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\*The diversity of prokaryotes continues to be emphasized in the second edition, which also integrates the use of RNA sequencing as a method for determining phylogenetic relationships.

## The Prokaryotes

### Second Edition

A Handbook on the Biology of Bacteria

Ecophysiology, Isolation, Identification, Applications

Edited by **A. Balows**, Centers for Disease Control, Atlanta, GA, USA; **H.G. Trüper**, Universität Bonn, Bonn, Germany; **M. Dworkin**, University of Minnesota, Minneapolis, MN, USA; **W. Harder**, Hoofgroep Maatschappelijke Technologie, Delft, The Netherlands; **K.H. Schleifer**, Technische Universität, Munich, Germany.

This second, expanded edition of **The Prokaryotes** reflects the many advances that have occurred in bacteriology during the past decade. Over 250 eminent scientists have written more than 220 chapters, resulting in a work that is both authoritative and encyclopedic. The new subtitle reflects increasing awareness of the role played by prokaryotes in the environment and in biotechnological applications.\* Every effort has been exerted to provide a comprehensive survey of virtually all established and proposed bacterial genera for which adequate data are available.

**The Prokaryotes, Second Edition**, is a reference source for all biologists interested in theoretical and applied microbiology, microbial ecology, and microbial genetics. For the practicing bacteriologist, each chapter offers the most current accepted techniques for handling fastidious pathogens and exacting anaerobes, for identification by molecular genetics or chemotaxonomy, for antigenic analysis, chromatographic studies, and more. **The Prokaryotes, Second Edition**, deserves a place in the library of all researchers and teachers of basic microbiology and its applications.

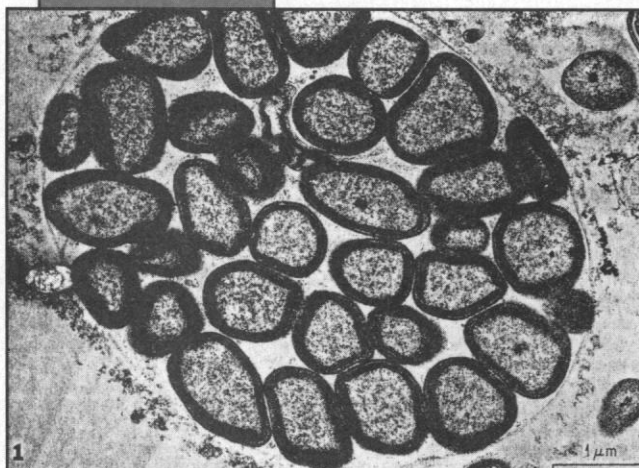
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**Parts I-II** Overview of the classical characteristics of bacteria: phylogeny, diversity, ecology, isolation, identification, life cycles, pathogenicity, growth, metabolism and physiology.

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**Part V** Coverage of prokaryotes that have established symbiotic relationships with higher organisms.

**Part VI** Descriptions of prokaryotic genera that have not yet been phylogenetically placed.

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## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR

The Department of Anatomy and Cell Biology announces a tenure-track position for an individual to teach gross anatomy to freshman medical and other students and conduct an extramurally funded research program. The successful applicant must have an M.D. or Ph.D., postdoctoral experience, prior teaching experience in gross anatomy, and a record of research productivity. The department of 24 faculty members is highly funded, offers generous laboratory and office space, a competitive start-up package, and fringe benefits. Applicants should send their curriculum vitae, a description of their research, and the names of three recommenders to: **James H. Hardin, Ph.D., Department of Anatomy and Cell Biology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425.** *The Medical University of South Carolina is an Equal Opportunity/Affirmative Action Employer.*

### THE UNIVERSITY OF CALGARY ASSISTANT PROFESSOR IN EVOLUTIONARY ECOLOGY

The University of Calgary Department of Biological Sciences invites applications for an assistant professor (tenure track) in evolutionary ecology. Applicants should have a strong background in ecological interactions (particularly in plant/animal interactions) from an evolutionary perspective and preferably with a field as opposed to laboratory orientation. Appointment date is July 1991 but a later date can be arranged by mutual consent.

Qualifications include a Ph.D. and postdoctoral experience, a commitment to excellence in teaching at the undergraduate and graduate levels and evidence of a strong and productive research program. NSERC-University Research Fellows are particularly invited to apply. Salary commensurate with qualifications and experience.

*In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. The University of Calgary has an Employment Equity Program and encourages applications from all qualified candidates, including women, aboriginal people, visible minorities, and people with disabilities.* Applicants should send curriculum vitae and have letters sent from three referees before 30 May 1991 to:

**Dr. R. W. Davies, Head**  
Department of Biological Sciences  
The University of Calgary  
2500 University Drive N.W.  
Calgary, Alberta  
Canada T2N 1N4  
FAX 403-289-9311

A 4-year public institution with campuses on St. Thomas and St. Croix, U.S. Virgin Islands, announces a faculty vacancy in the Science and Mathematics Division effective 15 August 1991.

### VISITING ASSISTANT or VISITING ASSOCIATE PROFESSOR MARINE BIOLOGY.

A doctoral degree in marine biology and college level teaching experience are required. Field experience in tropical marine eco-systems is desirable. Will teach terrestrial plant biology, plant physiology, aquatic plant biology, and general biology courses for nonmajors.

Salary range is \$30,679 to \$50,708 plus benefits. To apply for the position, send letter of application, up-to-date résumé, official transcripts, and three letters of recommendation by 10 May 1991 to: **Dr. LaVerne Ragster, Acting Vice President for Academic Affairs, University of the Virgin Islands, Charlotte Amalie, St. Thomas, VI 00802.** Late applications will be accepted.

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### ENVIRONMENTAL TOXICOLOGY

Seeking highly qualified individuals with Ph.D. in toxicology to fill two faculty positions at ASSISTANT OR ASSOCIATE PROFESSOR level. Postdoctoral and/or prior faculty experience preferred. Persons with expertise in environmental toxicology are encouraged to apply. Competitive salary and benefits. Submit applications, curriculum vitae, and three letters of reference by 15 June 1991 to: **Chairman, Division of Basic Pharmaceutical Sciences, College of Pharmacy, Xavier University, New Orleans, LA 70125.**

## POSITIONS OPEN

A 4-year public institution with campuses on St. Thomas and St. Croix, U.S. Virgin Islands (UVI), announces a faculty vacancy in the Science and Mathematics Division effective 15 August 1991.

### ASSISTANT OR ASSOCIATE PROFESSOR OF CHEMISTRY (nontenure track).

Earned doctorate and ability to teach introductory chemistry for science students and physical science for nonscience students are required. The ability to teach introductory biology would be an asset but is not required. The St. Croix campus does not award baccalaureate degrees in science. Arrangements are possible to conduct research at UVI Agricultural Experiment Research Station.

Salary range is \$30,679 to \$50,708 plus benefits. To apply for the position, send letter of application, up-to-date résumé, official transcripts, and three letters of recommendation by 10 May 1991 to: **Dr. Roderick Moorehead, Dean of Instruction and Academic Affairs, University of the Virgin Islands, RR #2, Box 10,000, Kingshill, St. Croix, U.S. Virgin Islands 00850.** Late applications will be accepted until the position is filled.

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### MICROBIOLOGY DIVISION DEPARTMENT OF EPIDEMIOLOGY AND PUBLIC HEALTH YALE UNIVERSITY SCHOOL OF MEDICINE

The Department of Epidemiology and Public Health invites applications for an ASSISTANT PROFESSOR position of individuals whose specialty is microbial pathogenesis. Preference will be given to those whose major research interest is organisms implicated in sexually transmitted diseases, opportunistic infections associated with AIDS, or human retroviruses, but strong candidates in any area of microbiology will be considered. The successful candidate would be expected to participate in graduate level teaching and maintain an active research program. Curriculum vitae and three letters of reference should be submitted by 1 June 1991 to: **Dr. Nancy H. Ruddle, Chairman, Search Committee for Microbiology, Department of Epidemiology and Public Health, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.** *Yale University is an Equal Opportunity/Affirmative Action Employer.*

### TRANSPLANTATION IMMUNOLOGIST LOYOLA UNIVERSITY OF CHICAGO

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**Maria Rosa Costanzo-Nordin, M.D.**  
Medical Director  
Cardiac Transplant Program  
Loyola University of Chicago  
Maywood, IL 60153

### PHARMACOLOGY

ASSISTANT PROFESSOR, 12-month position available immediately to teach pharmacology to optometry, pharmacy, and osteopathic medical students and to participate in the committee structure of the university. Ph.D. required. Send letter of application, complete résumé, and have three letters of reference sent by 15 July 1991, to: **Harold E. Laubach, Ph.D., Associate Dean for Basic Sciences, Southeastern University of the Health Sciences (SEUHS), 1750 N.E. 168th Street, North Miami Beach, FL 33162.** *SEUHS is an Affirmative Action/Equal Opportunity Employer.*

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Submit current curriculum vitae or U.S. Government application form (SF-171) to:

#### DHHS/PHS

Food and Drug Administration  
Center for Drug Evaluation and Research  
5600 Fishers Lane, Room 15-22  
Rockville, Maryland 20857  
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Telephone: 301-443-0553

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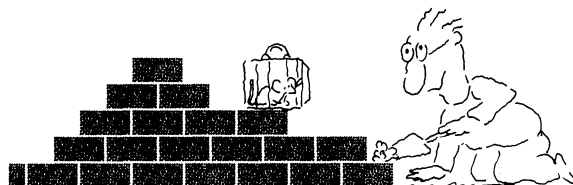
Applications should contain a curriculum vitae including the names of three referees, a list of publications and a short description of past and future research. Up to four reprints of the candidate's most significant work may also be included.

Applications should be submitted by July 1st, 1991, to

**Professor Dr. Wolfgang Wickler, Administrator Director  
Max-Planck-Institut für Verhaltensphysiologie,  
D 8130 Seewiesen FRG,**

from whom further details may be obtained.

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Hyland Division

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## POSTDOCTORAL POSITIONS U.S. - JAPAN COLLABORATIVE RESEARCH PROGRAM

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The Center for Microbial Ecology, a National Science Foundation Science and Technology Center, at Michigan State University seeks up to six postdoctoral scientists to conduct research in cooperation with a team of Japanese scientists. The research is focused on evolution of microbial traits important in pollutant biodegradation. Scientists from the fields of molecular biology, biochemistry, population genetics, evolutionary biology, and microbial ecology are sought.

Four of these positions are located in Japan with our partner groups at the University of Nagaoka and RIKEN Institute. The positions in Japan carry an attractive salary plus cost-of-living adjustment, housing expenses, and free language training. These scientist may also leave from and/or return to a postdoctoral position in the Center at Michigan State University. U.S. citizenship is required. The positions are available immediately and will be open until suitable candidates are found.

To apply, send a letter describing your interests, a curriculum vitae and names of three references to: The U.S. - Japan Collaborative Research Program, The Center for Microbial Ecology, 540 Plant & Soil Sciences Building, Michigan State University, East Lansing, Michigan 48824-1325.

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## STAFF SCIENTIST MOLECULAR/CELLULAR BIOLOGY

The Biology Division of the Oak Ridge National Laboratory is seeking an investigator to establish a research program involving targeted mutagenesis in transgenic mice. A PhD (molecular biology, biochemistry, or cell biology) with postdoctoral experience and demonstrated potential to attract extramural support is required. Core funding will be provided at a level commensurate with the candidate's qualifications. Prior experience with embryonic stem cells and/or transgenic mice is preferred but not essential. The Biology Division of 30 senior staff members is engaged in diverse research related to health effects of energy production and utilization for the Office of Health and Environmental Research within the Department of Energy. The newly-created staff position reflects increased emphasis in functional genomic mapping and gene regulation *in vivo* and complements established programs in molecular biology that include insertional mutagenesis in mice.

Qualified applicant should forward resume, publication list, and names of three references to Dr. Fred C. Hartman, Director, Biology Division, Dept. SC-0503, P.O. Box 2009, Oak Ridge National Laboratory, Oak Ridge, TN 37831-8077. ORNL which is managed by Martin Marietta Energy Systems, Inc. for the USDOE, is an equal opportunity employer.

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## POSITIONS OPEN

### MEDICINAL CHEMISTRY

Seeking highly qualified individuals with Ph.D. in medicinal chemistry to fill two positions at **ASSISTANT OR ASSOCIATE PROFESSOR** level. Postdoctoral and/or prior faculty experience preferred. Persons with expertise in molecular modeling and/or cardiovascular drugs are encouraged to apply. Competitive salary and benefits. Submit application, curriculum vitae, and three letters of reference by 15 June 1991 to: **Chairman, Division of Basic Pharmaceutical Sciences, College of Pharmacy, Xavier University, New Orleans, LA 70125.**

A 4-year public institution with campuses on St. Thomas and St. Croix, U.S. Virgin Islands, announces a faculty vacancy in the Science and Mathematics Division effective 15 August 1991.

### VISITING ASSISTANT or VISITING ASSOCIATE PROFESSOR BIOLOGY.

A doctorate and experience in teaching physiology and vertebrate zoology are required. Field experience in the tropics and research interest which can be pursued in the Virgin Islands are desirable. Will teach courses in vertebrate biology, animal physiology, general biology, and natural science.

Salary range is \$30,679 to \$50,708 plus benefits. To apply for the position, send letter of application, up-to-date résumé, official transcripts, and three letters of recommendation by 10 May 1991 to: **Dr. LaVerne Ragster, Acting Vice President for Academic Affairs, University of the Virgin Islands, Charlotte Amalie, St. Thomas, VI 00802.** Late applications will be accepted.

*An Equal Opportunity/Affirmative Action Employer and Educator.*

### EVOLUTIONARY BIOLOGIST

The Department of Biology, University of California, Los Angeles, is seeking an evolutionary biologist at the level of **FULL PROFESSOR**. Candidates must have an internationally recognized research and graduate training program in evolutionary biology broadly defined. The area of specialization is open. Investigators dealing with both evolutionary process and the products of evolution are encouraged to apply. The position will be available 1 July 1992; subject to the availability of funds.

Applicants should submit curriculum vitae, description of research interests, list of publications, recent reprints and names and address of three references to: **Dr. Clifford Brunk, Evolutionary Biologist Search Committee, Department of Biology, University of California, Los Angeles, CA 90024-1606.** Applications should be received by 1 October 1991.

*UCLA is an Affirmative Action/Equal Opportunity Employer.*

**PROJECT LEADER.** Requires Ph.D. in forestry or related forestry field and 1 year's research experience in vegetative propagation with southern pines. Ph.D. research must involve quantitative genetics with respect to competition among southern pines. Also requires proven expertise in container-grown coniferous seedlings with emphasis on root systems. Design quantitative genetic field tests to select southern pine clones for industrial plantations. Design field tests to evaluate and explain mechanisms of genetic competition in pure and mixed clonal stands. Evaluate vegetative propagation techniques to produce high-quality southern pine clones. Research-containerized growing techniques to produce from coniferous seedlings, clones with vigorous root systems. Write computer programs to monitor vegetative propagation process. Forty hours per week. Salary range: \$33,900 to \$36,000 per year depending on experience. Apply in person or with résumé to: **Georgia Department of Labor, Job Order #GA 5479572, 118 River Street, Bainbridge, GA 31717, or to the nearest Georgia Job Service Center.**

### MICROBIOLOGIST/HISTOPATHOLOGIST

The U.S. Fish and Wildlife Service, Longview, Washington, seeks a microbiologist/histopathologist GS-11/12 to research the effects of nutrition, disease organisms, and fish cultural practices on the health and histology of anadromous fishes. Salary range: \$31,116 to \$48,481. Call **Julie Swanberg** at 503-231-6136 for job description, qualifications required, and application forms. Deadline: 30 June 1991. *Equal Opportunity Employer.*

## POSITIONS OPEN



### TENURE-TRACK ASSISTANT PROFESSOR MOLECULAR BIOLOGY AND PHARMACOLOGY

Washington University School of Medicine is recruiting an individual at the level of assistant professor in the tenure track. Outstanding scientists working within the broad area of molecular biology will be considered with an emphasis on those who have a strong background in mammalian genetics and who are expert at using transgenic mice to examine fundamental questions in gene regulation. Interested applicants should forward curriculum vitae, a short summary of research plans, and the names and addresses of three references to: **Search Committee, c/o Jeffrey Gordon, Head, Department of Molecular Biology and Pharmacology, Box 8103, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110.** *Washington University is an Affirmative Action/Equal Opportunity Employer.*

The Department of Physiology, Pharmacology and Toxicology is inviting applications for positions at the **ASSISTANT/ASSOCIATE PROFESSOR** levels. Qualifications include a Ph.D. in physiology, pharmacology, toxicology or a related biomedical science. The D.V.M. degree is desirable but not required. Candidates will be expected to bring a high level of excellence in the teaching of veterinary medical, allied health, and graduate students and to develop active, independent research supported by extramural funds. Although we are seeking candidates in gastroenterology (ruminant and simple), endocrinology, neurophysiology, environmental toxicology, general and clinical pharmacology, all applicants in related areas will be considered. Interested candidates should submit curriculum vitae, names of three references, and a statement of research interests and goals to: **Dr. James E. Webster, Acting Chair, Department of Physiology, School of Veterinary Medicine, Tuskegee University, Tuskegee, AL 36088.** Applications will be accepted until positions are filled. *Tuskegee University is an Equal Opportunity/Affirmative Action Employer/Educator.*

**ASSISTANT PROFESSOR OF BIOLOGY.** A full-time faculty position is available August 1991 in the Department of Biological Sciences, St. Mary's University, San Antonio, Texas. St. Mary's is a private school of 4000 students, founded in 1852 and operated by the Catholic order of The Society of Mary. The Department of Biological Sciences specializes in the undergraduate education of students pursuing careers in the health professions, especially medicine. Candidates are required to have a Ph.D., and be qualified to teach courses in introductory biology for majors and nonmajors, and to develop two upper-division courses such as: cell biology, recombinant DNA techniques, virology, or radiation biology. Important factors are: a strong commitment to teaching, advising students, and aiding in their professional development. The faculty is encouraged to apply for grants, through which release time can be obtained to conduct research involving undergraduates. *All qualified candidates are welcome; minorities and women are encouraged to apply.* Applicants should submit a letter of application, complete curriculum vitae, typical publications, undergraduate and graduate transcripts, and the names, addresses, and telephone numbers of three former supervisors who will provide references, to: **Dr. Rosemarie Wahl Synek, Chair, Department of Biological Sciences, St. Mary's University, One Camino Santa Maria, San Antonio, TX 78228-8511.** Application deadline: 1 June 1991.

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## POSITIONS OPEN

### CHARLES DARWIN RESEARCH STATION

The Charles Darwin Research Station (CDRS) a nonprofit conservation organization working in the Galápagos islands, Ecuador, require the following personnel.

**SCIENCE COORDINATOR.** Work involves coordinating research and conservation programs in the Galápagos, preparing project proposals, preparing and evaluating annual operating plans, revising proposals from visiting scientists, and supervising Ecuadorian student volunteers and undergraduate thesis students. Must have a Ph.D. in biological sciences, speak fluent Spanish and English, have 3 years of experience in project management or similar, and be available by July 1991.

**STATISTICIAN/ENVIRONMENTAL MONITORING SPECIALIST.** Work includes statistical design of CDRS projects and student thesis, plus work on the long-term physical and biological monitoring program which involves computer programming, establishing meteorological stations, and the overall development of the program. Should have a university degree and fluent Spanish.

Send curriculum vitae, letter, and three references to: **Director, CDRS, Casilla 17-01-3891, Quito, Ecuador, FAX: 593-2-244803 by 31 May 1991.**

**CHAIRPERSON, DEPARTMENT OF BIOCHEMISTRY.** The University of Nebraska College of Medicine is conducting an active search for a Chairperson of Biochemistry. The successful candidate will be expected to have an outstanding research career in biochemistry, molecular biology, and related fields, as well as a commitment to excellence in teaching. Interested applicants should submit curriculum vitae and the names of three references to: **Michael F. Sorrell, M.D., Chairman, Biochemistry Search Committee, c/o Dean's Office, University of Nebraska College of Medicine, 600 South 42nd Street, Omaha, NE 68198-6545.** Deadline for application is 1 June 1991. *Equal Opportunity/Affirmative Action Employer.*

### JAY HYMAN PROFESSOR OF WILDLIFE MEDICINE

The Cornell University College of Veterinary Medicine seeks applicants for the Jay Hyman Professor of Wildlife Medicine. This endowed professorship will have principal responsibilities to develop a comprehensive program in wildlife medicine.

The successful candidate: will possess the Doctor of Veterinary Medicine Degree (or equivalent) and have a distinguished record of achievement in some significant field of wildlife medicine; will have evidence of postgraduate clinical experience in wildlife medicine and demonstrated ability to develop and successfully conduct an independent research program; and can successfully lead an innovative educational program for both D.V.M. students and postgraduate trainees, including arranging for development of off-campus wildlife and zoological educational experiences. The successful applicant will have demonstrated leadership qualities and administrative experience commensurate with the development of a new field in the college. In addition to providing administrative and academic leadership for the wildlife program, we anticipate the percentage of faculty time effort will be divided approximately equally between implementing and directing clinical and teaching programs in wildlife medicine and in developing and conducting an independent research program.

Though there is considerable flexibility regarding the focus and background of the person selected, special consideration will be given to individuals with expertise and interest in wild avian medicine and/or the free ranging animals of North America and abroad. Opportunities for meaningful collaboration with other faculty in the college and in the broader Cornell community are excellent and will be strongly encouraged. The endowed nature of this position will provide opportunity for program support in the areas of both teaching and research. In addition, the successful applicant will be encouraged to seek program support from extramural sources.

Interested candidates should send a letter of application, current curriculum vitae, and names of four references to: **Dr. Donald F. Smith, Associate Dean for Veterinary Education, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853.**

*Cornell University is an Affirmative Action/Equal Opportunity Employer.*

# Plant Research

**Du Pont's** Central Research and Development is seeking an experienced M.S. Scientist for its Plant Science Research Section.

**A position** is available in a research group studying the biochemistry, physiology, and molecular biology of starch metabolism using mutants of *Arabidopsis thaliana*. The successful candidate will participate in biochemical and physiological studies of existing mutants, isolation of new types of mutants, and the cloning and characterization of genes. The optimal candidate will have a M.S. degree in a biological science and experience with and knowledge of biochemistry especially relating to carbohydrate metabolism. The individual should be able to work independently and with others and be capable of contributing insights and ideas to the research projects. Practical and theoretical knowledge of molecular biology and genetics and experience working with plants are advantageous.

**At Du Pont** you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. Our mid-Atlantic location offers a wide range of academic, cultural and recreational activities. We provide excellent compensation benefits and relocation assistance. Qualified candidates should send a curriculum vitae with three letters of reference to: Du Pont Human Resources, PSS-0040, Wilmington, DE 19898.



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## Research Scientist Immunopathology

The Medical Research Division of American Cyanamid is recognized as a leader in the research and development of therapeutic compounds. Our products have been instrumental in the treatment of infectious diseases, cancer, cardiovascular and central nervous system diseases. To build upon our strengths and create an environment that will foster an even stronger and more dynamic R&D organization, we are seeking a Research Scientist, Immunopathology.

The successful candidate will participate in the investigative pathology program in the Toxicology Research Section at American Cyanamid Company.

Responsibilities include implementation and utilization of immunohistochemical procedures, electron microscopy, histology, cytology and hematology.

Candidate should have a BS/MS degree in biology or a related field and 3-5 years' experience in immunohistochemistry, immunopathology, or hematology. Experience in electron microscopy is desirable.

We are located at the Lederle Laboratories campus of American Cyanamid, a 580-acre campus-like setting in Rockland County, only 25 miles north of New York City. The salary is very competitive and includes comprehensive benefits. For consideration, send your resume/c.v. with salary history to: Personnel, Dept. GR, Lederle Laboratories, 401 N. Middletown Road, Pearl River, NY 10965. An Equal Opportunity Employer M/F.

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### STAFF POSITIONS IN IMMUNOLOGY

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Tenure-track positions at the assistant professor level available in the Division of Immunology of the Department of Pathology at New York University School of Medicine.

We are most interested in applicants with research programs in antigen processing, T-cell functions, and tolerance mechanisms. However, we will consider outstanding applicants in other areas of immunology. The positions provide a five-year support package, which includes the salaries of the investigator and a postdoctoral fellow, as well as funds for equipment and supplies.

Applicants should send curriculum vitae, a short statement of research interests, and names of three references to Victor Nussenzweig, Division of Immunology, Department of Pathology, NYU Medical Center, 550 First Avenue, New York, NY 10016.

### Plant Breeder/Geneticist for Applications of RFLPs to Corn (Maize) Breeding

The Research Scientist will be responsible for the design and execution of experiments in the application of RFLPs to corn breeding. This will include close collaboration with corn breeders, laboratory data managers, pathologists, entomologists, physiologists, and statisticians. Responsibilities will include statistical analyses, coordination of field experiments, and close coordination with the RFLP laboratory. The scientist will also be involved in the prioritization of experiments for applying RFLPs to breeding.

The successful applicant will join an existing group whose major focus is the application of pathology, entomology, physiology and biochemistry to plant breeding. The position is well supported by existing molecular biology programs, an RFLP analysis laboratory, and a data management department with expertise in database management and statistical analysis.

A Ph.D. or equivalent in plant breeding, genetics, or a related field is required. Experience in applying RFLP technology to breeding problems is highly desired. Other qualifications include knowledge of statistical design and analysis. Strong written and interpersonal communication skills are essential.

Pioneer Hi-Bred International, Inc. is an Equal Opportunity Affirmative Action Employer. Send letter of application, resume, and names of three references to:



Michelle Shriver  
Pioneer Hi-Bred International, Inc.  
Plant Breeding Division  
Department of Research Specialists  
7301 N.W. 62nd Avenue, P.O. Box 85  
Johnston, Iowa 50131

**APPLICATION DEADLINE: May 24, 1991**

## CALL FOR ABSTRACTS

# Fifth Annual North American Cystic Fibrosis Conference

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Conference proceedings will be published as a supplement to *Pediatric Pulmonology*. **ABSTRACT DEADLINE: May 15, 1991.**

For abstract forms and registration information, contact:



6931 Arlington Rd.  
Bethesda, MD 20814  
Attn: Caroline McPherson  
(301) 951-4422 FAX (301) 951-6378

## POSITIONS AVAILABLE

The International Laboratory for Research on Animal Diseases (ILRAD), is an internationally funded, major institution with the mandate of developing improved methods to control two important diseases of livestock, trypanosomiasis and theileriosis. The multidisciplinary research program includes biochemistry, molecular biology, immunology, cell biology, pathology, parasitology, electron microscopy and entomology with appropriate supporting units. Applications are invited for the positions of:

### Postdoctoral Scientist – Immunology/Vaccine Development (Ref PD/91/1)

An opportunity exists for a cellular immunologist to join a group seeking to develop effective vaccines against *Theileria parva* based on isolated parasite antigens. The successful candidate will participate in the evaluation of conventional and recombinant antigen delivery systems for the induction of immune responses which are relevant to protection against the parasites and based on appropriate studies of the factors involved in the induction of bovine immune responses. Applicants should have a Ph.D. in cellular immunology and experience of recombinant expression systems.

### Postdoctoral Scientist – Cell Biology (Ref PD/91/2)

An opportunity exists for a postdoctoral fellow to join a group working on mechanisms of resistance to trypanocides in African trypanosomes. The successful candidate will determine the role of membrane transport mechanisms as they relate to the susceptibility and resistance of salivarian trypanosomes to isometamidium chloride and diminazene aceturate.

Applicants will have a PhD in an area of eukaryocyte membrane physiology relevant to transport mechanisms. Experience in molecular pharmacology will be advantageous.

### Research Associate – Vaccine Development (Ref RA/91/3)

A position is available for a molecular technologist to support a research group involved

in the development of subunit vaccines against haemoprotozoan parasites in cattle. The areas of work include the use of prokaryotic and eukaryotic expression systems for the production of recombinant parasite antigens, and the development of antigen delivery systems based on the use of recombinant viruses and bacteria. The successful applicant will be responsible for the maintenance of a recombinant virus facility, and will also have responsibility for the training and supervision of junior staff.

Applicants should have a science degree or an advanced qualification in laboratory technology with at least five years in a senior technical position. Preference will be given to candidates with experience in molecular virology and the use of recombinant expression systems.

### Research Associate – Humoral Immunology (Ref RA/91/4)

A position is available for an immunology technologist to support a research group studying humoral immune responses to antigens of salivarian trypanosomes in resistant and susceptible breeds of cattle. Applicants should have advanced technical qualifications or a degree in biological sciences and five years experience in a senior technical position. Wide experience in serological and immunochemical assays is essential. Preference will be given to candidates with additional experience in techniques for the isolation and characterisation of genes encoding immunologically relevant parasite proteins.

These are international staff positions and salaries will be paid in US dollars. Initial salaries will be determined by qualifications and experience. Scientific staff are expected to contribute to the training program.

Moving, housing, commutation and education allowances are paid and there are medical and retirement benefits. Applicants should include current curriculum vitae and names and addresses of three referees.

Applications, citing the position reference number, should be sent by May 30th, 1991 to:

The Chief Personnel Officer,  
ILRAD,  
P.O. Box 30709,  
NAIROBI,  
Kenya



## SENIOR RESEARCH SCIENTIST

Merck Sharp & Dohme Research Laboratories has career opportunities for a highly motivated cardiovascular scientist at the Ph.D./M.D. level to join an active interdisciplinary basic science group investigating: (1) the bases of myocardial contractility and excitation; and (2) smooth muscle proliferation.

The selected candidate will be involved with basic science projects in support of the cellular and molecular cardiovascular disease program to investigate underlying cellular mechanisms that ultimately may lead to identification of novel pharmacological targets in the areas of cardiotonics, antiarrhythmics, and inhibitors of restenosis.

Position requires an M.D. or Ph.D. in Biochemistry, Biophysics, Cell Biology or closely related disciplines with experience in biochemical, biophysical and cellular biological techniques including cell culture, time sharing spectroscopy, protein chemistry, and/or electrophysiological techniques. Familiarity with molecular biology would be useful.

Excellent salary and benefit programs accompany this position at our West Point Laboratories located 25 miles northwest of Philadelphia.

Please send curriculum vitae with cover letter to: **Personnel Manager, Ad #D-12, Research Personnel, WP42-2, Merck Sharp & Dohme Research Laboratories, West Point, PA 19486.**

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## The Samuel Roberts Noble Foundation



### SECTION HEAD PLANT GENETICS

We are seeking applicants with the necessary qualifications to initiate a new research section within the Plant Biology Division. Candidates must have a minimum of 3 years postdoctoral experience in molecular genetics and proven ability in applying their expertise to genetically tractable systems such as (but not limited to) *Arabidopsis*. The successful candidate will be expected to develop a vigorous research program utilizing genetic methods for elucidating the molecular mechanisms underlying disease resistance in plant-pathogen interactions.

The position is one of four Section Head positions in the Plant Biology Division. The successful applicant would be expected to interact with the other groups which work on the biochemistry and molecular biology of plant defense response genes, molecular virology and crop protection through gene transfer technology. The Foundation offers a unique environment for creative and productive research with stable funding and excellent prospects for achievement-based development of the Plant Genetics Section. Technical and postdoctoral positions within the Section will be advertised on appointment of the Section Head.

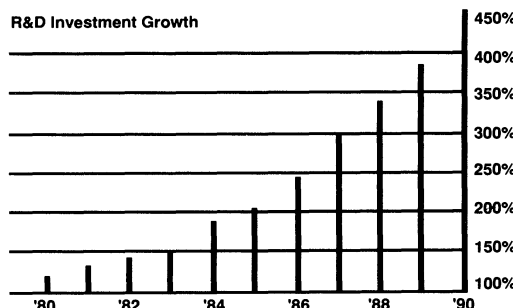
To apply, submit curriculum vitae, statement of research interests and names of three referees to:

**Dr. Richard A. Dixon, Director, Plant Biology Division, The Samuel Roberts Noble Foundation, P.O. Box 2180, Ardmore, OK 73402, USA, Phone (405) 223-5810, FAX (405) 221-7380.**

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## Pulmonary Research

### The reasons to join Pfizer keep growing.



Pfizer Inc is an international leader in the discovery and development of health care products. Our approach to drug discovery encourages individual creativity as an important element in guiding a team effort toward a therapeutic target. This philosophy results in an environment that is challenging to the individual while enhancing group productivity. Scientific growth and development are stimulated by frequent interactions with prominent scientists in academia and medicine as well as with members of the research community within Pfizer.

The Department of Immunology and Infectious Diseases of the Central Research Division is seeking scientists with *in vivo* experience who are interested in the discovery of novel therapeutics for the treatment of pulmonary diseases. Our current interests encompass the pharmacologic manipulation of monocyte-macrophage/lymphocyte/eosinophil interactions in models of airway inflammation/hyperreactivity. In order to qualify for this position you should have a PhD and postdoctoral training in Pharmacology or Physiology. Prior research on problems associated with pulmonary or allergic disease mechanisms is highly desirable. Previous industrial research experience is welcome but not essential.

We offer a stimulating research environment and an excellent opportunity for professional recognition and advancement. In addition, we provide a competitive salary/benefits package and an opportunity to live in an attractive Connecticut shore community. Qualified applicants should submit their resume and references in confidence to: Dr. Jerry K. Larson, Assistant Director, Employee Resources, Central Research Division, Pfizer Inc, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.



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## Scientists Human Genome Center

The Human Genome Center at LBL has three positions available in the area of genome research, including large scale DNA mapping, DNA sequencing methodology, genetic and physical manipulation of natural and artificial chromosomes, informatics, and instrumentation. The level of the appointment will depend on your qualifications ranging from staff scientist to senior staff scientist. When appropriate, these positions carry the possibility of an Adjunct appointment on the Faculty of the Dept. of Molecular and Cell Biology or other UC Berkeley departments.

Please send a C.V., bibliography, and names of three references by June 1, 1991 to: Human Genome Search Committee, Lawrence Berkeley Laboratory, MS 90/1042, #1 Cyclotron Road, Berkeley, CA 94720. An equal opportunity employer. Women and minorities are encouraged to apply.



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SmithKline Beecham Animal Health, a leader in the animal health industry, has an immediate opening for a **PROJECT DIRECTOR** in our Lincoln, Nebraska, facility. The successful candidate will direct multi-project development programs in virology, towards licensure of global veterinary biological products.

Applicants should possess a Ph.D. in virology or closely aligned discipline with emphasis on molecular biology, epidemiology, immunology, or pathology. Seven years of postdoctoral experience with a minimum of 5 years in development of human or animal vaccines. Strong expertise in direction of multiple research and development projects, personnel management, and staff supervision.

SBAH offers a highly competitive salary/benefit program as well as a stimulating work environment. For confidential consideration, please submit your résumé/curriculum vitae to **Steve Eicher** at:

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Lincoln NE 68521

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## CHAIR

### DEPARTMENT OF BIOCHEMISTRY MARSHALL UNIVERSITY SCHOOL OF MEDICINE

Marshall University School of Medicine is inviting applications or nominations for Chair, Department of Biochemistry, available 1 September 1991. An independent research program, preferably in molecular biology and a strong record of publications and grant funding is desired. The School of Medicine is currently developing a core facility in molecular and cell biology to enhance research opportunities. Candidates must possess a Ph.D. and rank at the associate professor or professor level. The successful candidate will be expected to teach in both the medical and graduate student programs. Applicants should send curriculum vitae, names and addresses of three references, and a statement of research goals and interest to:

Dr. Terry Fenger  
Chair, Biochemistry Search Committee  
Marshall University School of Medicine  
Department of Microbiology  
1542 Spring Valley Drive  
Huntington, WV 25755-9330

The review of applications will begin on 30 April 1991 and continue until the position is filled. *Marshall University encourages applications from women and minorities and is an Affirmative Action/Equal Opportunity Employer.*

**PROJECT LEADER.** Ph.D. in forestry resources or closely related forestry field and 1 year's experience in management and analysis of forest research data. Ph.D. research must involve modeling genetic effects in a forest growth and yield system for southern pines. Also requires advanced academic background in statistics and ability to program in FORTRAN and SAS (Statistical Analysis System). Coordinate research activities, including advanced statistical analysis, for the development of computerized forest growth simulation models that reflect the impact of the company's extensive genetic and silvicultural activities. Manage and analyze data from forest research plots. Use SAS to explore relationships between tree growth response and varying genetic material site preparation techniques and environmental conditions. Provide expertise in experimental design and statistical analysis. Develop and integrate mathematical equations into a FORTRAN model of tree growth. Write, review, and publish professional quality documents describing components of forest growth model and provide related training and technical support. Forty hours per week. Salary range: \$33,900 to \$36,000 per year depending on experience. Apply in person or with résumé to: **Georgia Department of Labor, Job Order #GA 5480189, 118 River Street, Bainbridge, GA 31717**, or to the nearest **Georgia Job Service Center**.

## POSITIONS OPEN

### THE UNIVERSITY OF QUEENSLAND AUSTRALIA DIRECTOR OF NH&MRC ENVIRONMENTAL TOXICOLOGY UNIT

Applications are invited for appointment to the position of director of the NH&MRC Environmental Toxicology Unit at The University of Queensland. This is a new initiative, recently awarded on a competitive basis by the NH&MRC. The Laboratories will be physically located within the newly completed Government Chemical Laboratories, Kessels Road, Coopers Plains, Brisbane, and administered by The University of Queensland. Projected annual funding of the unit is \$800,000.

The specific objectives of the unit are to:

- Carry out basic and applied research on the toxicants in the environment in relation to their effects on human health.
- To train postgraduate research students in environmental toxicology.

The director will be expected to have an international reputation in research in environmental toxicology and, if qualifications and experience are acceptable to the Selection Committee and the university, will be appointed equivalent to the professorial level. Medical qualifications are desirable but not essential. Appropriate experience and the ability to manage a research group are essential.

Salary will be up to A\$67,812 per annum, plus a clinical loading of A\$12,058 per annum if appropriate.

Appointment to the position will be for a period of up to 5 years in the first instance, with possible reappointment subject to funding.

Inquiries about the position may be directed to: **Professor A. A. Seawright, Department of Veterinary Pathology, The University of Queensland, 61 7 365 2318; Dr. Des Connell, Queensland Government Chemical Laboratories, 61 7 274 9111; or Professor Susan Pond, Department of Medicine, The University of Queensland, 61 7 2405329.**

Details of the position, together with conditions of appointment and application procedures, are available from: **The Director, Personnel Services, The University of Queensland, Queensland, Australia 4072, telephone: 61 7 365 2055 or FAX: 61 7 365 1677**, and must reach him no later than 24 May 1991. **Ref. No. 13791. Equal Opportunity in Employment is university policy.**

**DIRECTOR MARINE RESOURCES,** The Nature Conservancy. Scientist needed, preferably Ph.D. in marine biology or related field plus 3 years of experience in research or marine resource management/conservation. Knowledge of marine habitats and communities of the Florida Keys or Caribbean desirable. Formulate and implement actions to promote long-term conservation of marine habitats and resources of the Florida Keys and South Florida. Identify and solicit funding, create innovative partnerships with public and private agencies, oversee research program, and develop public education programs. Send résumé and cover letter to: **Mark L. Robertson, Director, Florida Keys Initiative, The Nature Conservancy, P.O. Box 4958, Key West, FL 33041.**

### MANAGER, BIOLOGY RESEARCH/ TEACHING RESOURCES

Bachelor's degree in biology, related science, or equivalency. Demonstrated background in university level research and teaching laboratories with knowledge of current scientific procedures. Demonstrated success in university science environment and interpersonal relations skills preferred. Coordinator-manager of laboratory courses for a modern biology department. Must be able to organize logistics for a variety of courses ranging from plant physiology to cellular and molecular biology. Will work closely with and assist research-oriented faculty in developing and teaching undergraduate laboratory courses including courses being developed by Howard Hughes Medical Institute Undergraduate Initiative. This position offers creative opportunities in experimental design and presents an alternative to the standard research-teaching career.

Interested parties should send a letter of application, curriculum vitae, and three letters of recommendation in confidence to: **Shirley Watkins, Reference Job No. SW-9036, Personnel Department, 101 Annex Building, University of Utah, Salt Lake City, UT 84112. The University of Utah is an Equal Opportunity Employer.**

# BIOTECHNOLOGY/BIOLOGICAL OPPORTUNITIES

Bristol-Myers Squibb Company, a leader in biotechnology and a major international manufacturer of pharmaceutical products, is expanding its Biotechnology and Biological Process Development Group, with a new protein recovery and purification facility, now operational in Syracuse, New York. The Biotechnology and Biological Process Development Group is responsible for full development of biologicals as therapeutics in support of clinical research and development of commercial processes. This environment provides unique opportunities for scientists, with diverse backgrounds, to work as a team on challenging projects which are at the cutting edge of biotechnology. We are seeking highly motivated, innovative professionals at the PhD and BS/MS levels in the following disciplines:

## Fermentation Microbiologists

Positions are open for BS/MS and PhD Microbiologists experienced in microbial and mammalian cell culture for production of biological proteins and enzymes. Seeking expertise in any of the following areas: long-term maintenance/preservation of cell lines; GMP cell banking; laboratory propagation of cell populations; operation of flask, roller bottle and small tank reactor; mutational selection and laboratory evaluation for antibiotic and enzyme fermentations.

## Enzymologist/Biochemist

A position is available for a PhD Chemist, Biochemist or Microbiologist, preferably with 1-2 years industrial experience, to work in an Enzymology Group concerned with identification and use of enzymes for various industrial processes. The preferred candidate will demonstrate a high degree of creativity when faced with a wide variety of problems.

## Analytical Chemist

This position requires a PhD Analytical Chemist (0-3 years industrial experience)

with instrumental and computer background and an interest in working in a biotechnology support group. Previous experience should be in the analysis of biologically derived materials such as proteins, antibiotics, etc., using a high level of expertise in HPLC, ELISA, and electrophoretic methods. The position will involve methods development, validation and implementation, training and supervision of technical staff, and conducting fundamental research on problems related to the production of biologically derived therapeutic agents.

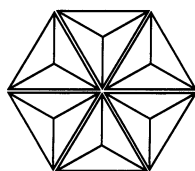
## Cell Biologists

Positions are available for scientists with PhD (with postdoctoral experience) and BS/MS degree in Cell Biology or related field to support the development of improved cell lines using cell biology techniques. Projects will include monoclonal antibodies and recombinant protein derived from mammalian cells. Prefer experience in improving cell lines by clonal selection, adaption, media development and cell sorting. Industrial experience is preferred.

## Molecular Biologist

Position available for a scientist with a BS/MS in Molecular Biology or related field. You will provide support for analyzing in process DNA contamination and gene stability during process scale-up. Must be familiar with cDNA conversion, dot blot and Southern analysis and DNA sequencing. Experience with GMP validations is desirable.

We offer a competitive compensation package and a comprehensive benefits program which includes relocation assistance to a superb upstate NY living area. Interested candidates should submit a resume indicating position of interest, salary history and requirements, in confidence, to: **Associate Director, Genetic Engineering-JT, Bristol-Myers Squibb Company, Industrial Division-Bldg. 58, P.O. Box 4755, Syracuse, New York 13221-4755.** An Equal Opportunity Employer, M/F/H/V.



## Bristol-Myers Squibb Company

## Plant Molecular Biology Postdoctoral Associate

CIBA-GEIGY Agricultural Division's Biotechnology Research Unit in **Research Triangle Park, NC** is a leader in the genetic engineering of plants. Our goal is to develop novel types of seeds, resulting in plants that are more tolerant to environmental stress, disease and insects.

We have an outstanding opportunity for a PhD scientist with experience in RNA isolation from plants and its analysis. The successful candidate will investigate the half-life of mRNA in plants to ascertain and examine features which alter the half-life. This postdoctoral position will afford you the opportunity to propose your own research projects in either basic research or technical areas.

CIBA-GEIGY offers career support and advancement opportunities, as well as a competitive salary and generous company-paid benefits. Please forward a resume, including three letters of professional reference and reprints of any published research, in confidence, to: **Dr. Mary-Dell Chilton, CIBA-GEIGY Corporation, Agricultural Division, PO Box 12257, Research Triangle Park, NC 27709.** We Are An Equal Opportunity Employer M/F/H/V.

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## Post Doctoral Scientist

Monsanto Company's Corporate Research Division has an immediate opening for a Postdoctoral Scientist in the Health Sciences Department.

The successful candidate will join a group exploring the regulation and nutritional dependence of various aspects of cellular physiology. Culture systems will be developed to promote the maintenance of tissue specific properties in vitro, and the cultured cells will be utilized as models of in vivo physiology.

Candidates should possess a Ph.D. in Cell Biology, Pharmacology/Physiology, Biochemistry or equivalent, and have experience with a variety of mammalian cell culture systems. Preference will be given to candidates with strong analytical backgrounds and familiarity with serum-free, defined cell cultures. Familiarity and interest in lipid biochemistry and related signaling pathways is desirable.

For consideration, please send resume and references to: **T.S. Skelton, Supervisor, Human Resources; MONSANTO COMPANY - Mail Zone 02H; 800 North Lindbergh Blvd.; St. Louis, MO 63167.** An Equal Opportunity Employer M/F/H/V.

Careers for people with ideas

# Monsanto

## POSITIONS OPEN

### FACULTY POSITIONS IN THE JOHN SEALY MOLECULAR SCIENCES CENTER THE UNIVERSITY OF TEXAS MEDICAL BRANCH GALVESTON, TEXAS

The new Molecular Sciences Center at The University of Texas Medical Branch (UTMB), Galveston, has opportunities for several senior and junior level faculty positions. The Molecular Sciences Center conducts basic research in the area of molecular biology and biochemistry and has specialized programs in eukaryotic DNA repair, HIV molecular biology and molecular oncology. Qualified candidates with interest in mammalian DNA repair genes from the standpoint of cloning, expression control and structure-function studies of expressed proteins are encouraged. Candidates with a proven record of research accomplishments in the areas of NMR spectroscopy and x-ray crystallography of proteins are encouraged, as are candidates with extensive experience in the area of the molecular biology of HIV gene expression. UTMB employs 8400 people and consists of four schools, two research institutes and seven hospitals.

The university and local private foundations provide excellent support for equipment, research efforts, as well as newly renovated laboratory space. Salaries are highly competitive and commensurate with qualifications and experience. Applications should include complete curriculum vitae, a summary of future research plans and names of at least three references. UTMB is recruiting for all ranks in these fields. These positions require M.D. or Ph.D. degree. Positions are open until filled.

Applications should be addressed to: **Dr. Samuel H. Wilson, Director, John Sealy Center for Molecular Sciences, 528 Administration Building The University of Texas Medical Branch, Galveston, TX 77550.**

*UTMB is an Equal Opportunity/Affirmative Action Employer. UTMB hires only individuals authorized to work in the United States.*

### DIRECTOR BONE MARROW TRANSPLANT PROGRAM

The School of Medicine, Medical College of Georgia (MCG), is seeking a director for the newly established Bone Marrow Transplant Program. The program will be a combined adult-pediatric program. A new multidisciplinary cancer center has been opened recently. Candidates must have demonstrated skills in research, teaching, patient care, and administration. Deadline for applications is 30 June 1991. Please send nominations and inquiries to: **P. Charlton Davis, Jr., M.D., Chairman, Bone Marrow Transplant Program Search Committee, Department of Pediatrics, Medical College of Georgia, Augusta, GA 30912-3730.** MCG is an Equal Opportunity/Affirmative Action Employer.

### FACULTY POSITION UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Physiology and Biophysics invites applications for a faculty position at the **ASSISTANT PROFESSOR** (tenure track) level commencing as early as September 1991. We are seeking candidates with the ability to define a significant research area in eukaryotic cell physiology, using modern techniques of cell biology, molecular biology, biochemistry, or biophysics. Examples of research interests would include cell signaling, differentiation and growth control, regulation of gene expression, intracellular processing and sorting of biomolecules, membrane formation and turnover, and the relationship of molecular structure to biological function. The position also involves teaching of medical and graduate students. We will begin considering applications starting 1 June 1991. Send curriculum vitae, a brief research description, and the names of three referees to: **Michael D. Cahalan, Chairman, Department of Physiology and Biophysics, University of California, Irvine, CA 92717.**

*The University of California, Irvine, is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### FACULTY POSITIONS IN MOLECULAR REGULATION OF CELLULAR SIGNALING

The Department of Pharmacology at the Duke University Medical Center is increasing its faculty as a part of a major expansion in the basic sciences. The department wishes to enhance its focus on molecular regulation of cellular signaling. Applicants are being sought who have a research background utilizing modern molecular biological and/or genetic technology and are interested in working in a collegial and interactive environment. Most appointments will be at the level of **ASSISTANT PROFESSOR**. Please send curriculum vitae, list of three references, and a brief description of proposed research to: **Dr. Anthony R. Means, Chairman, Department of Pharmacology, Box 3813, Duke University Medical Center, Durham, NC 27710.** Duke University is an Equal Opportunity/Affirmative Action Employer.

### FACULTY POSITION ALBERT EINSTEIN COLLEGE OF MEDICINE MASS SPECTROSCOPY (MS)

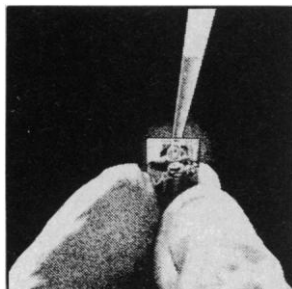
The Laboratory for Macromolecular Analysis and the Department of Biochemistry at the Albert Einstein College of Medicine seek a faculty member with experience in solving biochemical and/or protein structural problems by mass spectrometry, and an interest in the development of biomedical mass spectrometry. Faculty rank in this tenure-track position will be determined by prior experience. A Finnegan MAT90 instrument with GC and LC interfaces is now in operation. The MS laboratory is adjacent to laboratories of peptide synthesis, protein sequencing, and x-ray crystallography. Applicants should send current curriculum vitae, the names of three or more references, and a summary of research interests and future research plans to: **Ms. Joan Savastano, Administrator, Department of Biochemistry, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461.**

**DNA hybridization FACULTY POSITION** available. Department of Pediatrics with major assignment in the Meyer Rehabilitation Institute, a multidisciplinary unit of the University of Nebraska Medical Center. M.D. or Ph.D. trained in genetics with experience in DNA hybridization and molecular genetics. An M.D. with long experience in DNA hybridization alone would be considered. Rank and salary commensurate with education and experience. Write: **Bruce A. Buehler, M.D., Director of Meyer Rehabilitation Institute, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-5450.** An Equal Opportunity/Affirmative Action Employer.

**MARINE SCIENTIST.** Tenure-track rank and salary commensurate with experience. Participate with 20 other faculty both on main campus and at the Dauphin Sea Laboratory in the new marine sciences Ph.D. program. Must be qualified to teach a one-quarter course in introductory physical oceanography to graduate students, normal teaching load is one course per quarter. Ph.D. required in a marine sciences discipline, postdoctoral experience preferred. Specific area of research is open, evidence of development of strong externally funded research program desired. The university is a growing institution of nearly 12,000 students in a mild Gulf coast environment. Excellent facilities and opportunities in the marine sciences, including seawater systems and research vessels, in a program that has been targeted as a specific area of quality and growth. Send résumé, statement of interests, and names, addresses, and telephone numbers of three references to: **Chair, Marine Sciences Search Committee, Department of Marine Sciences, LSCB 25, University of South Alabama, Mobile, AL 36688.** Review of applications will begin 1 June 1991, applications accepted until the position is filled. *The University of South Alabama is an Affirmative Action/Equal Opportunity Employer.*

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We are planning to move to our state-of-the-art facilities currently under construction in scenic Washington Crossing, NJ in early 1992. If you'd like to bring your innovative ideas to an organization that will appreciate them, send your resume with salary history in confidence to: the Janssen Research Foundation, Employment Office Box S491, 40 Kingsbridge Road, Piscataway, NJ 08855-3998. An Equal Opportunity/Affirmative Action Employer M/F/H/V.

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## SUBJECT CATALOGING POSITIONS GS-9 (\$25,717-\$33,430) AND GS-11 (\$31,116-\$40,449) THE LIBRARY OF CONGRESS WASHINGTON, D.C. 20540

The Library of Congress is recruiting for two subject catalogers with subject matter knowledge in either the Physical Sciences (including mathematics and computer science), Military Sciences, Engineering, or Technology (Announcement 10207) or the Life Sciences (Biomedical/health fields-with emphasis on psychopathology and mental health) (Announcement 10208).

Positions minimally require, at the GS-9 level, a Bachelor's degree in the appropriate subject area, a Master's degree in library science, (or comparable library experience) or a Master's degree in the appropriate subject area, and a reading knowledge of two modern European languages, one of which must be German for the Physical Sciences position and German or French for the Life Sciences position. For the GS-11 level, applicants additionally need one year of appropriate subject cataloging experience. All positions have promotion potential to GS-12 level.

To apply, submit a Standard Form 171, Application for Federal Employment, to: The Library of Congress, Employment Office, Room LM-107, 101 Independence Ave., S.E., Washington, D.C., 20540, no later than May 22, 1991. Please be sure to specify both the announcement number and grade level for which you are applying. If additional information is needed, please call Maria Borges at (202) 707-9147.

EQUAL OPPORTUNITY EMPLOYER

## DEAN COLLEGE OF AGRICULTURE & LIFE SCIENCES VIRGINIA POLYTECHNIC INSTITUTE & STATE UNIVERSITY

Virginia Polytechnic Institute and State University (Virginia Tech) invites nominations and applications for the position of Dean of the College of Agriculture & Life Sciences and Director of the Agricultural Experiment Station. The Dean/Director reports to the Senior Vice President & Provost and has responsibility for the College, Cooperative Extension, and the Agricultural Experiment Station. The Dean oversees all aspects of the academic program, including faculty affairs and finances.

The College encompasses 16 degree programs in agriculture, forestry, and the life sciences; these include basic life sciences, environmental sciences, biotechnology, and rural and international economics. It has approximately 400 faculty, 360 Extension agents, 800 support staff, and 465 graduate and almost 1,300 undergraduate students.

Preference will be given to candidates who have demonstrated strong academic leadership. This will include a record of accomplishment in teaching, research and extension as well as a commitment to collaboration with other constituencies internal and external to the University. The successful candidate will have a record of commitment to affirmative action. Letters of application with an accompanying vita will be reviewed beginning June 1 and continue until the position is filled. Nominations are also invited. The position becomes available January 1, 1992. Communications should be addressed to:

Dr. James Wolfe  
Vice Provost for Academic Affairs  
201 Burruss Hall  
VPI&SU  
Blacksburg, VA 24061-0132  
(703) 231-6122  
FAX (703) 231-9532  
Bitnet: Wolfe @ VTVM1

VPI&SU is an Equal Opportunity, Affirmative Action Employer



## Postdoctoral Fellow Research Associate

Position available for Ph.D. or equivalent to study the role of erythrocyte-endothelial interaction in the pathogenesis of vascular disease. Emphasis on sickle cell anemia and related disorders. Background in molecular or cell biology or biochemistry preferred. Working for the division of Biomedical Research, this position reports to Dr. Robert Weinstein.

To apply, send curriculum vitae and references to Attn: Karen Cleaves, Human Resources, St. Elizabeth's Hospital of Boston, 736 Cambridge St., Brighton, MA 02135. An Equal Opportunity Employer.

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of Boston

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A University Medical Center of Tufts University School of Medicine



**The Research Institute  
King Fahd University of  
Petroleum and Minerals  
Dhahran, Saudi Arabia**

The Research Institute of King Fahd University of Petroleum and Minerals has positions available for *marine scientists* to participate in ongoing research projects in its Water Resources and Environment Division. These projects are field oriented and involve the evaluation of impacts of oil facilities on the marine environment of the Arabian Gulf. Applicants should have a strong field orientation and the ability to write well. Experience in impact assessment preparation and project management will be helpful. The following specific positions are available; however, applicants with other backgrounds are encouraged to apply:

**Physical Oceanographers** - Ph.D., M.S., or B.S. required. Applicants should have experience in the collection and analysis of oceanographic and meteorological data, Transport modelling experience useful but emphasis will be on field data collection and its evaluation.

**Marine Biologists** - Ph.D., M.S., or B.S. required. Senior staff applicants should have experience in benthic studies, fisheries statistics, reef fish ecology, or plankton dynamics. Other applicants should have training and/or experience in some area of marine biology. Field orientation including SCUBA certification required.

Salaries are competitive and benefits include annual repatriation, free housing and transportation allowance.

Send detailed resume, in duplicate, with supporting documents and names of four references to:

Assistant Director for Administrative Affairs  
Research Institute  
King Fahd University of Petroleum & Minerals  
Dhahran 31261, SAUDI ARABIA

## POSITIONS OPEN

### MARKETING SPECIALIST— CHROMATOGRAPHY

If you are looking to move from a biochemistry laboratory to a stimulating business environment, Bio-Rad Laboratories can supply you with the challenges you want in your career.

We are looking for a highly motivated individual with a solid background in biochemistry, or related science, to join our marketing team. Two plus years of experience in chromatography, protein purification, and preparation required. The marketing specialist applies technical expertise in supporting customers, training sales representatives, and assisting in product management. Excellent verbal and written communication skills and the freedom to travel are essential.

B.S. in biochemistry or equivalent. Sales/marketing experience desirable.

Please send your résumé to: **Bio-Rad Laboratories, Research Products Group, Department 188, 3300 Regatta Boulevard, Richmond, CA 94804.** *Equal Opportunity Employer, M/F/H.*

**MOLECULAR NEUROBIOLOGIST.** Research opportunity (salary range: \$28,000 to \$46,861 per year). The Neuropharmacology Section is seeking an individual to participate in ongoing studies on the regulation of neuropeptides and neurotransmitters in neural systems. The focus of the studies is on the molecular mechanisms regulating the expression of genes encoding opioid peptides and catecholamine synthesizing enzymes. The candidate should have a Ph.D. and strong experience in neuropharmacology, neurochemistry or molecular biology. The candidate must have a record of demonstrated research productivity and the ability to carry out independent as well as collaborative research. For detailed information, contact: **Dr. J. S. Hong at 919-541-2358.** Salary commensurate with candidate's qualifications and experience. For prompt consideration, send cover letter indicating area of interest, curriculum vitae, and three letters of reference to: **Mr. Bruce Wiggins (Code: HNV18), National Institute of Environmental Health Sciences Personnel Office, P.O. Box 12233 (MD 1-01), Research Triangle Park, NC 27709. Telephone: 919-541-3317.** *NIH is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

The Health Effects Research Laboratory of the U.S. Environmental Protection Agency (EPA) conducts intramural studies in toxicology, pharmacokinetics and dosimetry, biostatistics, and epidemiology on mixtures and individual pollutants. We anticipate openings in the near future in the following areas: developmental and reproductive toxicology, genetic toxicology, neurotoxicology, toxicology of other target organs, pharmacokinetics, biostatistics, and epidemiology (both infectious disease and chemical). **PRINCIPLE INVESTIGATOR and TECHNICAL SUPPORT** openings are anticipated in these areas. Special consideration will be given to persons with experience in drinking water toxicology. Please send curriculum vitae and three references to: **Dr. John R. Fowle III, c/o Ramona Litowsky, HRMD (MD-29), U.S. EPA, Research Triangle Park, NC 27711 by 20 May 1991.** *EPA is an Equal Opportunity Employer. Only U.S. citizens are eligible.*

### POSTDOCTORAL FELLOW IN CHEMICAL CARCINOGENESIS

The postdoctoral fellow will investigate mechanisms of chemical-induced carcinogenesis of the upper airways to develop models for human health risk assessment. Our approach is both biochemical, by studying measures of chemical dosimetry including deposition, metabolism, and DNA adduct formation, and morphological, by studying cellular response to carcinogens, including cell proliferation and changes in histochemical markers. Experience with radioisotopes, HPLC, GC, mass spectrometry, and nucleic acid biochemistry is helpful. The program at DuPont is unique in that postdoctoral fellows continue to build their credentials as scientists while obtaining experience in industrial toxicology. The position is for 2 years, with an additional third year possible, and is offered at a competitive salary. Applicants should send their curriculum vitae to: **Dr. Matthew S. Bogdanffy, Haskell Laboratory, DuPont, P.O. Box 50, Newark, DE 19714, or FAX: 302-451-4829.** *DuPont is an Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Available immediately to study the hormonal and molecular regulation of lipogenic enzymes at protein/gene level. Experience in protein biochemistry and/or molecular biology necessary. Interested candidates should send curriculum vitae and names of three references to: **Dr. Lee Witters, Endocrine-Metabolism Division, Dartmouth Medical School, Remsen 417, Hanover, NH 03756. Telephone: 603-646-7909.** *An Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF ARIZONA

**POSTDOCTORAL POSITION.** Applications are invited from qualified candidates (Ph.D. and/or M.D.) to study, in murine models, immunogenic and immunosuppressive antigens present in saliva of insect vectors of infectious diseases. Experience in immunology is required. Deadline for submission is 15 May 1991, starting date is 1 July 1991. Send curriculum vitae and names/addresses of three references to:

**Jose M. C. Ribeiro, M.D., Ph.D.  
Forbes Building, Room 410  
University of Arizona  
Tucson, AZ 85721**

*Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

**POSTDOCTORAL POSITION IN REPRODUCTIVE IMMUNOLOGY.** To study immigration of lymphoid cells into the uterus during the ovarian cycle and pregnancy as well as the influences of lymphoid cell populations on placental growth and pregnancy success in rodent model systems. NIH-funded, with starting annual salary of \$21,000. Available 1 July 1991. Please send curriculum vitae and names and addresses of three references to: **Dr. Judith Head, Cecil H. and Ida Green Center for Reproductive Biology Sciences, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9051.** *The University of Texas Southwestern Medical Center at Dallas is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION.** In cocaine-induced cardiotoxicity during pregnancy.

Two-year NIDA training program position available to study the dynamics of cocaine-induced cardiac toxicity in small and large animals utilizing in vitro models. Expertise in cardiac muscle physiology with interests in drugs of abuse is encouraged. Interested candidates should send curriculum vitae, relevant publications, and names of three references by 1 June 1991 to

**James K. Woods, Jr., M.D.  
Professor**

**Department of Obstetrics/Gynecology  
University of Rochester (UR) Medical Center  
601 Elmwood Avenue  
Rochester, NY 14642**

*UR is an Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITION.** Available immediately in a Department of Biochemistry and Biophysics, University of California laboratory. Research will focus on cloning and sequencing the gene for a bacterial copper-containing amine oxidase, and creating a system for expression of this gene and the genes of human copper amine oxidases. The biosynthesis of the novel topa quinone cofactor [*Science* 248, 981 (1990)] in these oxidases will also be investigated. Send curriculum vitae and references to: **Dr. W. S. McIntire, Department of Veterans Affairs Medical Center, Molecular Biology Division (151-S), 4150 Clement Street, San Francisco, CA 94121.**

**POSTDOCTORAL POSITION: MOLECULAR APPROACHES TO MICROBIAL ECOLOGY OF THE GUT.** Work involves study of enteric flora's interactions with pathogens in a continuous-flow culture system, and development of oligonucleotide probes directed at 16S rRNA's of bacteria comprising human flora. To apply, send curriculum vitae, three references, and statement of career goals to: **K. H. Wilson, Division of Infectious Diseases, Duke University Medical Center, Durham, NC 27710 by 15 May 1991. Telephone: 919-286-6950; FAX: 919-286-6825.** *Affirmative Action Employer.*

## Postdoctoral Research Associates

The Agricultural Research Service as the principal scientific research agency of USDA, conducts research to solve technical food and agricultural problems of broad scope and high national priority. The agency's work is carried out under six specific research objectives—conservation of national resources, crop production and protection, animal production and protection, human nutrition, postharvest research, and integration of management systems. Overall aim of ARS research is to ensure the continuation of an adequate supply of food and fiber of high quality to meet the needs of American people and for export.

**ARS is currently recruiting for 150 postdoctoral positions throughout the country. Opportunities exist in many research areas, including:**

- Human Nutrition
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- Immunology
- Virology
- Biochemistry
- Chemistry
- Microbiology
- Animal Science
- Entomology
- Plant Physiology
- Plant Pathology
- Agronomy
- Soil Science
- Engineering



Successful candidates will be hired initially for up to 2 years in duration. Salary for these GS-11/12 positions (\$31,116 to \$37,294) will be based on qualifications and experience.

*For written descriptions of positions and application procedures, write to:*

**N.L. Bakes**  
**Personnel Division (S)**  
**USDA/ARS**  
**6305 Ivy Lane, Room 129A**  
**Greenbelt, MD 20770**

*or call:*

**Ms. Kim Conley**  
**(301) 344-2796**

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## Postdoctoral Researchers

California Biotechnology Inc., a leading biotechnology company engaged in developing human therapeutics, has several outstanding postdoctoral opportunities. Positions are available for highly qualified recent Ph.D. graduates with backgrounds in protein chemistry, molecular biology and cell biology to pursue challenging research in the areas of growth factor biology, cardiovascular studies, neurobiology, metabolic disease, process development and fermentation biology. Cal-Bio offers an exciting environment for postdoctoral studies where state-of-the-art research is carried out in an atmosphere which provides the opportunity for highly motivated individuals to acquire new skills and knowledge using multi-disciplinary approaches.

Cal-Bio is situated on the San Francisco Bay peninsula between San Francisco and San Jose and offers excellent recreational and cultural opportunities. We offer a stimulating and friendly work environment and an excellent compensation and benefits package.

For consideration, please send your resume to: CALIFORNIA BIOTECHNOLOGY INC., Human Resources Dept., Job Number MB-BB, 2450 Bayshore Parkway, Mountain View, CA 94043. An equal opportunity employer.

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### MICROBIAL BIOCHEMIST/GENETICIST FERMENTATION R&D

As part of our Fermentation Strain Development Group, you will need a Ph.D. with 3-5 years post-doctoral experience in microbial genetics or biochemistry. Some experience in antibiotic-producing micro-organisms helpful, with an emphasis on intermediary metabolism and regulation.

As a \$6 billion leader in the health care industry, we offer competitive compensation and benefits which include profit sharing and a stock retirement plan. Our corporate headquarters are located in an attractive suburban area near the Lake Michigan shoreline just 30 miles north of Chicago. Please send resume with salary history to: **R.M., Corporate Placement, Job #7520, Abbott Laboratories, One Abbott Park Road, Abbott Park, IL 60064.** Abbott is an Affirmative Action Employer.

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### POSITIONS OPEN

**POSTDOCTORAL POSITION IN MOLECULAR VIROLOGY.** To investigate human papillomavirus (HPV) gene functions involved in pathogenesis and immune response using an animal model. Candidate should have experience in recombinant DNA technology and/or immunology. Send curriculum vitae and names of three references to: **Janet Brandsma, Ph.D., Section of Comparative Medicine, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.** *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITION IN MOLECULAR VIROLOGY.** Investigation of molecular biology of hepatitis A virus including mechanisms of viral translation and RNA replication as well as the genetic basis of attenuation. Previous molecular biology experience preferred. Send résumé, statement of research interests, and names of two references to: **Stanley M. Lemon, M.D., Department of Medicine, CB# 7030, 547 Burnett-Womack Building, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7030.**

**POSTDOCTORAL POSITIONS.** Harvard Medical School. **TRANSCRIPTION FACTORS IN NORMAL AND LEUKEMIC HUMAN MYELOID CELLS; HIV RIBOZYMES.** Available immediately for Ph.D.'s in molecular biology: (i) to analyze factors in myeloid differentiation and acute myelogenous leukemia; (ii) to express ribozymes which inhibit HIV gene expression. Send curriculum vitae and three letters of reference to: **Dr. Daniel G. Tenen, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.**

**POSTDOCTORAL POSITION—INTERACTIONS BETWEEN MICROTUBULES AND THE GOLGI APPARATUS.** A multidisciplinary approach involving molecular biology, protein biochemistry, cell physiology, and light and electron microscopy is being used to investigate how the structural integrity of the Golgi apparatus and its location in the cell depend on the presence and organization of microtubules. Send or FAX curriculum vitae and list of three references to: **Dr. George S. Bloom, Department of Cell Biology and Neuroscience, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235. FAX: 214-688-8694; telephone: 214-688-7680.**

#### COLUMBIA UNIVERSITY POSTDOCTORAL POSITION IN HUMAN MOLECULAR GENETICS

Applications are invited for a postdoctoral scientist to join our group working on the genetic and physical mapping of human chromosomes and the mapping and characterization of human disease genes. The post is available immediately. Applicant must have a strong background in human genetics or molecular biology and Ph.D. in a related area. Experience in gene mapping techniques (library construction, marker development, DNA sequencing, PFGE, FISH, etc.) will be advantageous. Position is funded for a period of two and possibly three years. Salary and fringe benefits are excellent.

Please address inquiries plus curriculum vitae to: **Dr. Conrad Gilliam, Molecular Genetics Laboratory, Columbia University, 722 West 168th Street, Box 23, New York, NY 10032.**

*Equal Opportunity/Affirmative Action Employer.*

#### POSTDOCTORAL POSITION WASHINGTON UNIVERSITY MEDICAL SCHOOL SUGAR RECOGNITION AND HOST DEFENSE

We have an opening at the postdoctoral level for an individual interested in the expression, function and/or structure of sugar-specific receptors, particularly the macrophage mannose receptor, as they relate to host defense mechanisms—phagocytosis, endocytosis, endosomal proteolysis, antigen processing, etc. Send curriculum vitae and names of three references to:

**Dr. Phillip D. Stahl**  
Department of Cell Biology and Physiology  
Washington University Medical School  
660 South Euclid Avenue  
St. Louis, Missouri 63110

### POSITIONS OPEN

**POSTDOCTORAL POSITION.** A position is available immediately in the Center for Photomedicine to study the effects of ultraviolet radiation on skin and eyes and DNA repair. Experience in molecular biology, especially in construction and screening of cDNA libraries is preferred. Please send curriculum vitae and the names of three references to: **Dr. Ron Ley, Center of Photomedicine, Lovelace Medical Foundation, 2425 Ridgecrest Drive, Albuquerque, NM 87108.**

**POSTDOCTORAL POSITION.** Available immediately for up to 4 years to study mechanism of biosynthesis, processing, and the regulation of release of cholecystokinin. Project uses molecular biological, biochemical, and pharmacological approaches. Some experience in one of these areas is preferred. Send curriculum vitae and names of three references to: **Dr. M. C. Beinfeld, Department of Pharmacology and Physiological Science, Saint Louis University Medical Center, 1402 South Grand Boulevard, St. Louis, MO 63104.** *Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITION.** In developmental neurobiology is available to participate in studies on (i) axon-axon, axon-target and axon-substrate interactions of trigeminal sensory neurons; and/or (ii) specificity of neurotrophic factor support of subsets of sensory neurons. The projects involve in vitro studies of identified populations of embryonic avian neurons using video and fluorescence microscopy, imaging, and immunocytochemistry. Position is available through February 1994. Send curriculum vitae and names of three references to: **S. A. Scott, Department of Neurobiology and Behavior, State University of New York at Stony Brook, Stony Brook, NY 11794. FAX: 516-632-6661.** *The University at Stony Brook is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION.** At Oak Ridge National Laboratory to do research in Compensatory Mechanisms (COMPMECH) in fish populations program. COMPMECH is aimed at synthesizing the quantitative understanding of critical stages and processes involved in fish population regulation. Position involves adapting existing models under development for additional species/populations. Experience in developing and applying mathematical and simulation models of populations and some FORTRAN experience helpful. For position information: **Webb Van Winkle, Environmental Sciences Division, ORNL, P.O. Box 2008, Oak Ridge, TN 37831-6038, telephone: 615-574-4958; for application material: Postgraduate Research Program/PG-VW, Science/Engineering Education Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-3456.**

**POSTDOCTORAL POSITION.** Available for recent Ph.D. with interests in environmental toxicology to investigate biochemistry and molecular biology of trace metal toxicity. Biochemical projects include investigating mechanisms of reactant oxidant formation by trace metals and the role of endogenous antioxidants, particularly glutathione, in attenuation of free radical-mediated cell injury. Molecular biology projects involve cloning and use of cDNA probes, PCR, and blotting techniques to characterize metal-induced changes of cellular gene expression. Please send curriculum vitae, statement of research interests, and names and addresses of three references to: **Dr. James S. Woods, Department of Environmental Health, SC-34, University of Washington, Seattle, WA 98195.** *Equal Opportunity/Affirmative Action Employer.*

#### PLANT MOLECULAR BIOLOGY

**POSTDOCTORAL POSITION.** Available July 1991 for research in identifying temporal/spatial regulatory elements and transcription factors for a bean seed storage protein phaseolin gene. A Ph.D. in plant molecular biology, biochemistry or genetics. Salary: \$24,000 per year. **Dr. Norimoto Murai, Department of Plant Pathology and Crop Physiology, Louisiana State University, Baton Rouge, LA 70803. Telephone: 504-388-1380.** *An Equal Opportunity Employer.*

## POSITIONS OPEN

### POSTDOCTORAL POSITION

A postdoctoral position is immediately available to study the molecular biology of *Chlamydia trachomatis*. Relevant experience in recombinant DNA, immunology, and pathology is desired. Send curriculum vitae and names and addresses of three references to: **Luis M. de la Maza, M.D., Ph.D., Professor, Department of Pathology, Medical Sciences I, University of California, Irvine, CA 92717.** An Equal Opportunity Employer.

A 2- to 3-year **POSTDOCTORAL POSITION** is available to study regulation of ion channel function and excitation-contraction coupling in isolated vascular smooth muscle cells using patch clamp and ratiometric fluorophore techniques. All applicants with strong academic backgrounds will be considered. Please submit curriculum vitae, career objectives, and references to: **Dr. Robert H. Cox, Bockus Research Institute, The Graduate Hospital, One Graduate Plaza, Philadelphia, PA 19146.** The Graduate Hospital is an Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL POSITION IN MUSCLE PHYSIOLOGY/LOCOMOTION.** My laboratory studies muscle function during locomotion using kinematic analysis, muscle mechanics, histology, EMGs, and electrophoresis. Skill in some of the above as well as computer programming and electronics helpful. The University of Pennsylvania houses the Pennsylvania Muscle Institute, with many working on cellular aspects of muscle contraction. Please send/FAX curriculum vitae immediately to: **Dr. Larry Rome, Department of Biology, University of Pennsylvania, Philadelphia, PA 19104.** FAX: 215-898-8780.

**POSTDOCTORAL FELLOWSHIPS IN TOXICO-KINETICS.** Available through the curriculum in toxicology, University of North Carolina, for two projects: maternal-fetal disposition of methanol (Dr. Gary M. Pollack) or hepatobiliary disposition of xenobiotics during aging (Dr. Kim L. R. Brouwer). Both positions are funded through a NIEHS training grant. Applicants should send curriculum vitae and names of three references to either principal investigator at: **School of Pharmacy CB#7360, University of North Carolina, Chapel Hill, NC 27599.**

**POSTDOCTORAL POSITION IN CORTICAL PHYSIOLOGY.** A postdoctoral traineeship is available to investigate the rodent somatosensory whisker/barrel system using single-cell recording techniques in combination with computational and/or behavioral approaches. Applicants should have experience with neurophysiological methodologies and/or mathematical modeling. Position is limited to U.S. citizens or permanent residents. Send curriculum vitae, a description of research interests, and the names of three references to: **Dr. Daniel J. Simons, Department of Physiology, University of Pittsburgh School of Medicine, Pittsburgh, PA 15261.**

**TWO POSTDOCTORAL POSITIONS.** Available in the Department of Physiology. Research areas are: (i) cell biology of lung microcirculation; hormonal regulation of macromolecular transport, calcium imaging and eicosanoid metabolism in endothelial monolayers (Dr. Richard C. Schaeffer); and (ii) regulatory mechanisms in systemic microcirculation; metabolic studies in tissue with optical techniques, electrophysiology of blood vessels, tissue oxygen exchange, cellular mechanisms of regulation (Dr. Paul C. Johnson). Start dates and salaries negotiable. Applications from U.S. citizens or permanent residents will be accepted until positions are filled or 1 March 1992, whichever is earlier. Send curriculum vitae and three letters of reference to Drs. Schaeffer or Johnson, c/o

Department of Physiology  
College of Medicine  
University of Arizona  
Tucson, AZ 85724

The University of Arizona is an Affirmative Action/Equal Opportunity Employer. Female and minority members are urged to apply.

26 APRIL 1991

## POSITIONS OPEN

**POSTDOCTORAL POSITION, NEUROTOXICOLOGY.** A 2- to 3-year position is anticipated to develop and validate in vitro (cell and tissue culture) models for identifying and characterizing pesticide/metal/solvent neurotoxicities using a variety of neural-specific end points. Candidate should have expertise in a wide variety of neurochemical techniques and a strong background in neural cell lines and primary cultures techniques. Send letter of interest, curriculum vitae, and current references by 1 June 1991 to: **Dr. B. Veronesi, Environmental Protection Agency (EPA), Health Effects Research Laboratory, Neurotoxicology Division, MD74B, Research Triangle Park, NC 27711.** EPA is an Equal Opportunity Employer.

**POSTDOCTORAL POSITION.** Available immediately to study mechanisms of multidrug resistance in the human leukemia cell line HL60. Work will focus on the molecular cloning of a cDNA of a new gene which contributes to drug resistance. Expertise in cDNA cloning and sequencing is desired. To apply send curriculum vitae to:

Dr. Melvin S. Center  
Division of Biology  
Ackert Hall  
Kansas State University (KSU)  
Manhattan, KS 66506  
Telephone: 913-532-6661

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**POSTDOCTORAL POSITIONS.** In molecular genetics, viral pathogenesis, immunogenetics, and cellular immunology. Three-year funded positions available in two interacting laboratories with an outstanding research environment. Research centers on molecular mechanisms of MHC diversification, structural basis of class I antigen presentation, role of class I molecules in Theiler's virus-induced demyelinating disease (a mouse model for MS), and role of T cells in resistance to disease and in pathogenesis. Competitive stipends and outstanding benefits. Address inquiries (including curriculum vitae and names of three references) to: **Larry R. Pease, Ph.D. (molecular biology and immunogenetics), or Moses Rodriguez, M.D. (viral pathogenesis and cellular immune basis), Department of Immunology, Mayo Clinic, Rochester, MN 55905.** Mayo Foundation is an Affirmative Action/Equal Opportunity Educator and Employer.

### POSTDOCTORAL POSITION UNIVERSITY OF CALIFORNIA SAN FRANCISCO

Available for 3 years to study the molecular genetics and biochemistry of yeast DNA topoisomerases and their relationship to nuclear structure. Please send curriculum vitae, a brief description of career goals, and the names and addresses of three references to: **Dr. Michael Christman, Radiation Oncology Research Laboratory, MCB-200, Box 0806, UCSF, San Francisco, CA 94143-0806.** Telephone: 415-476-9069. UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

### POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS IN BRAIN METAL PHYSIOLOGY/TOXICOLOGY

Available immediately at the National Institute on Aging, National Institutes of Health, Public Health Service, Bethesda, Maryland, to examine (i) metal localization in postmortem human brain tissue and (ii) metal transport, distribution, and physiologic/toxicologic actions within the central and peripheral nervous systems of small animals in aging and disease. Methods include x-ray microanalysis, atomic absorption spectrometry, inductively coupled plasma-mass spectrometry (ICP-MS), and radiotracer counting. Experience in tissue sectioning and staining helpful. Positions available for up to 3 years with salary commensurate with qualifications. Send applications with curriculum vitae and names of three references to: **Dr. Quentin R. Smith, Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, Building 10, Room 6C-103, 9000 Rockville Pike, Bethesda, MD 20892.** Telephone: 301-496-8970. NIH is an Equal Opportunity Employer.

National Institutes of Health

## MOLECULAR/CELLULAR BIOLOGIST

### Staff Fellow

(General Range \$24,000 to \$46,861)

Or

### Visiting Associate

(General Range \$26,000 to \$48,000)

(Starting salaries will be commensurate with experience.)

A position is available for a staff fellow or visiting associate in the Experimental Carcinogenesis and Mutagenesis Branch, Division of Toxicology Research and Testing of the National Institute of Environmental Health Sciences, one of the institutes of the National Institutes of Health. This position will require an individual to investigate the role of protein kinases and protein phosphatases in signal transduction pathways regulating cell cycle progression in normal and transformed mammalian cells. Studies will focus on alterations in normal cell cycle regulatory mechanisms controlling the G1/S and G2/M transitions induced by certain oncogene products (such as p39<sup>mos</sup>, pp60<sup>src</sup>, p21<sup>ras</sup>) and modulated by exposure to selected chemical agents. Applicant should have a Ph.D. or equivalent degree in Molecular Biology, Cell Biology, Biochemistry, or related field and should have demonstrated the ability to carry out independent research. This position offers an excellent opportunity to develop one's own research ideas in a stimulating research environment with well-equipped facilities and pleasant living conditions. Candidates with up to seven years of postdoctoral research experience will be considered. Both U.S. citizens and non-citizens may apply. For more information, contact **Dr. Richard S. Paules at (919) 541-3710.** Applicants should send curriculum vitae, names of references (with telephone numbers), and a brief description of previous research experience by Close of Business, **June 7, 1991** to the following address:

**Ms. Norma Daye  
(Code: HNV32)**

**NIEHS Personnel Office  
P. O. Box 12233  
Research Triangle Park,  
NC 27709**

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## Research Leader Analytical Biochemistry

Our Analytical Biochemistry Department is currently seeking a Research Leader to provide leadership to several research programs in the area of methods development for small and macro molecules.

Qualified candidates will possess a Ph.D. and at least 6 years' related experience beyond postdoctoral (or equivalent). In-depth knowledge of more than 1 specialty area or multiple aspects of a large complex research program required. At least 6 years' management experience required and 8-12 years' methods development experience in support of discovery and development activities with established scientific and leadership credentials preferred. **GV-38-91, Malvern, PA.**

## Senior Research Scientist Natural Products Chemistry

We are currently seeking a Senior Research Scientist to be a part of an interdisciplinary team and work within our Natural Products Chemistry Department. Position responsibilities include complex activities in areas related to Natural Products Chemistry, including isolation, characterization and synthesis of natural products.

Qualified candidates will possess a B.S. degree in Organic or Analytical Chemistry with at least 4 years' related experience in natural products. Knowledge of HPLC-Photodiode Array and other chromatographic methods to support profiling, scale-up and isolation of bioactives from crude mixtures is essential. Some synthetic chemistry background and experience with spectroscopic techniques is desirable. **GV-18-91, Malvern, PA.**

## Analytical Chemist Molecular Characterization

We are a leader in diagnostic imaging and are increasing discovery capability in this area. We seek a candidate with a strong theoretical background in magnetic resonance imaging and a working knowledge of ultrasound is also desirable.

In addition, a Ph.D. with a strong analytical chemistry problem solving and applications background is required. Application of spectroscopy and separation science to measure diverse parameters such as association constants, and impurity level and identification is essential. A good working knowledge of both inorganic chemistry and biochemistry is needed. **GV-45-91, Malvern, PA.**

## Research Investigator Analytical Chemistry

Challenges in analytical methods development await you as a Research Investigator in the Department of Analytical Sciences. Apply principles of analytical chemistry in the design, development and implementation of procedures to qualify drug substances and drug products employing a wide variety of instrumental and classical techniques.

The successful candidate will possess a Ph.D. in Analytical Chemistry or equivalent chemical field, 0-2 years' experience in a laboratory environment, and excellent interpersonal and communication skills. Experience in dynamic metal/ligand solution equilibria is preferred. **RS-07-91, Rensselaer, NY.**

## Principal Research Investigator Analytical Chemistry

We seek a Principal Research Investigator in our Analytical Sciences Department. Lead a team of analysts in the development and application of chromatographic procedures for the examination of drug substances and drug products covering a diversity of molecular structures and therapeutic classes; in addition, participate as a member of interdisciplinary project teams.

This position requires a Ph.D. in Analytical Chemistry (or a closely related chemical science) and at least 3 years of managerial experience in the pharmaceutical industry. A strong background in chromatography as well as familiarity with computer-based data acquisition and information systems is highly desirable. Excellent interpersonal, oral and written communication skills are required. **RS-88-90, Rensselaer, NY.**

At Sterling, you'll enjoy a highly competitive salary and benefits package, along with outstanding career growth opportunities. To apply, please include the department code and send your resume to the appropriate facility: **Sterling Research Group, 81 Columbia Turnpike, Rensselaer, New York 12144, or Sterling Research Group, 9 Great Valley Parkway, Malvern, PA 19355.** An Equal Opportunity Employer M/F/D/V.



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## ASSISTANT PROFESSOR OF ANATOMY

Memorial University of Newfoundland invites applications for a tenure-track position of Assistant Professor of Anatomy in the Faculty of Medicine. The successful applicant would teach gross anatomy to medical students and would be expected to have, or to develop a strong research program compatible with existing areas of strength (Neuroscience, Immunology, Molecular Biology). An ability to teach embryology, histology or neuroanatomy would be an advantage. Excellent research services are available including electron microscopy, histology, computing services and animal care, together with facilities for neuropharmacology, neurophysiology/physiology, cell biology and clinical science. Funds will be made available to set up a research program. Assistance with relocation is available.

Memorial University of Newfoundland is an equal opportunity employer. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

Applications, including a curriculum vitae, a statement of research interests, and the names of three references, should be sent to:

Dr. T.M. Scott  
Professor of Anatomy  
Memorial University of Newfoundland  
St. John's Newfoundland  
Canada A1B 3V6

## PEPTIDE CHEMIST

Position available immediately for qualified peptide chemist to work in the Biological Resources Branch, National Institute of Allergy & Infectious Diseases, National Institutes of Health. Candidate should have expertise in synthesis, in purification and analysis of peptides. Experience in protein chemistry including compositional and sequence analysis would be helpful. Laboratory management experience is desirable. Plenty of resources available. Salary will be commensurate with credentials.

Qualified and interested candidates should send curriculum vitae and names and addresses of three (3) references to:

**John E. Coligan, Ph.D., Chief  
Biological Resources Branch  
NIAID, NIH  
Building 4, Room 413  
9000 Rockville Pike  
Bethesda, MD 20892  
(301) 496-3213**

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## POSITIONS OPEN

**POSTDOCTORAL FELLOWSHIP.** Position in molecular and cellular biology. A position is available immediately to identify and isolate the intracellular protein targets of oncogenic ras p21 protein. Candidates should have the Ph.D. degree with experience in molecular biology and protein biochemistry. Send curriculum vitae and three references to: **Dr. Matthew R. Pincus, Departments of Biochemistry and Pathology, SUNY Health Science Center, 750 East Adams Street, Syracuse, NY 13210. Telephone: 315-464-6785** or **Dr. Paul Brandt-Rauf, Comprehensive Cancer Center, Columbia University, 60 Haven Avenue, New York, NY 10032. Telephone: 212-305-3464.**

### POSTDOCTORAL RESEARCH FELLOWSHIP

A position is available immediately for a Ph.D. biochemist with interests in cystic fibrosis to study the molecular mechanisms of chloride channel activation with Dr. William Reenstra. Experience with tissue culture and protein labeling or mammalian expression systems would be helpful. Send curriculum vitae and names of three references to: **Yvette Williams, Children's Hospital, Personnel, 747 52nd Street, Oakland, CA 94609. Telephone: 415-428-3646. Children's Hospital is an Equal Opportunity/Affirmative Action Employer.**

### HIV IMMUNOLOGY POSTDOCTORAL FELLOWSHIP

Position immediately available for Ph.D. virologist/immunologist with specific experience in monocyte-macrophages and human immunodeficiency viruses to perform research involving placental macrophages (Hofbauer Cells) and both neonatal and adult monocyte cells in culture. Send letter and curriculum vitae to: **Dr. A. J. Nahmias, Division of Infectious Diseases, Epidemiology and Immunology, 69 Butler Street S.E., Atlanta, GA 30303** by deadline 30 days from publication date guaranteed by publisher. *Equal Opportunity Employer, M/F.*

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE AND NONTENURE-TRACK ASSISTANT PROFESSOR OPENINGS DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS UNIVERSITY OF TENNESSEE, MEMPHIS

The University of Tennessee, Memphis, Department of Physiology and Biophysics, has several openings at the postdoctoral research associate level, and one opening at the nontenure-track assistant professor level, in the laboratory of Dr. Aviv Hassid, Bronstein Professor of Cardiovascular Physiology. Recent representative publications from this lab include: *JCI* 83, 1774 (1989); *BBRC* 171, 474 (1990); *JBC* 266, 9 (1991); and *BJ* 274, 323 (1991). Successful candidates will investigate the effects of nitric oxide/endothelium-derived relaxing factor, atrial natriuretic factor and cyclic GMP on vascular smooth muscle and endothelial cells. Candidates should have a Ph.D., degree in a life science discipline, or an M.D. degree, a good record of publications and a background in molecular biology, patch clamp electrophysiology and/or in the isolation, identification and culture of vascular cells. Salaries will be fully competitive and commensurate with background and experience. Applicants should send copies of their curriculum vitae, three representative publications and the names of three references to the attention of: **Ms. Carolyn Holland, Assistant to the Chairman, Department of Physiology and Biophysics, 894 Union Avenue, Memphis, TN, 38163. The University of Tennessee is an Equal Opportunity/Affirmative Action/Title IX/Section 504 ADA Employer.**

**POSTDOCTORAL PHARMACOLOGIST.** To work on  $\alpha_1$ -adrenergic receptor subtypes, second messengers, and effects of psychoactive drugs in cell cultures. Contact: **Dr. Kenneth Minneman, Department of Pharmacology, Emory University School of Medicine, Atlanta, GA 30322** by 31 May 1991. *Emory University is an Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE,** (Microbiologist, GS-11/12 (\$31,116 to \$37,294)) opening immediately available with the U.S. Department of Agriculture, Agricultural Research Service, Food Animal Protection Research Lab, College Station, Texas, located on a 60-acre modern facility adjacent to the College of Veterinary Medicine, Texas A&M University. The assignment is part of a new high priority research program to control salmonellosis in poultry. In conjunction with a team of veterinarians, microbiologists, pathologists, and biochemists, the primary focus of the incumbent's research will be the development of probiotics, anti-*Salmonella* feed additives, and immune response modifiers to control *Salmonella* colonization in commercial poultry flocks. One-year appointment with second year negotiable. Ph.D. obtained in the last 3 years is desired. For program information, contact **Don Corrier, 409-260-9342**; for application procedures, contact **Carol Gramlich, 301-344-0128**. Applications should be marked **RA-91-71 (S-1-018)** and sent to: **John R. DeLoach, USDA-ARS, Route 5, Box 810, College Station, TX 77845.**

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### POSTDOCTORAL ASSOCIATE

A research position is immediately available to study cardiac isotope transport as laboratory director of the Myocardial Isotope Research Laboratory (NIH-funded) at a medical school center outside Boston, Massachusetts. Candidates should have Ph.D. and experience in computer modeling and cell culture is preferred. The basic laboratory studies include in vitro and in vivo blood-tissue exchange of radionuclides utilizing first-pass extraction and quantitative autoradiography. Academic degree and salary commensurate with experience. Send curriculum vitae, description of interests, and list of three references to: **Jeffrey A. Leppo, M.D., Department of Nuclear Medicine, University of Massachusetts Medical Center, Worcester, MA 01655. University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.**

## PHARMAGENESIS

Pharmagenesis, a young, dynamic, and growing drug discovery company, is seeking motivated individuals to join research programs in **bone metabolism**. Pharmagenesis is also developing programs in haematology, immunology, and gene delivery.

**Bone Metabolism: B.S. / M.S. / Ph.D. Scientists.** Join natural product drug discovery programs in osteoporosis and bone growth. If you have a strong technical and theoretical background in cell and organ culture, join projects to:

- Identify and develop pharmacologically active agents from natural products for **osteoporosis and bone healing.**
- Develop *in vivo* and *in vitro* bioassay systems involving automated enzyme and immunoassay methodologies.

Demonstrated interest in bone metabolism is highly desirable. Applications for the other programs in haematology, immunology and gene therapy are welcome. Pharmagenesis offers a competitive salary and comprehensive benefits package. Our research facility in Stanford Research Park, Palo Alto, CA is an ideal setting for both career and lifestyle. Send full resume to **Dr. D.R. Henderson, VP, R&D, Pharmagenesis, 3183 Porter, Palo Alto, CA 94304**

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experience; Research Scientists require a PhD or equivalent; and Management positions in R&D require relevant experience and proven record of accomplishment.

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## GREAT PEOPLE MAKE A GREAT COMPANY

### Burroughs Wellcome Fellow (Postdoctoral Position - Molecular Biology) (Pos. #62816-4)

The Division of Cell Biology has an opportunity for a postdoctoral fellow to initiate studies to identify regulatory mechanisms for gene expression of the multi-drug resistance (MDR) efflux pump and to identify possible targets to down regulate MDR-1 expression during chemotherapy.

Candidates must have a Ph.D. in biochemistry, molecular biology or microbiology. Other factors to be considered include laboratory experience in tissue culture, subcellular fractionation, gel electrophoresis and molecular biology. Postdoctoral Fellows are initially appointed for up to one year with a renewal for a second year upon the mutual agreement of the employee and Burroughs Wellcome Co.

### Biochemist (Pos. #62839-4)

The Division of Pharmacology has an immediate need for a scientist to assist with **in vivo** and **in vitro** biochemical studies related to finding novel therapies for neurological and psychiatric diseases.

Candidates must have a Ph.D. in pharmacology, biochemistry, cell biology, or a related discipline, **OR** a Master's degree in biochemistry, chemistry, biology, or a related field plus 2 years of research experience in a biochemistry laboratory, **OR** a Bachelor's degree in a chemical or biological science plus 4 years of experience as above. **In vivo** experience, hands-on experience with HPLC, and six months of experience in enzyme kinetics and statistics are required. Other factors to be considered include experience in molecular biology; electrochemical detection assays; protein separation, transblotting with immunologic detection; monoclonal antibody preparation; and cultured cell lines.

### Respiratory Senior Associate Pharmacologist (Pos. #62307-4)

In the Division of Pharmacology, this individual will be responsible for initiating and conducting independent research directed towards the discovery and development of novel anti-asthmatic agents.

Candidates must have a Ph.D. in a biological science. Other factors to be considered include: skills and experience in respiratory research (**in vivo** and/or **in vitro**), pharmacology, immunology, immunopharmacology and histology. Knowledge of and interest in pulmonary diseases. Experience with laboratory techniques for evaluating the role of cytokines and cell adhesion processes in allergy.

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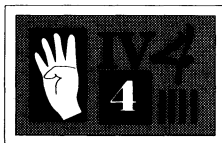
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You will supervise studies on molecular biology of endogenous retroviruses of mammalian cell lines and participate in the development and implementation of new assays for detection of retroviruses. Additionally, you will participate in the execution of cell characterization safety studies and contribute to the regulatory submissions of these studies.

To qualify, you must have a PhD in a Biological Science and at least 3 years' experience in retrovirus research and cell biology. Experience in molecular virology, knowledge of GLP regulations and supervisory skills are desirable.

Our progressive company offers an exceptional compensation package including employee stock purchase plan. For immediate consideration, please send your resume to Nancy Symonds, Genentech, Inc., Dept. NS/MD, 460 Point San Bruno Blvd., South San Francisco, CA 94080. We actively support and promote affirmative action and equal employment opportunity.

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### RESEARCH SCIENTIST

Responsible for initiating preclinical in-vitro and in-vivo immunological safety studies for our therapeutic products, and for developing assays to assess patient immune reactivity to these products. Requires a PhD and 2-3 yrs' experience in cellular immunology, immune complex clinical research, or animal hypersensitivity studies with at least 1 yr in assessing adverse immune reactions.

### POST DOCTORAL FELLOW

In this 2-year appointment, work in conjunction with our colleagues at MIT to study the effects of tissue culture environmental parameters on resulting glycoforms. Perform tissue culture, purification and analyze recombinant glycoproteins. A PhD with a background in cell biology, carbohydrate analysis and glycoprotein synthesis is required to qualify for this unique opportunity.

To apply for either of the above positions, please send your resume to: Human Resources, Genzyme Corporation, Dept. S426, One Mountain Road, Framingham, MA 01701.

### RESEARCH ASSOCIATE- ENZYMOLGY

We are seeking an enzymologist to characterize therapeutic enzymes. Responsibilities will include enzyme purification and the development of kinetic activity assays. A BS/MS in Biochemistry or Chemistry with a minimum of two years research experience in enzyme characterization and the development of enzyme assays is required.

To apply for this position, please send your resume to: Human Resources, Dept. SM426, Genzyme Corporation, One Kendall Square, Cambridge, MA 02139.

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## Asst./Assoc. Professor Fisheries Oceanography

The University of Rhode Island's Graduate School of Oceanography (GSO) invites applicants for a tenure-track biological oceanography position, specializing in fisheries oceanography, with an interest in global change-related problems. The successful candidate will be expected to establish an active research program, advise graduate students and develop and teach a course(s) in fisheries oceanography or related areas. He/she will be encouraged to participate in GSO's new global and coastal initiatives. Ph.D. is required; and preference will be given to candidates with background or research experience in modeling or statistically analyzing fish population dynamics in relation to the ocean environment, such as ocean climate, ecosystem structure, linkages between primary production and higher trophic levels and human modifications to the ocean environment. For the rank of Associate Professor, the applicant must also have a demonstrated record of strong, independent research, including grants and publications. **Submit a curriculum vitae, the names of four references and a summary of research interests to Prof. James A. Yoder, Search Committee Chair, Asst./Assoc. Professor, Fisheries Oceanography (091070-G) Position, THE UNIVERSITY OF RHODE ISLAND, P.O. Box G, Kingston, RI 02881. Applications will be reviewed beginning June 15, 1991, or until the position is filled. An Affirmative Action/Equal Opportunity Employer. Position Pending Budget Approval.**

## MOLECULAR BIOLOGISTS

DNX is an established leader in the emerging field of transgenic sciences, developing enhanced biological models and systems for use in drug discovery, chemical safety testing, transgenic pharmaceutical production, and livestock improvement. Career opportunities currently exist in our new research and development facilities in Princeton, New Jersey.

### RESEARCH ASSOCIATE:

Several openings exist for the BS or MS level scientist with 2-3 years experience in recombinant DNA technology, in vitro mutagenesis, mammalian cell culture, and/or protein purification.

DNX offers an excellent working environment and an ideal location (midway between New York and Philadelphia), as well as competitive compensation and a superior benefits package. Individuals interested in a challenging opportunity at an exciting and rapidly growing company are invited to submit a curriculum vitae or resume and the names of three references to:



**Employment Manager,  
303B College Road East,  
Princeton, NJ 08540**

## POSITIONS OPEN

New Mexico State University (NMSU) has a collaborative **RESEARCH PROJECT** on SIV in African green monkeys with the Institute of Primate Research (IPR), National Museums of Kenya, Nairobi, Kenya. Position is for a Ph.D. in virology or viral epidemiology. Opportunity exists for additional SIV-related research. Housing and travel provided. Successful applicant will be employed by the Institute of Primate Research. For consideration, send curriculum vitae to: **Dr. Preston A. Marx, Director, NMSU Regional Primate Research Laboratory, Holloman AFB, NM 88330-1027. Telephone: 505-479-6101.**

**A RESEARCH SCIENTIST POSITION.** (assistant professor level) at The Graduate Hospital, an affiliate of the University of Pennsylvania, is available to an individual with skills in modern cellular or molecular techniques. All qualified applicants with strong biological backgrounds will be considered with preference given to those who could interact with ongoing programs in the areas of muscle physiology, neuroscience, or lung injury. Salary, benefits, and start-up funds are competitive. Applicants should submit their curriculum vitae, research objectives and references to: **Robert H. Cox, Ph.D., Director of Research, The Graduate Hospital, One Graduate Plaza, Philadelphia, PA 19146. The Graduate Hospital is an Affirmative Action/Equal Opportunity Employer.**

**STAFF MEMBER—HUMAN GENOME PROJECT.** The Los Alamos National Laboratory is seeking an individual to work as a team member in performing research on the genetic and molecular complexities of the human genome. Responsibilities include initiating research directions, focusing on new methodologies/data arising from the project, and publishing results. You will develop and apply mathematical models and statistical techniques to physical and genetic linkage chromosome maps and DNA sequences. Additional responsibilities include assisting with training/supervision of graduate students/fellows and working to renew research grants. This position requires applied mathematics and molecular biology research experience, specifically using scientific workstations/supercomputers to analyze biological data. Familiarity with applied statistical analysis, probability theory, and/or graph theory in addition to a demonstrated record of innovation and publication is desired. Good oral/written communication skills are essential. Applicants must have a Ph.D. in mathematics, applied mathematics, or the equivalent combination of training and experience in the application of mathematics to biology. To formally apply for this position, interested candidates should forward a resume and names of at least three references by 1 June 1991 to: **Molly Birely (MS P280), Personnel Services Division 10118-G, Los Alamos National Laboratory, Los Alamos, NM 87545. Affirmative Action/Equal Opportunity Employer.**

**ASSISTANT SCIENTIST.** Responsible for research in the molecular and genetic mechanisms leading to diabetic vascular disease, with emphasis on the study of gene expression. Specific duties include: identification and selection of patients and autopsy specimens to be studied, obtaining biopsies from control and diabetic patients, isolation of human retinal microvessels, application of cellular biological (cell isolation and culture, immunocytochemistry and cell cycle analysis), molecular biological (subcloning, Northern and Southern analysis, solution hybridization and RNase protection assays) and biochemical techniques (one- and two-dimensional polyacrylamide gel electrophoresis, immunoprecipitation, and radioimmunoassays). Minimum requirements include an M.D. degree, Board-certification/eligibility in endocrinology and metabolism together with at least 3 years of postdoctoral diabetic vascular disease research experience utilizing cellular biological, molecular biological, and biochemical techniques described above. Also required is demonstrated expertise in cellular and molecular biology applied to the area of diabetic complications as evidenced by research and/or publications. Salary range is \$34,000 to \$39,000 per year for a 5-day, 40-hour work week. Qualified applicants respond with resume in duplicate to: **J.O. #1353, Massachusetts Department of Employment and Training, Special Programs Department, 19 Staniford Street, Boston, MA 02114.**

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**ENGINEER, ASSISTANT RESEARCH.** Responsible for conducting research in growth of compound semiconductor material in III-V and II-VI systems, design and fabrication of II-V and II-VI semiconductor devices; for circuit design of millimeter wave transmitters and receivers; research in hot electron transport for application in millimeter wave vacuum microelectron transistor. Ph.D. degree, electrical engineering. Possess capability of growing compound semiconductor materials by molecular beam and atomic epitaxy; familiarity in situ fabrication techniques; knowledge to develop fabrication sequences conducted in an ultrahigh vacuum environment; familiarity with operation and maintenance of electron and ion beam systems, their resist technology; knowledge of reactive ion beam and plasma systems; knowledge of device integration and monolithic implementation of circuits operating in multi GHz frequency range. Salary: \$3,466.67 per month. Place of employment and interviews: Santa Barbara, California. Send this ad and resume to: **JOB#SS19173, P.O. Box 9560, Sacramento CA, 95823-0560** not later than 11 May 1991.

**RESEARCH ASSOCIATE.** In virology available to generate transgenic plants expressing RNA virus replicases. Applicant must have a Ph.D. in biology or a related field, plus experience with plant transformation and molecular biology. Initial appointment anticipated to begin in May. Send resume and three letters of reference to: **Dr. Jozef J. Bujarski, Plant Molecular Biology Center, Northern Illinois University, DeKalb, IL 60115. Telephone: 815-753-0601. Equal Opportunity/Affirmative Action Employer.**

### RESEARCH ASSOCIATE

The Department of Surgery at the Shriners Burns Institute, Massachusetts General Hospital and the Harvard Medical School, Boston, Massachusetts, is seeking applicants for a research associate with experience in GC/MS and IR/MS, preferably with familiarity in the application of stable isotope measurements. The successful applicant will assist in the development of a research program using combustion isotope ratio mass spectrometry. Send curriculum vitae and references to: **Vernon R. Young, Ph.D., D.Sc., Shriners Burns Institute, 51 Blossom Street, Boston, MA 02114. Women and minorities are encouraged to apply.**

**SCIENTIFIC DIRECTOR, ENDOCRINOLOGY.** Nichols Institute Reference Laboratory seeks a Ph.D. candidate with special interest in endocrine assays. Candidate must have experience in immunoassays, protein purification, and HPLC techniques. Candidate is expected to supervise a reference laboratory with special interest in calcium metabolism. The position has ample opportunity to interact with various academic institutions through our academic associate program. Please send your resume including three references to: **Nichols Institute, Human Resources, 26442 Via De Anza, San Juan Capistrano, CA 92675. Equal Opportunity Employer.**

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### Animal Models of Lipoprotein Metabolism

The Department of Lipid and Lipoprotein Metabolism seeks an entry-level scientist with a doctoral degree in the Life Sciences and 0-2 years of postdoctoral experience. This two-year position will provide postdoctoral training in the characterization of rodents transgenic for key determinants of cholesterol transport and metabolism. The successful candidate will be an energetic scientist, with broad training in both biochemical and recombinant DNA techniques. Some knowledge of lipoprotein metabolism would also be useful. This individual will pursue collaborative research with physiologists and molecular biologists in an exciting and well-supported multidisciplinary environment. **Position #314.**

### Pharmacokinetics/ Pharmacodynamics/ Drug Metabolism

We are currently seeking an entry-level postdoctoral research fellow in the area of pharmacokinetics/pharmacodynamics/drug metabolism. Duties include the design and conduct of innovative research, specifically in the exploration and development of novel in-vitro/in-vivo models to study the absorption, distribution, metabolism, and excretion of drugs. The successful candidate should be a highly motivated individual with a Ph.D. in Pharmacokinetics, Biopharmaceutics, or a related field. Good written and oral communication skills as well as the ability to work independently are necessary. Appointment is for one year, renewable for a second year. **Position #309.**

Sandoz Research Institute provides our scientists with an environment that encourages creative thinking, ample opportunities for publication and research presentation, as well as an excellent salary and benefits package. Our campus-like facilities are conveniently located in northern New Jersey. For prompt consideration, please refer to the number of the position for which you are applying and send curriculum vitae, with salary requirements, to:

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**Jerry B. Lingrel, Ph.D.**  
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## MOLECULAR ENDOCRINOLOGIST

The Diabetes Branch, NIDDK, NIH, seeks an outstanding Ph.D. or equivalent experience with postdoctoral training in Molecular Endocrinology. The applicant will be involved in our ongoing project on regulation of insulin-like growth factor I receptor gene expression and its involvement in diabetes. The applicant should be familiar with the modern techniques of molecular biology, including the construction and screening of cDNA and genomic libraries, RNase protection assays and in-situ hybridization, and should have experience in tissue culture and with animal models of diabetes. The applicant should have a substantial record of publications of original work in these areas and be experienced in supervising a team of technicians and students. Starting salary is \$37,000, negotiable commensurate with qualifications and experience. Interested candidates should submit curriculum vitae, reprints, summary of research interests and names of three references to: **Derek LeRoith, M.D., Ph.D., National Institutes of Health, Building 10, Room 8S243, 9000 Rockville Pike, Bethesda, Maryland 20892.**

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**RESEARCH ASSOCIATE.** Plant Molecular Biology. Identify and characterize proteins associated with resistance/susceptibility of near isogenic lines of wheat in various stress-inducing environments. Available immediately. Salary: \$25,000 per year plus benefits. Ph.D. required in molecular biology or related field. Send curriculum vitae, brief summary of research experience, and names of three referees to: **Dr. Mark Lazar, Texas A&M University System, 6500 Amarillo Boulevard, Amarillo, TX 79106 or FAX: 806-358-9718. Affirmative Action/Equal Opportunity Employer.**

### TECHNICAL DIRECTOR DIAGNOSTIC MOLECULAR BIOLOGY LABORATORY

Ph.D. molecular biologist sought for a permanent position as Technical Director, Diagnostic Molecular Biology Laboratory, Department of Pathology, Brigham and Women's Hospital. This laboratory performs analyses of nucleic acids from patient specimens for the diagnosis of cancer, inherited conditions, and infectious disorders. Primary responsibilities of the Technical Director center around the development of new diagnostic procedures, to be carried out thereafter by staff under this person's guidance. Candidates should have postdoctoral experience in molecular biology and should be familiar with the broad range of current molecular biological techniques. Knowledge of human genetics and/or molecular oncology will be considered an advantage. Salary will be commensurate with level of experience. Interested individuals should contact: **Drs. Jeffrey Sklar or Janina Longtine, Division of Diagnostic Molecular Biology, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115.**

## MEETINGS

### ANNOUNCEMENT AND CALL FOR ABSTRACTS CONTEMPORARY DEVELOPMENTS IN SALIVARY RESEARCH

6 to 10 November 1991, Buffalo Marriott, Buffalo, New York. The scientific program of this NIDR-sponsored conference will consist of lectures and poster presentations by invited scientists in three areas: salivary secretions and dysfunction, salivary glands-intracellular processes, salivary gland gene expression and development. Submission of abstracts for additional poster presentations is encouraged. Contact: **Dr. Michael J. Levine, University at Buffalo, Department of Oral Biology, 109 Foster Hall, Buffalo, NY 14214. Telephone: 716-831-2114; FAX: 716-831-3942.**

## ANNOUNCEMENTS

The Massena Natural Resource Trustee Council for the St. Lawrence Environment, comprised of representatives of New York State; the St. Regis Mohawk Tribe; United States Department of Commerce/National Oceanic and Atmosphere Administration; and the United States Department of the Interior; is seeking the services of a qualified **CONTRACTOR TO DEVELOP A NATURAL RESOURCE DAMAGE ASSESSMENT PLAN** (Assessment Plan) generally in conformance with Federal Regulations (43 CFR Part 11 as published in the 1 August 1986) with the exception of the Economic Methodology Determination requirements of 40 CFR 11.35, and in consideration of the principles discussed in *Ohio v. DOI*, 897 F.2d 1151 (D.C. Cir. 1989). The St. Lawrence, Raquette, and Grasse Rivers near Massena, New York, and adjacent resources have been contaminated with PCBs and other hazardous substances.

Any interested party may obtain a Request for Proposals (RFP) by calling: **518-457-9148** or writing to: **William Daigle** at the New York State Department of Environmental Conservation, 50 Wolf Road, Room 432, Albany, NY 12233. Any party interested in submitting a proposal must attend the preproposal meeting which will be held on 29 May 1991 at 1:00 p.m. at Hearing Room B of the Legislative Office Building at the Empire State Plaza on State Street, Albany, New York. Only proposals from parties who attend the preproposal meeting will be considered. Copies of the RFP may also be obtained at the preproposal meeting. The deadline for submission of proposals is 5:00 p.m. Eastern Standard Time on 24 June 1991.

## COURSES AND TRAINING

### SUMMER COURSES IN GROSS ANATOMY, HISTOLOGY, EMBRYOLOGY, AND NEUROANATOMY

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### POSTDOCTORAL TRAINING IN ENVIRONMENTAL TOXICOLOGY

**POSTDOCTORAL TRAINING IN TOXICOLOGY.** Research associate, postdoctoral fellowships in environmental toxicology, supported by the National Institute of Environmental Health Sciences (NIEHS), are available at Oregon State University (OSU) through the Toxicology Program and the Environmental Health Sciences Center. Research associates will engage in research with an emphasis on basic mechanisms for toxicity of environmental agents. NIEHS fellowships are available on a competitive basis to applicants (*U.S. citizens and permanent residents only*) with a recent Ph.D. degree in chemistry, biochemistry, pharmacology, or the biological sciences. To apply for an NIEHS fellowship, send curriculum vitae, academic records, and three letters of reference to: **Donald R. Buhler, Ph.D., Chairman, Toxicology Program, Environmental Health Sciences Center, Oregon State University, Weniger Hall 317, Corvallis, OR 97331-6504. Telephone: 503-737-2363.** Application closing date is 15 June 1991. OSU is an Affirmative Action/Equal Opportunity Employer and has a policy of being responsive to the needs of dual-career couples.

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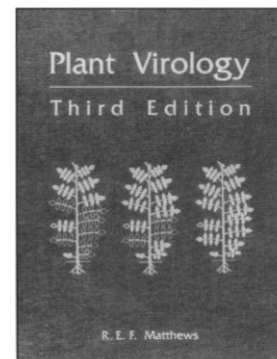
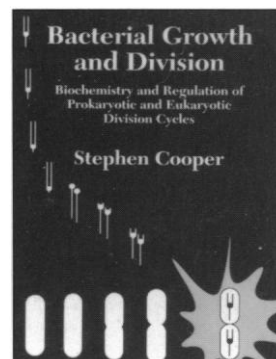
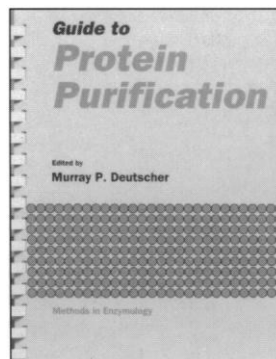
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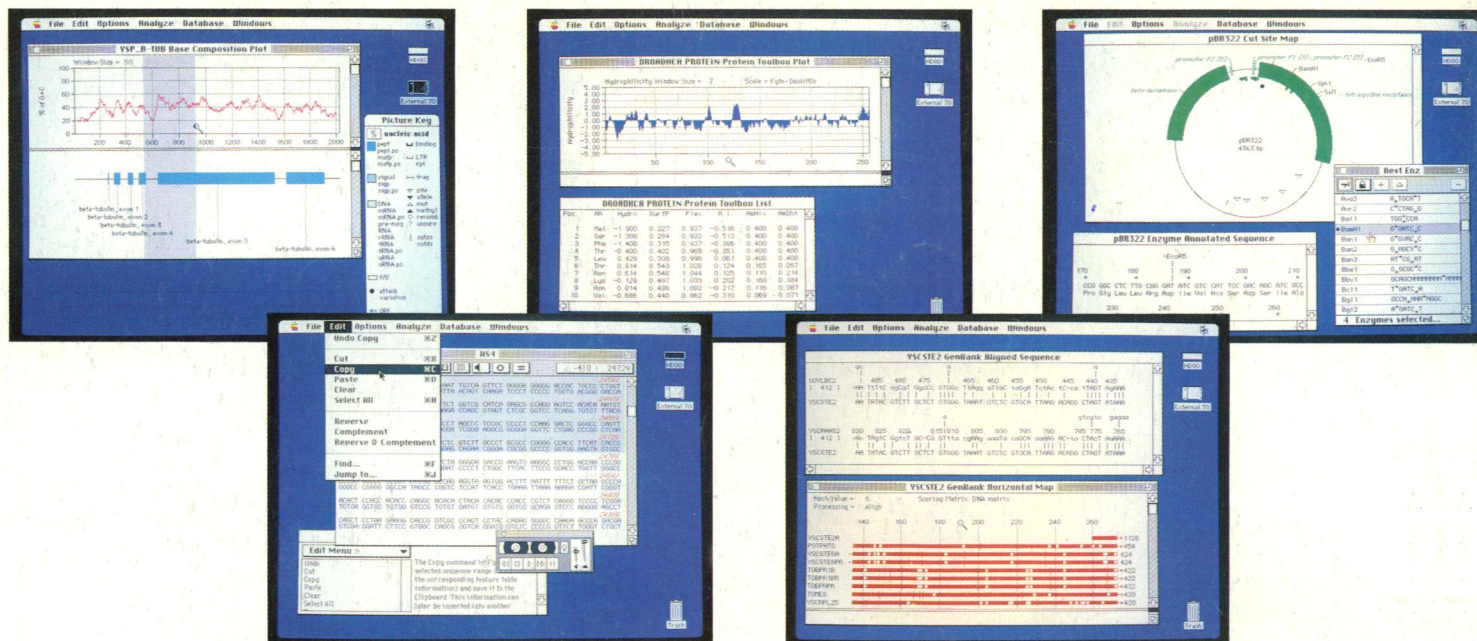
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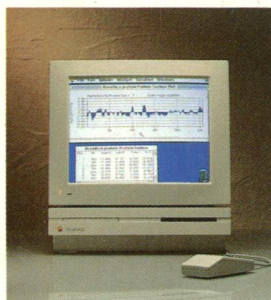


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