNO  
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 3704 HE  
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 ☎ +31 3404 55444

**Assessment of environmental risks and containment of biotechnological scale-up processes**  
 Bepaling van milieurisico's en beheersing van biotechnologische schaalvergrotingsprocessen  
 Rousseau, Dr.Ir.I.  
 Environmental biotechnology / Environment / Monitoring / Scale-up / Bioprocess engineering / Data base

**Production of insect repellents by cell cultures of Lolium spp.**  
 Productie van insect-repellents door celcultures van Lolium spp.  
 Wichers, Dr.H.J.  
 Production / Cell / Cultivation / Insect / Defence agent / Induction / In vitro / Agriculture / Alkaloid / Symbiosis / Plant

□ **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**  
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**An affinity pertraction process for isolation and purification of interferon**

Winning en zuivering van interferon door middel van affiniteitspertractie

Stoop, Ir.M.H.

Affinity / Chromatography / Continuous / Isolation / Purification / Interferon / Separation / Protein / Bioreactor / Membrane apparatus / Physical chemistry / Bioprocess engineering / Monoclonal / Antibody / Downstream processing

**Biocatalysis involving cofactor-dependent enzymes**

Biokatalyse met cofactor-afhankelijke enzymen

Doddema, Dr.H.J.

Biological / Catalysis / Cofactor / Enzyme / Regeneration / Bioprocess engineering / Industry

**Activated charcoal-based biocatalysts**

Biokatalysatoren op actieve kool

Doddema, Dr.H.J.

Biological / Catalysis / Bioprocess engineering / Immobilization / Enzyme / Pharmaceutical industry / Coal / Activation

**Enzymatic synthesis of chiral compounds**

Enzymatische synthese van chirale verbindingen

Doddema, Dr.H.J.

Biological / Catalysis / Enzymatic / Organic chemistry / Chiral / Chemical industry

**Biocatalysis in non-aqueous media**

Biokatalyse in niet-waterig milieu

Doddema, Dr.H.J.

Biological / Catalysis / Bioprocess engineering / Industry / Medium / Substrate

**Production of podophyllotoxin and related lignans by plant cell cultures**

Productie van podofyllotoxine en verwante lignanen door plantecelcultures

Wichers, Dr.H.J.

Production / Plant / Cell / Cultivation / Bioreactor / Enzymology / Biosynthesis / Biochemistry

**Continuous separation and purification of biological products by affinity pertraction**

De ontwikkeling van een proces voor continue affiniteitspertractie van coënzymen

Schneiders, Drs.L.H.F.M.

Continuous / Separation / Purification / Affinity / Cofactor / Analytical engineering / Bioreactor / Membrane apparatus / Bioprocess engineering / Physical chemistry / Fermentation / Recycling / Biochemistry

**Cyclic adsorption separation process for proteins**

Scheiding van biotechnologische producten via cyclische adsorptie

Schneiders, Drs.L.H.F.M.

Cyclic / Adsorption / Separation / Protein / Desorption / Liquid / Flow / Physical chemistry / Biochemistry / Recycling / Analytical engineering

**Optimization and scaling-up of animal cell cultures**

Optimalisatie en opschaling van dierlijke celkweken

Jöbbses, Dr.I.

Optimization / Scale-up / Cell / Cultivation / Animal / Medium / Batch / Continuous / Bioreactor / Bioprocess engineering / Industry

**Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**

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**Influence of indigenous microflora of barley during malting on the ultimate malt quality**

Invoel van de endogene microflora van gerst gedurende vermouting op de moutkwaliteit

Bol, Ir.J. / Vermeire, Ing.H.A.

Starter culture / Food technology / Microbiology / Optimization / Nutritional branch / Fermentation technology

**Technology of malt and beer**

Technologie van mout en bier

Vermeire, Ing.H.A. / Bol, Ir.J.

Food technology / Beer / Laboratory scale / Pilot scale / Consulting / Nutritional branch / Sensor / Fermentation technology / Bioprocess engineering / Microbial / Enzymatic / Degradation / Cell wall / Substrate / Contract research / Mycotoxin

**Removal of mycotoxins from raw materials for feeds by microorganisms**

Microbiële verwijdering van mycotoxines uit grondstoffen voor voedings- en voedermiddelen

Bol, Ir.J. / Knol, W.

Microbial / Degradation / Biological / Mycotoxin / Fermentation / Nutritional branch / Food technology / Toxicology / Solid / Raw material

**Development of methods on behalf of biotechnological and microbiological research**

Ontwikkeling van methoden ten behoeve van biotechnologisch en microbiologisch onderzoek

Huis in 't Veld, Dr.J.H.J. / Bol, Ir.J.

Monoclonal / Antibody / DNA / Probes / Instrumentation / Microbiology / Microorganism / Toxin / Sampling / Nutritional branch / Fermentation technology / Bioprocess engineering / Food technology

**Semi-continuous in-line analysis during primary fermentation of the brewing process**

Semi-continue in-line analyse bij de hoofdgisting van het bierbereidingsproces

Angelino, Dr.Ir.S.A.G.F.

Analysis / Fermentation technology / Bioprocess engineering / Beer / Nutritional branch / Automation / Monitoring / Sulphur / Dioxide / Analytical engineering / Food technology

**Application of monoclonal antibodies and DNA hybridization for analysis of barley varieties**

Gebruik van monoclonale antilichamen en DNA-hybridisatie bij de gerstrassenidentificatie

Hofstra, Dr.H.

Monoclonal / Antibody / DNA / Hybridization / Beer / Nutritional branch / Test / Analysis / Food technology

**Enzymatic hydrolysis of non-starch polysaccharides in barley and malt by endogenous and microflora enzymes**

Enzymatische hydrolyse van niet-zetmeel polysacchariden in gerst en mout door endogene en microflora-enzymen

Angelino, Dr.Ir.S.A.G.F.

Enzymatic / Hydrolysis / Polysaccharide / Starch / Cell wall / Beer / Microbiology / Nutritional branch / Bioprocess engineering / Food technology

**Interuniversitair Oogheelkundig Instituut**

Academisch Medisch Centrum,

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Amsterdam

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**Development of monoclonal antibodies against uveal melanomas**

Ontwikkeling van monoclonale antistoffen tegen uvea-melanomen

Kijlstra, Dr.A. / Gaag, Dr.R. van der / Oosterhuis, Prof.Dr.J.A.

Biochemistry / Immunology / Monoclonal / Antibody / Diagnosis / Immunotherapy / Chemotherapy / Tumour

**Erasmus Universiteit Rotterdam**

Faculteit der Geneeskunde, Afdeling

Celbiologie II, Histologie en Immunologie

Instituut Celbiologie en Genetica, Dr.

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3015 GE

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**Monoclonal antibodies for therapeutic application of human B-cell malignancies**

Monoclonale antistoffen voor serotherapie van

patiënten met B-celmalignteiten

Ewijk, Dr.W.van

Monoclonal / Antibody / Therapy / Tumour / Lymphocyte / Immunology / Diagnosis / Antigen

**Regulation of the differentiation of leukocytes**

Regulatie van de differentiatie van leukocyten

Ewijk, Dr.W.van

Regulation / Differentiation / Leukocyte / Antigen / Monoclonal / Antibody / Immune system / Immunology / Cell biology / Tumour / Malignant / Immunotherapy

**Katholieke Universiteit Nijmegen**

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Biochemie

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**Structure, function and expression of intermediate-sized filament genes**

Structuur, functie en expressie van de genen die coderen voor de intermediaire filament-eiwitten

Bloemendal, Prof.Dr.H.

Structure / Expression / Gene / Coding / Protein / Amino acid / Sequence / Nucleotide / rDNA / Recombination / cDNA / Tissue / Molecular biology / Primary / Molecular genetics

**Plasma membranes and cytoskeleton of the eye lens: structure and function**

Structuur en functie van het cytoskelet in de ooglens

Bloemendal, Prof.Dr.H.

Structure / Gene / Expression / Protein / Cloning / Molecular biology / Sequence / Recombination / Molecular genetics / Regulation

**Structure and expression of crystallin genes**

Structuur en expressie van de genen der ooglenseiwitten

Bloemendal, Prof.Dr.H.

Structure / Expression / Gene / Molecular genetics / Molecular biology / Insertion / Primary / Amino acid / Sequence / cDNA / Cloning / Recombination / rDNA / Sequencing / Nucleotide

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Geneeskunde, Instituut voor Cytologie en

Histologie

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**Tumour cell antigens: relevance for diagnostics, immune reactivity and as target for therapy**

Tumorcel-antigenen: hun betekenis voor

diagnostiek, immunologische afweer en als

aangrijpingspunt voor therapie

Poels, Dr.L.G.

Tumour / Cell / Antigen / Diagnosis / Immune system / Immunotherapy / Immunology / Serology / Recognition / Cancer / Urogenital system / Liver / Monoclonal / Antibody / Microscopy / Tissue

**Immunological and ultrastructural investigations on diagnostic criteria of normal, atypically transformed and malignant transformed epithelial cells in body fluids**  
 Immunologisch en elektronenmicroscopisch onderzoek naar diagnostische parameters van normale, atypisch getransformeerde en maligne getransformeerde epitheelcellen in lichaamsvloeistoffen  
 Jap, Dr.P.H.K. / Treskon-Mungyer, Dr.G.M. / Poels, Dr.L.G.  
 Immunology / Fine structure / Diagnosis / Transformation / Malignant / Epithelium / Cell / Microscopy / Monoclonal / Marker / Differentiation / Female / Urogenital system / Tumour / Antibody

□ **Katholieke Universiteit Nijmegen**  
 Faculteit der Geneeskunde en Tandheelkunde, Subfaculteit der Geneeskunde, Afdeling Nierziekten en Hemodialyse  
 Sint Radboudziekenhuis, Geert Grootplein Zuid 8  
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 ☎ +31 80 514761

**Fundamental aspects of the immunotherapeutic use of monoclonal antibodies**  
 Fundamentele aspecten van het immunotherapeutisch gebruik van monoclonale antistoffen  
 Tax, Dr.W.J.M.  
 Immunotherapy / Monoclonal / Antibody / Receptor / Immunology / Toxin

**The immunosuppressive effect of anti-T3-antibodies**  
 Het immunosuppressieve effect van anti-T3-antistoffen  
 Tax, Dr.W.J.M. / Koene, Prof.Dr.R.A.P.  
 Monoclonal / Antibody / Immunology / Lymphocyte / Immune / Suppression

**Nephritogenicity of monoclonal and polyclonal antibodies against glomerular heparan-sulphate proteoglycan**  
 De nefritogeniciteit van monoclonale en polyclonale antistoffen tegen glomerulair heparan-sulfaat proteoglycaan  
 Berden, Dr.J.H.M.  
 Monoclonal / Polyclonal / Antibody / Kidney / Immunology / Prophylaxis

**Significance of isotype and cross reactivity of monoclonal anti-DNA antibodies for the pathogenesis of systemic lupus erythematosus (SLE)**  
 De betekenis van isotype en kruisreactiviteit van monoclonale antistoffen tegen DNA voor de pathogenese van gesystematiseerde lupus erythematosus (SLE)  
 Berden, Dr.J.H.M.  
 Monoclonal / Antibody / DNA / Disease / Origin / In vitro / Immunology / Tissue / Skin / Kidney / Immune / Pathology / In vivo

**Heterogeneity and polymorphism of human Fc receptors**  
 Heterogeniteit en polymorfisme van humane Fc-receptoren  
 Tax, Dr.W.J.M.  
 Leukocyte / Immunoglobulin / Polymorphism / Receptor / Heterogeneous

**Expression of major histocompatibility complex (MHC) antigens**  
 Expressie van major histocompatibiliteitscomplex (MHC)-antigenen  
 Koene, Prof.Dr.R.A.P.  
 Antigen / Expression / Tissue / Immunology / Adaptation

**Physical and immunological elimination of immunocompetent lymphocytes from donor bone marrow**  
 Fysische en immunologische eliminatie van immunocompetente lymfocyten uit donor-beenmerg  
 Capel, Prof.Dr.P.J.A. / Haanen, Prof.Dr.C.A.M.  
 Immunology / Lymphocyte / Bone marrow / Marker / Monoclonal / Antibody / Toxin

**Functional characteristics of monoclonal anti-idiotypic antibodies in the treatment of B-cell lymphoma and leukemia**  
 Functionele eigenschappen van monoclonale anti-idiotypische antistoffen bij de behandeling van B-cel lymfomen en leukemieën  
 Capel, Prof.Dr.P.J.A.  
 Lymph node / Tumour / Leukemia / Monoclonal / Antibody / Immunotherapy / Immunology

□ **Katholieke Universiteit Nijmegen**  
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 Geert Grootplein Zuid 24  
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**Kinetics and diagnostic significance of antibody isotypes in viral disease and toxoplasmosis**  
 Kinetiek en diagnostische betekenis van isotype antistoffen bij recidiverende virusinfecties en toxoplasmose  
 Loon, Dr.A.M.van  
 Kinetics / Diagnosis / Antibody / Infection / Immunoglobulin / ELISA / Monoclonal / Immunology / Blotting / Immune system / Disease / Origin / Microbiology

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 Faculteit der Wiskunde en Natuurwetenschappen, Sectie Biologie, Vakgroep Moleculaire Biologie  
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**Regulation of in vitro differentiation and thiophene biosynthesis in Tagetes**  
 Regulatie van in vitro differentiatie en thiofeen-biosynthese bij Tagetes  
 Sassen, Prof.Dr.M.M.A. / Wullems, Prof.Dr.G.J.  
 Regulation / In vitro / Differentiation / Biosynthesis / Molecular biology / Biochemistry / Plant / Agrobacterium / Organic substance / Metabolism

**Methane fermentation**  
 Methaangisting  
 Stumm, Dr.C. / Drift, Dr.C.van der / Heinen, Dr.W.  
 Methane / Fermentation / Microbiology / Methanogenic / Cofactor / Enzyme / Bacterium / Physiology / Energy / Anaerobic / Biogas / Waste water / Purification / Environmental biotechnology / Biochemistry / Carbon / Protozoon

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**Molecular biological study on the DNA and RNA of Plasmodium falciparum, with emphasis on the sexual stages**  
 Moleculair biologisch onderzoek aan DNA en RNA van de malaria-parasiet Plasmodium falciparum, in het bijzonder de geslachtelijke stadia daarvan  
 Schoenmakers, Prof.Dr.J.G.G. / Meuwissen, Prof.Dr.J.H.E.Th.  
 Molecular biology / mRNA / cDNA / Malaria / Gene / Isolation / Probes / Nucleotide / Sequence / Amino acid / Polypeptide / Escherichia / Yeast / Coding

**Development of a gamete vaccine for the control of malaria transmission**  
 De ontwikkeling van malaria-vaccins op basis van de seksuele stadia ter beteugeling van malaria-transmissie  
 Meuwissen, Prof.Dr.J.H.E.Th.  
 Vaccine / Malaria / Antigen / Parasitology / In vitro / Induction / Immunology / Immune system

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 Nijmegen  
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**Monoclonal antibodies against tumour-associated antigens and oncogenes; diagnostic and therapeutic applications**  
 Monoclonale antistoffen tegen kanker-geassocieerde antigenen en oncogenen; diagnostische en therapeutische mogelijkheden  
 Kenemans, Dr.P. / Poels, Dr.L.G.  
 Monoclonal / Antibody / Antigen / Tumour / Diagnosis / Immunotherapy / Cancer / Immunology / Serology

□ **Katholieke Universiteit Nijmegen**  
 Faculteit der Geneeskunde en Tandheelkunde, Subfaculteit der Geneeskunde, Instituut voor Pathologische Anatomie  
 Geert Grootplein Zuid 24  
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**Preparation of monoclonal antibodies against nuclear matrix proteins for the early detection of premalignant, borderline malignant and malignant cells**  
 Bereiding van monoclonale antistoffen gericht tegen de kernmatrix voor de vroege detectie van premaligne, borderline maligne en maligne cellen  
 Vooijs, Prof.Dr.G.P. / Ramaekers, Dr.F.C.S.  
 Monoclonal / Antibody / Protein / Malignant / Nucleus / Cancer / Origin / Biochemistry / Diagnosis / Immune / Histochemistry / Immunology / Monitoring

**Identification and characterization of malignant tumours and tumour metastases by their cytoskeletal properties**  
 Detectie en karakterisering van maligne tumoren en tumormetastasen middels hun cytoskeletaire structuren  
 Vooijs, Prof.Dr.G.P. / Ramaekers, Dr.F.C.S.  
 Malignant / Tumour / Cancer / Diagnosis / Antibody / Eukaryote / Cell / Tissue / Cell biology / Immune / Antiserum / Polyclonal / Antibody / Monoclonal / Immunology

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 Transitorium, De Dreijen 11  
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**The relative efficiency of the nitrogenase reaction in Rhizobium leguminosarum bacteroids**

De relatieve efficiëntie van de nitrogenasereactie in Rhizobium leguminosarum bacteroiden  
 Haaker, Dr.H.B.C.M.  
 Nitrogenase / Rhizobium / Enzyme / In vitro / Plant / In situ / Hydrogen / Biochemistry / Energy / Agriculture

**Structure-function relationship of alpha-oxoacid dehydrogenase multienzyme complexes from prokaryotes**

Structuur en functie van alfa-ketozuur dehydrogenase multi-enzymcomplexen uit prokaryoten  
 Kok, Dr.A.de  
 Structure / Protein / Enzyme / Prokaryote / Oxidoreductase / Pyruvic acid / Metabolism / Peptide / Azotobacter / Escherichia / Biochemistry / Nucleotide / Sequence / Cloning / Gene / Molecular genetics / Aerobic / Polyalcohol / Biological / Catalysis / Biophysics / Molecular

**Combined enzyme systems in organized media for biotechnological purposes**

Gecombineerde enzymssystemen in georganiseerde media voor biotechnologische doeleinden  
 Laane, Dr.N.C.M.  
 Biotechnological / Enzyme / Biological / Catalysis / Organic / Solvent / Artificial / Membrane biology / Fluorescence / Transformation / Extraction / Continuous / Protein / Structure / Bacterial / Biochemistry

**Site-directed mutagenesis and cloning of redox enzymes and ribulose biphosphate carboxylase**

Plaatsgerichte mutagenese en clonering van redox-enzymen en ribulosebifosfaatcarboxylase  
 Voordouw, Dr.G.  
 Mutation / Origin / Cloning / Enzyme / Carboxylase / In vitro / Protein / Biochemistry / Nitrogenase / Hydrogenase / Molecular biology / Structure

**Bioelectrochemistry: study and manipulation of biological systems with electrochemical methods for biotechnological purposes**

Bio-elektrochemie: bestudering en manipulering van biologische systemen met elektrochemische methoden voor biotechnologische doeleinden  
 Laane, Dr.N.C.M.  
 Physical chemistry / Biochemistry / Biotechnological / Enzyme / Electrode / Protein / Structure

□ **Landbouwniversiteit Wageningen**  
 Vakgroep Experimentele Diermorphologie en Celbiologie  
 Zodiac, Marijkeweg 40  
 6709 PG  
 Wageningen  
 ☎ +31 8370 89111

**In vitro manufacture of high-grade specific animal cell products by somatic cell hybridization, and their application to research in animal production**

De in vitro vervaardiging van hoogwaardige dierlijke celproducten door middel van somatische celhybridisatie, en de toepassing daarvan bij het onderzoek van de dierlijke productie  
 Engberts, Dr.E.  
 In vitro / Vertebrate / Cell / Hybridization / Production / Receptor / Immune system / Antigen / Immunology

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 Vakgroep Erfelijkheidsleer  
 Gen. Foulkesweg 53  
 6703 BM  
 Wageningen  
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**Breeding of Aspergillus niger for enzymatic hydroxylation of aromatic substances**

Veredeling van Aspergillus niger ten behoeve van de enzymatische hydroxylering van aromatische verbindingen  
 Bos, Dr.Ir.C.J.  
 Mycelial fungus / Aromatic / Enzymatic / Hydroxylation / Production / Pharmaceutical industry / Benzoic acid / Genetics / Metabolism / Enzymology / Mutation

**Genetic analysis and genetic manipulation in Aspergillus niger**

Genetische analyse en genetische manipulatie in Aspergillus niger  
 Bos, Dr.Ir.C.J.  
 Genetics / Mycelial fungus / Modification / Industry / Nutritional branch / Agriculture / Enzymology / Polymer / Biochemistry / Degradation / Extracellular / Protease / Lipase / Polyalcohol / Amyloglucosidase / Glucanase / Galactosidase / Lactase / Production / Citric acid / Gluconic acid / Cultivation / Mutation

**Somatic cell genetics of Arabidopsis and tomato**

Somatische celgenetica aan Arabidopsis en tomaat  
 Koornneef, Dr.Ir.M.  
 Cytogenetics / Botany / Vegetable / Production / Plant / Tissue / Regeneration / Protoplast / Mutation / Origin / Selection / Induction / Agriculture / Chromosome

**Somatic cell genetics in Triticinae**

Somatische celgenetica aan Triticinae  
 Sybenga, Prof.Dr.Ir.J.  
 Cytogenetics / Wheat / Modification / Genetic / Breeding / Useful plant / Botany / Vegetable / Production / Agriculture

**The development of a (homologous) DNA-vector system in the fungus Aspergillus**

Het ontwikkelen van een (homoloog) DNA-vector-systeem in de schimmel Aspergillus  
 Broek, Dr.Ir.H.W.J.van den  
 Mycelial fungus / DNA / Vector / Molecular genetics / Cloning / Gene / Expression / Fermentation technology / Optimization / Nutritional branch

**Biochemical and genetic analysis of pectolytic enzymes in fungi and bacteria**

Biochemische en genetische analyse van pectolytische enzymen bij schimmels en bacteriën  
 Visser, Dr.Ir.J.  
 Biochemistry / Genetics / Fungus / Bacterium / Enzyme / Modification / Extracellular / Nutritional branch / Pharmaceutical industry

**Genetics of the central metabolism in Aspergillus nidulans**

Genetica van het centraal metabolisme bij Aspergillus nidulans  
 Visser, Dr.Ir.J.  
 Genetics / Mycelial fungus / Biochemistry / Enzymology / Oxidoreductase / Gene / Recognition / Regulation

**Heterokaryosis and mitotic recombination in fungi by means of protoplasts**

Heterokaryose en mitotische recombinatie bij schimmels middels protoplasten  
 Bos, Dr.Ir.C.J.  
 Recombination / Protoplast / Plant / Genetic / Pathogenic / Mycelial fungus / Host / Resistance / Fungicide / Agriculture

**The effect of chromosomal aberrations on fertility and embryonic lethality in mammals**

Het effect van chromosomale aberraties op fertiliteit en embryonale letaliteit bij zoogdieren  
 Boer, Dr.Ir.P.de  
 Genetics / Mammal / Chromosomal / Aberration / Fertility / Embryo / Lethal / Irradiation / Prenatal / Development / Veterinary medicine / Radiobiology

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 Vakgroep Levensmiddelen-technologie  
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**Recovery of enzymes from a fermentor liquid with reverse micelles**

Opwerking van enzymen uit een fermentor-vloeistof met behulp van omgekeerde micellen  
 Riet, Prof.Dr.Ir.K.van 't  
 Enzyme / Bioreactor / Liquid / Artificial / Membrane biology / Physical chemistry / Protein / Extraction / Isolation / Oil / Optimization / Bioprocess engineering / Industry / Nutritional branch

**Enzymatic lipid hydrolysis in membrane reactors**

Enzymatische hydrolyse van lipiden in membraan-reactoren  
 Riet, Prof.Dr.Ir.K.van 't  
 Bioprocess engineering / Food technology / Nutritional branch / Lipid / Hydrolysis / Enzymatic / Membrane apparatus / Bioreactor / Lipase / Immobilization / Optimization / Scale-up / Kinetics

**The development of affinity adsorbents for isolation and purification of polysaccharide degrading enzymes and their application in fluidized bed reactors**

Ontwikkeling van affiniteitsadsorbentia en toepassing in fluide bedden ten behoeve van isolatie en zuivering van polysaccharide-splitsende enzymen  
 Rombouts, Dr.Ir.F.M. / Visser, Dr.Ir.J.  
 Affinity / Adsorption / Isolation / Purification / Polysaccharide / Degradation / Enzyme / Bioreactor / Bioprocess engineering / Mixture / Raw material / Industry / Fermentation / Nutritional branch

**Production of ethene oxide by immobilized microorganisms in a gas/solid bioreactor**

Productie van etheen-oxyde door geïmmobiliseerde micro-organismen in een gas/vast-reactor  
 Tramper, Dr.Ir.J.J.  
 Bioreactor / Bioprocess engineering / Immobilization / Microorganism / Carrier material / Solid / Gas / Water / Industry

**Mathematical-physical modelling of a multi-phase system in an airlift loop bioreactor**

Mathematisch-fysische modellering van een meer-fasensysteem in een airlift-loop-reactor voor biotechnologische productieprocessen  
 Riet, Prof.Dr.Ir.K.van 't  
 Modelling / Bioprocess engineering / Multi-phase / Air-lift / Bioreactor / Immobilization / Scale-up / Pilot scale / Production / Industry

**Food biotechnology**

Levensmiddelenbiotechnologie  
 Kerkhof, Dr.Ir.P.J.A.M.  
 Food technology / Bioprocess engineering / Nutritional branch / Scale-up / Bioreactor / Enzyme / Polyalcohol / Oil / Fat / Transformation / Membrane apparatus / Lactic acid / Biotransformation

**Enzymatic liquefaction and saccharification of plant material**

Enzymatische vervloeiing en versuikering van plantaardig materiaal  
Voragen, Dr.Ir.G.J.  
Agriculture / Raw material / Vegetable / Plant / Enzymatic / Enzyme / Fermentation / Polyalcohol / Immobilization / Microorganism / Hydrogen / Methane / Alcohol / Food technology / Nutritional branch

**Ultrafiltration of milk whey protein solutions**

Ultrafiltratie van melkwei-eiwit oplossingen  
Fontijn, Ir.M.  
Filtration / Whey / Protein / Food technology / Nutritional branch / Optimization / Concentration / Apparatus

**Studies on immobilized enzymes and cells**

Studies aan geïmmobiliseerde enzymen en cellen  
Tramper, Dr.Ir.J.J.  
Bioprocess engineering / Industry / Pollution / Environmental biotechnology / Immobilization / Enzyme / Cell / Energy

**Biotechnological production of non-persistent bio-insecticides by means of plant cells in vitro**

Tramper, Dr.Ir.J.J.  
Bioprocess engineering / In vitro / Production / Insecticide / Plant / Cultivation / Tissue / Immobilization / Chemical industry / Scale-up / Modelling / Continuous / Process

**Continuous production of propylene oxide from propylene and oxygen by means of immobilized mycobacteria in a multi-phase system**

Continue productie van propeenoxide uit propeen en zuurstof met behulp van geïmmobiliseerde mycobacteriën in een multi-fase systeem  
Tramper, Dr.Ir.J.J.  
Continuous / Production / Mycobacterium / Immobilization / Multi-phase / Catalysis / Organic / Solvent / Bioprocess engineering / Chemical industry

**Factors determining the rate of cheese ripening and their interaction**

Factoren die de rijpingssnelheid van kaas bepalen en hun interactie  
Noomen, Dr.Ir.A.  
Cheese / Food technology / Nutritional branch / Production / Quality control

**Landbouwniversiteit Wageningen**

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**Bacteriological investigation of the mechanism leading to the immobilization of anaerobic bacteria involved in sludge digestion**

Bacteriologisch onderzoek van het mechanisme dat leidt tot immobilisatie van anaërobe slibgistingsbacteriën  
Grotenhuis, Ir.J.T.C.  
Bacteriology / Immobilization / Anaerobic / Sludge / Purification / Waste Water / Environmental biotechnology / Biomass / Bioreactor / Carrier material / Environment

**Syntrophic degradation of propionate by defined methanogenic cultures: microbiology and pathway studies**

Syntrofe omzetting van propionaat door gedefinieerde methanogene culturen: microbiologie en afbraakroutes  
Houwen, Dr.F.P.  
Methanogenic / Cultivation / Degradation / Oxidation / Microbiology / Biochemistry / Environmental biotechnology / Environment

**Microbial utilization of short-chain unsaturated hydrocarbons and biotechnological synthesis of epoxides**

Microbiologische afbraak van lagere onverzadigde koolwaterstoffen en biotechnologische vorming van epoxides  
Bont, Dr.Ir.J.A.M.de  
Hydrocarbon / Degradation / Microbial / Short-chain / Microbiology / Chemical industry / Immobilization

**Application of microorganisms in chemical reactions**

Toepassing van micro-organismen in chemische reacties  
Middelhoven, Dr.W.J.  
Chemical / Reaction / Hydroxylation / Heterocyclic / Aromatic / Oxidase / Arthrobacter / Streptomycete / Yeast / Cultivation / Caffeine / Immobilization / Pseudomonas / Degradation / Microbiology / Biochemistry / Industry

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**Identification and regulation of the expression of genes in Rhizobium leguminosarum involved in nodule development and nitrogen fixation in the symbiosis with Pisum sativum**

Identificatie en regulatie van de expressie van genen in Rhizobium leguminosarum betrokken bij knolontwikkeling en stikstofbinding tijdens de symbiose met Pisum sativum  
Bos, Dr.R.C.van den / Haaker, Dr.H.B.C.M. / Bisseling, Dr.A.H.J.  
Gene / Expression / Rhizobium / Nitrogen / Fixation / Symbiosis / Plasmid / Molecular genetics / Agriculture

**Molecular cloning and characterization of the nematode resistance gene Mi from tomato**

Moleculaire klonering en karakterisering van het nematoderesistentiegen Mi uit de tomaat  
Zabel, Dr.W.J.T. / Hille, Dr.J.  
Molecular genetics / Agricultural sciences / Agriculture / Dicotyledon / Gene / Useful plant / Parasite / Resistance / Cloning / Vegetable / Nematode

**Daucus carota somatic embryogenesis**

Somatische embryogenese in Daucus carota  
Vries, Dr.S.C.de  
Plant / Regeneration / Cultivation / Differentiation / Molecular biology / Agriculture / Useful plant

**Structure and regulation of genes of soybean involved in symbiotic nitrogen fixation**

De structuur en regulatie van genen van soja betrokken bij symbiotische stikstofbinding  
Bisseling, Dr.A.H.J.  
Symbiosis / Nitrogen / Fixation / Soybean / Rhizobium / Gene / Structure / Expression / Molecular genetics / Agriculture / Useful plant

**The role of a large plasmid occurring in Rhizobium bacteria for the symbiotic nitrogen fixation**

De rol van een groot plasmide in Rhizobium-bacteriën bij het tot stand komen van de symbiotische stikstofbinding  
Bos, Dr.R.C.van den  
Plasmid / Rhizobium / Symbiosis / Nitrogen / Fixation / Gene / Expression / Molecular genetics / Nitrogenase / Agriculture

**Structure of leghemoglobin genes in different legumes and the regulation of the expression of these genes**

Structuur van leghemoglobine-genen in verschillende leguminosen en de regeling van de expressie van deze genen  
Bisseling, Dr.A.H.J.  
Plant / Gene / Expression / Molecular genetics / Nitrogen / Fixation / Genome / Agriculture / Useful plant

**Construction of a minichromosome as a cloning vehicle for plant cells and development of a transformation system for tomato**

Constructie van een minichromosoom als kloneringsvector voor plantcellen en ontwikkeling van een transformatiesysteem voor de tomaat  
Zabel, Dr.W.J.T.  
Plasmid / Cloning / Plant / Cell / Transformation / Replication / In vitro / Protoplast / Cell biology / Molecular biology / Agriculture / Useful plant

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**NMR study of light-driven energy conversion processes**

NMR-onderzoek aan lichtgedreven energieconversie-processen  
Schaafsma, Prof.Dr.T.J.  
NMR / Energy / Photosynthesis / Phosphorylation / Biophysics / Molecular / Energy supply / Biotechnological

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Vakgroep Nematologie  
Binnenhaven 10  
6709 PD  
Wageningen  
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**Identification of the nematode species Globodera rostochiensis and Globodera pallida (potato cyst nematodes) with specific monoclonal antibodies**

Identificatie van de nematodensoorten Globodera rostochiensis en Globodera pallida (aardappel-cystenaaltjes) met behulp van soortenspecifieke monoclonale antisera  
Egberts, Dr.E. / Gommers, Dr.Ir.F.J. / Schots, Ir.A.  
Monoclonal / Antibody / Nematode / Parasite / Protein / Immunoassay / Agriculture

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Vakgroep Organische Chemie  
De Dreijen 5  
6703 BC  
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**Chemical immobilization of lipase in a hollow fibre membrane reactor**

Covalente binding van lipase in een holle-vezel-membraanreactor  
Plas, Prof.Dr.H.C.van der  
Immobilization / Lipase / Bioreactor / Membrane apparatus / Hydrolysis / Enzymatic / Liquid / Lipid / Organic / Chemistry / Biochemistry / Coupling / Bioprocess engineering

**Retarding effects in immobilized xanthine oxidase catalyzed oxidation reactions and the influence of the coenzyme on the application of immobilized xanthine oxidase**

Remmende effecten in door geïmmobiliseerd xanthine oxydase gekatalyseerde oxydatiereacties, en de invloed van het coënzym op de toepassing van geïmmobiliseerd xanthine oxydase  
Naeff, Ir.H.S.D.  
Immobilization / Oxidase / Oxidation / Cofactor / Biological / Catalysis / Energy / Environment / Biochemistry / Organic chemistry / Carrier material

**The application of immobilized bacterial xanthine oxidase in the oxidation of 6-arylpteridones and related compounds**

Toepassing van geïmmobiliseerd bacterieel xanthine oxydase in de oxydatie van 6-arylpteridonen en aanverwante verbindingen  
Meester, Ir.J.W.G.de  
Immobilization / Bacterial / Oxidase / Oxidation / Energy / Environment / Biochemistry / Organic chemistry / Carrier material / Biological / Catalysis

**Use of immobilized chloro- and lactoperoxidase in region-specific functionalization of electron-rich systems**

Het gebruik van geïmmobiliseerd chloro- en lactoperoxidase voor regio-specifieke invoering van functionele groepen in elektronenrijke systemen  
Franssen, Drs.M.C.R.  
Immobilization / Peroxidase / Environment / Biological / Catalysis / Organic chemistry / Carrier material

**Analogues of nucleotides; synthesis and applicability in reactions stimulated by immobilized enzyme systems**

Synthese van analoga van nucleotiden; toepasbaarheid in chemische reacties met geïmmobiliseerde enzymssystemen  
Smit, Dr.P. / Plas, Prof.Dr.H.C.van der  
Nucleotide / Immobilization / Enzyme / Cofactor / Environment / Organic chemistry / Synthesis / Energy supply / Heterocyclic

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Vakgroep Plantencytologie en -morfologie  
Arboretumlaan 4  
6703 BD  
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**Cytomorphogenesis during early phases of in vitro cultures from monocotyledons (*Zea mays* L.)**

Cytomorfogenese tijdens de initiële fasen van in vitro culturen uit monocotylen (*Zea mays* L.)  
Schel, Dr.J.H.N.  
Cell / Morphogenesis / In vitro / Cultivation / Maize / Fine structure / Cell biology / Botany / Agriculture / Useful plant

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Vakgroep Plantenfysiologie  
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**Instability during in vitro culture of *Kalanchoe***

Instabiliteit bij de in vitro cultuur van *Kalanchoe*  
Varga, Dr.Ir.A.  
In vitro / Cultivation / Plant / Cell / Botany / Agriculture / Useful plant

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Vakgroep Plantenveredeling  
Lawickse Allee 166  
6709 DB  
Wageningen  
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**Molecular basis and transfer of cytoplasmic male sterility in *Petunia hybrida***

Moleculaire basis en overdracht van cytoplasmatische mannelijke steriliteit in *Petunia hybrida*  
Marrewijk, Dr.Ir.G.A.M.van  
Sterility / Plant / Useful plant / Agriculture / Botany / Genetics / Cytoplasm / DNA / Molecular genetics / Modification

**Induction and application of haploidy**

Inductie en toepassing van haploidie  
Hermsen, Prof.Dr.Ir.J.G.Th.  
Plant / Useful plant / Botany / Genetics / Agriculture

**Integrated characterization of male fertile, cytoplasmic male sterile and restored fertile genotypes of the garden petunia**

Integrale karakterisering van mannelijke fertiele, cytoplasmatisch mannelijke steriele en hersteld fertiele genotypen van de petunia  
Marrewijk, Dr.Ir.G.A.M.van  
Plant / Useful plant / Agriculture / Sterility / Germ cell / Gene / Fertility / Botany / Genetics

**Induction, selection and utilization of mutations concerning cytoplasmic male sterility**

Inductie, selectie en gebruik van mutaties betreffende cytoplasmatische mannelijke steriliteit  
Harten, Dr.Ir.A.M.  
Mutation / Sterility / Cytoplasm / Germ cell / Gene / Agriculture / Useful plant / Plant / Induction / Selection / Botany / Genetics

- **Landbouwniversiteit Wageningen**  
Vakgroep Virologie  
Binnenhaven 11  
6709 PD  
Wageningen  
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**Biological control of the beet army worm *Spodoptera exigua* with nuclear polyhedrosis viruses in Dutch greenhouses**

Bestrijding in kassen van de floridamot *Spodoptera exigua* door middel van kernpolyedervirussen  
Vlak, Dr.J.M.  
Virology / Insect / Pest / Regulation / Agriculture / Virus

**Multiplication of nuclear polyhedrosis viruses in cultured insect cells**

Vermenigvuldiging van kernpolyedervirussen in insectecellen  
Vlak, Dr.J.M.  
Biochemistry / Virology / Insect / Pest / Regulation / Molecular biology / Replication / Virus / Host / Agriculture

- **Landbouwniversiteit Wageningen**  
Vakgroep Waterzuivering  
Biotechnion, De Dreijen 12  
6703 BC  
Wageningen  
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**Treatment and valorization of animal slurries, sludges and solid wastes**

Verwerking en valorisatie van mest, slib en vast afval  
Velsen, Dr.Ir.A.F.M.van  
Purification / Animal / Sludge / Solid / Waste / Environment / Environmental biotechnology / Production / Waste water / Pollution / Air / Ground water / Drinking water / Heavy metal / Separation / Energy / Biogas / Organic substance / Anaerobic / Composting / Ammonia / Absorption / Reverse osmosis / Ion / Recycling

**Water treatment and water recycling in intensive fish cultures**

Zuivering en recirculatie van water in viskweeksystemen  
Bovendeur, Ir.J.  
Fish / Water / Purification / Recycling / Breeding / Aquaculture / Energy / Waste / Solid / Degradation / Mechanical

**Anaerobic treatment methods for waste water purification**

Anaëroobe zuiveringsmethoden voor de behandeling van afvalwater  
Lettinga, Dr.Ir.G.  
Waste water / Anaerobic / Fermentation / Microbiology / Environmental biotechnology / Environment / Sludge / Bioreactor / Recycling

**Extensive waste water post-treatment methods**

Extensieve nabehandelmingsmethoden van afvalwater  
Bovendeur, Ir.J. / Buuren, Ir.J.C.L.van  
Waste water / Microbiology / Environment / Environmental biotechnology / Abatement / Smelling substance / Energy

**Nitrification and denitrification**

Nitrificatie en denitrificatie  
Klapwijk, Dr.Ir.A.  
Nitrification / Denitrification / Waste water / Surface water / Environmental biotechnology / Environment / Microbiology

**Biological removal of phosphate from waste water by activated sludge**

Biologische defosfatering van afvalwater door middel van actief slib  
Rensink, Ir.J.H.  
Biological / Degradation / Phosphate / Activated sludge / Waste water / Environment / Microbiology / Environmental biotechnology

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9747 AG  
Groningen  
☎ +31 50 114242

**Specificity of protein transport into microbodies of yeasts**

Specificiteit van eiwitaccumulatie in microbodies van gisten  
Ab, Dr.C.  
Microbiology / Biochemistry / Protein / Protein design / Yeast / Transport / Oxidase / Molecular biology

**Synthesis of chiral organic compounds with biosystems**

Synthese van organische verbindingen met biosystemen  
Witholt, Prof.Dr.B.  
Synthesis / Chiral / Organic substance / Pseudomonas / Plasmid / Aliphatic / Aromatic / Microbiology / Transformation / Organic chemistry / Technical chemistry / Membrane apparatus / Industry

**Structure and function of bacterial membranes**

Structuur en functie van bacteriële membranen  
Witholt, Prof.Dr.B.  
Bacteriology / Membrane biology / Escherichia / Protein / Biosynthesis / Structure

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 Scheikunde, Vakgroep Technische  
 Scheikunde  
 Scheikundecomplex Paddepoel, Nijenborg  
 16  
 9747 AG  
 Groningen  
 ☎ +31 50 117127

**Conversion of pig manure into biogas by anaerobic digestion in fixed-film reactors**  
 Conversie van varkensdrijfmest in biogas door middel van anaërobe vergisting in fixed-film reactoren  
 Stamhuis, Dr.E.J.  
 Anaerobic / Biogas / Bioreactor / Immobilization / Biomass / Fermentation / Pig / Waste / Bioprocess engineering

**Kinetics and mass transfer in microbial multiphase reactors. Production of 1,2-epoxyoctane by free and immobilized Pseudomonas oleovorans cells**  
 Kinetiek en stofoverdracht in microbiële meerfasen reactoren. Productie van 1,2-epoxyoctaan door vrije en geïmmobiliseerde cellen van Pseudomonas oleovorans  
 Beenackers, Prof.Dr.Ir.A.A.C.M.  
 Bioprocess engineering / Bioreactor / Organic substance / Aliphatic / Immobilization / Pseudomonas / Cell / Kinetics / Production scale / Multi-phase / Industry

**Production of epoxides with Pseudomonas oleovorans**  
 Productie van epoxiden met behulp van Pseudomonas oleovorans  
 Beenackers, Prof.Dr.Ir.A.A.C.M.  
 Production / Bioreactor / Bioprocess engineering / Organic substance / Multi-phase / Pseudomonas / Immobilization / Cell / Industry

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 Werkgroep Farmacochemie  
 Antonius Deusinglaan 2  
 9713 AW  
 Groningen  
 ☎ +31 50 116229

**Biotechnological production of scopolamine**  
 Biotechnologische productie van scopolamine  
 Malingré, Prof.Dr.Th.M.  
 Production / Biotechnology / Immobilization / Cultivation / Plant / Cell / Biotransformation / DNA / Alkaloid / Drug

**Biosynthesis and bioconversion of L-DOPA (and derivatives) in suspension and continuous cultures of Mucuna pruriens**  
 Biosynthese en bioconversie van L-DOPA (en afgeleiden) in suspensie- en continu-cultures van Mucuna pruriens  
 Malingré, Prof.Dr.Th.M.  
 Biosynthesis / Biotransformation / DOPA / Suspension / Continuous / Cultivation / Tyrosine / Alginate / Substrate / Kinetics / Biological / Catalysis / Pharmacy

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 Natuurwetenschappen, Subfaculteit  
 Biologie, Vakgroep Genetica  
 Kerklaan 30  
 9751 NN  
 Haren  
 ☎ +31 50 115781

**Somatic cell genetics, cytogenetics and molecular genetics of potato (Solanum tuberosum)**  
 Somatische celgenetica, cytogenetica en moleculaire genetica van de aardappel (Solanum tuberosum)  
 Feenstra, Prof.Dr.Ir.W.J.  
 Cytogenetics / Molecular genetics / Potato / Hybridization / Chromosome / In situ / Protoplast / Cultivation / Mutation / Gene / Starch / Tolerance / Transfer / Transformation / Agrobacterium / Agriculture

**Genetics of nodulation and N<sub>2</sub>-fixation in pea (Pisum sativum)**  
 Genetica van nodulatie en N<sub>2</sub>-fixatie bij de erwten (Pisum sativum)  
 Feenstra, Prof.Dr.Ir.W.J. / Jacobsen, Dr.Ir.E.  
 Molecular genetics / Nodulation / Nitrogen / Fixation / Mutation / Biochemistry / Gene / Rhizobium / Symbiosis / Botany / Agriculture

**Transformation and host-vector systems in Bacilli and lactic acid bacteria**  
 Transformatie en gastheer-vector-systemen in Bacilli en melkzuurbacteriën  
 Venema, Prof.Dr.G.  
 Transformation / Host / Vector / Plasmid / Bacillus / Lactic acid / Recombination / rDNA / Secretion / Streptococcus / Molecular biology / Molecular genetics / Nutritional branch / Industry

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 Biologie, Vakgroep Microbiologie  
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 9751 NN  
 Haren  
 ☎ +31 50 116261

**Extremophilic anaerobic microorganisms**  
 Extremofiele anaërobe micro-organismen  
 Harder, Prof.Dr.W.  
 Microbiology / Anaerobic / Microorganism / Extremophilic

**Regulation of the expression of genes coding for enzymes specifically involved in primary carbon assimilation in aerobic facultatively autotrophic and facultatively methylotrophic bacteria**  
 Regulering van de expressie van genen welke coderen voor enzymen, die specifiek betrokken zijn bij de primaire koolstofassimilatie in aërobe facultatief autotrofe en facultatief methylotrofe bacteriën  
 Dijkhuizen, Dr.L.  
 Gene / Expression / Coding / Enzyme / Bacteriology / Carbon / Assimilation / Aerobic / Facultative / Autotrophic / Methylotrophic / Biochemistry / Molecular genetics / Continuous / CULTIVATION / Microbial / Growth / Energy / Biosynthesis / Metabolism / Pseudomonas / Dioxide

**Mechanism of peptide breakdown in Streptococcus cremoris**  
 Mechanisme van peptide-afbraak in Streptococcus cremoris  
 Konings, Prof.Dr.W.N. / Veldkamp, Prof.Dr.H. / Venema, Prof.Dr.G.  
 Peptide / Degradation / Streptococcus / Hydrolysis / Starter culture / peptidase / Genetics / Biochemistry / Nutritional branch / Transport / Bacteriology

**Methanol as raw material for biotechnological processes**  
 Methanol als grondstof voor biotechnologische processen  
 Dijkhuizen, Dr.L. / Hansen, Dr.Ir.T.A.  
 Methanol / Raw material / Industry / Aerobic / Anaerobic / Fermentation / Fermentation technology / Microbiology

**Population kinetics of lactic acid bacteria for use in starters**  
 Populatiekinetiek van melkzuurbacteriën in zuursels  
 Konings, Prof.Dr.W.N. / Veldkamp, Prof.Dr.H.  
 Lactic acid / Bacterium / Bacteriology / Kinetics / Starter culture / Cheese / Production / Food technology / Nutritional branch

**Resolution and characterization of components of primary and secondary transport systems in Bacillus subtilis**  
 Resolutie en karakterisering van componenten van primaire en secundaire transportsystemen in Bacillus subtilis  
 Konings, Prof.Dr.W.N.  
 Bacillus / Transport / Protein / Biochemistry / Energy / Artificial / Membrane biology / Bacteriology / Biophysics

**Energy transduction in membranes of phototrophic bacteria**  
 Energie-transductie in membranen van fototrofe bacteriën  
 Konings, Prof.Dr.W.N.  
 Energy / Transduction / Membrane biology / Phototrophic / Rhodospseudomonas / Bacteriology / Biochemistry / Biophysics

**Mechanisms of energy transduction in anaerobic bacteria**  
 Mechanismen van energie-transductie in anaërobe bacteriën  
 Konings, Prof.Dr.W.N.  
 Transduction / Energy / Anaerobic / ATP / Hydrolysis / Membrane biology / Hydrolase / Metabolism / Streptococcus / Biochemistry / Bacteriology / Biophysics

**Regulation of membrane-bound processes in bacteria by the proton motive force**  
 Regulering van membraan-gebonden processen in bacteriën door de proton motive force  
 Konings, Prof.Dr.W.N.  
 Energy / Membrane biology / Cytoplasm / Bacterium / Bacteriology / Biochemistry / Biophysics

**Metabolism of C<sub>1</sub>-compounds; function and biogenesis of microbodies in yeasts**  
 Metabolisme van C<sub>1</sub>-verbindingen; functie en biogenese van microbodies in gisten  
 Harder, Prof.Dr.W.  
 Metabolism / Development / Yeast / Methanol / Amine / Peroxisome / Biosynthesis / Degradation / Enzyme / Biochemistry / Microbiology / Microscopy

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 Medische Microbiologie  
 Academisch Ziekenhuis, Oostersingel 59  
 9713 EZ  
 Groningen  
 ☎ +31 50 133341

**Monoclonal antibodies directed against specific determinants of herpesviruses**  
 Monoclonale antilichamen gericht tegen specifieke determinanten van herpesvirussen  
 Scheffer, Dr.A.J.  
 Production / Monoclonal / Antibody / DNA virus / Herpes / Immunology / Diagnosis / Glycoproteid / Antigen / Viral

**HPLC of membrane proteins and proteins produced by recombinant DNA techniques**  
 Ontwikkeling en toepassing van HPLC-methoden voor de zuivering van membraaneiwitten en recombinant-DNA-produkten  
 Welling, Dr.G.W. / Welling-Wester, Dr.S.  
 Membrane biology / Protein / HPLC / Recombination / rDNA / Separation / Viral / Diagnosis

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 Scheikunde, Vakgroep Polymeerchemie  
 Nijenborg 16  
 9747 AG  
 Groningen  
 ☎ +31 50 634510
- Catalysis by macromolecules**  
 Katalyse door macromoleculen  
 Challa, Prof.Dr.G.  
 Catalysis / Polymer / Enzyme / Cofactor / Carrier  
 material / Chemistry / Chemical industry
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 Natuurwetenschappen, Subfaculteit  
 Biologie, Vakgroep Plantenfysiologie  
 Kerklaan 30  
 9751 NN  
 Haren  
 ☎ +31 50 114710
- Molecular cloning and regulation of phenol  
 oxidase genes in fungi**  
 Moleculaire klonering en regulatie van  
 fenoloxydasegenen van schimmels  
 Wessels, Prof.Dr.J.G.H.  
 Molecular genetics / Regulation / Oxidase / Fungus /  
 Lignin / Industry / Cloning / Agriculture / Forestry /  
 Lignocellulose
- Molecular genetics of fructification in  
 Schizophyllum commune**  
 Moleculaire genetica van de fructificatie bij  
 Schizophyllum commune  
 Wessels, Prof.Dr.J.G.H.  
 Molecular genetics / Basidiomycete / Gene /  
 Expression / Cloning
- Application of techniques of molecular and cell  
 biology to mushroom breeding**  
 Toepassing van moleculair-biologische en  
 celbiologische methoden ter verbetering van de  
 champignonsteelt  
 Wessels, Prof.Dr.J.G.H.  
 Molecular biology / Cell biology / Gene / Transfer /  
 Protoplast / Hybridization / Transformation /  
 Fungus / Genetic / Resistance / Infection / Viral /  
 Assay / Cultivation / Agriculture
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 Natuurwetenschappen, Subfaculteit der  
 Scheikunde, Vakgroep Biochemie  
 Wassenaarseweg 64  
 2333 AL  
 Leiden  
 ☎ +31 71 148333
- The mechanism of sugar transport in yeast**  
 Het mechanisme van suikertransport in gist  
 Steveninck, Prof.Dr.J.van / Broek, Dr.P.J.A.van den  
 Biochemistry / Polyalcohol / Yeast / Cell /  
 Membrane biology / Protein / Transport
- Mechanism of protein biosynthesis**  
 Mechanisme van de eiwitbiosynthese  
 Bosch, Prof.Dr.L. / Knippenberg, Prof.Dr.P.H.van  
 Protein / Biosynthesis / Biochemistry / Gene /  
 Expression / DNA / mRNA / NMR / Recombination /  
 Molecular biology / Mutation / Origin
- Metal accumulation by microorganisms:  
 microbial manganese oxidation**  
 Metaalaccumulatie door micro-organismen:  
 microbiële mangaanoxydatie  
 Westbroek, Dr.P. / Vrind-de Jong, Dr.E.W.de  
 Biochemistry / Microbiology / Microbial / Metal /  
 Manganese / Oxidation / Enzyme / Leptothrix /  
 Gene / Cloning / Escherichia / Molecular genetics
- Construction and biological function of altered  
 proteins defined in terms of their three-  
 dimensional structure**  
 Constructie en biologische functie van veranderde  
 eiwitten in relatie tot de driedimensionale structuur  
 Bosch, Prof.Dr.L. / Kraal, Dr.B.  
 Protein / Structure / Tertiary / Gene / Expression /  
 Biochemistry / Molecular genetics / Bacterial /  
 Eukaryote / Mutation / Origin / Escherichia /  
 Monoclonal / Antibody / Modification
- Replication of plant viruses**  
 Replicatie van plantevirussen  
 Bol, Dr.J.F.  
 Useful plant / Vegetable / Virus / Gene / Genome /  
 Viral / Infection / Replication / Molecular genetics /  
 Biochemistry
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 Sectie  
 Farmacognosie/Plantecelbiotechnologie  
 Gorlaeus Laboratoria, Wassenaarseweg 76  
 Leiden  
 ☎ +31 71 274510
- Physiology of cultured cells of Catharanthus  
 roseus**  
 Fysiologie van Catharanthus roseus plantecellen in  
 vitro  
 Verpoorte, Dr.R.  
 Useful plant / Vegetable / Alkaloid / Biosynthesis /  
 Cell / Cultivation / Enzyme / Molecular biology /  
 Pharmaceutical industry
- Biosynthesis of dimeric Tabernaemontana  
 alkaloids**  
 Biosynthese van dimere Tabernaemontana-  
 alkaloiden  
 Verpoorte, Dr.R.  
 Biosynthesis / Alkaloid / Useful plant / Vegetable /  
 Cell / Cultivation / Enzyme / Bioactive agent /  
 Pharmaceutical industry / Molecular biology
- Biosynthesis of Cinchona alkaloids**  
 Biosynthese van Cinchona-alkaloïden  
 Verpoorte, Dr.R.  
 Biosynthesis / Useful plant / Cell / Cultivation /  
 Enzyme / Alkaloid / Molecular biology /  
 Pharmaceutical industry
- Occurrence, biosynthesis, and antimicrobial  
 activity of essential oils and their components**  
 Vóórkomen, biosynthese en antimicrobiële  
 activiteit van etherische oliën en hun componenten  
 Scheffer, Prof.Dr.J.J.C.  
 Biosynthesis / Cell / Cultivation / Oil / Analysis /  
 Useful plant / Pharmacy / Pharmaceutical industry /  
 Vegetable / Molecular biology
- Rijksuniversiteit Leiden**  
 Faculteit der Geneeskunde, Vakgroep  
 Celbiologie, Laboratorium voor  
 Cytochemie en Cytometrie  
 Academisch Ziekenhuis, Rijnsburgerweg  
 10  
 2333 AA  
 Leiden  
 ☎ +31 71 276415, 276416
- A new principle for localization and  
 quantitation of antigens on the cellular  
 membrane based on immunophosphorescence**  
 Een nieuw principe voor lokaliseren en  
 kwantificering van antigenen op de celmembraan  
 gebaseerd op immunofosforescentie  
 Tanke, Dr.H.J.  
 Cell / Measurement / Immunology / Luminescence /  
 Membrane biology / Antigen / Antibody / Marker /  
 Fluorescence / Microscopy / Immune / Reagent /  
 Diagnosis
- Development of microscope and flow  
 cytometers for 'time-resolved' luminescence  
 measurements**  
 Ontwikkeling van microscoop- en doorstroom-  
 cytometers voor 'time-resolved' luminescentie-  
 metingen  
 Tanke, Dr.H.J. / Ploem, Prof.Dr.J.S.  
 Microscope / Microscopy / Cell / Flow /  
 Measurement / Cell biology / Fluorescence /  
 Luminescence / Diagnosis
- Rijksuniversiteit Leiden**  
 Faculteit der Geneeskunde, Vakgroep  
 Genetica, Sectie Antropogenetica  
 Sylvius Laboratoria, Wassenaarseweg 72  
 2333 AL  
 Leiden  
 ☎ +31 71 148333
- Application of DNA technology in diagnostics  
 and carrier detection of genetic diseases**  
 Toepassing van DNA-technologie bij diagnostiek en  
 drager-detectie van erfelijke ziekten  
 Ommen, Dr.G.J.B.van / Breuning Dr.H.M. / Klasen,  
 Dr.E.C.  
 Molecular genetics / DNA / Probes / Diagnosis /  
 Disease / Human / Congenital
- Rijksuniversiteit Leiden**  
 Faculteit der Geneeskunde, Sectie  
 Moleculaire Genetica, Vakgroep Genetica  
 Laboratorium voor Moleculaire Genetica,  
 Wassenaarseweg 72  
 2333 AL  
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 ☎ +31 71 276083
- Glucose dehydrogenase and the coenzyme  
 pyrrolo quinokine quinone (PQQ)**  
 Glucose dehydrogenase en het coënzym pyrrolo  
 quinokine quinone (PQQ)  
 Goosen, Dr.N. / Putte, Prof.Dr.Ir.P.van de
- Rijksuniversiteit Leiden**  
 Faculteit der Geneeskunde, Vakgroep  
 Haematologie, Sectie  
 Immunohaematologie en Bloedbank  
 Academisch Ziekenhuis, Rijnsburgerweg  
 10  
 2333 AA  
 Leiden  
 ☎ +31 71 148333
- Immunogenetics and immunochemistry of  
 polymorphic cell membrane determinants, in  
 particular the HLA system**  
 Immunogenetica en immunochemie van  
 polymorfe celmembraandeterminanten, in het  
 bijzonder het HLA-systeem  
 Rood, Prof.Dr.J.J.van  
 Membrane biology / Genetics / Immune /  
 Chemistry / Immunology / Hematology /  
 Recognition / Diagnosis / Isotope / Radioactive /  
 Serology
- Rijksuniversiteit Leiden**  
 Faculteit der Geneeskunde, Vakgroep  
 Medische Biochemie  
 Sylvius Laboratoria, Wassenaarseweg 72  
 2333 AL  
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- Ribosome function and regulation of the protein  
 synthesis**  
 Ribosoomfunctie en regulatie van de eiwitsynthese  
 Möller, Prof.Dr.W.J.H.M.  
 Biochemistry / Biosynthesis / Protein / Ribosome /  
 Regulation / Escherichia / tRNA / Nucleotide /  
 Expression

**Isolation and characterization of the D-2 dopamine receptor from bovine striatum**  
Isolatie en karakterisering van de D-2-dopamine-receptor uit het runderstriatum  
Möller, Prof.Dr.W.J.H.M.  
Receptor / Gene / Cloning / DNA / Sequencing / Amino acid / Monoclonal / Antibody / Immunology / Pharmacology

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2333 AA  
Leiden  
☎ +31 71 274735, 263931

**Expression of genes of the human parvovirus B19 by a baculovirus vector system**  
Expressie van humane parvovirus B19-genen door middel van een baculovirus-vectorsysteem  
Salimans, Dr.M.M.M.  
Gene / Expression / Parvovirus / Baculovirus / Vector / Antigen / Serology / Test / Monitoring / Vaccine

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Faculteit der Wiskunde en Natuurwetenschappen, Subfaculteit der Biologie, Vakgroep Moleculaire Plantkunde  
Botanisch Laboratorium, Nonnensteeg 3  
2311 VJ  
Leiden  
☎ +31 71 148333

**Isolation, characterization and mechanism of action of a root exudate factor involved in nodulation of leguminous plants by Rhizobium**  
Isolatie, karakterisering en werkingsmechanisme van een plantewortelxudaatfactor betrokken bij nodulatie van leguminose planten door Rhizobium  
Lugtenberg, Prof.Dr.E.J.J.  
Nodulation / Plant / Vegetable / Gene / Rhizobium / Symbiosis / Molecular biology / Botany / Agriculture / Useful plant

**Molecular microbiology of the interaction between Rhizobium-bacteria and leguminous plants**  
Moleculaire microbiologie van interacties tussen Rhizobium-bacteriën en leguminose planten  
Lugtenberg, Prof.Dr.E.J.J.  
Molecular biology / Botany / Microbiology / Rhizobium / Nodulation / Gene / Differentiation / Biochemistry / Immunology / Symbiosis / Plant / Vegetable / Agriculture / Useful plant

**Molecular basis of signalling between Rhizobium bacteria and leguminous plants**  
Moleculaire basis van signaal-uitwisseling tussen Rhizobium-bacteriën en leguminose planten  
Brussel, Dr.A.A.N.van  
Molecular biology / Botany / Plant / Vegetable / Rhizobium / Symbiosis / Cell / Growth / Differentiation / Nodulation / Gene / Agriculture / Useful plant

**Plant cell growth and production**  
Plantecelgroei en productie  
Harkes, Dr.P.A.A.  
Plant / Vegetable / Cell / Growth / Botany / Molecular biology / Regeneration / Cultivation / Metabolism

**The molecular mechanism of action of plant hormones regulating cell division and differentiation**  
Het moleculaire werkingsmechanisme van celdeling- en differentiatie-regulerende plantehormonen  
Mennes, Dr.A.M.  
Auxin / Plant / Differentiation / Botany / Molecular biology / Gene / Transformation / Receptor / Vegetable

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Faculteit der Wiskunde en Natuurwetenschappen, Subfaculteit der Biologie, Vakgroep Moleculaire Plantkunde  
Biochemisch Laboratorium, Wassenaarseweg 64  
2333 AL  
Leiden  
☎ +31 71 148333

**Genetic and molecular regulation of pathways in the secondary metabolism of plants**  
Genetische en moleculaire regulatie van syntheseswegen in het secundaire metabolisme van planten  
Hoge, Dr.J.H.C.  
Metabolism / Plant / Molecular genetics / Molecular biology / Botany / Alkaloid / Useful plant / Enzyme / Biosynthesis / Industry

**Control of growth and differentiation in higher plants**  
Groeï en differentiatie van planten  
Schilperoort, Prof.Dr.R.A. / Libbenga, Prof.Dr.K.R. / Hooykaas, Dr.P.J.J. / Hoge, Dr.J.H.C.  
Molecular biology / Botany / Growth / Differentiation / Plant / Vegetable

**Plant tumour induction by Agrobacterium tumefaciens**  
Plantetumorinductie door Agrobacterium tumefaciens  
Schilperoort, Prof.Dr.R.A. / Hooykaas, Dr.P.J.J. / Hoge, Dr.J.H.C.  
Plant / Vegetable / Agrobacterium / Induction / DNA / Cell / Molecular biology / Differentiation / Botany / Disease

**Plant genetic engineering**  
Genetisch manipulatie van planten  
Schilperoort, Prof.Dr.R.A. / Hooykaas, Dr.P.J.J. / Hoge, Dr.J.H.C.  
Vegetable / Molecular genetics / DNA / mRNA / Protein / Vector / Monocotyledon / Dicotyledon / Botany / Agriculture / Useful plant

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Subfaculteit der Scheikunde, Vakgroep Biochemie  
Padualaan 8  
3584 CH  
Utrecht  
☎ +31 30 533966, 532938

**Protein engineering of lipolytic enzymes**  
Het verbeteren van de eigenschappen van vetafbrekende enzymen door 'protein engineering'  
Verheij, Dr.H.M. / Slotboom, Dr.A.J.  
Protein design / Lipase / Medical / Industrial / Industry / Modification / Synthesis / Lipid / Water / Interface / Inhibitor / Biochemistry / Structure / Interaction / Substrate

□ **Rijksuniversiteit Utrecht**  
Faculteit der Geneeskunde, Vakgroep Besmettingsleer  
Laboratorium voor Microbiologie, Catharijnesingel 59  
3511 GG  
Utrecht  
☎ +31 30 394412

**Development of rapid diagnostics (human monoclonals) on behalf of infectious diseases**  
Ontwikkeling van snelle diagnostica (humane monoclonalen) ten behoeve van infectieziekten  
Verhoef, Prof.Dr.J.  
Diagnosis / Monoclonal / Antibody / Infection / Immunology / Human

**Incorporation of membrane glycoproteins of Semliki Forest Virus into liposomal model membranes and application of this complex as vaccine**  
Bereiding van liposomen met membraan-glycoproteïnen van het Semliki Forest Virus en de eigenschappen van dit complex als vaccin  
Snippe, Dr.H. / Kraaijeveld, Dr.C.A.  
Membrane biology / Artificial / Glycoproteid / Vaccine / Immune system / Peptide / Recombination / DNA / Escherichia / Immunology / Virus

**Host defence against herpesvirus infection. The role of monocytes, macrophages, neutrophils and natural killer cells**  
Afweer tegen herpesvirusinfecties. De rol van monocyten, macrocyten, granulocyten en natural killer cellen  
Verhoef, Prof.Dr.J.  
Host / Herpes / Viral / Virus / Infection / Leukocyte / Macrophage / Fibroblast / Recognition / Cloning / Glycoproteid / Escherichia / Immunology

**Preparation of monospecific anti-viral sera**  
Bereiding van monospecifieke anti-virus sera  
Snippe, Dr.H. / Kraaijeveld, Dr.C.A.  
Antiserum / Viral / Infection / Antigen / Monoclonal / Antibody / Immunology / Immune system / Virus / Mouse / Pathogenic / Herpes / Flu / Vaccine / Production

□ **Rijksuniversiteit Utrecht**  
Subfaculteit Farmacie, Vakgroep Chemische Farmacie, Sectie Analytische Farmacie  
Catharijnesingel 60  
3511 GH  
Utrecht  
☎ +31 30 394191

**Electrochemical biosensors**  
Elektrochemische biosensoren  
Bennekom, Dr.P.W.van / Hoogvliet, Dr.J.C.  
Biosensor / Electrochemical / Immobilization / Enzyme / Electrode / Substrate / Drug / Metabolite / Determination / Analysis

□ **Rijksuniversiteit Utrecht**  
Faculteit Diergeneeskunde, Vakgroep Immunologie  
Yalelaan 1  
3584 CL  
Utrecht  
☎ +31 30 532471, 532459, 533476

**Immunological reactivity in cattle bearing squamous cell carcinoma of the eye: immune reactions against tumor antigen after BCG immunotherapy and the phenomenon of immunosuppression**  
Immunologische reactiviteit in runderen met plaveiselcelcarcinoom van het derde ooglid: immunoreacties tegen tumorantigeen na BCG-immunotherapie en het fenomeen immunosuppressie  
Rutten, Drs.V.P.M.G. / Ruitenbergh, Prof.Dr.E.J.  
Immunology / Stock / Bovine animal / Cancer / Tumour / Lymphocyte / Test / Stimulation / Suppression / Viral / Infection / Retrovirus / Monoclonal / Antibody / Veterinary medicine / Macrophage / Immune system / Antigen / Hybridoma / Recognition / Immunotherapy



□ **Rijksuniversiteit Utrecht**  
 Faculteit Diergeneeskunde, Vakgroep  
 Virologie  
 Yalelaan 1  
 3584 CL  
 Utrecht  
 ☎ +31 30 532486, 532485

#### Epitope mapping on the surface of coronaviruses

Epitopen op de oppervlakten van coronavirussen  
 Lenstra, Dr.J.A. / Zeijst, Prof.Dr.B.A.M.van der  
 RNA virus / Mapping / Surface / Vaccine / Immune  
 system / Amino acid / Sequence / Protein /  
 Recombination / DNA / Gene / Expression / ELISA /  
 Stock / Veterinary medicine / Bovine animal

#### Development of vaccines against coronaviruses

Ontwikkeling van vaccins tegen coronavirussen  
 Zeijst, Prof.Dr.B.A.M.van der / Horzinek, Prof.Dr.M.C.  
 Production / Vaccine / Viral / Infection /  
 Recombination / DNA / Monoclonal / Antibody /  
 Immunology / Veterinary medicine / Immune  
 system / Antigen / Mutation / RNA virus / Stock

□ **Rijksuniversiteit Utrecht**  
 Faculteit der Geneeskunde, Vakgroep  
 Fysiologische Chemie  
 Vondellaan 24a  
 3521 GG  
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#### Structure and expression of the somatomedin genes

Structuur en expressie van de somatomedine  
 genen  
 Sussenbach, Prof.Dr.Ir.J.S.  
 Structure / Gene / Expression / Nucleotide /  
 Sequence / Recombination / DNA / Mutation /  
 Origin / Growth / Molecular genetics / Polypeptide

#### Structure-function relationship of viral proteins involved in adenovirus DNA replication

Structuur-functie relatie van virale eiwitten  
 betrokken bij de adenovirus DNA-replicatie  
 Sussenbach, Prof.Dr.Ir.J.S.  
 Viral / Protein / Adenovirus / DNA / Replication /  
 Tumour / Virology / Oncogenic / Mutation /  
 Molecular biology / Structure

#### Mechanism of replication of Phi-X174 DNA

Replicatie-mechanisme van Phi-X174 DNA  
 Baas, Dr.P.D.  
 Replication / Bacteriophage / Mutation / DNA /  
 Gene / Protein / Molecular biology / Tumour /  
 Virology / Oncogenic

□ **Rijksuniversiteit Utrecht**  
 Faculteit der Geneeskunde, Vakgroep  
 Klinische Immunologie  
 Vakgroepsgemeenschap Inwendige  
 Geneeskunde, Catharijnesingel 101  
 3511 GV  
 Utrecht  
 ☎ +31 30 372804

#### Production of monoclonal bifunctional antibodies by using various techniques of cell fusion

Productie van monoclonale bifunctionele  
 antilichamen door middel van celfusie technieken  
 Bast, Dr.E.J.E.G.  
 Production / Monoclonal / Antibody / Cell / Fusion /  
 Hybridoma / Enzyme / Histochemistry / Expression /  
 Antigen / Immunology / Regulation /  
 Differentiation / Biochemistry / Diagnosis / Immune

□ **Rijksuniversiteit Utrecht**  
 Faculteit der Geneeskunde, Vakgroep  
 Kindergeneeskunde  
 Wilhelmina Kinderziekenhuis, Nieuwe  
 Gracht 137  
 3512 LK  
 Utrecht  
 ☎ +31 30 320911

#### Active immunization of neonates of HBsAg positive mothers with recombinant vaccinia Enderix B.

Hepatitis B immunisatie van pasgeborenen met  
 recombinant vaccinia Enderix B.  
 Gast, Prof.Dr.G.C.de  
 Recombination / Vaccine / Screening / Hepatitis /  
 Immunology / Immune system

#### Translation of insulin-like growth factor (IGF) mRNAs: significance of IGF-mRNA diversity for the posttranscriptional regulation of IGF expression

Translatie van insulin-like growth factor (IGF)  
 mRNA's: betekenis van de IGF-mRNA diversiteit  
 voor de posttranscriptionele regulatie van de  
 IGF-expressie  
 Jansen, Dr.M. / Brande, Prof.Dr.J.L.van den /  
 Sussenbach, Prof.Dr.Ir.J.S.  
 Translation / Growth / mRNA / Regulation / Gene /  
 Expression / In vitro / Molecular biology / Molecular  
 genetics / Biochemistry

#### Expression of somatomedins/insulin-like growth factors and growth hormone in transgenic mice

De expressie van somatomedines/insuline-achtige  
 groeifactoren en groeihormonen in transgene  
 muizen  
 Buul-Offers, Dr.S.C.van / Sussenbach, Prof.Dr.Ir.J.S. /  
 Brande, Prof.Dr.J.L.van den  
 Expression / Growth / Hormone / Transgenic /  
 Mouse / Polypeptide / Molecular biology / Gene

#### Expression of somatomedins/insulin-like growth factors in tissue culture

Expressie van somatomedines/insuline-achtige  
 groeifactoren in gekweekte cellen  
 Brande, Prof.Dr.J.L.van den / Sussenbach,  
 Prof.Dr.Ir.J.S.  
 Growth / Gene / Expression / Cultivation /  
 Polypeptide / Plasmid / Regulation / Molecular  
 biology / Tissue

#### Characterization of somatomedin precursor proteins through analysis of the corresponding human mRNA en cDNA

Karakterisering van somatomedine  
 precursoreiwitten door analyse van het  
 corresponderende humane mRNA en cDNA  
 Sussenbach, Prof.Dr.Ir.J.S. / Brande, Prof.Dr.J.L.van  
 den  
 Growth / Human / mRNA / cDNA / Protein /  
 Nucleotide / Sequence / Biochemistry / Molecular  
 biology / Polypeptide

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 Faculteit der Geneeskunde, Vakgroep  
 Medische Farmacologie  
 Rudolf Magnus Instituut, Vondellaan 6  
 3521 GD  
 Utrecht  
 ☎ +31 30 880521

#### Expression of neuropeptide genes

Expressie van neuropeptide-genen  
 Burbach, Dr.J.P.H.  
 Gene / Expression / Nervous system / Regulation /  
 Hormone / Biosynthesis / In situ / Molecular  
 genetics / Pharmacology / Production /  
 Biotechnological / Medical

□ **Rijksuniversiteit Utrecht**  
 Subfaculteit der Biologie, Vakgroep  
 Moleculaire Celbiologie, Projectgroep  
 Moleculaire Genetica  
 Transitorium III, Padualaan 8  
 3584 CH  
 Utrecht  
 ☎ +31 30 533184

#### Molecular determinants for chloroplast-specific binding, transport and processing of a thylakoid lumen-located nuclear-coded protein; mutagenesis and analysis of a plastocyanin-specific transport signal

Moleculaire determinanten voor chloroplast-  
 specifieke binding, transport en processing van een  
 in thylakoïdlumen gelokaliseerd, nucleair  
 gecodeerd eiwit; mutagenese en analyse van een  
 plastocyanine-specifiek transportsignaal  
 Arkel, Prof.Dr.G.A.van  
 Molecular genetics / Chloroplast / Transport /  
 Coding / Protein / Mutation / Origin / Eukaryote /  
 Cytoplasm / Membrane biology

#### Production of an improved vaccine against measles virus infection

Productie van een verbeterd vaccin tegen  
 mazelenvirus-infectie  
 Weisbeek, Prof.Dr.P.J.  
 Production / Vaccine / Infection / Viral /  
 Recombination / DNA / Immunology / Gene /  
 Molecular genetics

#### Growth stimulation of crops

Groeistimulatie bij cultuurgewassen  
 Weisbeek, Prof.Dr.P.J.  
 Growth / Stimulation / Useful plant / Germ cell /  
 Optimization / Agriculture / Microbiology /  
 Molecular genetics / Biochemistry / Botany /  
 Vegetable / Pseudomonadaceae

#### Organization and regulation of expression of plant genes

Organisatie en regulatie van de expressie van  
 plantengenen  
 Weisbeek, Prof.Dr.P.J.  
 Gene / Expression / Regulation / Plant / Vegetable /  
 Molecular genetics / Nucleus / Chloroplast / DNA /  
 Photosynthesis / Biochemistry / Botany

#### Molecular genetics of Cyanobacteria

Moleculaire genetica van Cyanobacteria  
 Arkel, Prof.Dr.G.A.van / Weisbeek, Prof.Dr.P.J.  
 Molecular genetics / Cyanobacterium / Gene /  
 Photosynthesis / Nitrogen / Assimilation / DNA /  
 Recombination / Expression / Microbiology /  
 Biochemistry

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 Moleculaire Celbiologie, Projectgroep  
 Moleculaire Biologie  
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 3584 CH  
 Utrecht  
 ☎ +31 30 533184

#### Regulation of gene expression in eukaryotes

Regulatie van genexpressie in eukaryoten  
 Wijk, Dr.R.van  
 Regulation / Gene / Expression / Eukaryote /  
 Cultivation / Protein / Cell / Molecular biology /  
 Oncogenic / Transformation / Biosynthesis

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 Subfaculteit der Biologie, Vakgroep  
 Moleculaire Celbiologie, Projectgroep  
 Moleculaire Microbiologie  
 Transitorium III, Padualaan 8  
 3584 CH  
 Utrecht  
 ☎ +31 30 533184

**Transport of antigenic determinants, relevant for vaccine production, to the Escherichia coli cell surface**

Transport van antigene determinanten, relevant voor vaccinbereiding, naar het celoppervlak van Escherichia coli

Tomassen, Dr.J.P.M. / Hoekstra, Prof.Dr.W.P.M.  
Antigen / Vaccine / Production / Escherichia / Cell / Surface / Immunology / Diagnosis / Membrane biology / Protein / Pathogenic / Recombination / DNA / Insertion / Gene / Bacteriology / Molecular genetics

**Adherence of uropathogenic Escherichia coli strains**

Adhesie van uropathogene Escherichia coli stammen  
Hoekstra, Prof.Dr.W.P.M.  
Pathogenic / Escherichia / Cell / Surface / Adhesion / Molecular genetics / Bacteriology / Vaccine / Production

 **Rijksuniversiteit Utrecht**

Subfaculteit der Scheikunde, Vakgroep Organische Chemie  
Padualaan 8  
3584 CH  
Utrecht  
☎ +31 30 533801, 533491

**Analytical and synthetic studies on carbohydrates and glycoconjugates**

Analytische en synthetische studie van koolhydraten en glycoconjugaten  
Vliegenthart, Prof.Dr.J.F.G. / Kamerling, Dr.J.P.  
Polyalcohol / Structure / Synthesis / Analysis / Oligosaccharide / Lipid / Protein / Vaccine / Organic chemistry / Industry / Organic substance / Polymer

 **Technische Universiteit Delft**

Faculteit der Werktuigbouwkunde, Vakgroep Apparatenbouw  
Procesindustrie, Koudetechniek en Klimaatregeling, Sectie Apparatenbouw  
Procesindustrie  
Mekelweg 2  
2628 CD  
Delft  
☎ +31 15 786678

**Liquid/liquid extraction equipment**

Vloeistof/vloeistof extractieapparatuur  
Bartels, Ir.P.V. / Graauw, Prof.Dr.Ir.J.de  
Bioprocess engineering / Industry / Extraction / Membrane apparatus / Liquid

 **Technische Universiteit Delft**

Faculteit der Scheikundige Technologie, Vakgroep Bioprocestechnologie  
Julianalaan 136  
2628 BL  
Delft  
☎ +31 15 783659, 784400

**Design of a bionic reactor**

Ontwerp van een bionische reactor  
Luyben, Prof.Ir.K.Ch.A.M.  
Bioreactor / Bioprocess engineering / Industry / Production / Transformation / Substrate

**Reactor development for microbial leaching processes**

Reactorontwikkeling voor microbiële uitlogingsprocessen  
Luyben, Prof.Ir.K.Ch.A.M.  
Bioprocess engineering / Microbial / Leaching / Bioreactor / Degradation / Sulphur / Metal / Extraction / Oxygen / Heat / Suspension / Industry

**Reactor development for the production of monoclonal antibodies**

Reactorontwikkeling voor de productie van monoclonale antilichamen  
Luyben, Prof.Ir.K.Ch.A.M.  
Bioprocess engineering / Bioreactor / Monoclonal / Antibody / Hybridoma / Cultivation / Apparatus / Filtration / Optimization / Pharmaceutical industry

**Scaling-up of and mixing in bioreactors**

Schaalvergroting van en menging in bioreactoren  
Luyben, Prof.Ir.K.Ch.A.M.  
Scale-up / Mixing / Bioreactor / Production scale / Fermentation technology / Industry / Measurement / Bioprocess engineering

**Membrane separation of alcohol from bioreactors**

Membranaafscheiding van alcoholen uit bioreactoren  
Luyben, Prof.Ir.K.Ch.A.M.  
Membrane apparatus / Bioprocess engineering / Bioreactor / Alcohol / Fermentation technology / Inhibition / Production / Separation / Industry

**Control with help of off-line information**

Sturing met behulp van off-line informatie  
Luyben, Prof.Ir.K.Ch.A.M.  
Bioprocess engineering / Control / Informatics / Software / Biotechnological / Process / Industry

**Control of biotechnological processes**

Regeling van biotechnologische processen  
Luyben, Prof.Ir.K.Ch.A.M.  
Bioprocess engineering / Control / Computer / Industry / Biotechnological / Process

**Dynamics of biolayer formation in three-phase suspension reactors**

Dynamiek van biolaagvorming in driedfasen suspensiereactoren  
Luyben, Prof.Ir.K.Ch.A.M.  
Bioprocess engineering / Bioreactor / Suspension / Dynamics / Industry

**Biological soil purification with the aid of slurry bioreactors**

Biologische grondreiniging met behulp van suspensiebioreactoren  
Kleintjes, Ir.R.H.  
Biological / Soil / Purification / Bioreactor / Suspension / Aeration / Pollution / Organic / Bioprocess engineering / Industry

**Production of energy sources from biomass**

Productie van energiedragers uit biomassa  
Lans, Dr.Ir.R.G.J.M.van der / Grootjen, Ir.D.R.J.  
Production / Energy / Energy supply / Biomass / Fermentation / Ethanol / Optimization / Modelling / Waste / By-product / Bioprocess engineering / Industry

**Modelling of gas-lift bioreactors**

Modellering van gas-lift bioreactoren  
Hellinga, Ir.C.  
Bioreactor / Modelling / Bioprocess engineering / Laboratory scale / Industry / Cultivation / Cell / Optimization / Vegetable / Plant / Animal

**Mathematical modelling of beer fermentors**

Mathematische modellering van bierfermentoren  
Renger, Ir.R.S.  
Modelling / Fermentation technology / Bioprocess engineering / Beer / Nutritional branch / Flavour / Laboratory scale / Optimization / Fermentation / Quality control / Production / Industry

**Kinetics of incomplete oxidation processes**

Kinetiek van onvolledige oxydatieprocessen  
Hoopen, Ir.H.J.G.ten / Noorman, Ir.H.J.  
Kinetics / Bioprocess engineering / Oxidation / Microbial / Modelling / Biomass / Production / Microbiology / Industry

**Modelling of inhibition kinetics**

Modellering van inhibitie-kinetiek  
Baalen, Ir.A.van  
Inhibition / Kinetics / Modelling / Regulation / Microorganism / Production / Bioprocess engineering / Growth / Microbiology / Industry

**Production of secondary metabolites by plant cells**

Productie van secundaire metabolieten door plantecellen  
Hoopen, Ir.H.J.G.ten  
Bioprocess engineering / Metabolite / Secondary / Production / Plant / Cell / Industry / Cultivation / Suspension / Immobilization / Continuous / Mixing / Diffusion / Batch

**Diffusion phenomena linked with bioconversions**

Diffusieverschijnselen gekoppeld met bioconversies  
Eijkenboom, Ir.L.J.C.  
Bioprocess engineering / Biotransformation / Diffusion / Biological / Catalysis / Optimization / Kinetics / Heterogeneous / Concentration / Industry

**Reactor development for immobilized biosystems**

Reactorontwikkeling voor geïmmobiliseerde biosystemen  
Potters, Ir.J.J.M.  
Bioreactor / Immobilization / Heterogeneous / Cell / Enzyme / Carrier material / Biological / Catalysis / Aeration / Bioprocess engineering / Scale-up / Industry

 **Technische Universiteit Delft**

Faculteit der Scheikundige Technologie, Vakgroep Microbiologie en Enzymologie  
Julianalaan 136  
2628 BL  
Delft  
☎ +31 15 783659, 784400

**Aerobic removal of ammonium and ammonia from industrial waste streams**

Aërobe ammonium- en ammoniakverwijdering uit industriële afvalstromen  
Kuenen, Prof.Dr.J.G.  
Environment / Environmental biotechnology / Aerobic / Degradation / Ammonia / Ammonium / Industrial / Waste / Nitrification / Denitrification / Waste water

**Production of polyols by yeasts and fungi**

Productie van polyolen door gisten en schimmels  
Kuenen, Prof.Dr.J.G.  
Production / Yeast / Microbiology / Microbial / Reduction / Polyalcohol / Organic substance / Industry

**Biosynthesis of the coenzyme PQQ and location of the genes coding for PQQ in Acinetobacter calcoaceticus**

Biosynthese van het coënzym PQQ en lokatie van de genen hiervoor in Acinetobacter calcoaceticus  
Duine, Prof.Dr.Ir.J.A.  
Biosynthesis / Cofactor / Acinetobacter / Gene / Cloning / Modification / Production / Bacteriology / Molecular genetics / Industry

**The physiological role of glucose dehydrogenase in Acinetobacter calcoaceticus in relation with gluconic acid production**

De fysiologische rol van glucosedehydrogenase in Acinetobacter calcoaceticus in relatie met de productie van gluconzuur  
Duine, Prof.Dr.Ir.J.A.  
Glucose dehydrogenase / Acinetobacter / Gluconic acid / Production / Oxidation / Bacteriology / Control / Industry

**Aerobic and anaerobic decomposition of H<sub>2</sub>S and methylsulphides by microorganisms**

Aërobie en anaërobie afbraak van H<sub>2</sub>S en methylsulphiden door micro-organismen

Kuenen, Prof.Dr.J.G.

Aerobic / Anaerobic / Degradation / Inorganic compound / Sulphur / Waste water / Metabolism / Continuous / Batch / Laboratory scale / Environment / Bacteriology / Environmental biotechnology

**Physiology and ecology of acidophilic sulphur oxidizing bacteria and their application in microbial leaching processes**

Fysiologie en oecologie van acidofiele

(zuurminnende) zwaveloxyderende bacteriën en hun toepassing in microbiële uitlogingsprocessen

Kuenen, Prof.Dr.J.G.

Microbial / Leaching / Acidophilic / Cultivation / Batch / Continuous / Fluorescence / Biochemistry / Energy / Sulphur / Oxidation / Bacteriology / Coal / Inorganic compound / Energy supply

**Molecular genetics of yeasts**

Moleculaire genetica van gisten

Steensma, Dr.Ir.H.Y.

Microbiology / Molecular genetics / Yeast / Cloning / DNA / Recombination / Fermentation / Production / Protein / Gene technology / RNA / Chromosomal / Chromosome / Plasmid / Industry

**Control of the redox balance in relation to energy metabolism and production of metabolites by yeasts and fungi**

Regulatie van de redoxbalans in verband met energiehuishouding en metabolietproductie bij gisten en schimmels

Scheffers, Ir.W.A.

Microbiology / Enzymology / Energy / Production / Metabolism / Yeast / Industry / Batch / Continuous / Cultivation / Enzyme / Mitochondrion / Membrane biology / NMR / In vivo / Cofactor

 **Technische Universiteit Delft**

Faculteit der Technische Natuurkunde,  
Vakgroep Transportverschijnselen  
Lorentzweg 1  
2628 CJ  
Delft

☎ +31 15 781448

**Dynamic, optimal control of a fermentation process**

Dynamische optimale regeling van een fermentatie

Johnson, Prof.Dr.A.

Fermentation technology / Optimization / Control / Baking yeast / Bioprocess engineering / Industry / Batch

 **Technische Universiteit Eindhoven**

Faculteit der Scheikundige Technologie,  
Vakgroep Fysische Technologie  
Den Dolech 2  
5600 AA  
Eindhoven

☎ +31 40 472970

**Waste water treatment, sludge treatment, and environmental biotechnology**

Afvalwaterreiniging, slibverwerking en milieutechnologie

Ottengraf, Prof.Ir.S.P.P.

Environment / Environmental biotechnology / Waste water / Sludge / Optimization / Gas / Purification

 **Technische Universiteit Eindhoven**

Faculteit der Scheikundige Technologie,  
Vakgroep Organische Chemie  
Den Dolech 2  
5600 AA  
Eindhoven

☎ +31 40 472655

**Relation between structure and properties of enzymes. Binding of enzymes and proteins to membranes**

Verband tussen structuur en eigenschappen van enzymen. Binding van enzymen en proteïnen aan membranen

Sluiterman, Prof.Dr.L.A.Æ. (Eindhoven) / Buck,

Prof.Dr.H.M. / Meijer, Prof.Dr.E.M.

Enzyme / Protein / Modification / Organic chemistry / Mutation / Recombination / rDNA / Covalent / Membrane apparatus / Artificial / Physical chemistry

 **Universiteit Twente**

Faculteit der Chemische Technologie,  
Vakgroep Macromoleculaire Chemie en  
Materiaalkunde  
Enschede

☎ +31 53 892968

**Membrane science and technology**

Membraan scheidingstechnologie

Bargeman, Dr.D. / Mulder, Dr.M.H.V. / Boomgaard, Dr.T.van den

Membrane apparatus / Physical chemistry / Industry / Separation / Transport / Degradation / Filtration / Gas / Mixture / Liquid / Continuous / Fermentation / Fermentation technology / Alcohol / Molecular

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Faculteit der Wiskunde en  
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en Bioenergetica  
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1018 TV  
Amsterdam

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**Metabolic changes in yeast during the cell cycle**

Metabole veranderingen in gist tijdens de celcyclus

Dam, Prof.Dr.K.van / Postma, Dr.P.W. / Driel,

Dr.R.van

Metabolism / Yeast / Microbiology / Production /

Metabolite / Optimization / Industry / Cell

**Structure and mechanism of action of hydrogenase**

Structuur en werkingsmechanisme van hydrogenase

Albracht, Dr.S.P.J. / Dam, Prof.Dr.K.van

Energy / Energy supply / Enzymology / Biochemistry / Hydrogenase / Chloroplast / Water / Biological / Catalysis / Light

**Ion transport and energy conservation**

Iontransport en energieconservering

Dam, Prof.Dr.K.van / Postma, Dr.P.W.

Ion / Transport / Energy / Metabolism /

Biochemistry / Organelle / Cultivation /

Optimization / Microbiology

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Eiwitstructuur  
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**Amyloglucosidase from yeast**

Amyloglucosidase uit gist

Gelder, Prof.Dr.B.F.van

Amyloglucosidase / Yeast / Antibody / Gene / Cloning / Beer / Nutritional branch / Enzymology / Biochemistry

**Mechanism of action of chloroperoxidase and bromoperoxidase; mechanism of action of D-penicillamine in rheumatoid arthritis**

Het werkingsmechanisme van chloro- en bromoperoxydase; werkingsmechanisme van D-penicillamine bij reumatoïde artritis

Weyer, Dr.R. / Muijsers, Dr.A.O. / Gelder,

Prof.Dr.B.F.van

Enzymology / Haloperoxidase / Drug / Protein / Biochemistry

 **Universiteit van Amsterdam**

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Subvakgroep Medische Enzymologie en  
Metabolisme  
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**Genetic manipulation of site 1 phosphorylation in yeast**

Genetische manipulatie van site 1 fosforylering in gist

Grivell, Prof.Dr.L.A. / Vries, Dr.S.de

Optimization / Production / Industry / Microbiology / Yeast / Modification / Transformation / Energy / Biomass / Biochemistry / Genetic / Oxidoreductase / Phosphorylation / Metabolism

**Production of human monoclonal antibodies by means of in vitro or in vivo/in vitro immunization**

Productie van (humane) monoclonale antilichamen met behulp van in vitro of in vivo/in vitro immunisatie

Tager, Prof.Dr.J.M. / Schram, Dr.A.W.

Production / Monoclonal / Antibody / In vitro / In vivo / Optimization / Immunology / Screening / Spleen / Fusion / Mouse / Lymphocyte / Hybridoma / Antigen / Immune system / Human

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Biologie  
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**The biogenesis of mitochondria**

Biogenese van mitochondriën

Grivell, Prof.Dr.L.A. / Tabak, Dr.H.F.

Development / Yeast / Mitochondrion / Gene / Expression / DNA / Nucleus / Coding / Mutation / Biochemistry / Recombination / Molecular biology

**Protein topogenesis in yeast**

Eiwit-topogenese in gist

Grivell, Prof.Dr.L.A. / Tabak, Dr.H.F.

Molecular biology / Microbiology / Technical / Production / Yeast / Protein / Recombination / rDNA / Industry / Intracellular / Extracellular / Optimization / Bioprocess engineering / Transport

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Technologie  
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**The influence of gas production and pulsed feed on mass transfer in heterogeneous biological systems**

De invloed van gasproductie en gepulseerde voedingsstromen op stoftransport in heterogene biologische systemen  
Heuvel, Dr.Ing.J.C.van den  
Biogas / Biomass / Heterogeneous / Immobilization / Adhesion / Bioprocess engineering / Industry / Nutrient

**Gradients in immobilized enzyme systems and biofilms**

Gradiënten in geïmmobiliseerde enzymssystemen en biofilms  
Heuvel, Dr.Ing.J.C.van den  
Enzyme / Immobilization / Biomass / Methanogenic / Electrode / Substrate / Urease / Alginate / Adhesion / Bioprocess engineering / Industry

**The effect of liquid shear on biofilm formation**

Hydromechanische invloeden op biofilms  
Heuvel, Dr.Ing.J.C.van den  
Liquid / Adhesion / Bacterial / Bioreactor / Bioprocess engineering / Modelling / Industry / Environment

**Aggregate formation of acidogenic sludge**

Hechting van anaëroob verzuringsslib  
Heuvel, Dr.Ing.J.C.van den  
Adhesion / Anaerobic / Continuous / Flow / Bioreactor / Bioprocess engineering / Modelling / Carrier material / Environment / Environmental biotechnology / Bacterial

**Kinetics of the acidogenic dissimilation of glucose**

Kinetiek van de anaëroobe verzuring van koolhydraten  
Heuvel, Dr.Ing.J.C.van den  
Kinetics / Anaerobic / Glucose / Batch / Continuous / Cultivation / Inhibition / Substrate / Production / Modelling / Microbiology / Bioprocess engineering / Industry / Stationary

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**Attachment of microorganisms in biolayers**

Hechting van micro-organismen in biolagen  
Wouters, Dr.J.T.M.  
Bioreactor / Biomass / Bioprocess engineering / Clostridium / Adhesion / Carrier material / Anaerobic / Industry

**Phage resistance in group N streptococci**

Faagresistentie bij groep N streptococci  
Wouters, Dr.J.T.M.  
Bacteriophage / Streptococcus / Resistance / Starter culture / Fermentation / Modification / Receptor / Growth / Nutritional branch / Microbiology / Milk / Cheese

**Anaerobic waste water treatment**

Anaëroobe zuivering van afvalwater  
Andel, Dr.J.G.van / Wouters, Dr.J.T.M.  
Anaerobic / Waste water / Environment / Environmental biotechnology / Optimization / Bioreactor / Methane / Continuous / Flow / Fatty acid / Bioprocess engineering

**Regulation of carbon source metabolism in bacteria and yeasts**

Regulatie van koolstofbron-metabolisme in bacteriën en gisten  
Neijssel, Prof.Dr.O.M.  
Microbiology / Bacterium / Yeast / Metabolism / Mixed culture / Nutrient / Microbial / Growth / Energy / Biochemistry

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Faculteit der Wiskunde en Natuurwetenschappen, Subfaculteit der Scheikunde, Vakgroep Organische Scheikunde  
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**Bioorganic mechanisms and biomimetic synthesis**

Bioorganische mechanismen en biomimetische synthese  
Pandit, Prof.Dr.U.K.  
Organic chemistry / Synthesis / Modelling / Enzymatic / Immobilization / Cofactor / Molecular / Mechanism / Process / Biological

**□ Vrije Universiteit**

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**Optimization of product formation in yeast: mRNA stability and efficiency of translation, nuclear routing of proteins**

Optimalisering van produktvorming in gist: stabiliteit en efficiëntie van vertaling van mRNA, nucleaire routing van eiwitten  
Raué, Prof.Dr.H.A. / Planta, Prof.Dr.R.J.  
Production / Yeast / Optimization / mRNA / Translation / Protein / Nucleus / Biochemistry / Intracellular / Gene

**Biogenesis of yeast ribosomes**

Biogenese van ribosomen in gist  
Planta, Prof.Dr.R.J. / Raué, Prof.Dr.H.A.  
Ribosome / Yeast / Development / Regulation / Biochemistry / Gene / Coding / Expression / Transcription / Translation / Molecular genetics

**Activation of aflatoxin by inducible cytochrome P-450 isoenzymes**

Activering van aflatoxine door cytochrom P-450 isoënzymen  
Planta, Prof.Dr.R.J.  
Biochemistry / Cytochrome / Isoenzyme / Cancer / Induction / Liver / Activation

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**Structure, biosynthesis and localization of glycosyltransferases involved in the biosynthesis of glycoproteins**

Structuur, biosynthese en lokalisatie van glycosyltransferasen betrokken bij de biosynthese van glycoproteïnen  
Eijnden, Dr.D.H.van den  
Antibody / Gene / Cloning / Transferase / Biosynthesis / Glycoproteid / Enzyme / Cell biology / Immune / Structure / Primary

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1081 HV  
Amsterdam  
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**Biological productivity: production of oils and fats (microorganisms and plants)**

Biologische productiviteit: produktie van oliën en vetten (micro-organismen en planten)  
Smit, Dr.H. / Stuitje, Dr.A.R.  
Production / Biological / Oil / Fat / Useful plant / Vegetable / Gene / Modification / Fatty acid / Regulation / Biosynthesis / Microorganism / Microbial / Molecular genetics / Industry / Agriculture / Plant

**Biological productivity: production of secondary metabolic plants (PAL-pathway: flavonoids, lignans)**

Biologische productiviteit: produktie van secundaire metabolische planten (PAL-route: flavonoiden, lignanen)  
Mol, Dr.J.N.M.  
Production / Biological / Metabolism / Useful plant / Vegetable / Molecular genetics / Energy / Biochemistry / Agriculture / Pharmaceutical industry / Gene / Regulation / Plant

**Genetic and physiological regulation of enzymes involved in flavonoid synthesis in *Petunia hybrida***

Genetische en fysiologische regulatie van enzymen betrokken bij de flavonoïdsynthese in *Petunia hybrida*  
Gerats, Dr.A.G.M.  
Plant / Vegetable / Molecular genetics / Transposon / Enzyme / Biosynthesis

**Development of versatile, non-oncogenic plant vectors, based on the 'binary' Ti-system and a chimeric hygromycin B resistance gene**

Ontwikkeling van simpele, niet-oncogene plantevectoren, gebaseerd op het 'binaire' Ti-systeem en een chimeer hygromycine-B resistentie-gene  
Elzen, Dr.P.J.M.van den / Hooykaas, Dr.P.J.J.  
Plant / Vegetable / Vector / Resistance / Gene / Transformation / Marker / Plasmid / Antibiotic / Agriculture

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**Influence of growth conditions on the production of adhesive antigens**

Invloed van groeiomstandigheden op de produktie van adhesie-antigenen  
Graaf, Prof.Dr.F.K.de / Verseveld, Dr.H.W.van  
Growth / Adhesion / Antigen / Regulation / In vivo / In vitro / Production / Expression / Nucleotide / Optimization / Microbiology

**Cloning of the genes involved in methanol oxidation**

Klonering van de genen betrokken bij methanol-oxidatie  
Stouthamer, Prof.Dr.A.H.  
Gene / Cloning / Methanol / Oxidation / Industry / Fermentation / Substrate / Microbiology / Molecular genetics / Metabolism

**Excretion of proteins by gram-negative bacteria**

Excretie van eiwitten door gram-negatieve bacteriën  
Graaf, Prof.Dr.F.K.de / Oudega, Dr.B.  
Bacteriology / Excretion / Protein / Gramnegative / Bacterium / Toxin / Biosynthesis / Biochemistry

**Energy metabolism and productivity in microorganisms**

Energiehuishouding en produktiviteit bij micro-organismen  
Stouthamer, Prof.Dr.A.H.  
Energy / Metabolism / Production / Microbiology / Biomass / Nitrogen / Hydrogen / Denitrification / Fixation

**Adhesins of enterotoxigenic E. coli strains**  
 Adhesinen van enterotoxische E. coli-stammen  
 Graaf, Prof.Dr.F.K.de  
 Microbiology / Adhesion / Escherichia / Gut /  
 Epithelium / Biosynthesis / Receptor / Vaccine

**Growth parameters and regulation of the metabolism in rhizobia**  
 Groeiparameters en regulatie van het metabolisme in rhizobia  
 Stouthamer, Prof.Dr.A.H.  
 Growth / Regulation / Metabolism / Microbiology /  
 Rhizobium / Plant / Vegetable / Agriculture /  
 Nitrogen / Fermentation / Chemostat / Cultivation /  
 Fixation / Useful plant

**Molecular biological research on bacterial respiratory chains**  
 Moleculair-biologisch onderzoek aan bacteriële ademhalingsketens  
 Oltmann, Dr.L.F.  
 Molecular biology / Microbiology / Paracoccus /  
 Hydrogenase / Escherichia / Molecular genetics /  
 Enzyme / Cytochrome / Oxidase / Biophysics /  
 Mutation / Metabolism / Energy / Gene / Apparatus

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 Plantenfysiologie  
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**Biological productivity: production of biomass by plants**  
 Biologische produktiviteit: produktie van biomassa door planten  
 Hille, Dr.J.  
 Production / Biomass / Plant / Useful plant /  
 Vegetable / Agriculture / Organelle / Genetics /  
 Botany / Cytoplasm / Sterility / Resistance

**Bioenergetics of photosynthetic membranes and reconstituted model systems**  
 Bioenergetica van fotosynthetische membranen en gereconstitueerde modelsystemen  
 Krab, Dr.K. / Kraayenhof, Prof.Dr.R. / Walraven, Dr.H.S.van  
 Energy / Photosynthesis / Membrane biology /  
 Modelling / Lipid / Protein / Artificial /  
 Cyanobacterium / Biophysics / Spectrometry / Plant

**Photoproduction of hydrogen by cyanobacteria**  
 Fotoproduktie van waterstof door cyanobacteriën  
 Kraayenhof, Prof.Dr.R.  
 Light / Hydrogen / Water / Cyanobacterium /  
 Cultivation / Energy / Production / Plant

**Optimization of growth and production in plant cells in suspension culture**  
 Optimalisatie van groei en produktie bij plantecellen in suspensiekweek  
 Plas, Dr.L.H.W.van der  
 Optimization / Growth / Production / Plant / Cell /  
 Cultivation / Suspension / Energy / Metabolism /  
 Polyalcohol / Batch / Fermentation / Bioreactor /  
 Photosynthesis / Cytoplasm / Sterility / Useful plant /  
 Agriculture

## PORTUGAL

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Contact person: Prof. A. Medina

- **Instituto Nacional de Saude Dr. Ricardo Jorge**  
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**Bioavailability studies on medicinal products on the portuguese market**

Estudo da biodisponibilidade de medicamentos do mercado português  
Morais, Prof.J.A.  
Pharmacology / Drug / Adsorption / Distribution / Metabolism / Concentration / Excretion / Pharmaceutical industry

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**Immobilization into liposomes, of therapeutic active enzymes**

Imobilização em lipossomas de enzimas com acção terapêutica  
Cruz, Prof.M.E.M.  
Immobilization / Membrane biology / Artificial / Therapy / Stable / Enzyme / Enzymatic / Optimization / Enzymology / Pharmacy / Pharmaceutical industry

**Food and Feed Biotechnology and additives production**

Biotecnologia da produção de alimentos e suplementos alimentares  
Collaco, Dr.M.T.A.  
Genetics / Enzymology / Fermentation technology / Microbiology / Agriculture / Industry / Waste / Biotransformation / Lignocellulose / Degradation / Production / Microbial / Protein / Cobalamin / Starter culture / Polysaccharide

**New dairy products and coagulating enzymes**

Novos produtos lácteos e enzimas coagulantes  
Barbosa, Dra.M.  
Milk / Yoghurt / Cheese / Clotting / Enzyme / Vegetable / Starter culture / Fermentation / Enzyme technology / Microbiology / Nutrition sciences / Nutritional branch

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**Biocatalysis by novel metal clusters and hydrogenase: structure reactivity and immobilization**

Biocatalise por "novel metal clusters" e hidrogenase: reactividade e imobilização  
Moura, Prof.J.J.G.  
Biological / Catalysis / Hydrogenase / Immobilization / Biochemistry

**Bioproduction of hydrogen**

Bioprodução de hidrogénio  
Moura, Prof.J.J.G.  
Hydrogen / Production / Bacterium / Anaerobic / Hydrogenase / Reaction / Mechanism / Biochemistry / Microbiology

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**Chemicals from marine microalgae**

Produtos Químicos a partir de microalgas marinhas  
Sampayo, Dr.M.A.M.  
Marine / Alga / Production / Protein / Amino acid / Lipid / Sterol / Vitamin / Microbiology / Industry

**Production of Microalgae to treat piggery effluents and biomass application**

Produção de Microalgas no tratamento de efluentes de suinicultura. Estudos sobre a aplicação da biomassa  
Sampayo, Dr.M.A.M.  
Alga / Pig / Waste / Degradation / Aquaculture / Bioprocess engineering / Biomass / Production / Environment

**Collection of microalgae stock cultures**

Algoteca: cultura "stock" de microalgas  
Sampayo, Dr.M.A.M.  
Alga / Isolation / Microbiology / Ecology

- **Sociedade Nacional de Saboões**  
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**Enzymatic oleochemistry**

Oleoquímica enzimática  
Empis, Dr.J.M.A.  
Lipase / Fat / Enzymology / Nutritional branch

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**The L-arabinose regulon of "Bacillus subtilis": organization, cloning, function and regulation of the "ara" genes**

O operão da L-arabinose de "Bacillus subtilis": organização, clonagem, função e regulação dos genes "ara"  
Lencastre, Prof.H.  
Gene / Expression / Cloning / Sequencing / Bacillus / Molecular genetics / Microbiology / Industry

**Identification, characterization and cloning of "Bacillus subtilis" genes involved in resistance to temperate phages**

Identificação, caracterização e clonagem de genes de resistência a fagos temperados de "Bacillus subtilis"  
Lencastre, Prof.H.  
Cloning / Gene / Bacillus / Resistance / Bacteriophage / Mutation / Isolation / Expression / Sequencing / Molecular genetics / Microbiology / Industry

**Analysis of the control of "spoVE" expression**

Análise do controlo da expressão do operão "spoVE"  
Lencastre, Prof.H.C.  
Gene / Expression / Bacillus / Molecular genetics / Microbiology

**Molecular biology of the "Bacillus subtilis" phages**

Biologia molecular de fagos de "Bacillus subtilis"  
Lencastre, Prof.H.  
Molecular biology / Microbiology / Bacillus / Bacteriophage / Transfection / Recombination / Genetic / Microencapsulation / Gene / Cloning / DNA / Sequencing

**Bioconversion by yeasts of mixed substrates of industrial interest**

Bioconversão por leveduras de substratos mistos de interesse industrial  
Spencer-Martins, Prof.I.  
Biotransformation / Yeast / Optimization / Lignocellulose / Whey / Fermentation / Lactose / Lactic acid / Mixture / Microbiology / Fermentation technology / Industry

**Regulation of proteolysis during differentiation in "Lupinus"**

Regulação da proteólise durante a diferenciação em "Lupinus"  
Duque-Magalhaes, Prof.M.C.  
Hydrolysis / Expression / Dicotyledon / Differentiation / Development / Isoenzyme / Cell / Cultivation / Botany / Genetics / Agriculture

**Study of the antagonists of H2-histamine receptors**

Estudo de antagonistas dos receptores H2 da histamina  
Ribeiro, Prof.J.A.  
Receptor / Nervous system / Conductivity / Neurobiology

**Gene expression and regulation of P450 isoenzymes**

Regulação da expressão genética de formas isoenzimáticas de citocromo P450  
Lechner, Prof.M.C.  
Gene / Expression / Isoenzyme / Cytochrome / Cell / Cultivation / rDNA / Mammal / Hybridization / Sequencing / Affinity / Chromatography / Purification / Antibody / Molecular genetics

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**"Tuber" inoculation in order to protect and valorize portuguese oak stands**

Inoculação de "Tuberaceae" em "Quercineas" com a finalidade de proteger e valorizar esses povoamentos  
Azevedo, Dra.N.F.S.  
Dicotyledon / Mycelial fungus / Symbiosis / Agricultural sciences / Forestry

**EEC - Mycorrhiza Project**

CEE - Projecto de Micorrizas  
Fonseca-Neves, Prof.N.  
Mycelial fungus / Growth / Plant / Agricultural sciences / Agriculture

**Biotechnological improvement of agricultural wastes in new protein production**

Aproveitamento biotecnológico dos resíduos industriais agro-florestais na produção de novas proteínas  
Azevedo, Dra.N.F.S.  
Waste / Plant / Mycelial fungus / Cultivation / Agricultural sciences / Agriculture

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**Carbin and Nitrogen on plant growth**

Relacoes da assimilacao do carbono e metabolismo do azoto no crescimento das plantas  
Santos, Prof.I.

Carbon / Nitrogen / Metabolism / Maize / Potato / Growth / Photosynthesis / Tissue / Cultivation / Green alga / Nitrogenase / Bacterium / Botany

**Function of Decidualisation Associated Protein-DAP. Synthesis of high molecular weight proteins by the human decidua during early pregnancy**

Funcao da proteina associada a decidualizacao-DAP. Estudo da sintese das proteinas de elevado peso molecular pelo tecido decidual humano no inicio da gravidez  
Teixeira, Prof.N.A.A.  
Cell biology / Urogenital system / Lymphocyte / Protein / Synthesis / High-molecular

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**Adaptive control of fermentation processes**

Controlo adaptativo de processos de fermentacao  
Ferreira, Eng.E.M.F.C.

Fermentation / Bioprocess engineering / Software / Monitoring / Methanogenic / Batch / Continuous / Bioreactor / Lysine / Production / Antibiotic / Modelling / Simulation / Biocomputing / Optimization / Production / Pilot scale / Production scale / Industry

□ **Escola Superior Agraria de Santarem**

Instituto Politecnico de Santarem  
Escola Superior Agraria  
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Santarem

**Study and technological development of goat's dairy products**

Estudo e desenvolvimento tecnologico do sector de lactacinios de origem caprina  
Fonseca, Prof.P.D.

Milk / Cheese / Mammal / Nutrition sciences / Nutritional branch / Agriculture / Starter culture / Optimization

□ **Universidade de Aveiro**

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**Surveillance of river water quality using macroinvertebrate communities**

Avaliacao da qualidade biologica das aguas fluviais atraves do estudo das comunidades de macroinvertebrados  
Moreira, Prof.M.H.

Monitoring / Surface water / Pollution / Environmental sciences / Environment

**Selection of cell lines resistant to salinity from cultivars of "Zea mays" L. and "Solanum tuberosum" L.**

Selecao de linhas celulares resistentes a salinidade a partir de variedades cultivadas de "Zea mays" e "Solanum tuberosum"  
Caldeira, Prof.G.C.N.

Potato / Maize / Resistance / Salt / Selection / Cultivation / Cell / Botany / Cell biology / Genetics / Agriculture

**Screening of bacterial resistance plasmids**

Pesquisa de plasmideos de resistencia em bacterias  
Correia, Dr.A.

Bacterial / Resistance / Plasmid / Screening / Formaldehyde / Microbiology

□ **Universidade do Minho**

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**Optimization of the operating conditions of "verde wine" and of the formation of its aroma**

Optimizacao das condicoes de producao de "vinho verde" e da formacao dos seus aromas  
Maia, Prof.M.O.

Wine / Volatile / Fermentation / Aromatic substance / Regulation / Fermentation technology / Food chemistry / Nutritional branch

**Biotransformation**

Biotransformacao  
Gregorio, Prof.M.V.M.  
Biotransformation / Chiral / Esterase / Lipase / Hydrolysis / Ester / Acetic acid / Salt / Catalysis / Enzymology / Industry

**The behaviour of biofilms in the fouling of heat exchangers**

Comportamento de filmes biologicos no sujamento de permutadores de calor  
Melo, Prof.L.F.

Apparatus / Exchange / Heat / Adhesion / Prophylaxis / Pseudomonas / Plastic / Coating / Bioprocess engineering

□ **Universidade do Minho**

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**Plant biotechnology in the improvement of "Vinho Verde" grapevines. The use of "in vitro" culture techniques**

A biotecnologia vegetal no melhoramento das castas de castas de Vinho Verde. Aplicacao de tecnicas de cultura "in vitro"  
Leao, Prof.M.C.P.

Wine / Viral / Infection / Plant / Genetics / Optimization / In vitro / CULTIVATION / Agriculture

**Transport and degradation of malate and other short-chain dicarboxylates in wine yeast strains**

Transporte e utilizacao do Acido Malico e outros acidos dicarboxilicos em leveduras de interesse vinicola  
Leao, Prof.M.C.P.

Wine / Yeast / Mutation / Malic acid / Degradation / Fermentation / Microbiology / Genetics / Nutritional branch / Agriculture

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**Enzymatic induction in the synthesis of chiral compounds**

Inducao enzimatica na sintese de compostos quirais  
Godinho, Prof.L.D.S.  
Baking yeast / Stereospecific / Chiral / Organic substance / Enzymatic / Induction / Organic chemistry / Industry

□ **Universidade de Coimbra**

Centro de Biologia Celular  
Coimbra  
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☎ +351 39 34729

**Purification, physico-chemical characterization and kinetic studies of the protease extracted from the flower of cardoon used in cheese manufacturing**

Purificacao, estudos Fisico-Quimicos e estudos cineticos da protease da flor do Cardo utilizada na fabricacao do queijo  
Faro, Dr.C.J.F.C / Morgado, Dr.J.M

Cheese / Protease / Vegetable / Clotting / Substitution / Purification / Hydrolysis / Enzymology / Nutritional branch / Agriculture

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Departamento de Fisica  
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☎ +351 39 23671

**Electrical activity and calcium changes in the hippocampus during repetitive stimulation**

Estudo da actividade electrica e das variacoes de calcio no hipocampo durante estimulacao repetitiva  
Quinta-Ferreira, Prof.M.E.  
Brain / Stimulation / Calcium / Rat / Neurology

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Departamento de Quimica da Universidade de Coimbra  
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Coimbra  
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**Systems of immobilized biocatalysts onto polymeric supports. Preparation, characterization and study of applications**

Preparacao, caracterizacao e estudo de aplicacoes de sistemas de biocatalizadores imobilizados sobre suportes polimericos  
Silva, Prof.M.A.  
Biological / Catalysis / Immobilization / Polymeric / Carrier material / Polysaccharide / Enzyme technology / Industry

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Faculdade de Ciencias, Departamento de Zoologia  
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**Optimization of effective low toxicity pesticides: mechanisms of biochemical action**

Optimizacao de pesticidas efectivos de baixa toxicidade: mecanismos bioquimicos de accao  
Madeira, Prof.U.M.C.  
Insecticide / Membrane biology / Respiration / Mitochondrion / ATP / Synthetase / Phosphorylation / Ion / Transport / Biochemistry / Biophysics / Toxicology / Agriculture

**Osmoregulation and polyol transport systems in yeast**

Osmoregulacao e transporte de poliois em leveduras  
Lucas, Prof.C. / Nobre, Dr.M.F.  
Polyalcohol / Yeast / Osmosis / Regulation / Transport / Microbiology / Biophysics

**Microbiology of bacteria of the genus THERMUS: phylogeny and biotechnological potencial**

Microbiologia das bacterias do genero THERMUS: filogenia e potencial biotecnologico  
Costa, Prof.M.S.  
Thermus / Microbiology / Taxonomy / DNA / Hybridization / Polyalcohol / Hydrolysis / Enzymatic / Protein / Growth / Inhibition

- Universidade da Beira Interior**  
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**Anaerobic treatment of liquid effluents**

Tratamento anaerobico de efluentes liquidos  
Ferra, Prof.M.I.A.  
Waste water / Purification / Anaerobic / Fermentation / Fermentation technology / Environmental biotechnology / Environment

- Universidade do Algarve**  
Gambelas  
8000  
Faro

**Optimization of biomass production of "Cynara cardunculus"**

Estudo das condicoes de obtencao de biomassa de "Cynara cardunculus" em fermentador  
Cabral, Prof.J.M.S.  
Plant / Biomass / Production / Optimization / Cheese / Hydrolysis / Clotting / Activity / BIOREACTOR / Cell / Growth / Metabolism / Modelling / Agricultural sciences / Agriculture

- Faculade de Ciencias de Lisboa**  
Centro de Engenharia Biologica  
Bloco C 2, Campo Grande  
1700  
Lisboa

**Production of chemicals with interest as pharmaceuticals by "calli" and cell suspension cultures of "Geranium robertianum".**

Producao de compostos quimicos com interesse medicamentoso a partir de "calli" e celulas em suspensao de "Geranium robertianum".  
Antunes, Prof.M.S.P.T.  
Metabolite / Secondary / Production / Vegetable / Tissue / Cultivation / Dicotyledon / Pharmaceutical industry / Pharmacy / Cell biology

**Production of food additives, antibiotics and cytostatics from "calli" and cell suspension cultures of species spontaneously occurring in Portugal**

Obtencao de aditivos alimentares, antibioticos e citostaticos a partir de "calli" e celulas em suspensao de especies espontaneas em Portugal  
Antunes, Prof.M.S.P.T.  
Metabolite / Secondary / Production / Additive / Antibiotic / Cytostatic / Vegetable / Tissue / Cultivation / Cell biology / Pharmaceutical industry / Nutritional branch

- Instituto Superior Tecnico**  
Centro de Quimica Experimental do Instituto Superior Tecnico  
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**Bioconversion of energy by microorganisms as investigated by non-invasive techniques**

Estudos da bioconversao de energia em microorganismos por tecnicas nao-invasivas  
Santos, Prof.M.H.D.  
Biotransformation / Energy / Bacterium / Sulphate / Reduction / Methanogenic / Cell / Metabolism / NMR / Carboxylic acid / Production / Biochemistry / Microbiology / Industry

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Departamento de Botanica  
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Lisboa  
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**Metabolic regulation during differentiation and stress of Lupin cells**

Regulacao metabolica durante a diferenciacao e stress em "Lupinus"  
Pinto-Ricardo, Prof.C.P.  
Dicotyledon / Tissue / Cultivation / Vegetable / Regeneration / Botany / Agriculture

- Universidade de Lisboa**  
Departamento de Biologia Vegetal da Faculdade Ciencias de Lisboa  
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**Development and improvement of techniques in order to increase Carob Productivity in mediterranean regions**

Desenvolvimento e aperfeicoamento de tecnicas com vista ao aumento da produtividade da Alfarrobeira em zonas mediterraneas  
Martins-Loucao, Prof.M.A.  
Dicotyledon / Cultivation / Optimization / Production / Botany / Agriculture

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Faculdade Ciencias e Tecnologia,  
Departamento de Ciencia e Engenharia do Ambiente, Laboratorio de Operacoes Unitarias  
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**Biomass intensification system for treatment of effluents with difficult biodegradation**

Sistema de identificacao de biomassa para tratamento de efluentes de dificil biodegradabilidade  
Santana, Prof.F.P.  
Degradation / Activated sludge / Bioreactor / Laboratory scale / Fermentation technology

- Universidade de Lisboa**  
Departamento de Quimica da Faculdade de Ciencias da Universidade de Lisboa  
Rua da Escola Politecnica  
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**Obtention of compounds with cytostatic and/or antibiotic activity. Biosynthesis or**

**Biotransformation of natural products from species of portuguese spontaneous vegetation**  
Obtencao de compostos com actividade citostatica e/ou antibiotica. Biosintese e/ou biotransformacao de produtos naturais de especies da vegetacao espontanea portuguesa  
Rauter, Prof.A.P.  
Biosynthesis / Biotransformation / Cytostatic / Antibiotic / Biochemistry / Botany / Dicotyledon / Pharmaceutical industry / Tissue / CULTIVATION / Drug

- Universidade Nova de Lisboa**  
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**Transport across biological membranes- Effect of certain generic drugs in these systems**

Transporte em membranas biologicas- Efeito de determinadas drogas genericas nestes sistemas  
Moura, Prof.T.M.F.  
Transport / Membrane biology / Epithelium / Drug / Water / Ion / Uretic substance / Salt

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**Enzymes involved in methanogenesis and denitrification**

Enzimas envolvidas em metanogeneses e desnitrificacao  
Moura, Prof.I.M.A.M.G.  
Methane / Origin / Denitrification / Methanogenic / Bacterium / Enzymology / Cytochrome / Biochemistry / Microbiology / Energy supply

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**Lactic acid production in high cell density reactors**

Producao de acido lactico em reactores de elevada densidade celular  
Goncalves, Dra.L.M.D. / Xavier, Dra.A.R.B.  
Lactic acid / Production / Bioreactor / Optimization / Extraction / Fermentation technology / Industry



**Modelling of Propionibacterium fermentation using wood hydrolysates**

Modelizacao da fermentacao de Propionibacterium usando hidrolisados de madeira  
Moura, Dr.M.G.C. / Crespo, Eng.J.P.S.G.  
Fermentation / Acetic acid / Production / Xylose / Glucose / Immobilization / Cell / Bioreactor / Modelling / Bioprocess engineering / Extraction / Cobalamin / Software / Automation / Control / Industry / Bacterium

**Double substrate fed batch fermentation with and without cell recycle.**

Uso de bioreactores fed batch com e sem reciclo em fermentacao a dois substratos  
Moura, Dr.M.J. / Crespo, Eng.J.P.S.G.  
Fermentation / Batch / Xylose / Glucose / Control / Cell / Recycling / Fermentation technology / Cobalamin / Production / Feed / Kinetics / Modelling

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**Production of L-tryptophan in Multiphasic Systems from L-serine and Indole using immobilized "E. coli" cells**

Producao de triptofano em Sistemas Multifasicos com Celulas Imobilizadas  
Fonseca, Prof.M.M.R.  
Tryptophan / Production / Serine / Immobilization / Escherichia / Biotransformation / Organic / Solvent / Enzymology / Microbiology / Nutritional branch

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1600  
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**Screening, isolation, and characterization of type II restriction enzymes contained in microorganisms isolated from Portuguese habitats**

Pesquisa, isolamento e caracterizacao de enzimas de restricao do tipo II contidas em microorganismos detectados em meios ambientes Portugueses  
Victor, Dr.J.M.B.  
Restriction / Endonuclease / Isolation / Screening / Molecular genetics

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**Study of wine photochemistry, in order to obtain a premature aging**

Estudo da fotoquimica do vinho com vista ao seu envelhecimento prematuro  
Pina, Prof.F.  
Wine / Organic chemistry / Physical chemistry / Agriculture / Nutritional branch

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**Study of hereditary diseases by genetic engineering techniques: cloning and sequencing of thalassaemic genes**

Aplicacao da engenharia genetica ao estudo de doencas hereditarias: clonagem e sequenciacao de genes beta-talassemicos  
Almeida, Prof.M.L.O.  
Cloning / Sequencing / Gene / Congenital / Blood / Disease / Molecular genetics / Human genetics / Restriction / Oligonucleotide

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**Research on mass rearing of entomophilic nematodes (Steinernematidae and Heterorhabditidae using artificial media**

Investigacao sobre a producao em massa de nematodos entomopatogenicos (Steinernematidae e Heterorhabditidae) em meio artificial  
Simoes, Dr.N.O. / Neves, Dr.J.M.  
Nematode / Cultivation / Medium / Artificial / Optimization / Degradation / Bacterial / Pest / Abatement / Insect / Entomology / Agriculture

**Research on biotechnological processes in the mass rearing of the entomopathogenic bacteria "Bacillus popilliae"**

Investigacao sobre processos biotecnologicos de producao em massa da bacteria entomopatogenica "Bacillus popilliae"  
Viegas, Dr.A.T.V.C.  
Selection / Bacillus / Pathogenic / Cultivation / Pesticide / Microbiology / Agriculture / Pest / Abatement / Insect

**Study of endemic plants from Azores. Isolation and identification of secondary metabolites with biological activity**

Estudo de plantas endemicas dos Acores. Isolamento e identificacao de metabolitos com actividade biologica  
Medeiros, Prof.J.  
Secondary / Metabolite / Isolation / Recognition / Plant / Insect / Pest / Abatement / Botany / Biochemistry / Agriculture

 **Universidade dos Acores**

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**Biological control of agricultural pests with egg-eating parasites of the genus "Trichogramma"**

Controlo biologico de pragas agricolas pelo emprego de parasitas oofagos do genero "Trichogramma"  
Tavares, Prof.J.  
Pest / Abatement / Agriculture / Parasite / Entomology

 **Universidade do Porto**

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**Mathematical modeling of the drying of food products and its impact on dryer control and energy conservation**

Modelizacao matematica da secagem de produtos alimentares e seu impacto no controle do secador e na conservacao de energia  
Sereno, Prof.A.M.  
Drying / Food / Energy / Reduction / Food technology / Nutritional branch / Industry

**Bioleaching of Tungsten ores**

Biolixiviacao de minerios de Tungstenio  
Carvalho, Prof.R.A.G.  
Leaching / Tungsten / Microorganism / Microbiology / Mineralogy / Industry

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**Production of fuel alcohols from fermentation: physiological basis for improving the process**

Producao de alcoois por fermentacao: bases fisiologicas para melhoramento dos processos  
Mota, Prof.M.  
Lactose / Fermentation / Ethanol / Production / Flocculation / Additive / Yeast / Microbiology / Bioprocess engineering / Industry

 **Universidade Catolica Portuguesa**

Escola Superior de Biotecnologia  
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**Study of the wines produced in "verde wine" region**

Estudo dos vinhos produzidos na regio dos vinhos verdes  
Pocas, Eng.M.F.T. / Pinho, Dra.M.P.A.A.G.  
Wine / Additive / Colour / Organic chemistry / Polypeptide / Stable / Nutritional branch

**Characterization and economic valorization of secondary products of portuguese carob**

Caracterizacao e valorizacao economica de subprodutos de alfarroba portuguesa  
Gomes, Prof.J.A.N.F.  
Dicotyledon / Heavy metal / Biomass / Vegetable / NMR / Inorganic compound / Secondary / Biochemistry / Industry / Agriculture

**The spoilage of Port Wine during maturation by lactic acid bacteria**

A alteracao do Vinho do Porto durante a maturacao ocasionada por bacterias lacticas  
Capela, Dra.A.B.N. / Couto, Dr.J.A.G.  
Wine / Lactic acid / Bacterium / Isolation / ELISA / Microbiology / Nutritional branch

 **Universidade de Tras-os-Montes e Alto Douro**

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**Embryo transfer impact in dairy goat improvement**

Impacto da transferencia embrionaria no melhoramento de caprinos de vocacao leiteira  
Potes, Prof.N.M.U.B.  
Embryo / Transfer / Mammal / Optimization / Apparatus / Ovulation / Induction / Agricultural sciences / Veterinary medicine / Agriculture

**Universidade de Trás-os-Montes e Alto Douro**  
Departamento de Genética, Laboratório de Cultura "in vitro"  
Apartado 202  
5001  
Vila Real

**Cereal "in vitro" culture**  
Cultura "in vitro" em cereais praganosos  
Pinto, Prof.H.G.  
In vitro / Cultivation / Monocotyledon / Cell biology / Botany / Agriculture

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**Mitochondrial molecular genetics in relation to  
crop improvement**  
Briquet, Dr.M.  
Mitochondrion / Genome / Useful plant /  
Optimization / Molecular genetics / Expression /  
Transfer / Modification / Plasmid / Botany /  
Agriculture

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Batiment Maxwell  
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Louvain-la-Neuve  
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**Advanced monitoring and computer control of  
biotechnological processes**  
Bastin, Dr.G.  
Monitoring / Control / Bioreactor / Informatics /  
Hardware / Optimization / Simulation / Pilot scale /  
Sensor / Measurement / Fermentation technology

□ **ICP**  
Departement de Biologie Moleculaire  
Avenue des Hippocrate 75  
1200  
Bruxelles  
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**Engineering of gram negative bacteria with  
industrial potential.**  
Davison, Dr.J.D.  
Cloning / Vector / Gramnegative / Soil / Bacterium /  
Expression / Stable / Isolation / Sequencing /  
Industry / Genetic / Engineering / Microbiology /  
Molecular genetics

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Unité de Chimie des Interfaces  
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**Control of the microenvironment of biocatalysts  
by coimmobilization**  
Rouxhet, Dr.P.G.  
Bioprocess engineering / Immobilization / Oxygen /  
Bioreactor / Cell / Interaction / Catalase / Bacillus /  
Enzymology / Production / Alkaloid / Bacitracin

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Laboratorium Genetische Virologie  
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**Isolation of transportable elements from  
Petunia hybrida**  
Hernalsteens, Dr.J.P.  
Isolation / Dicotyledon / Cloning / Transposon /  
Gene / Agriculture / Insertion / Genetic /  
Engineering / Botany / Molecular genetics

□ **Plant Genetic Systems NV**  
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9000  
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**The transformation of chloroplasts with  
Agrobacterium tumefaciens and naked DNA**  
Block, Dr.M. De  
Chloroplast / Modification / Agrobacterium /  
Genetic / Engineering / DNA / Transfer / Gene /  
Resistance / Cloning / Protoplast / Expression /  
Stable / Insertion / Genome / Molecular genetics /  
Microbiology / Botany / Agriculture

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**Genetic manipulation and regeneration in  
model and crop plants in vitro**  
Jacobs, Dr.M.  
Genetic / Engineering / Plant / In vitro / Vegetable /  
Cell / Cultivation / Transfer / Useful plant /  
Regeneration / Botany / Genetics

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Radiobiologie  
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**Parvovirus based linear animal vectors for  
production of vaccines and other useful proteins**  
Rommelaere, Dr.J.  
Vector / Cloning / Vaccine / Production / Protein /  
Parvovirus / Genetic / Engineering / Animal /  
Molecular genetics / Microbiology / Immunology

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1200  
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**Gene cloning of Brucella antigens which as  
vaccines do not interfere with a specific  
diagnosis.**  
Limet, Dr.J.  
Gene / Cloning / Antigen / Vaccine / Antibody /  
Monoclonal / Purification / Assay / Stock / Bacterial /  
Infection / Immunology / Microbiology / Veterinary  
medicine / Diagnosis

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Scientifique**  
Service du Premier Ministre  
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**A European network of microbial culture  
collection databanks : integrated catalogue.**  
Brabandere, Dr.J.de  
Data base / Organism collection / Microbial /  
Cultivation / Online searching

□ **Rijksuniversiteit Gent**  
Laboratorium voor Microbiologie  
K.L. Ledeganckstraat 35  
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**Electrophoresis of proteins:data capture,analysis  
and construction of databanks**  
Kesters, Prof.Dr.K.  
Electrophoresis / Data base / Software /  
Optimization / Screening / Microorganism /  
Informatics / Microbiology / Biochemistry

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Macromolécules Biologiques  
Av. Paul Heger P2  
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**Engineering of an extracellular ribonuclease by  
gene modification**  
Wodak, Dr.S.  
Protein design / Ribonuclease / Extracellular /  
Amino acid / Substitution / Computer / Simulation /  
Enzymology / Biochemistry / Genetic /  
Engineering / Genetics / Substrate / Interaction /  
Protein / Folding

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**The molecular biology of plant pathogenic  
Erwinia.**  
Thoussaint-pourbaix, Dr.A.  
Molecular biology / Erwinia / Pathogenic / Plant /  
Agriculture / Enzyme / Extracellular / Molecular  
genetics / Biochemistry / Host / Pathogen /  
Interaction / Mutation / Cloning / Gene

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Liege  
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**Dd-peptidases and B-lactamases. From gene  
expression to protein engineering**  
Ghuysen, Prof.Dr.J.M.  
Peptidase / Lactamase / Mutation / Bacillus /  
Streptomycete / Antibiotic / Structure / Activity /  
Amino acid / Microbiology / Molecular biology /  
Genetics / Structural analysis

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**Artificial intelligence approach to protein structure prediction by development of a knowledge base**

Wodak, Dr.S.  
Protein / Structure / Biocomputing / Informatics /  
Molecular / Biochemistry / Modelling

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**Artificial intelligence approach to protein structure prediction by development of a knowledge base**

Vrenken, Dr.R.  
Protein / Structure / Biocomputing / Informatics /  
Molecular / Biochemistry / Modelling

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Molecular Biology  
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**Development of a gene mediated transfer and selection system for filamentous fungi**

Fiers, Dr.W.  
Gene / Expression / Mycelial fungus / Transfer /  
Plasmid / Recombination / Vector / Secretion /  
Protein / Genetic / Engineering / Molecular  
genetics / Microbiology

□ **Université Libre de Bruxelles**  
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**Study of baker's yeast growth and product formation in view of industrial applications**

Grenson, Prof.M.  
Baking yeast / Biosynthesis / Amino acid / Genetic /  
Engineering / Continuous / Cultivation / Mutation /  
Origin / Gene / Cloning / Genetics / Microbiology /  
Industry / Expression / Plasmid / Vector /  
Immobilization / Optimization / Growth /  
Fermentation technology / Fermentation /  
Automation / Metabolite / Production

□ **Université Catholique de Louvain**  
Unité de Biochimie Toxicologique et  
Cancerologique  
BCTC 73.69  
1200  
Bruxelles  
☎ +32 2 7647369

**New in vitro integrated approach to pharmacotoxicology and metabolism in cancer chemotherapy**

Roberfroid, Prof.M.  
Toxicology / Pharmacology / Cancer /  
Chemotherapy / In vitro / Cell / Cultivation / Drug /  
Activity / Metabolism / Cellular / Side-action

□ **Departement de Dermatologie**  
Tour de Pathologie, B23/3  
4000  
Sart-Tilman par Liège 1  
☎ +32 41 562455

**Reconstruction in vitro of human skin for pharmacological and toxicological studies**

Lapiere, Prof.C.M.  
Skin / In vitro / Toxicology / Pharmacology /  
Fibroblast / Cultivation / Cell biology / Cellular /  
Interaction

□ **Plant Genetic Systems NV**  
J Plateustraat 22  
9000  
Gent  
☎ +32 91 242525

**Engineering of an extracellular ribonuclease by gene modification**

Stanssens, Dr.P.  
Protein design / Ribonuclease / Extracellular /  
Gene / Modification / Mutation / Origin /  
Transferase / Catalysis / Biological / Genetic /  
Engineering / Molecular genetics / Enzymology /  
Amino acid / Substitution

□ **Danish Distilleries Ltd.**  
Raffinadervej 10  
2300  
Koebenhavn S  
☎ +45 1 571180

**Construction of a bakers yeast secreting legume lipoxygenase during production of a bread dough.**

Petersen, Dr.A.  
Baking yeast / Lipoxygenase / Secretion / Genetic /  
Engineering / Gene / Cloning / Vegetable /  
Isolation / cDNA / Sequencing / Expression / Vector /  
Molecular genetics / Microbiology / Nutritional  
branch

□ **Carlsberg Laboratory**  
Department of Physiology  
Gamle Carlsberg Vej 10  
2500  
Koebenhavn Valby  
☎ +45 1 221022

**Construction of a bakers yeast secreting legume lipoxygenase during production of bread dough.**

Wettstein, Dr.D.von  
Baking yeast / Lipoxygenase / Secretion / Genetic /  
Engineering / Gene / Cloning / Vegetable /  
Isolation / cDNA / Sequencing / Expression / Vector /  
Molecular genetics / Microbiology / Nutritional  
branch

□ **Aarhus University**  
Division of Biostructural Chemistry,  
Department of Chemistry  
Langelandsgade 140  
8000  
Aarhus  
☎ +45 6124633

**Construction and biological function of altered proteins defined by their spatial structure**

Clark, Prof.B.  
Protein / Structure / Structural analysis / Radiology /  
Diffraction / Mutation / Biochemistry / Organic  
chemistry / Purification / Crystallization

□ **De Danske Sukkerfabrikker**  
Biotechnology Section  
Langebrogade 1  
1001  
Koebenhavn K  
☎ +45 1 954100

**Molecular biological approach to the control of beet yellows virus**

Brunstedt, Dr.J.  
Virus / Viral / Infection / Molecular genetics /  
Molecular biology / RNA / Replication / Inhibition /  
Genome / Structural analysis / Expression /  
Resistance / Protoplast / Modification / Useful plant /  
Vector / Gene / Agriculture

□ **Royal Veterinary and Agricultural University**  
Department of Physiological Botany  
DK  
1871  
Koebenhavn  
☎ +45 351788

**Control of the differentiation of plant cell and on their regeneration into entire plants with special emphasis on cell membranes.**

Rajagopal, Prof.Dr.P.  
Plant / Vegetable / Differentiation / Cell wall /  
Regeneration / Resistance / Pathogen / Regulation /  
In vitro / Host / Interaction / Cell biology / Immune /  
Botany / Biochemistry

□ **De Danske Sukkerfabrikker**  
Biotechnology Section  
Langebrogade 1  
1001  
Koebenhavn K  
☎ +45 1 954100

**Control of the differentiation of plant cell and on their regeneration into entire plants with special emphasis on cell membranes**

Olesen, Dr.P.

Plant / Vegetable / Differentiation / Cell wall / Regeneration / Resistance / Pathogen / Regulation / In vitro / Host / Interaction / Cell biology / Immune / Botany / Biochemistry

□ **Carlsberg Laboratory**  
Department of Physiology  
Gamle Carlsberg Vej 10  
2500  
Koebenhavn Valby  
☎ +45 1 221022

**Improvement of protein quality in barley by means of genetic engineering.**

Wettstein, Dr.D.von

Protein / Optimization / Useful plant / Genetic / Engineering / Gene / Nucleotide / Sequence / Molecular genetics / Botany / Agriculture

□ **NOVO Industri a/s**  
Novo Alle  
2880  
Bagsvaerd  
☎ +45 2 982333

**Structure function relationships in a peptide hormone and enzymes . The application of protein engineering**

Petersen, Dr.S.B.

Structure / Peptide / Hormone / Enzyme / Structural analysis / Industry / Gene / Isolation / Sequencing / Molecular / Computer / Modelling / Enzymology / Organic chemistry / Engineering

□ **Aarhus University**  
Department of Molecular Biology and Plant Physiology  
C.F. Mollers alle 130  
8000  
Aarhus  
☎ +45 6125177

**Regulation of expression of genes involved in biological nitrogen fixation.**

Marcker, Dr.K.A.

Gene / Expression / Nitrogen / Fixation / Dicotyledon / Vegetable / Bacterial / Rhizobium / Symbiosis / Isolation / Botany / Genetics / Microbiology / Agriculture / Genetic / Engineering

□ **University of Koebenhavn**  
Department of Biochemistry A  
Panum Institute  
2200  
Koebenhavn N  
☎ +45 1 357900

**In vitro screening for anticonvulsant teratogenesis in neural primary cultures and cell lines**

Schousboe, Dr.A.

In vitro / Screening / Malformation / Origin / Toxicology / Drug / Nervous system / Cell / Cultivation

□ **Universidad de Oviedo**  
Faculta Medicina, Departamento de Biochemica  
Plaza de Riego 4  
33071  
Oviedo  
☎ +34 85 232983

**Production of glycopolypeptide antigens of porcine transmissible gastroenteritis virus (tgev).**

Gascon, Prof.S.

Animal / Virus / Antigen / Production / Cloning / Protein / Viral / Expression / Yeast / Escherichia / Purification / Glycoprotein / Vaccine / Pig / Immunology / Microbiology / Infection

□ **CSIC/UAM**  
Centro de Biologia Molecular  
Canto Blanco  
34  
Madrid  
☎ +34 1 7349300

**Evasion of African swine fever virus from the immune system : neutralizing antibodies; critical antigens; immune evasion.**

Eladio vinuela

Antibody / Antigen / Immune system / Immunology / Virus / Animal / Viral / Protein / Vaccine / Isolation / Monoclonal / Gene / Mapping / Virology / Polymorphism

□ **Universidad de Leon**  
Department of Microbiology, Faculty of Biology  
Campus de Vegazana  
24071  
Leon  
☎ +34 87 240451

**Genetic engineering and transposon mutagenesis in amino acid producing Corynebacteria**

Martin, J.F.

Genetics / Engineering / Mutation / Origin / Amino acid / Biosynthesis / Brevebacterium / Corynebacterium / Molecular genetics / Plasmid / Vector / Recombination / Protoplast / Fusion / Cloning / Structure / Analysis / Gene / Expression / Microbiology / Industry / Transposon

□ **Université de Paris-sud**  
Laboratoire d'Amelioration des Plantes  
Batiment 360  
91405  
Orsay cedex  
☎ +33 1 69417491

**Genetic transformation and plant regeneration form protoplasts of wheat and barley.**

Dattee, Dr.Y.

Plant / Genetic / Engineering / Protoplast / Regeneration / Monocotyledon / Differentiation / Regulation / Botany / Agriculture

□ **Université de Paris-sud**  
Institute de Microbiologie  
Batiment 409  
91405  
Orsay cedex  
☎ +33 1 69417706

**Study of hairy root transformation : new strategy for plant genetic engineering**

Tempe, Dr.J.

Plant / Genetic / Engineering / Plasmid / Gene / DNA / Agrobacterium / Molecular genetics / Botany

□ **Institute National de la Recherche Agronomique (INRA)**  
Station de Genetique et d'Amelioration des Plantes  
Dijon  
33 80633000

**Mitochondrial molecular genetics in relation to crop improvement .**

Berville, Dr.A.

Mitochondrion / Genome / Useful plant / Optimization / Molecular genetics / Expression / Transfer / Modification / Plasmid / Botany / Agriculture

□ **Université de Paris XI**  
Laboratoire de Biologie Moleculaire Vegetale  
U.A. 1128, Batiment 430  
91405  
Orsay cedex  
☎ +33 1 69417135

**Mitochondrial molecular genetics in relation to crop improvement .**

Quetier, Dr.F.

Mitochondrion / Genome / Useful plant / Optimization / Molecular genetics / Expression / Transfer / Modification / Plasmid / Botany / Agriculture

□ **Institut Curie**  
Section de Biologie  
Batiment 110  
91405  
Orsay  
☎ +33 1 69863063

**Development of host-vector systems in dairy yeasts.**

Fukuhara, Dr.H.

Yeast / Vector / Plasmid / Cloning / Nutritional branch / Sequencing / Modification / Genetic / Engineering / Molecular genetics / Microbiology

□ **ENSIEG - INPG**  
Laboratoire d'Automatique  
St-Martin-d'Herès  
☎ +33 76448245

**Advanced monitoring and computer control of biotechnological processes**  
Cheruy, Dr.A.  
Monitoring / Control / Bioreactor / Informatics / Hardware / Optimization / Simulation / Pilot scale / Sensor / Measurement / Fermentation technology

□ **Institute National de la Recherche Agronomique (INRA)**  
Centre de Biotechnologie  
Agro-Industrielles  
INRA - LGPBA  
Thivernal-Grignon  
☎ +33 1 30544510

**Advanced monitoring and computer control of biotechnological processes**  
Perret, Dr.B.  
Monitoring / Control / Bioreactor / Informatics / Hardware / Optimization / Simulation / Pilot scale / Sensor / Measurement / Fermentation technology / Software

□ **Université de Paris-sud**  
Laboratoire de Biologie Physicochimie  
UA 1131 du CNRS, Batiment 433  
91405  
Orsay  
☎ +33 1 694 17973

**Engineering of an extracellular ribonuclease by gene modification**  
Janin, Prof.Dr.J.  
Protein design / Ribonuclease / Extracellular / Biochemistry / Organic chemistry / Molecular genetics / Genetic / Engineering / Structural analysis / Amino acid / Sequencing / Protein / Folding

□ **Université Technologie de Compiègne**  
Laboratoire de Technologie Enzymatique  
Compiègne  
☎ +33 442 00037

**Bioconversion of hydrophilic and hydrophobic compounds by enzyme systems**  
Legoy, Dr.M.D.  
Biotransformation / Hydrophilic / Hydrophobic / Bioreactor / Cofactor / Regeneration / Continuous / Enzymatic / Production / Alanine / Methionine / Long-chain / Aldehyde / Lactic acid / Malic acid / Lipid / Enzymology / Industry / Oxidoreductase / Alcohol / Immobilization / Scale-up / Bioprocess engineering / Lipase / Vegetable / Oil

□ **Centre de Biochimie et de Biologie Moléculaire du CNRS**  
31 CH J Aiguier  
Marseille  
☎ +33 91715857

**Conversion of pancreatic phospholipase a2 into triglyceride-degrading lipase.**  
Verger, Mr.R.  
Pancreas / Lipase / Stable / Enzymology / Bioreactor / Immobilization / Physical chemistry / Lipid

□ **Ecole Polytechnique**  
Laboratoire de Biochimie  
Cedex  
91128  
Palaiseau  
☎ +33 1 60194181

**Construction and biological function of altered proteins defined by their spatial structure**  
Parmeggiani, Dr.A.  
Protein / Structure / Structural analysis / Radiology / Mutation / Origin / Gene / Plasmid / Expression / Genetic / Engineering / Biochemistry / Organic chemistry

□ **Laboratoire de Biopharmacologie Transfusioennelle - CNRS**  
Centre Régional de Transfusion Sanguine  
2 BRD Tonnela  
37044  
Tours  
☎ +33 47376683

**Construction of enzyme-loaded erythrocytes as bio-reactors.**  
Ropars, Dr.C.  
Erythrocyte / Hexokinase / Microencapsulation / Human / Genetic / Engineering / Gene / Cloning / Antibody / Production / rDNA / cDNA / Amino acid / Sequence / Enzymology / Molecular genetics / Purification / Biochemistry

□ **Centre National de la Recherche Scientifique (CNRS) - Institute National de la Recherche Agronomique (INRA)**  
Laboratoire de Biologie Moléculaire des Relations Plantes-Microorganisme  
Ch. de Borde Rouge  
Castanet-Tolosan  
☎ +33 612850461

**Comparison of late sym genes in Rhizobium species and construction of improved strains**  
Boistard, Dr.P.  
Rhizobium / Gene / Symbiosis / Useful plant / Optimization / Genetic / Engineering / Expression / Recognition / Isolation / Plasmid / Molecular genetics / Microbiology / Agriculture / Nitrogen / Fixation

□ **Institute National de la Recherche Agronomique (INRA)**  
Laboratoire de Biologie Cellulaire  
Route de Saint Cyr  
78000  
Versailles  
☎ +33 1 30217422

**Genetic manipulation and regeneration in model and crop plants in vitro**  
Caboche, Dr.M.  
Genetic / Engineering / Plant / In vitro / Vegetable / Cell / Cultivation / Transfer / Useful plant / Regeneration / Botany / Genetics

□ **Institute National de la Recherche Agronomique (INRA)**  
Laboratoire de Microbiologie des Sols  
17 Rue Sully  
Dijon  
☎ +33 80633000

**Assessing the risks involved in the release of genetically manipulated microorganisms**  
Amarger, Dr.M.  
Risk assessment / Genetic / Engineering / Gene / Transfer / Release / Environment / Safety research / Microbiology / Rhizobium

□ **Inserm**  
24 Rue du Faubourg St Jacques  
75014  
Paris  
☎ +33 1 43201240

**New methodology in cultures of human tumor cells.**  
Fisher, Dr.S.  
Cultivation / Cell / Tumour / Human / Animal / Bioactive agent / Growth / Adhesion / Assay / Cell biology / In vitro

□ **Institut Pasteur**  
Département d'Immunologie  
2, Rue du Docteur Roux  
75724  
Paris Cedex 15  
☎ +33 1 45688559

**Molecular mechanisms of liver specific gene expression and production of proteins of medical interest**  
Babinet, Dr.C.  
Gene / Expression / Protein / Production / Cell / Cultivation / Cloning / Recombination / Oncogenic / Liver / Genetic / Engineering / Molecular genetics / Cytogenetics

□ **Université de Lyon 1**  
Département de Biologie Générale et Appliquée  
43 BD du 11 Novembre 1918  
69622  
Villeurbanne Cedex  
☎ +33 788 98124

**The development of transgenic animals (including fish) with novel characteristics.**  
Nigon, Dr.V.M.  
Transgenic / Animals / Genetic / Engineering / Germ cell / Injection / Gene / DNA / Retrovirus / Stock / Fish / Genetics / Agriculture / Cloning

□ **Société Bertin & Cie**  
Chemical and Biomedical Engineering  
Division  
Cedex  
7873  
Plaisir  
☎ +33 1 34818692

**Biochemical-physical knowledge, control, optimization of animal cell cultures in bioreactors.**  
Hache, Dr.J.  
Bioreactor / Optimization / Control / Animal / Cell / Cultivation / Engineering / Kinetics / Medium / Nutrient / Inhibition / Metabolite / Optimization / Density / Secretion / Bioprocess engineering / Biochemistry / Industry

□ **ENSAIA**  
Institut National Polytechnique de Lorraine  
Avenue de la Forêt de Haye 2  
54500  
Vandœuvre-les-Nancy  
☎ +33 83574841

**Biochemical-physical knowledge, control, optimization of animal cell cultures in bioreactors.**  
Engasser, Dr.J.M.  
Bioreactor / Optimization / Control / Animal / Cell / Cultivation / Engineering / Kinetics / Medium / Nutrient / Inhibition / Metabolite / Optimization / Density / Secretion / Bioprocess engineering / Biochemistry / Industry

□ **Université de Nancy**  
Faculté de Médecine  
54505  
Vandœuvre-les-Nancy Cedex  
☎ +33 83565656

**Biochemical-physical knowledge, control, optimization of animal cell cultures in bioreactors.**

Nabet, Dr.P.

Bioreactor / Optimization / Control / Animal / Cell / Cultivation / Engineering / Kinetics / Medium / Nutrient / Inhibition / Metabolite / Optimization / Density / Secretion / Bioprocess engineering / Biochemistry / Industry

 **Centre de Recherche en Informatique**CNRS UA 815  
860 Rue de Saint Priest  
34100  
Montpellier Cedex  
☎ +33 67630460**Research and diffusion for a portable European system of access and analysis of biosequences**

Sallantin, Dr.J.F.

DNA / Protein / Sequence / Data base / Optimization / Software / Informatics / Amino acid / Molecular biology

 **Université Paris VII**Institut Jacques Monod  
Tour 43, 1er Etage, 2 Place Jussieu  
75251  
Paris cedex  
☎ +33 43295370**Studies of segregational and structural stability in *Bacillus subtilis***

Ehrlich, Dr.S.D.

Stable / Cloning / Vector / Bacillus / Plasmid / Recombination / Genetic / Engineering / Genetics / Microbiology / Industry

 **Institute National de la Recherche Agronomique (INRA)**Centre de Biotechnologie  
Agro-Industrielles  
INRA - LGPBA  
Thiverval-Grignon  
☎ +33 1 30544510**Creation of a lactic acid cultures collection modelling and control technics of thermophilic cultures**

Corrieu, Dr.G.

Mixed culture / Bacterial / Cultivation / Thermophilic / Modelling / Fermentation / Control / Milk / Optimization / Microbiology / Fermentation technology / Food technology / Nutritional branch / Quality control

 **Institut Pasteur**Department of Molecular Biology  
25 Rue du Docteur Roux  
75724  
Paris cedex 15  
☎ +33 1 45688483**Electrophoresis of proteins: data capture, analysis, and construction of databanks**

Whalen, Dr.R.C.

Electrophoresis / Data base / Software / Optimization / Screening / Microorganism / Informatics / Microbiology / Biochemistry

 **Institute National de la Recherche Agronomique (INRA)**Unité d'Ingénierie des Protéines,  
Biotechnologies-INRA  
INRA  
78350  
Jouy-en-Josas  
☎ +33 1 3465 2560**Computer-aided peptide and protein engineering software development .**

Garnier, Dr.J.

Software / Peptide / Engineering / Amino acid / Sequence / Modification / Informatics / Organic chemistry / Protein design

 **Centre National de la Recherche Scientifique (CNRS)**Laboratoire de Genetique des Virus  
CNRS  
91190  
Gif-sur-Yvette  
☎ +33 169088828**Baculovirus expression vectors; bluetongue virus vaccines; rabies virus vaccines.**

Flamand, Dr.A.

Baculovirus / Expression / Vector / Vaccine / Viral / Infection / Antigen / Genetic / Engineering / Genetics / Microbiology / Immunology

 **Institute National de la Recherche Agronomique (INRA)**Station de Recherches de Virologie de Thiverval  
Route de Thiverval  
78850  
Thiverval-Grignon  
☎ +33 1 30544545**Non group A rotaviruses characterization contribution to disease and vaccine construction**

Cohen, Dr.J.

Digestive system / Infection / RNA virus / Viral / Vaccine / Probe / Diagnosis / Cloning / Immunology / Microbiology / Veterinary medicine

 **Institute National de la Recherche Agronomique (INRA)**Station de Pathologie de la Reproduction  
INRA - TOURS - NOUZILLY  
37380  
Monnaie  
☎ +33 47427867**Gene cloning of Brucella antigens which as vaccines do not interfere with a specific diagnosis.**

Dubray, Dr.G.L.

Gene / Cloning / Antigen / Vaccine / Antibody / Monoclonal / Purification / Assay / Stock / Bacterial / Infection / Immunology / Microbiology / Diagnosis / Veterinary medicine

 **Institute National de la Recherche Agronomique (INRA)**Pathologie Porcine  
Laboratoire d'Immunologie  
37380  
Nouzilly  
☎ +33 47427700**Design of a novel technique to produce pig IgA hybridomas**

Paraf, Dr.A.A.

Pig / Immunoglobulin / Hybridoma / Monoclonal / Antibody / Gut / Infection / Viral / Bacterial / Cultivation / Lymphocyte / Fusion / Cell biology / Immunology / Mucous membrane

 **Centre National de la Recherche Scientifique (CNRS) - Institute National de la Recherche Agronomique (INRA)**Laboratoire de Physiologie de la Lactation  
CNRS - INRA  
Jouy-en-Josas  
☎ +33 34652346**The development of transgenic animals (including fish) with novel characteristics.**

Houdebine, Dr.L.M.

Transgenic / Animals / Genetic / Engineering / Germ cell / Injection / Gene / DNA / Retrovirus / Stock / Fish / Genetics / Agriculture / Cloning

 **Societe Bertin & Cie**Zone Industrielle  
40220  
Tarnos  
☎ +33 59648648**Fermentor modelling for automation and optimal process control**

Raymond, Dr.B.

Bioreactor / Modelling / Automation / Process / Control / Optimization / Fermentation / Industrial / Computer / Fermentation technology / Antibiotic / Vitamin

 **Centre National de la Recherche Scientifique (CNRS)**Laboratoire de Recon. Cell. et Ameloir.  
Plantés  
43 BD. du 11 Novembre 1918  
69622  
Villeurbanne  
☎ +33 78898104**Pollen biotechnology in cultivated crops**

Dumas, Dr.C.

Microspore / Sperm / Cell / Kinetics / In vivo / In vitro / Fertilization / Isolation / Biochemistry / Botany

 **INSA**Laboratoire de Microbiologie et  
Biotechnologies  
20 Avenue Einstein  
69621  
Villeurbanne Cedex  
☎ +33 78948331**The molecular biology of plant pathogenic Erwinia.**

Baudouy, Dr.J.R.

Molecular biology / Erwinia / Pathogenic / Plant / Agriculture / Enzyme / Extracellular / Molecular genetics / Biochemistry / Host / Pathogen / Interaction / Mutation / Cloning / Gene

 **Centre National de la Recherche Scientifique (CNRS)**Laboratoire Chimie Bacterienne  
31 Chemin Joseph Auguier  
Marseille Cedex 9  
☎ +33 91224000**The molecular biology of plant pathogenic Erwinia.**

Chambost, Dr.J.P.

Molecular biology / Erwinia / Pathogenic / Plant / Agriculture / Enzyme / Extracellular / Molecular genetics / Biochemistry / Host / Pathogen / Interaction / Mutation / Cloning / Gene

 **INA - PG**Laboratoire de Pathologie Vegetale  
16 Rue Claude Bernard  
75231  
Paris cedex 05  
☎ +33 14337155

**The molecular biology of plant pathogenic Erwinia.**

Kotoujansky, Dr.A.  
Molecular biology / Erwinia / Pathogenic / Plant / Agriculture / Enzyme / Extracellular / Molecular genetics / Biochemistry / Host / Pathogen / Interaction / Mutation / Cloning / Gene

□ **Institut Pasteur**  
25, Rue du Docteur Roux  
75724  
Paris cedex 15  
☎ +33 1 45688610

**Structural bases of specificity and affinity in antigen-antibody reactions**  
Poljak, Dr. R.J.  
Antigen / Antibody / Reaction / Specific / Affinity / Protein / Radiology / Structural analysis / Informatics / Molecular biology / Immunology / Crystallization / Mutation / Interaction / Molecular

□ **LURE**  
Batiment 209c  
91405  
Orsay cedex  
☎ +33 1 64468130

**Structural bases of the specificity and affinity of antigen-antibody reactions**  
Bricogne, Dr.G.  
Antigen / Antibody / Reaction / Specific / Affinity / Protein / Radiology / Structural analysis / Informatics / Molecular biology / Immunology / Hardware / Software

□ **Institut Pasteur**  
Unite Informatique Scientifique  
25, Rue du Docteur Roux  
75724  
Paris cedex 15  
☎ +33 1 45688510

**Artificial intelligence approach to protein structure prediction by development of a knowledge base**  
Claverie, Dr.J.M.  
Protein / Structure / Biocomputing / Informatics / Molecular / Biochemistry / Modelling

□ **ENSAIA**  
2 Av. de la Foret de Haye  
54500  
Vandoeuvre-les-Nancy Cedex  
☎ +33 83574868

**Study of baker's yeast growth and product formation in view of industrial applications**  
Germain, Prof.  
Baking yeast / Growth / Metabolite / Production / Optimization / Fermentation / Fermentation technology / Cultivation / Continuous / Batch / Kinetics / Physiology / Microbiology / BIOREACTOR / Genetics / Automation / Industry

□ **Université Paris-sud**  
Laboratoire de Biologie et Genetique  
Moleculaire  
Batiment 400  
91405  
Orsay cedex  
☎ +33 1 69416917

**Genetics and molecular biology of Streptomyces: mapping, plasmids instability and mls-resistance**  
Guerineau, Prof.  
Streptomycete / Molecular biology / Molecular genetics / Microbiology / Mapping / Plasmid / Unstable / Resistance / Antibiotic / Vector / Cloning / Genetic / Engineering / Amplification / Gene / Chromosome

□ **ARBS**  
Cen Cadarche  
Cedex  
13108  
Saint-Paul-lez-Durance  
☎ +33 42254384

**Biocatalysis by novel metal clusters and hydrogenase (structure reactivity and immobilization)**  
Lespinat, Dr.  
Biological / Catalysis / Metalloproteid / Hydrogenase / Biosynthesis / Process / Optimization / Immobilization / Biochemistry / Enzymology / Industry

□ **INSERM U-278**  
Faculté de Pharmacologie  
27 BD. Jean Moulin  
13385  
Marseille Cedex 5  
☎ +33 91787943

**New in vitro integrated approach to pharmacotoxicology and metabolism in cancer chemotherapy**  
Cano, Prof.J.P.  
Toxicology / Pharmacology / Cancer / Chemotherapy / In vitro / Cell / Cultivation / Drug / Activity / Metabolism / Cellular / Side-action

□ **INSERM**  
Departement de Dermatologie  
Hopital Henri Mondor  
94010  
Creteil  
☎ +33 1 42075141

**Reconstruction in vitro of human skin for pharmacological and toxicological studies**  
Dubertret, Prof.L.  
Skin / In vitro / Toxicology / Pharmacology / Fibroblast / Cultivation / Cell biology / Cellular / Interaction

□ **INSERM U-159**  
Centre Paul Broca  
2ter Rue d'Alesia  
Paris  
☎ +33 1 4589807

**The effect of neuroactives drugs in neuroendocrine function using incubated hypothalamus and pituitary tissues in vitro**  
Kordon, Dr.C.  
Drug / Activity / Hormone / Hypophysis / Tissue / In vitro / Cultivation / Endocrinology / Pharmacology / Receptor

□ **ECACC - PHLS**  
Centre for Applied Microbiology and Research  
Porton Down  
SP4 0JG  
Salisbury  
☎ +44 980 610391

**European human genetic mutant cell bank**  
Doyle, Dr.A.  
Congenital / Disease / Human / Cell / Cultivation / Organism collection / Human genetics / Cell biology

□ **National Collection of Type Cultures (NCTC)**  
Central Public Health Laboratory  
Colindale Avenue 61  
NW9 5HT  
London  
☎ +44 1 2004400

**European resource centres for plasmid bearing bacterial strains**  
Hill, Dr.L.R.  
Organism collection / Plasmid / Cultivation / Microorganism / Quality control / Preservation / Data base

□ **CAB - International Mycological Institute**  
Ferry Lane  
TW9 3AF  
Kew  
☎ +44 1 9404086

**A European network of microbial culture collection databanks integrated catalogue**  
Hawksworth, Dr.D.L.  
Data base / Organism collection / Microbial / Cultivation / Online searching

□ **Agricultural Food and Research Council (AFRC)**  
Institute of Food Research  
Colney Lane  
NR4 7UA  
Norwich  
☎ +44 603 56122

**Improvement of lactic streptococcal starter cultures by means of recombinant DNA-technology.**  
Gasson, Dr.M.J.  
Starter culture / Streptococcus / Optimization / rDNA / Cloning / Vector / Gene / Expression / Transfer / Bacteriophage / Resistance / Plasmid / Milk / Fermentation / Microbiology / Molecular genetics / Nutritional branch / Genetic / Engineering

Colney Lane  
Colney Lane  
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Norwich  
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**Mitochondrial molecular genetics in relation to crop improvement**  
Davies, Dr.D.R.  
Mitochondrion / Genome / Useful plant / Optimization / Molecular genetics / Expression / Transfer / Modification / Plasmid / Botany / Agriculture



□ **Rothamsted Experimental Station**  
Biochemistry Department  
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**Assessing the risk involved in the release of genetically manipulated microorganisms**

Hirsch, Dr.P.R.  
Risk assessment / Genetic / Engineering / Gene / Transfer / Release / Environment / Safety research / Microbiology / Rhizobium

□ **CAB - International Mycological Institute**  
Ferry Lane  
TW9 3AF  
Kew  
☎ +44 1 9404086

**Development of improved techniques for the preservation and maintenance of cultures of fungal strains of biotechnological importance**

Smith, Dr.D.  
Preservation / Optimization / Fungus / Cultivation / Cold / Storage / Freeze-drying / Organism collection / Microbiology

□ **University of Manchester**  
Manchester Biotechnology Centre, UMIST,  
Department of Instrumental and  
Analytical Sciences  
Manchester  
☎ +44 61 2282159

**Automation of DNA sequencing**

Martin, Dr.W.J.  
DNA / Sequencing / Automation / Data processing / Recognition / Software / Hardware / Inoculation / Informatics / Automation technology / Image analysis / Biochemistry / Molecular genetics

□ **Rutherford Appleton Laboratory**  
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OX11 0RQ  
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**Automation of DNA sequencing**

Bateman, Dr.J.E.  
DNA / Sequencing / Automation / Data processing / Electrophoresis / Software / Hardware / Image analysis / Optimization / Blotting / Informatics / Molecular genetics / Biochemistry

□ **University of St. Andrews**  
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Microbiology  
Irvine Building, North Street  
KY16 9AL  
St. Andrews  
☎ +44 334 76161

**Development of a gene mediated transfer and selection system for filamentous fungi**

Kinghorn, Dr.J.R.  
Gene / Expression / Mycelial fungus / Transfer / Cloning / Nitrate / Assimilation / Industry / Genetic / Engineering / Structure / Mapping / Nucleotide / Sequencing / Molecular genetics / Microbiology / Industry

□ **The University of Newcastle upon Tyne**  
Department of Biochemistry  
Ridley Building  
NE1 7RU  
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☎ +44 632 328511

**Folding, assembly, stability and genetic modification of penicillin acylase and its precursor**  
Pain, Prof.R.H.  
Penicillin / Acylase / Genetic / Engineering / Folding / Stable / Enzymology / Biochemistry

□ **University College of Wales**  
Department of Botany and Microbiology  
King street  
SY23 3DA  
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**Development of host/vector systems in Clostridia of industrial and agricultural importance**

Young, Dr.M.  
Clostridium / Host / Vector / Industry / Thermophilic / Agriculture / Genetic / Engineering / Stable / Cloning / Plasmid / Industrial / Fermentation / Optimization / Molecular genetics / Microbiology / Transfer

□ **Public Health Laboratory Service**  
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Genetics Group  
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**Development of host/vector systems in Clostridia of industrial and agricultural importance**

Minton, Dr.N.P.  
Clostridium / Host / Vector / Industry / Agriculture / Genetic / Engineering / Industrial / Fermentation / Optimization / Plasmid / Transfer / Gene / Expression / Molecular genetics / Microbiology

□ **Cambridge University**  
Chemical Laboratory  
Lensfield Road  
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Cambridge  
☎ 44 223 336341

**Engineering of an extracellular ribonuclease by gene modification**

Fersht, Prof.Dr.A.R.  
Protein design / Ribonuclease / Extracellular / Molecular genetics / Enzymology / Biochemistry / Genetic / Engineering / Gene / Cloning / Substrate / Interaction / Reaction / Kinetics / NMR / Protein / Folding

Colney Lane  
Colney Lane  
NR4 7UH  
Norwich  
☎ +44 603 52571

**Production production of bread dough**

Casey, Dr.R.  
Baking yeast / Lipoxigenase / Secretion / Genetic / Engineering / Gene / Cloning / Vegetable / Isolation / cDNA / Sequence / Expression / Vector / Molecular genetics / Microbiology / Nutritional branch

**Molecular biological approach to the control of beet yellows virus**

Hull, Dr.R.  
Virus / Viral / Infection / Molecular genetics / Molecular biology / RNA / Replication / Inhibition / Genome / Structural analysis / Expression / Resistance / Protoplast / Modification / Useful plant / Vector / Gene / Agriculture

**Control of the differentiation of plant cell and on their regeneration into entire plants with special emphasis on cell membranes**

Roberts, Dr.K.  
Plant / Vegetable / Differentiation / Regeneration / Cell wall / Resistance / Pathogen / Regulation / In vitro / Host / Interaction / Cell biology / Immune / Botany / Biochemistry

□ **Rothamsted Experimental Station**  
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**Mechanisms controlling the transfer and expression of developmentally regulated plant genes**

Kreis, Dr.M.  
Plant / Gene / Transfer / Expression / Development / Sequence / Regulation / Plasmid / Growth / Isolation / Structural analysis / Molecular genetics / Botany / Agriculture

**Comparison of late sym genes in Rhizobium species and construction of improved strains**

Hirsch, Dr.P.R.  
Rhizobium / Gene / Symbiosis / Useful plant / Optimization / Genetic / Engineering / Expression / Recognition / Isolation / Plasmid / Molecular genetics / Microbiology / Agriculture / Nitrogen / Fixation

**Genetic manipulation and regeneration in model and crop plants in vitro**

Jones, Dr.M.G.K.  
Genetic / Engineering / Plant / In vitro / Vegetable / Cell / Cultivation / Transfer / Useful plant / Regeneration / Botany / Genetics

□ **University of Edinburgh**  
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**Genetic transformation of plant mitochondria : development of a general strategy**

Leaver, Dr.C.J.  
Genetic / Engineering / Plant / Mitochondrion / Plasmid / Vector / Gene / Transfer / Botany / Molecular genetics / Agriculture

**Apoplastic enzymes and biologically-active oligosaccharides as markers of early pathogenesis**

Fry, Dr.S.C.  
Early recognition / Marker / Infection / Origin / Diagnosis / Parasitic / Fungus / Agricultural sciences / Botany / Agriculture

□ **University of Durham**  
Plant Molecular Biology Group,  
Department of Botany  
South Road  
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Durham  
☎ +44 91 3742433

**Lectins and ribosome inactivating proteins as pathogen and pest resistance factors in plants**

Croy, Dr.R.  
Useful plant / Resistance / Disease / Pest / Lectin / Gene / Transfer / Genetic / Engineering / Cloning / Botany / Genetics / Agriculture

□ **University of Cambridge**  
 Botany School  
 Downing Street  
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 ☎ +44 223 333938

**Development of methods for selection in vitro for resistance to chemicals and pathogens**

Ingram, Dr.D.S.  
 In vitro / Resistance / Disease / Plant / Mutation / Origin / Pathogen / Botany / Genetics / Agriculture

□ **Plant Breeding Institute**  
 Maris Lane, Trupington  
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 Cambridge  
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**Analysis and manipulation of wheat protein genes related to grain quality**

Thompson, Dr. R.D.  
 Wheat / Protein / Gene / Analysis / Genetic / Engineering / Sequencing / Molecular genetics / Botany / Agriculture

□ **Warren Spring Laboratory**  
 Gunnels Wood Road  
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 Stevenage  
 ☎ +44 438 741122

**Assessment of environmental risks and containment of biotechnological scale up processes**

Leaver, Dr.G.  
 Risk assessment / Safety research / Monitoring

□ **University of Warwick**  
 Department of Biological Sciences  
 Gibbet Hill Road  
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 ☎ +44 203 523534

**Non group a rotaviruses: characterization, contribution to disease and vaccine construction**

Mccrae, Dr.M.A.  
 Digestive system / Infection / RNA virus / Viral / Vaccine / Probe / Diagnosis / Cloning / Immunology / Microbiology / Veterinary medicine

□ **Agricultural Food and Research Council (AFRC)**  
 Institute for Animal Health, Genetics Department  
 Pirbright  
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 ☎ +44 483

**High level expression of foot and mouth disease virus antigens using a Baculovirus vector.**

King, Dr.A.M.Q.  
 Baculovirus / Vector / Cloning / Antigen / Animal / Virus / Genetic / Engineering / Infection / Viral / Vaccine / Microbiology / Molecular genetics / Immunology / Veterinary medicine

□ **National Environment Research Council (NERC)**  
 Institute of Virology  
 Mansfield Road  
 OX1 3SR  
 Oxford  
 ☎ +44 865 512361

**Baculovirus expression vectors; bluetongue virus vaccines; rabies virus vaccines**  
 Bishop, Dr.D.H.L.  
 Baculovirus / Expression / Vector / Vaccine / Viral / Infection / Antigen / Genetic / Engineering / Genetics / Microbiology / Immunology

□ **University of Bristol**  
 Department of Veterinary Medicine  
 Langford House  
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 ☎ +44 934 852851

**Design of novel techniques to produce pig IgA hybridomas**

Stokes, Dr.C.R.  
 Pig / Immunoglobulin / Hybridoma / Monoclonal / Antibody / Gut / Infection / Viral / Bacterial / Cultivation / Lymphocyte / Fusion / Cell biology / Immunology / Mucous membrane

□ **National Collection of Type Cultures (NCTC)**  
 Central Public Health Laboratory  
 Colindale Avenue 61  
 NW9 5HT  
 London  
 ☎ +44 1 2004400

**Electrophoresis of proteins: data capture, analysis, and construction of databanks**

Hill, Dr.L.R.  
 Electrophoresis / Data base / Software / Optimization / Screening / Microorganism / Informatics / Microbiology / Biochemistry

□ **Public Health Laboratory Service**  
 Centre for Applied Microbiology and Research, Microbial Technology Laboratory  
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 ☎ +44 980 610391

**Microbial production of commercially important hydroxylated compounds from haloaromatics**

Quick, Dr.A.V.  
 Aromatic / Hydroxylation / Arthrobacter / Hydrocarbon / Batch / Continuous / Cultivation / Purification / Optimization / Microbiology / Enzymology / Biochemistry / Industry

□ **Jerry Lewis Muscle Research Centre**  
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**Electrophoresis of proteins: data capture, analysis, and construction of databanks**

Dunn, Dr.M.J.  
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□ **Institute for Animal Disease Research**  
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 ☎ +44 635 578411

**Genetic analysis and biologic assessment of virulence determinants in S. aureus**  
 Bramley, Dr.A.J.  
 Staphylococcus / Bacterial / Infection / Stock / Vaccine / Mutation / Origin / Cloning / Gene / Genetic / Engineering / Microbiology / Genetics / Immunology

□ **University of Manchester**  
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 ☎ +44 61 2738241

**Computer-aided peptide and protein engineering software development .**

Robson, Mr.B.  
 Software / Peptide / Engineering / Amino acid / Sequence / Modification / Informatics / Organic chemistry / Protein design

□ **Univerity of York**  
 Department of Chemistry  
 Heslington  
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 ☎ +44 904 430000

**Structure-function relationships in a peptide hormone and enzymes . The application of protein engineering.**

Dodson, Prof.Dr.G.C.  
 Structure / Peptide / Hormone / Enzyme / Radiology / Structural analysis / Industry / Computer / Modelling / Molecule / Organic chemistry / Enzymology / Engineering

□ **University of Warwick**  
 Department of Biological Sciences  
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 ☎ +44 203 523534

**Molecular biology of plant pathogenic Erwinia**

Salmond, Dr.G.P.C.  
 Molecular biology / Erwinia / Pathogenic / Plant / Agriculture / Enzyme / Extracellular / Molecular genetics / Biochemistry / Host / Pathogen / Interaction / Mutation / Cloning / Gene

□ **National Environment Research Council (NERC)**  
 Institute of Virology  
 Mansfield Road  
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 ☎ +44 865 512361

**Risk assessment: field of release of genetically manipulated baculoviruses**

Entwistle, Dr.P.F.  
 Risk assessment / Safety research / Baculovirus / Genetic / Engineering / Pest / Abatement / Agriculture / Environment / Release

□ **University of Sussex**  
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**Dd-peptidases and B-lactamases. From gene expression to protein engineering**

Sprait, Dr.B.G.

Peptidase / Lactamase / Mutation / Bacillus / Streptomyces / Antibiotic / Structure / Activity / Amino acid / Microbiology / Molecular biology / Genetics

□ **East Malling Research Station**

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**Plant hormone receptors**

Venis, Dr.M.A.

Hormone / Vegetable / Plant / Growth / Receptor / Auxin / Transport / Inhibitor / Biochemistry / Botany / Molecular biology

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**Plant hormone receptors**

Hall, Prof.M.A.

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□ **University of Leeds**

Astbury Department of Biophysics

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**Structural bases of specificity and affinity in antigen-antibody reactions**

Phillips, Dr.S.E.V.

Antigen / Antibody / Reaction / Specific / Affinity / Protein / Radiology / Structural analysis / Informatics / Molecular biology / Immunology / Molecular / Interaction / Mutation / Software

□ **University of Edinburgh**

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**Hepatitis B surface antigen particle as a carrier for presentation of foot and mouth disease virus antigens**

Murray, Dr.K.

Animal / Virus / Antigen / Hepatitis / Viral /

Vaccine / Recombination / rDNA / Surface / Expression / Yeast / Cell / Immunology / Molecular genetics / Genetic / Engineering / Microbiology

□ **Wellcome Company Ltd.**

Ash Road, Pirbright

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**Hepatitis B surface antigen particle as a carrier for presentation of foot and mouth disease virus antigens**

Brown, Dr.F.

Animal / Virus / Antigen / Hepatitis / Viral /

Vaccine / Recombination / rDNA / Surface / Expression / Yeast / Cell / Immunology / Molecular genetics / Genetic / Engineering / Microbiology

□ **Agricultural Food and Research Council (AFRC)**

Division of Microbiology

Compton

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**Production of glycopolyptide antigens of porcine transmissible gastroenteritis virus (tgev)**

Britton, Dr.P.

Animal / Virus / Antigen / Production / Cloning /

Protein / Viral / Expression / Yeast / Escherichia /

Purification / Glycoprotein / Vaccine / Pig /

Immunology / Microbiology / Infection

□ **Agricultural Food and Research Council (AFRC), Institute for Animal Health**

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**Linear plasmids and artificial chromosomes as vectors for gene transfer in eukaryotes**

Bostock, Dr.C.J.

Stable / Genetic / Vector / Plasmid / Gene / Transfer / Eukaryote / Chromosome / Engineering / Molecular genetics

□ **The University of Sheffield**

Department of Biochemistry

Western Bank

S10 2TN

Sheffield

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**Model systems for production, folding and assembly of stable proteins overexpressed in E. coli**

Harrison Dr.P.M.

Genetic / Engineering / Stable / Protein / Folding / Regulation / Molecular / Structure / Biochemistry / Escherichia / Biosynthesis

□ **Imperial College of Science and Technology (ICST)**

Centre for Biotechnology

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SW7 2AZ

London

☎ +44 1 5895111

**Genetic regulation of yeast glycolysis**

Hartley, Prof.B.S.

Yeast / Gene / Genetic / Regulation / Fermentation / NMR / SPECTROMETRY / Respiration / Continuous / Cultivation / Microbiology / Polyalcohol / Metabolism / Molecular / Genetics / Enzyme

□ **University of Sheffield**

Department of Microbiology

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**Environmental control of metabolic fluxes as a basis for biotechnological processes**

Tempest, Prof.D.

Chemostat / Cultivation / Methylotrophic / Bacillus /

Thermophilic / Heterotrophic / Metabolism /

Regulation / Metabolite / Production / Polyalcohol /

Fermentation / Genetic / Engineering /

Enzymology / Genetics / Microbiology / Industry

□ **BIBRA**

Immunotoxicology Department

Woodmansterne Road

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**Altered immune gene expression as a new approach to in vitro immunotoxicological screening**

Miller, Dr.K.

Immune / Suppression / Gene / Expression /

Immunology / Toxicology / Interleukine /

Lymphocyte / mRNA / Protein / Analysis / Genetics /

Daunorubicin / Hydrocortisone / Cyclosporine

□ **St. Thomas' Hospital Medical School**

The Institute of Dermatology

Lambeth Palace Road

SE1 7EH

London

☎ +44 1 9289292

**Reconstruction in vitro of human skin for pharmacological and toxicological studies**

Greaves, Dr.M.W.

Skin / In vitro / Toxicology / Pharmacology /

Fibroblast / Cultivation / Cell biology / Cellular /

Interaction

□ **University of Wales College of Medicine**

Department of Medicine (Dermatology)

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**Reconstruction in vitro of human skin for pharmacological and toxicological studies**

Marks, Dr.R.

Skin / In vitro / Toxicology / Pharmacology /

Fibroblast / Cultivation / Cell biology / Cellular /

Interaction

□ **University of Surrey**

Robens Institute

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**Nephrotoxicity mechanisms using kidney perfusion and animal and human renal tissue and cells**

Bach, Dr.P.H.

Tissue / Cell / Human / Animal / Kidney / Toxin /

Toxicology / Cultivation

□ **United Medical and Dental Schools**

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**The effect of neuroactive drugs on neuroendocrine function using incubated hypothalamus and pituitary tissues in vitro**

Gillham, Dr.B.

Drug / Activity / Hormone / Hypophysis / Tissue / In

vitro / Cultivation / Endocrinology / Pharmacology /

Receptor

□ **University of Hull**

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**Microbial transformation of fatty acids to dicarboxylic**  
 Ratledge, Prof.C.  
 Fatty acid / Plastic / Production / Biotechnological / Glycerol / Ester / Pseudomonas / Corynebacterium / Yeast / Enzymology / Enzyme / Purification / Microbiology / Industry

**DSM - Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH**  
 Mascheroderweg 1B  
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**Automation of DNA sequencing**  
 Massen, Prof.Dr.-Ing.R.  
 DNA / Sequencing / Automation / Data processing / Recognition / Informatics / Automation technology / Image analysis / Biochemistry / Molecular genetics

**European network of microbial culture collections data banks; integrated catalogue.**  
 Claus, Dr.D.  
 Data base / Organism collection / Microbial / Cultivation / Online searching

**Universitaet-Gesamthochschule Essen**  
 Universitaetsklinikum Essen, Institut fuer Immungenetik  
 Virchowstrasse 171  
 4300  
 Essen  
 ☎ +49 201 7234526

**European resource centres for plasmid-bearing strains.**  
 Claus, Dr.D.  
 Organism collection / Plasmid / Cultivation / Prokaryote / Eukaryote / Cloning / Vector / Gene bank / Preservation / Data base

**Bank of immunogenetically defined human B-lymphoblastoid cell lines .**  
 Grosse-wilde, Prof.Dr.H.  
 Immune / Genetics / Lymphocyte / Cultivation / Congenital / Disease / Immunology / Service

**Bundesanstalt fuer Milchforschung**  
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**Improvement of lactic streptococcal starter cultures by means of recombinant DNA technology.**  
 Teuber, Dr.M.  
 Starter culture / Streptococcus / Optimization / rDNA / Cloning / Vector / Gene / Expression / Transfer / Bacteriophage / Resistance / Plasmid / Milk / Fermentation / Microbiology / Molecular genetics / Nutritional branch / Genetic / Engineering

**Folding assembly stability and genetic modification of penicillin acylase and its precursor**  
 Boeck, Prof.Dr.A.  
 Penicillin / Acylase / Genetic / Engineering / Folding / Stable / Enzymology / Biochemistry

**Max-Planck-Institut fuer Zuechtungsforschung**  
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**Genetic transformation and plant regeneration from protoplasts of wheat and barley**  
 Schell, Dr.J.  
 Plant / Genetic / Engineering / Protoplast / Regeneration / Monocotyledon / Differentiation / Regulation / Botany / Agriculture / Genetics

**Folding, assembly, stability and genetic modification of penicillin acylase and its precursor.**  
 Schumacher, Dr.G.  
 Penicillin / Acylase / Genetic / Engineering / Folding / Stable / Enzymology / Biochemistry / Gene / Cloning / Sequencing / Expression / Molecular genetics

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**Simulation of an enzymatic process using an immobilized biocatalyst**  
 Lepers, Dr.H.J.  
 Simulation / Enzymatic / Process / Immobilization / Enzyme / Kinetics / Enzymology / Biochemistry / Biophysics

**Development of a host/vector systems in Clostridia of industrial and agricultural importance.**  
 Staudenbauer, Prof.Dr.W.L.  
 Clostridium / Host / Vector / Industry / Thermophilic / Agriculture / Genetic / Engineering / Stable / Cloning / Plasmid / Industrial / Fermentation / Ethanol / Optimization / Molecular genetics / Microbiology / Transfer

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**Universitaet Hohenheim**  
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 ☎ +49 459 2311

**Control of the microenvironment of biocatalysts by coimmobilization**  
Hartmeier, Prof.Dr.W.  
Bioprocess engineering / Immobilization / Catalase / Oxygen / Bioreactor / Production / Alkaloid / Bacitracin / Bacillus / Enzymology

□ **Fraunhofer-Institut fuer Grenzflaechen- und Bioverfahrenstechnik**  
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7000  
Stuttgart 80  
☎ +49 711 686837

**Continuous synthesis of fine chemicals by cofactor dependent enzymes with simultaneous cofactor regeneration.**  
Kulbe, Dr.K.D.  
Cofactor / Regeneration / Fine chemical / Enzymatic / Synthesis / Bioreactor / Enzymology / Organic chemistry / Industry / Oxidoreductase / Catalase / Downstream processing / ASCORBIC ACID / Gluconic acid

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**Continuous synthesis of fine chemicals by cofactor dependent enzymes with simultaneous cofactor regeneration.**  
Bueckmann, Dipl.Ing.A.F.  
Cofactor / Regeneration / Fine chemical / Enzymatic / Synthesis / Bioreactor / Enzymology / Organic chemistry / Industry / Oxidoreductase

□ **Universitaet Hannover**  
Institut fuer Technische Chemie  
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3000  
Hannover  
☎ +49 511 7622253

**Bioconversion of hydrophilic and hydrophobic compounds by enzyme systems**  
Schuegerl, Prof.Dr.K.  
Biotransformation / Hydrophilic / Hydrophobic / Bioreactor / Continuous / Enzymatic / Production / Alanine / Methionine / Long-chain / Aldehyde / Lactic acid / Malic acid / Lipid / Enzymology / Bioprocess engineering / Industry

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**Genetic transformation of plant mitochondria : development of a general strategy.**  
Czernilofsky, Dr.A.P.  
Genetic / Engineering / Plant / Mitochondrion / Plasmid / Vector / Gene / Transfer / Botany / Molecular genetics / Agriculture

□ **Universitaet Bielefeld**  
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**Comparison of late sym genes in Rhizobium species and construction of improved strains**  
Puehler, Dr.A. / Pfeifer, Dr.U.B.

Rhizobium / Gene / Symbiosis / Useful plant / Optimization / Genetic / Engineering / Expression / Recognition / Isolation / Plasmid / Molecular genetics / Microbiology / Agriculture / Nitrogen / Fixation

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**Development of inducible gene expression systems for higher plants and plant cell cultures**  
Wingender-drissen, Dr.R.  
Gene / Expression / Dicotyledon / Cell / Suspension / Cultivation / Vegetable / Sequence / Resistance / Pathogen / Optimization / Production / Botany / Genetic / Engineering / Genetics / Agriculture

□ **Friedrich Weissheimer Malzfabrik**  
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**Improvement of protein quality in barley by means of genetic engineering.**  
Sarx, Dr.H.G.  
Protein / Optimization / Useful plant / Genetic / Engineering / Gene / Nucleotide / Sequence / Molecular genetics / Botany / Agriculture

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**The transformation of chloroplasts with Agrobacterium tumefaciens and naked DNA**  
Schell, Dr.J. / Schriber, P.  
Chloroplast Modification / Agrobacterium / Genetic Engineering / DNA Transfer / Gene Resistance / Cloning / Protoplast Expression / Stable Insertion / Genome / Molecular genetics / Microbiology / Botany / Agriculture

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**Assessing the risk involved in the release of genetically manipulated microorganisms.**  
Klingmueller, Dr.W.  
Risk assessment / Genetic / Engineering / Gene / Transfer / Release / Environment / Safety research / Microbiology / Bacterium

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Meyerhofstrasse 1  
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**Molecular mechanisms of liver specific gene expression and production of proteins of medical interest**  
Cortese, Dr.R.  
Gene / Expression / Protein / Production / Cell / Cultivation / Cloning / Recombination / Oncogenic / Liver / Genetic / Engineering / Molecular genetics / Cytogenetics

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**Biochemical-physical knowledge, control, optimization of animal cell cultures in bioreactors.**  
Lehman, Dr.J.  
Bioreactor / Optimization / Control / Animal / Cell / Cultivation / Engineering / Kinetics / Medium / Nutrient / Inhibition / Metabolite / Optimization / Density / Secretion / Bioprocess engineering / Biochemistry / Industry

□ **Universitaet Hannover**  
Institut fuer Technische Chemie  
Callinstrasse 3  
3000  
Hannover  
☎ +49 511 7622253

**Biochemical-physical knowledge, control, optimization of animal cells cultures in bioreactors.**  
Schuegerl, Prof.Dr.K.  
Bioreactor / Optimization / Control / Animal / Cell / Cultivation / Engineering / Kinetics / Medium / Nutrient / Inhibition / Metabolite / Optimization / Density / Secretion / Bioprocess engineering / Biochemistry / Industry

□ **Universitaet Konstanz**  
Fakultaet fuer Biologie  
Konstanz  
☎ +49 7531882134

**Automation of DNA sequencing**  
Pohl, Dr.F.M.  
DNA / Sequencing / Automation / Data processing / Electrophoresis / Software / Image analysis / Optimization / Sequence / Plasmid / Molecular genetics / Informatics / Biochemistry

□ **Technische Universitaet Hamburg**  
Arbeitsbereich Biotechnologie I,  
Bioprozess und Bioverfahrenstechnik  
Harburger Schlossstrasse 37-39  
2100  
Hamburg 90  
☎ +49 40 77182694

**Fermentor modelling for automation and optimal process control**  
Maerkl, Prof.Dr.Ing.H.  
Bioreactor / Modelling / Automation / Process / Control / Optimization / Fermentation / Industrial / Computer / Fermentation technology

□ **Eberhard-Karls-Universitaet Tuebingen**  
Fakultaet fuer Biologie  
Auf der Morgenstelle 28  
7400  
Tuebingen 1

**Characterization of the staphylococcal lipases at the genetic and biochemical level**

Goetz, Dr.  
Lipase / Staphylococcus / Molecular genetics / Cloning / Genetic / Engineering / Gene / Sequencing / Mapping / Isolation / Purification / Biochemistry

□ **Universitaet Duesseldorf**  
Institut fuer Mikrobiologie  
Universitaetsstrasse 1, Geb. 26.12  
4000  
Duesseldorf  
☎ +49 211 3114720

**Development of host-vector systems in industrial yeasts.**  
Hollenberg, Prof.Dr.C.P.  
Yeast / Vector / Plasmid / Stable / Industrial / Genetic / Engineering / Molecular genetics / Microbiology

□ **Kernforschungsanlage Juelich GmbH**  
Institut fuer Biotechnologie 1  
Juelich  
☎ +49 2461 613294

**Genetic manipulation of the anaerobe, Zymomonas mobilis for fermentation of waste starch**  
Sahm, Dr.H.  
Genetic / Engineering / Zymomonas / Fermentation / Waste / Starch / Vector / Expression / Recombination / Gene / Plasmid / Ethanol / Production / Hemicellulose / Xylose / Molecular genetics / Microbiology / Agriculture

□ **Biologische Bundesanstalt fuer Land- und Forstwirtschaft (BBA)**  
Institut fuer Biologische Schaedlingsbekaempfung  
Heinrichstrasse 243  
6100  
Darmstadt  
☎ +49 6151 44061

**Risk assessment : field release of genetically manipulated baculoviruses.**  
Huber, Dr.J.  
Risk assessment / Safety research / Baculovirus / Genetic / Engineering / Pest / Abatement / Agriculture / Environment / Release

□ **Botanisches Institut**  
Meckenheimer Allee 170  
5300  
Bonn 1  
☎ +49 228 732680

**Plant hormone receptors**  
Klaemdt, Prof.Dr.D.  
Hormone / Vegetable / Plant / Growth / Receptor / Auxin / Transport / Inhibitor / Biochemistry / Botany / Molecular biology

□ **Max-Planck-Institut fuer Zuchtungsforchung**  
Abteilung Zuchtungsforchung und Ertragsphysiologie  
Egelspfad  
5000  
Koeln 30  
☎ +49 2215062237

**Molecular studies of the high lysine genes opaque-2 and opaque-6 in maize**  
Rhode, Dr.W.  
Lysine / Gene / Maize / Isolation / Cloning / Molecular genetics / Sequencing / Expression / Agriculture

□ **Martensrieder Institut fuer Proteinsequenzen (MIPS)**  
Am Klopferspitz 18  
8033  
Martinsried  
☎ +49 89 8578 2656

**Protein sequence data bank**  
Mewes, Dr.H.W.  
Data base / Protein / Sequence

□ **EMBL**  
Meyerhofstrasse 1  
Heidelberg 1  
☎ +49 6221 387200

**Artificial intelligence approach to protein structure prediction by development of a knowledge base.**  
Sander, Dr.C.  
Protein / Structure / Biocomputing / Informatics / Molecular / Biochemistry / Modelling

□ **Bundesforschungsanstalt fuer Viruskrankheiten der Tiere**  
Paul-Ehrlich-Strasse 28  
7400  
Tuebingen  
☎ +49 7071 603213

**Genetically engineered vaccines against porcine and bovine herpesviruses**  
Rziha, Dr.H.J.  
Vaccine / Herpes / Virus / Viral / Glycoprotein / Gene / Expression / Recombination / Isolation / Insertion / Vector / RECOGNITION / Molecular genetics / Genetics / Engineering / Immunology / Microbiology

□ **Technische Universitaet Muenchen**  
Institute for Organic Chemistry  
Lichtenbergstrasse 4  
8046  
Garching  
☎ +49 89 3209

**Electrode-immobilized enzyme systems for electro chemically driven chiral reduction reactions**  
Simon, Prof.Dr.H.  
Carbon / Electrode / Enzyme / Immobilization / Reduction / Stereospecific / Substrate / Enzymology / Organic chemistry / Electrochemical / Chiral / Kinetics / Organic / Solvent

□ **Eberhard-Karls-Universitaet Tuebingen**  
Medizinisch-Naturwissenschaftliches Forschungszentrum  
Auf der Himmelreich 7  
7400  
Tuebingen  
☎ +49 707 1295025

**Linear plasmids and artificial chromosomes as vectors for gene transfer in eukaryotes**  
Lipps, Prof.Dr.H.J.  
Stable / Genetic / Vector / Plasmid / Gene / Transfer / Eukaryote / Chromosome / Engineering / Molecular genetics

□ **Universitaet Regensburg**  
Institut fuer Biophysik und Physische Biochemie  
Universitaetsstrasse 31  
8400  
Regensburg  
☎ +49 941 9433015

**Enzymes from thermophilic bacteria: properties, stability and biotechnological applications**  
Jaenicke, Prof.  
Stable / Enzyme / Enzymology / Thermophilic / Archaeobacterium / Growth / Thermodynamics / Kinetics / Lactic acid / Oxidoreductase / Amylase / Isolation / Metalloprotein / Biochemistry / Organic chemistry

□ **Technische Hochschule Darmstadt**  
Institut fuer Mikrobiologie  
Schnittpahnstrasse 10  
6100  
Darmstadt  
☎ +49 6151 162855

**Genetic regulation of yeast glycolysis**  
Zimmermann, Dr.F.K.  
Yeast / Gene / Genetic / Regulation / Glucose / Metabolism / Cloning / Plasmid / Vector / Molecular / Genetics / Microbiology / Sequencing / Enzyme

□ **Ludwig-Maximilians-Universitaet Muenchen**  
Institut fuer Genetic und Mikrobiologie,  
Lehrstuhl fuer Mikrobiologie  
Maria-Ward-Strasse 1A  
8000  
Muenchen  
☎ +49 89 177084

**Genetics and molecular biology of Streptomyces : mapping, plasmids instability and mls-resistance.**  
Schrempf, H.I.  
Streptomycete / Molecular biology / Molecular genetics / Amplification / Gene / Vector / Antibiotic / Biosynthesis / Modification / Cloning / Resistance / Genetic / Unstable / Plasmid / Insertion / Sequence / Expression

□ **Ludwig-Maximilians-Universitaet Muenchen**  
Dermatologie Klinik  
Frauenlobstrasse 9-11  
8000  
Muenchen  
☎ +49 895397

**Reconstruction in vitro of human skin for pharmacological and toxicological studies**  
Krieg, Dr.T.M.  
Skin / In vitro / Toxicology / Pharmacology / Fibroblast / Cultivation / Cell biology / Cellular / Interaction

□ **Medizinische Hochschule**  
Konstanty-Gutschow Strasse 8  
3000  
Hannover 61  
☎ +49 511 532

**Nephrotoxicity mechanisms using kidney perfusion and animal and human renal tissue and cells**  
Stolte, Dr.H.  
Tissue / Cell / Human / Animal / Kidney / Toxin / Toxicology / Cultivation

**Henkel KGAA**  
Abteilung TFB-Biotechnologie  
Duesseldorf  
☎ +49 211 7970

**Microbial transformation of fatty acids to dicarboxylic acids**

Haenggi, Dr.  
Fatty acid / Plastic / Production / Biotechnological / Glycerol / Ester / Pseudomonas / Corynebacterium / Yeast / Enzymology / Enzyme / Purification / Microbiology / Industry

**The National Hellenic Research Found**  
Center of Biological Research, Department  
of Biochemistry  
48 Vas. Constantinou Ave  
11635  
Athens  
☎ +30 1 7239965

**Bioconversion of hydrophilic and hydrophobic compounds by enzyme systems**

Kolisis, Dr.F.  
Biotransformation / Hydrophilic / Hydrophobic / Bioreactor / Cofactor / Regeneration / Continuous / Enzymatic / Production / Alanine / Methionine / Long-chain / Aldehyde / Lactic acid / Malic acid / Lipid / Enzymology / Industry / Lipase / Modification / Vegetable / Oil / Structural analysis / Immobilization / Organic chemistry

**Model systems for production folding and assembly of stable proteins overexpressed in E. coli**  
Kokkinidis, Dr.M.  
Genetic / Engineering / Protein / Folding / Stable / Data base / Molecular / Structure / Mutation / Biochemistry

**Agricultural College of Athens**  
Department of Postgraduate Studies, Dairy  
Section  
Votanikos  
118 55  
Athens  
☎ +30 3013465333

**Creation of a lactic acid cultures collection modelling and control technics of thermophilic mixed cultures.**

Kalatzopoulos, Dr.G.  
Mixed culture / Bacterial / Cultivation / Thermophilic / Modelling / Fermentation / Control / Milk / Optimization / Microbiology / Fermentation technology / Food technology / Nutritional branch / Quality control

**University of Athens**  
Panepistemiopolis  
15701  
Athens  
☎ +30 1 7240091

**Genetic manipulation of the anaerobe Zymomonas mobilis for fermentation of fruit juices**

Typas, Dr.M.A.  
Genetic / Engineering / Zymomonas / Industrial / Fermentation / Fruit juice / Ethanol / Production / Waste / Agriculture / Mutation / Origin / Transduction / Protoplast / Fusion / Bacteriophage / Bioreactor / Enzyme / Microbiology / Genetics

**Univerity of Ioannina**  
Department of Chemistry, Division of  
Organic Chemistry - Biochemistry  
45332  
Ioannina  
☎ +30 651 92210

**Genetic manipulation of the anaerobe Zymomonas mobiles for fermentation of fruit juices**

Drainas, Dr.C.  
Genetic / Engineering / Zymomonas / Fermentation / Industrial / Fruit juice / Ethanol / Production / Waste / Agriculture / Gene / Transfer / Enzyme / Reduction / Sorbitol / Maltose / Glucose / Protoplast / Fusion / Microbiology / Genetics

**Research Center of Crete**  
Institute of Molecular Biology and  
Biotechnology (IMBB)  
Heraklio  
☎ +30 81 231299

□ **University College Cork**  
Dairy of Food Microbiology Department  
Western Road  
Cork  
☎ +353 21 276871

**Improvement of lactic streptococcal starter cultures by means of recombinant DNA-technology**

Daly, Dr.C.  
Starter culture / Streptococcus / Optimization / rDNA / Cloning / Vector / Gene / Expression / Transfer / Bacteriophage / Resistance / Plasmid / Milk / Fermentation / Microbiology / Molecular genetics / Nutritional branch / Genetic / Engineering

□ **Trinity College**  
Department of Genetics  
2  
Dublin  
☎ +353 1 772941

**Studies of segregational and structural plasmid instability in *Bacillus subtilis***

Devine, Dr.K.M.  
Stable / Cloning / Vector / Bacillus / Plasmid / Recombination / Genetic / Engineering / Genetics / Microbiology / Industry

□ **National Institute for Higher Education (NIHE)**  
School of Biological Sciences  
NIHE  
Glasnevin  
☎ +353 1 370077

**Comparison of late sym genes in *Rhizobium* species and construction of improved strains**

O'connell, Dr.M.  
Rhizobium / Gene / Symbiosis / Useful plant / Optimization / Genetic / Engineering / Expression / Recognition / Isolation / Plasmid / Molecular genetics / Microbiology / Agriculture / Nitrogen / Fixation

□ **University College Galway**  
Department of Microbiology  
UCG  
Galway  
☎ +353 91 24411

**The development of transgenic animals (including fish) with novel characteristics**

Gannon, Dr.F.  
Transgenic / Animals / Genetic / Engineering / Germ cell / Injection / Gene / DNA / Retrovirus / Stock / Fish / Genetics / Agriculture / Cloning

□ **Trinity College**  
Microbiology Department  
Moyné Institute  
Dublin 2  
☎ +353 1 722941

**Genetic analysis and biologic assessment of virulence determinants of *Staphylococcus aureus***

Foster, Dr.T.J.  
Staphylococcus / Bacterial / Infection / Stock / Vaccine / Mutation / Origin / Cloning / Gene / Genetic / Engineering / Microbiology / Genetics / Immunology

□ **Trinity College**  
Department of Genetics  
2  
Dublin  
☎ +353 1 772941

**Research and diffusion for a portable European system of access and analysis of biosequences**  
Sharp, Dr.P.M.  
DNA / Protein / Sequence / Data base / Optimization / Software / Informatics / Amino acid / Molecular biology

□ **Agricultural Institute**  
Béclaire Tuam  
Galway  
☎ +353 93 55455

**The development of transgenic animals (including fish) with novel characteristics**

Sreeman, Dr.J.M.  
Transgenic / Animals / Genetic / Engineering / Germ cell / Injection / Gene / DNA / Retrovirus / Stock / Fish / Genetics / Agriculture / Cloning

□ **University College Dublin**  
Department of Pharmacology  
Foster Avenue  
Dublin  
☎ +353 1 693244

**In vitro screening for anticonvulsant teratogenesis in neural primary cultures and cell lines**

Regan, Dr.C.  
In vitro / Screening / Malformation / Origin / Toxicology / Drug / Nervous system / Cell / Cultivation

□ **University College Galway**  
Department of Microbiology  
UCG  
Galway  
☎ +353 91 24411

**Genetic engineering and transposon mutagenesis in amino acid producing *Corynebacteria***

Duncan, Prof.  
Genetic / Engineering / Mutation / Origin / Transposon / Amino acid / Biosynthesis / Brevibacterium / Corynebacterium / Molecular genetics / Plasmid / Vector / Recombination / Protoplast / Fusion / Cloning / Structure / Analysis / Gene / Expression / Microbiology / Industry

□ **Trinity College**  
Department of Genetics  
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Dublin  
☎ +353 1 772941

**Genetic regulation of yeast glycolysis**

Devine, Dr.K.  
Yeast / Gene / Genetic / Regulation / Mutation / Origin / Polyalcohol / Metabolism / Genetics / Microbiology

□ **National Institute for Higher Education (NIHE)**  
School of Biological Sciences  
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☎ +353 1 370077

**New in vitro integrated approach to pharmaco-toxicology and metabolism in cancer chemotherapy**

Clynes, Dr.M.  
Toxicology / Pharmacology / Cancer / Chemotherapy / In vitro / Cell / Cultivation / Drug / Activity / Metabolism / Cellular / Side-action

□ **Universita di Roma**  
Dipartimento Genetica e Biologia Molecolare  
c/o Istituto Fisiologia Generale, Ple A. Moro 5  
00185  
Roma  
☎ +39 6 491721

**Study of hairy root transformation : new strategy for plant genetic engineering.**

Costantino, Dr.P.  
Plant / Genetic / Engineering / Plasmid / Hormone / Vegetable / In vitro / Modification / Agrobacterium / Molecular genetics / Botany / DNA

□ **Universita di Napoli**  
Dipartimento di Chimica Organica e Biologica  
Via Mezzocannone 16  
80134  
Napoli  
☎ +39 81 206411

**Bioconversion of hydrophilic and hydrophobic compounds by enzyme systems.**

Rossi, Prof.Dr.M.  
Biotransformation / Hydrophilic / Hydrophobic / Bioreactor / Cofactor / Regeneration / Continuous / Enzymatic / Production / Alanine / Methionine / Long-chain / Aldehyde / Lactic acid / Malic acid / Lipid / Enzymology / Industry / Sulfolobus / Oxidoreductase / Alcohol / Immobilization / Lipase / DNA / Replication / Polymerase / Gene bank / Molecular biology / Cloning / Galactosidase

□ **Universita degli studi di Urbino**  
Istituto di Chimica Biologica  
Via A. Saffi 2  
61029  
Urbino PS  
☎ +39 722 305211

**Construction of enzyme-loaded erythrocytes as bio-reactors.**

Magnani, Prof.Dr.M.  
Erythrocyte / Hexokinase / Microencapsulation / Human / Genetic / Engineering / Gene / Cloning / Antibody / Production / rDNA / cDNA / Amino acid / Sequence / Enzymology / Molecular genetics / Purification / Biochemistry

□ **Universita di Genova**  
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16132  
Genova  
☎ +39 10 515365

**Construction of enzyme-loaded erythrocytes as bio-reactors.**

Flora, Dr.A. De  
Erythrocyte / Hexokinase / Microencapsulation / Human / Genetic / Engineering / Gene / Cloning / Antibody / Production / rDNA / cDNA / Amino acid / Sequence / Enzymology / Molecular genetics / Purification / Biochemistry

□ **Universita di Roma**  
Dipartimento di Biologia Cellulare e dello Sviluppo, Sez di Scienze Microbio  
Via Degli Apuli  
00185  
Roma  
☎ +39 6493232



**Development of host-vector systems in dairy yeasts**  
Frontali, Dr.L.  
Yeast / Vector / Plasmid / Cloning / Nutritional branch / Sequencing / Modification / Genetic / Engineering / Molecular genetics / Microbiology

□ **CNR**  
Istituto di Chimica degli Ormoni  
Via Mario Bianco 9  
20131  
Milano  
☎ +39 2 2847737

**Continuous synthesis of fine chemicals by cofactor dependent enzymes with simultaneous cofactor regeneration.**  
Carrea, Dr.G.  
Cofactor / Regeneration / Fine chemical / Synthesis / Enzymatic / Bioreactor / Enzymology / Organic chemistry / Industry / Oxidoreductase / Steroid

□ **Universita di Torino**  
Istituto di Igiene  
Via Santena 5BIS  
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Torino  
☎ +39 11 6963106

**Construction of enzyme-loaded erythrocytes as bio-reactors.**  
Silengo, Dr.L.  
Erythrocyte / Hexokinase / Human / Microencapsulation / Genetic / Engineering / Gene / Cloning / Expression / Vector / Sequencing / Isolation / Optimization / Enzymology / Molecular genetics

□ **INRC**  
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☎ +39 10 352896

**Bank of immunogenetically defined human B-lymphoblastoid cell lines.**  
Ferrara, Prof.G.B.  
Immune / Genetics / Lymphocyte / Cultivation / Congenital / Disease / Genetic / Immunology / Service

□ **Universita di Pavia**  
Department of Genetics and Microbiology  
Via S Epifanio 14  
27100  
Pavia  
☎ +39 382 303852

**Genetic manipulation and regeneration in model and crop plant in vitro**  
Sala, Dr.F.  
Genetic / Engineering / Plant / In vitro / Vegetable / Cell / Cultivation / Transfer / Useful plant / Regeneration / Botany / Genetics

□ **Universita degli Studi di Firenze**  
Department of Animal Biology and Genetics  
Via Romana 17  
50125  
Firenze  
☎ +39 55 220498

**Development of methods for selection in vitro for resistance to chemicals and pathogens**  
Buiatti, Dr.M.  
In vitro / Resistance / Disease / Plant / Mutation / Origin / Pathogen / Botany / Genetics / Agriculture

□ **CNR**  
Istituto di Mutagenesi e Differenziamento  
Via Svezia 10  
56100  
Pisa  
☎ +39 50 574161

**Molecular analysis of carrot somatic embryogenesis.**  
Terzi, Dr.M.  
Plant / Embryo / Origin / Botany / Regeneration / Molecular biology / Genetics / Developmental physiology

□ **Dipartimento di Patologia Sperimentale**  
Via S. Giacomo 14  
40126  
Bologna  
☎ +49 51 243042

**Lectins and ribosome inactivating proteins as pathogen and pest resistance factors in plants**  
Stirpe, Dr.F.  
Useful plant / Resistance / Disease / Pest / Lectin / Gene / Transfer / Genetic / Engineering / Cloning / Botany / Genetics / Agriculture

□ **Universita di Torino**  
Dipartimento di Scienze Biomedica e Oncologia, Sezione di Istologia  
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☎ +39 11 687516

**New methodology in cultures of human tumor cells.**  
Comoglio, Dr.P.M.  
Cultivation / Cell / Tumour / Human / Animal / Bioactive agent / Growth / Adhesion / Assay / Cell biology / In vitro

□ **Universita Napoli**  
Istituto di Scienze Biochimie, II Facolta di Medicina  
Via S Pansini 5  
80131  
Napoli  
☎ +39 81 253026

**Molecular mechanisms of liver specific gene expression and production of proteins of medical interest**  
Ciliberto, Dr.G.  
Gene / Expression / Protein / Production / Cell / Cultivation / Cloning / Recombination / Oncogenic / Liver / Genetic / Engineering / Molecular genetics / Cytogenetics

□ **CNR**  
Istituto di Genetica Biochimica ed Evoluzionistica  
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27100  
Pavia  
☎ +39 382 42284

**Parvovirus based linear animal vectors for production of vaccines and other useful proteins**  
Riva, Dr.S.  
Vector / Cloning / Vaccine / Production / Protein / Parvovirus / Genetic / Engineering / Animal / Molecular genetics / Microbiology / Immunology

□ **IRSA - CNR**  
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Bari  
☎ +39 80 372015

**Advanced monitoring and computer control of biotechnological processes**  
Rozzi, Mr.A.G.  
Monitoring / Control / Bioreactor / Informatics / Optimization / Simulation / Pilot scale / Sensor / Measurement / Hardware / Fermentation technology

□ **Universita degli studi di Siena**  
Dipartimento Biologia Ambientale  
Via Mattioli 4  
53100  
Siena  
☎ +39 577 281228

**Pollen biotechnology in cultivated crops.**  
Cresti, Prof.M.  
Microspore / Sperm / Cell / Kinetics / In vivo / In vitro / Fertilization / Isolation / Biochemistry / Botany

□ **Universita 'La Sapienza'**  
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Piazzale Aldo Moro 5  
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Roma  
☎ +39 6 4940804

**Plant hormone receptors.**  
Balio, Dr.A.  
Hormone / Vegetable / Plant / Growth / Receptor / Auxin / Transport / Inhibitor / Biochemistry / Botany / Molecular biology

□ **Istituto Sperimentale per la Cerealicoltura**  
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Via Stezzano 24  
24100  
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☎ +39 35 311422

**Molecular studies of the high lysine genes opaque-2 and opaque-6 in maize**  
Motto, Dr.M.  
Lysine / Gene / Maize / Isolation / Cloning / Molecular genetics / Sequencing / Expression / Agriculture

□ **Universita di Roma**  
Dipartimento di Biologica Cellulare e dello Sviluppo, Sez di Scienze Microbio  
Via Degli Apuli  
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Roma  
☎ +39 6493232

**Linear plasmids and artificial chromosomes as vectors for gene transfer in eukaryotes**  
Donini, Prof.Dr.P.  
Stable / Genetic / Vector / Plasmid / Gene / Transfer / Eukaryote / Chromosome / Engineering / Molecular genetics

□ **Universita degli studi di Milano**  
Dipartimento di Scienze e Technologie Biomediche  
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20132  
Milano  
☎ +39 2 21702313

**Model systems for production, folding and assembly of stable proteins overexpressed in E. coli**

Arosio, Dr.P.

Genetic / Engineering / Protein / Regulation / Folding / Stable / Mutation / Origin / Escherichia / Amino acid / Sequence / Recombination / Molecular / Biochemistry / Molecular genetics

 **Universita degli studi di Padova**Dipartimento di Chimica Organica  
Via Marzolo 1  
35131  
Padova  
☎ +39 49 831242**Enzymes from thermophilic bacteria: properties, stability and biotechnical applications**

Fontana, Prof.A.

Stable / Enzyme / Enzymology / Thermophilic / Archaeobacterium / Thermodynamics / Kinetics / Biochemistry / Organic chemistry / Folding / Protein / Structure / Analysis / Metalloproteid / Peptide / Synthesis

 **University of Roma, Torvergata**Department of Biology  
Via Carnevale  
00173  
Roma  
☎ +49 6221 387335**Model systems for production folding and assembly of stable proteins over expressed in E. coli**

Cesareni, Dr.

Genetic / Engineering / Stable / Protein / Folding / Biosynthesis / Escherichia / Mutation / Gene / Origin / Vector / Biochemistry / Molecular genetics

 **Istituto Ricerche Farmacologie "Mario Negri"**Laboratory Immunology - Oncology  
Via Eritrea 62  
20157  
Milano  
☎ +39 2 35794**Altered immune gene expression as a new approach to in vitro immunotoxicological screening.**

Spreafico, F.

Immune / Suppression / Gene / Expression / Immunology / Toxicology / Interleukine / Lymphocyte / mRNA / Protein / Analysis / Genetics / Daunorubicin / Hydrocortisone / Cyclosporine

 **Centraalbureau voor Schimmelcultures Baarn**

☎ +31 2154 11841

**A European network of microbial culture collection databanks. Integrated catalogue**

Kokke, Dr.R.

Data base / Organism collection / Microbial / Cultivation / Online searching

 **Erasmus University**Department of Cell Biology and Genetics  
Rotterdam  
☎ +31 10 4087215**European mutant cell repository for genetic studies in humans**

Galjaard, Dr.H.

Congenital / Disease / Human / Cell / Cultivation / Organism collection / Human genetics / Cell biology

 **Netherlands Institute for Dairy Research (NIZO)**20  
Ede  
☎ +31 8380 59558**Improvement of lactic streptococcal starter cultures by means of recombinant DNA technology.**

Vos, Dr.W.M.de

Starter culture / Streptococcus / Optimization / rDNA / Cloning / Vector / Gene / Expression / Transfer / Bacteriophage / Resistance / Plasmid / Milk / Fermentation / Microbiology / Molecular genetics / Nutritional branch / Genetic / Engineering

 **Rijksuniversiteit Groningen**Faculteit der Wiskunde en Natuurwetenschappen, Afdeling der Biologie, Vakgroep Genetica  
Kerklaan 30  
9751 NN  
Haren  
☎ +31 50 632092**Improvement of lactic streptococcal starter cultures by means of recombinant DNA technology.**

Venema, Dr.G.

Starter culture / Streptococcus / Optimization / rDNA / Cloning / Vector / Gene / Expression / Transfer / Bacteriophage / Resistance / Plasmid / Milk / Fermentation / Microbiology / Molecular genetics / Nutritional branch / Genetic / Engineering

 **Vrije Universiteit Amsterdam**Vakgroep Moleculaire en Cellulaire Biologie, Afdeling Genetica  
De Boelelaan 1087  
1007 MC  
Amsterdam  
☎ +31 20 5485752**Mitochondrial molecular genetics in relation to crop improvement**

Nijkamp, Dr.H.J.J.

Mitochondrion / Genome / Useful plant / Optimization / Molecular genetics / Expression / Transfer / Modification / Plasmid / Botany / Agriculture

 **Stamicarbon BV**Geleen  
☎ +31 4494 65417**Simulation of an enzymatic process using an immobilized biocatalyst**

Wijn, Dr.W.J.de

Simulation / Enzymatic / Process / Immobilization / Enzyme / Kinetics / Enzymology / Biochemistry / Biophysics

 **Agricultural University**Department of Microbiology  
Hesslink van Suchtelenweg  
6703 CT  
Wageningen  
☎ +31 8370 83754**Microbial production of commercially important hydroxylated compounds from haloaromatics**

Bont, Dr.J.A.M.de

Aromatic / Hydroxylation / Arthrobacter / Hydrocarbon / Enzyme / Batch / Continuous / Cultivation / Purification / Optimization / Microbiology / Enzymology / Biochemistry / Industry

 **Rijksuniversiteit Groningen**Groningen Biotechnology Centre  
Nijenborgh 16  
9747 AG  
Groningen  
☎ +31 50 634165**Engineering of gram negative bacteria with industrial potential.**

Witholt, Prof.Dr.B.

Cloning / Vector / Gramnegative / Soil / Pseudomonas / Expression / Stable / Genetic / Engineering / Fine chemical / Production / Pollution / Degradation / Molecular genetics / Microbiology / Industry / Environment

 **Rijksuniversiteit Leiden**Faculteit der Wiskunde en Natuurwetenschappen, Afdeling der Scheikunde, Vakgroep Biochemie  
Wassenarseweg 64  
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Leiden  
☎ +31 71 274763**Construction and biological function of altered proteins defined by their spatial structure**

Bosch, Prof.Dr.L.

Protein / Structure / Structural analysis / Mutation / Origin / Gene / Expression / Genetic / Engineering / Monoclonal / Antibody / Cloning / Molecular genetics / Biochemistry

 **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO**Medical Biological Laboratory  
Rijswijk  
☎ +31 15 138777**Development of gene mediated transfer and selection system for filamentous fungi**

Pouwels, Dr.P.H.

Gene / Expression / Mycelial fungus / Transfer / Protein / Extracellular / Interleukine / Cloning / Industry / Genetic / Engineering / Molecular genetics / Microbiology

 **Rijksuniversiteit Utrecht**Laboratory of Biochemistry  
Padualaan 8, Transitorium III  
3584 CH  
Utrecht  
☎ +31 30 533186

Conversion of pancreatic phospholipase a2 into triglyceride-degrading lipase.

Haas, Prof.Dr.G.H.de

Pancreas / Lipase / Genetic / Engineering / Stable / Enzymology / Bioreactor / Immobilization / Molecular genetics

- **Agricultural University**  
Laboratory of Phytopathology  
Binnenhaven 9  
6709 PD  
Wageningen  
☎ +31 8370 83122

Apoplastic enzymes and biologically active oligosaccharides as markers of early pathogenesis

Wit, Dr.P.J.G.M. De

Early recognition / Marker / Infection / Origin / Diagnosis / Parasitic / Fungus / Agricultural sciences / Botany / Agriculture

- **Rijksuniversiteit Leiden**  
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Natuurwetenschappen, Afdeling der  
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Plantkunde  
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Leiden  
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Mechanisms controlling the transfer and expression of developmentally regulated plant genes

Schilperoort, Dr.R.A.

Plant / Gene / Transfer / Expression / Development / Sequence / Regulation / Plasmid / Growth / Isolation / Structural analysis / Molecular genetics / Botany / Agriculture

- **Rijksuniversiteit Groningen**  
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Natuurwetenschappen, Afdeling der  
Biologie, Vakgroep Genetica  
Kerklaan 30  
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Haren  
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Genetic manipulation and regeneration in model and crop plants in vitro

Tempelaar, Dr.M.J.

Genetic / Engineering / Plant / In vitro / Vegetable / Cell / Cultivation / Transfer / Useful plant / Regeneration / Botany / Genetics

- **Research Institute ITAL**  
Wageningen  
☎ +31 8370 91263

Genetic manipulation and regeneration in model and crop plants in vitro

Laat, Dr.A.A.M.de

Genetic / Engineering / Plant / In vitro / Vegetable / Cell / Cultivation / Transfer / Useful plant / Regeneration / Botany / Genetics

- **Vrije Universiteit Amsterdam**  
Vakgroep Moleculaire en Cellulaire  
Biologie, Afdeling Genetica  
De Boelelaan 1087  
1007 MC  
Amsterdam  
☎ +31 20 5485752

1. Development of inducible gene expression systems for higher plants and plant cell cultures.

2. Isolation of transposable elements from *Petunia hybrida*.

Mol, Dr.J.N.M.

Isolation / Dicotyledon / Cloning / Transposon / Gene / Agriculture / Insertion / Genetic / Engineering / Botany / Molecular genetics / Expression / Cell / Cultivation / Optimization / Production / Vegetable / Resistance / Sequence / Pathogen

- **Agricultural University**  
Department of Molecular Biology  
De Dreijfen 11  
6703 BC  
Wageningen  
☎ +31 8370 84325

Molecular analysis of carrot somatic embryogenesis.

Vries, Dr.S.C.de

Plant / Embryo / Origin / Botany / Regeneration / Molecular biology / Genetics / Developmental physiology

- **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO**  
Institute of Applied Chemistry  
Zeist  
☎ +31 3404 55444

Assessment of environmental risks and containment of biotechnological scale up processes

Rousseau, Dr.I.

Risk assessment / Safety research / Monitoring

- **Agricultural University**  
Department of Virology  
Wageningen  
☎ +31 8370 83089

High level expression of foot and mouth disease virus antigens using a Baculovirus vector

Vlak, Dr.J.M.

Baculovirus / Vector / Cloning / Antigen / Animal / Virus / Genetic / Engineering / Infection / Viral / Vaccine / Microbiology / Molecular genetics / Immunology / Veterinary medicine

- **Agricultural University**  
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6703 BD  
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☎ +31 8370 82658

Pollen biotechnology in cultivated crops.

Wilms, Dr.H.J.

Microspore / Sperm / Cell / Kinetics / In vivo / In vitro / Fertilization / Isolation / Biochemistry / Botany

- **Rijksuniversiteit Leiden**  
Department of Plant Molecular Biology  
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Leiden  
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Plant hormone receptors

Libbenga, Dr.K.R.

Hormone / Vegetable / Plant / Growth / Receptor / Auxin / Transport / Inhibitor / Biochemistry / Botany / Molecular biology

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Hepatitis B surface antigen particle as a carrier for presentation of foot and mouth disease virus antigens

Pouwels, Dr.P.H.

Animal / Virus / Antigen / Hepatitis / Viral / Vaccine / Recombination / rDNA / Surface / Expression / Yeast / Cell / Immunology / Molecular genetics / Genetic / Engineering / Microbiology

- **Stichting Centraal Dierengeneeskundig Instituut**  
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Lelystad  
☎ +31 3200 73911

Genetically engineered vaccines against porcine and bovine herpesviruses

Oirschot, Dr.J.T.

Vaccine / Herpes / Virus / Viral / Glycoproteid / Gene / Expression / Recombination / Isolation / Insertion / Vector / RECOGNITION / Molecular genetics / Genetics / Engineering / Immunology / Microbiology

- **Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek**

Hoofdgroep Maatschappelijke Technologie, Afdeling Milieutechnologie

Delft

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Electrode-immobilized enzyme systems for electrochemically driven chiral reduction reactions.

Dijk, Dr.C.van

Electrode / Immobilization / Reduction / Enzyme / Electrochemical / Chiral / Enzymology / Organic chemistry / Organic / Solvent

- **Rijksuniversiteit Groningen**  
Laboratorium voor Microbiologie  
Kerklaan 30  
9751 NN  
Groningen  
☎ +31 50 632153

Environmental control of metabolic fluxes as a basis for biotechnological processes.

Harder, Prof.Dr.W.

Bacillus / Metabolism / Gene / Expression / Polyalcohol / Metabolism / Enzymology / Microbiology

- **Universiteit van Amsterdam**  
Maagdenhuis, Spui 21  
1393 PT  
Amsterdam  
☎ +31 20 5222 187

3-dimensional scanning analytical laser microscope

Brakenhoff G.J.F.

Laser / Microscope / Physics / Research

□ Instituto Gulbenkian de Ciencia

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Oeiras  
☎ +35 1 4331436

**A European network of microbial culture  
collection databanks : integrated catalogue  
("MINE")**

Uden, Prof.Dr.N.J.van  
Data base / Organism collection / Microbial /  
Cultivation / Online searching

□ Instituto Superior Tecnico

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Av. Rovisco Pais  
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Lisboa  
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**Biocatalysis by novel metal clusters and  
hydrogenase (structure reactivity and  
immobilization)**

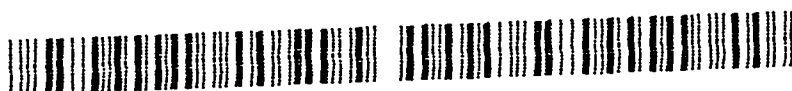
Cabral, Prof.Dr. J.M.S.  
Biological / Catalysis / Metalloproteid /  
Hydrogenase / Biosynthesis / Process /  
Optimization / Biochemistry / Enzymology /  
Immobilization / Industry / Multi-phase / Bioreactor

□ Universidade nova de Lisboa

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**Biocatalysis by novel metal clusters and  
hydrogenase (structure, reactivity and  
immobilization)**

Moura, Prof.  
Biological / Catalysis / Metalloproteid /  
Hydrogenase / Biosynthesis / Process /  
Optimization / Biochemistry / Enzymology









■ **BIBLIOTHEEK**

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