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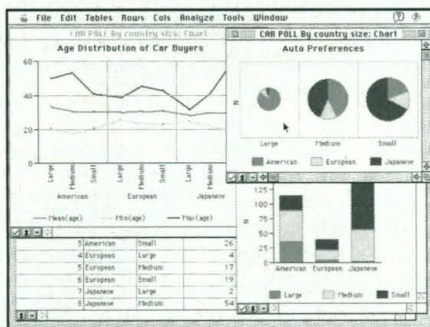
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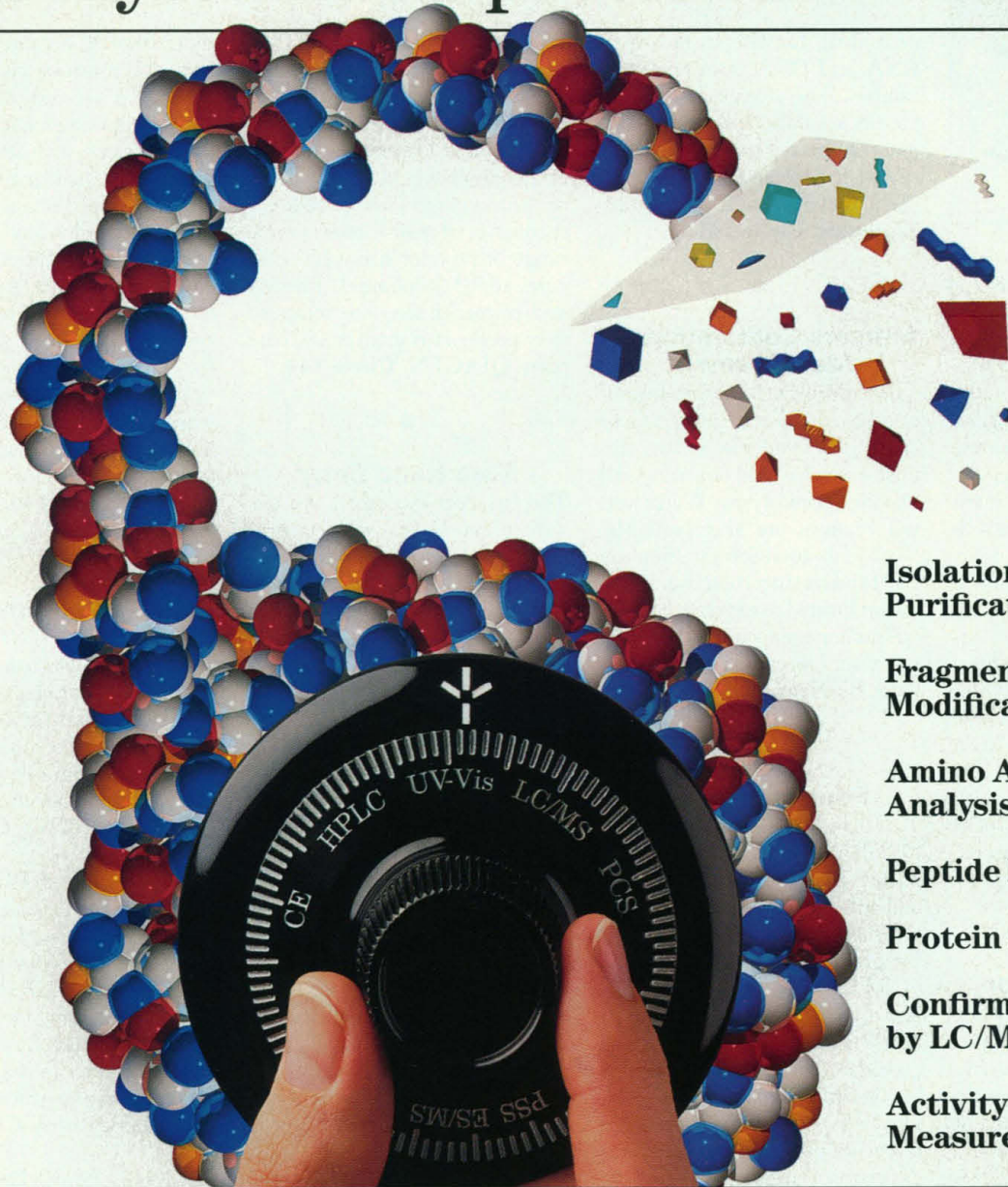
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## Thermocycler

The CYCLONE Thermocycler is designed for preparative work for DNA sequencing, restriction enzyme digestion, and polymerase primer extension. It provides precise control over the various phases of time and temperature change throughout a reaction. State-of-the-art Peltier-element technology guarantees smooth heat transfer (with an accuracy of 0.5°C between 15° and 100°C) and rapid temperature change without the need for viscous fluids. The software provides a choice of 50 programs. A printer can be connected directly. Three interchangeable incubation blocks for use with 0.5- and 1.5-ml microcentrifuge tubes as well as microtiter plates provide flexibility. **Integra Biosciences. Circle 140.**

## Single Reagent for DNA Isolation

DNA NOW is a single monophasic reagent containing a cocktail of chaotropic agents and a novel phenol-free aprotic solvent system. It can replace labor- and time-intensive methods of DNA isolation that require toxic preparations of phenol, proteinase K, or solid-phase extraction. The single-step, 60-min method includes gentle cell and tissue disruption in the reagent followed by the addition of chloroform to effect phase separation. Following centrifugation, the homogenate separates into an organic and aqueous phase. The DNA remains in the aqueous phase, while RNA, proteins, and cellular debris are sequestered in the organic phase and interphase. The reagent can also be used to back-extract DNA from guanidium methods for RNA isolation

providing for the isolation of RNA and DNA from the same sample. The reagent will completely solubilize plant and animal tissue and is particularly well-suited for isolating DNA from plant materials and mouse tail. **Bio Gentex. Circle 141.**

## Mercury Contamination Measurement

The BiMelyze Mercury Immunoassay Kit for soil and sediment analysis is available in two formats—one for field screening and one for laboratory use. Water testing versions are also available. With this technology, mercury contamination testing is no longer limited to expensive methods such as cold vapor atomic absorption, but can be done in the field. **BioNebraska. Circle 142.**

## Fourier Analysis Software

FFTdll and FFTtools are dynamic link libraries and spreadsheet add-ins of fast Fourier transform and taper data window algorithms for programming languages (C, FORTRAN, Pascal, Visual Basic) and spreadsheets (1-2-3, Excel) for Microsoft Windows. They provide complete, affordable solutions to Fourier analysis. Online help with hyper-textual and hyper-graphical links furnishes extensive language reference, theoretical exposition, and practical advice aimed to bridge the gap between theory and practice. **Integrated Scientific Resources. Circle 143.**

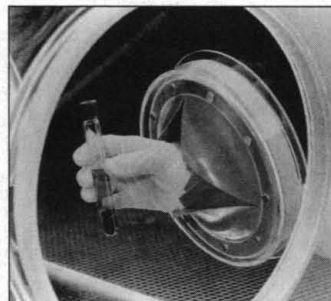
## PCR Purification Kit

With the QIAquick-spin polymerase chain reaction (PCR) Purification Kit and column, both

single- and double-stranded PCR products can be purified in minutes. There is no need for extra mineral oil or paraffin removal steps. The kit takes advantage of the selective properties of a unique silica membrane to provide efficient recoveries of >90% over a wide range of product sizes (100 base pairs to >3 kilobases). Primers and primer-dimers are removed from products as small as 100 base pairs. **QIAGEN. Circle 144.**

## Bare Hand Entry

The Iris Port Accessory, for use with glove boxes, allows entry into the box with latex gloves or bare hands to facilitate the performance of delicate work in a



controlled environment. The design and construction of the opening eliminates the need for bulky gloves. It consists of 30 points of soft latex that conform around the wrist to prevent atmosphere exchange during use. It fits into any standard eight-inch glove box hand port. **Manostat. Circle 145.**

## Dynamic Image Analysis

The Dynamic Image Analysis System (DIAS) is software for the Macintosh that analyzes the motion and dynamic morphology of moving objects as they change shape over time. It generates

more than 40 parameters of motion and contour change every 30th of a second, creates and plays unique dynamic digital reconstructions, includes automatic and manual digitizing modes, provides advanced image processing functions, and includes a variety of graphics capabilities. DIAS was developed for the study of cell motility, but has been used effectively to analyze the dynamics of the left ventricle during diastole and systole, the behavior of worms and larvae, the motion of human forms, and contour distortions in the automotive industry. **Solltech. Circle 146.**

## Literature

1993-94 FOTODYNE Molecular Biology Research Products Catalog features new products including a gel documentation system, GeneSprinter for rapid DNA sequencing, economy transilluminators, and Polaroid camera systems. **FOTODYNE. Circle 147.**

*PCR Ready DNA in 10 Minutes* describes the GeneReleaser universal cell lysis reagent, which releases DNA and RNA for polymerase chain reaction (PCR) from whole blood, cell cultures, bacterial colonies, and the like. Lysis is accomplished directly in the amplification tube on a thermocycler in 10 min. **BioVentures. Circle 148.**

*The Model LS-30 Luminescence Spectrometer* is a brochure on an instrument for sensitive, rapid sample handling for all modes of luminescence, including fluorescence, phosphorescence, bioluminescence, and chemiluminescence. **Perkin-Elmer. Circle 149.**

*Characterisation of Synthetic Peptides to the Immunodominant Region of the HIV-1 gp41 env Protein Using LASERMAT and Mass Spectrometry for the Quantitation of Drugs and Chelators Conjugated to Monoclonal Antibodies* are application notes on use of the LASERMAT mass analyzer. **Finnigan MAT. Circle 150.**

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## POSITIONS OPEN

### FACULTY POSITIONS IN PATHOLOGY

The Department of Pathology at Baylor College of Medicine invites applications for faculty positions at the ASSISTANT or ASSOCIATE PROFESSOR level in the Section of Molecular Pathobiology. Applicants must have a Ph.D., M.D. or equivalent degree and are expected to establish a strong, independent and nationally funded research program. The Department is undergoing rapid expansion in Research Faculty and has existing strengths in molecular and cellular approaches to fundamental processes including control of gene transcription, alternative pre-mRNA processing, intracellular protein trafficking, microbial pathogenesis, growth regulation, molecular controls of cell differentiation and neoplasia. While research programs that investigate molecular mechanisms of disease are desirable, we welcome applications from individuals working on basic questions of many kinds that utilize modern conceptual and technical approaches. Postdoctoral research and previous experience in generating extramural funding is desirable. Generous start-up funds are available. Send letter of application, curriculum vitae, statement of research objectives and reprints of two publications from the applicant and names, addresses and telephone numbers of three referees to: **Chairman of Faculty Search Committee, Department of Pathology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030.** Review of applications will begin October 26, 1993. *Women and minority applications encouraged. Equal Opportunity Employer.*

### CORNELL UNIVERSITY SECTION OF GENETICS AND DEVELOPMENT

Our Section is seeking an ASSISTANT PROFESSOR for a tenure-track position, available in the fall of 1994. The successful candidate will be expected to establish a vigorous externally funded research program in an important area of modern Genetics. The primary teaching responsibility will be to design and offer a lecture course in genetic analysis, with emphasis on eukaryotes, for advanced undergraduate and beginning graduate students. *We strongly encourage applications from women and members of underrepresented minority groups.* Applications should include curriculum vitae, reprints of recent publications and a brief statement of present and future research interests. Complete applications and three letters of recommendation, solicited by the applicant, should be mailed to: **G & D Search Committee, 101 Biotechnology Building, Cornell University, Ithaca, NY 14853-2703.** Applications will be reviewed beginning November 15, 1993. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

### CELL BIOLOGIST— CARNEGIE MELLON UNIVERSITY

The Department of Biological Sciences, Carnegie Mellon University, is seeking a Cell Biologist for a tenure-track appointment at the ASSISTANT PROFESSOR level. Exceptional candidates for appointment at a higher level will also be considered. Candidates using innovative molecular and/or technological approaches to fundamental problems in Cell Biology are especially encouraged to apply. To apply, submit curriculum vitae along with a description of past accomplishments, present activities and future research plans; also arrange to have three letters of reference sent directly to: **Cell Biology Search Committee, Department of Biological Sciences, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213.** Application deadline: December 15, 1993. *Carnegie Mellon University is an Equal Employment Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR PLANT CELL BIOLOGY

Individuals investigating structural or developmental phenomena using emerging research techniques are sought for tenure-track position. Establishment of productive research program, application for external funding, and collaboration with others are expected. A commitment to excellence in teaching is required. Course responsibilities include plant anatomy, cell/molecular biology, and introductory biology. *The department desires to increase representation of women and minorities.* Submit curriculum vitae, statements of teaching philosophy and research goals, and names of three references by 1 November 1993 to: **Head, Department of Botany, Oklahoma State University, Stillwater, OK 74078** (*Equal Opportunity/Affirmative Action Employer*).

## POSITIONS OPEN

### FACULTY POSITION INVERTEBRATE GENETICS

Case Western Reserve School of Medicine  
Department of Genetics

The Department of Genetics is continuing to expand and is now seeking a tenure-track ASSISTANT or ASSOCIATE PROFESSOR in the area of either *Drosophila* or *C. elegans* genetics. The Genetics Department now has 17 faculty members whose research programs focus on the genetics of humans, mice, *Drosophila* and *C. elegans*. This year, we are searching for an interactive scientist with a strong interest in developmental genetics, gene expression, chromosome structure, RNA processing and/or cell cycle regulation. The successful candidate should have at least two years of postdoctoral experience and will be expected to initiate an active, externally funded research program. Interested candidates should submit curriculum vitae, representative reprints, a statement of research interests and arrange to have three letters of recommendation sent to: **Dr. Helen Salz, Invertebrate Genetics Search Committee, Department of Genetics, Case Western Reserve University, Cleveland, OH 44106-4955** by November 15, 1993. *Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION, BACTERIAL PATHOGENESIS University of Miami School of Medicine

The Department of Microbiology and Immunology at the University of Miami School of Medicine invites applications for a tenure-track faculty position at the ASSISTANT PROFESSOR level. An individual utilizing a molecular approach to study any aspect of bacterial pathogenesis is sought. All applicants should have several years of postdoctoral experience and a commitment to establishing an externally funded independent research program. Quality research facilities, start-up funds, and salary will be provided to the appointee. Applicants should have a Ph.D., M.D., or equivalent degree. The appointee will be expected to participate in graduate and medical training programs. Interested applicants should send curriculum vitae, a statement describing research achievements and future research goals, relevant reprints, and the names of three references to: **Bacterial Pathogenesis Search Committee, University of Miami School of Medicine, Department of Microbiology and Immunology (R-138), P.O. Box 016960, Miami, FL 33101.** The review of applications will continue until the position is filled. *The University of Miami is an Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR:** The Department of Biochemistry at the University of Kentucky, in conjunction with the Sanders-Brown Center on Aging, invites applications for a tenure-track faculty position. The appointee will be expected to participate in departmental teaching as well as to develop an independently funded research program focused on biochemical aspects of aging and/or Alzheimer's Disease. Send letter of interest, curriculum vitae and 3 letters of recommendation to: **Biochemistry/Aging Search Committee, Department of Biochemistry, University of Kentucky, Lexington, KY 40536-0084.** *An Equal Opportunity Employer.*

**ASSISTANT PROFESSOR, GENETIC/MOLECULAR MECHANISMS OF DISEASE.** The Department of Comparative Medicine, Schools of Medicine and Dentistry, University of Alabama at Birmingham, invites applications for a tenure-track position at the rank of Assistant Professor. We seek an independent investigator of genetic and molecular mechanisms in disease pathogenesis, with a strong commitment to development and use of animal models of human diseases. Investigators using innovative approaches to gene transfer, expression or knockout; development of new gene delivery or embryonic stem cell systems (e.g., rat or rabbit); or other innovations in animal modeling are encouraged to apply. Strong background in mouse genetics desirable. Teaching responsibilities are modest and primarily at the graduate level. The Department of Comparative Medicine cosponsors with the Department of Pathology the Graduate Program in Molecular and Cellular Pathology, and has an NIH-funded training program. Send curriculum vitae to: **Philip A. Wood, Chair of Search Committee, Department of Comparative Medicine, Schools of Medicine and Dentistry, UAB, Birmingham, AL 35294-0019.** *UAB is an Equal Opportunity/Affirmative Action Employer.*

**DIRECTOR  
NATIONAL DEFENSE CENTER OF EXCEL-  
LENCE FOR RESEARCH IN  
OCEAN SCIENCE**

The High Technology Development Corporation, an agency of the State of Hawaii Department of Business, Economic Development and Tourism, invites applications for the position of Director, National Defense Center of Excellence for Research in Ocean Sciences (CEROS). CEROS was established in March 1993 by a grant from the Advanced Research Projects Agency to support and stimulate a broad spectrum of research in ocean sciences. The Director will provide leadership in strategic planning, project development, program management and funding. The Director's main responsibilities will be (1) to develop and implement a strategic plan for CEROS; (2) to establish and maintain funding support and program continuity; (3) to coordinate and direct CEROS activities; (4) to develop CEROS mission and policy, and (5) to represent CEROS and foster its interests. The position involves significant technical planning and marketing. The CEROS Director will work with high-ranking state and federal officials and with senior executive/technical personnel in the ocean sciences and in commercial ocean enterprises. The successful applicant must have significant professional stature to represent CEROS and assure program success and future. Qualifications: (1) advanced degree in oceanography, marine science or a related field; (2) eight or more years of responsible project administration in marine science or ocean engineering; (3) four years experience with state and federal agencies that have technical, fiscal or commercial interests in marine science and technology. Applicants who have developed, marketed and managed significant projects under Department of Defense funding and who have local, national and international experience/qualifications in the field of marine science and technology are preferred. This is an exempt and excluded position that is subject to continuation of the CEROS funding grant.

Interested individuals should send a resume, list of at least three references, and a cover letter stating salary history and expectations to:

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Fax: (808) 625-6363

*Deadline for receipt of applications is Close of Business, October 15, 1993.*

**3-YEAR LECTURER  
BIOCHEMISTRY**

**Department of Biology  
University of Michigan**

A nontenure-track lecturer position in the Department of Biology at the University of Michigan is available. The initial term of appointment is for one semester. The department is seeking authorization to convert this to a 3-year lectureship which we anticipate will be on a 12 month basis and will be renewable based on satisfactory performance. The appointee will organize, coordinate and supervise a one-semester, Keller-Plan course in introductory biochemistry and the companion course taken by its student assistants; this course pair is offered each fall, winter and spring. The appointee will also lecture in an introductory biology course for non-majors during one term, and in an introductory course in the area of cell and molecular biology during a second term. To be considered, applicants must have a Ph.D. degree in biology or biochemistry and teaching experience in undergraduate biochemistry/molecular biology. The appointment is on a 12-month basis and includes a liberal benefits package. This position is available immediately, with instructional duties to begin in January of 1994. The deadline for receipt of applications is November 1, 1993. Applicants should provide curriculum vitae and have three letters of recommendation sent to:

Chair, Biochemistry Lecturer Search Committee  
Department of Biology  
The University of Michigan  
Ann Arbor, MI 48109-1048

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**BIOCHEMISTRY & MOLECULAR BIOLOGY  
DEVELOPMENTAL & CELL BIOLOGY  
INDIANA UNIVERSITY-BLOOMINGTON**

The Department of Biology at Indiana University intends to fill **TWO TENURE-TRACK ASSISTANT PROFESSORSHIPS**, available in the autumn of 1994, with individuals investigating fundamental questions in biochemistry, molecular, cellular, and/or developmental biology, using vertebrate -- preferably mammalian -- experimental systems.

We seek one biochemist or molecular biologist with research interests in the areas of protein biochemistry, gene regulation, cellular receptors, signal transduction, or virology, and one developmental biologist or cell biologist studying pattern formation, developmental gene regulation, neurobiology, tissue morphogenesis, organelle biogenesis and function, or subcellular trafficking. Successful candidates will be expected to develop vigorous, independent research programs and contribute to teaching. While we anticipate filling these positions at the level of Assistant Professor, outstanding senior candidates will also be considered.

Send a curriculum vitae and a statement of current and future research interests, and arrange for three letters of reference to be sent to: GCDB/MBB Search Committee, Department of Biology, Indiana University, Bloomington, IN 47405. Applications received by December 1, 1993, are assured of consideration.

*Indiana University is an Affirmative Action/Equal Opportunity  
Employer, and strongly encourages women and  
members of minority groups to apply.*

**ROCKEFELLER FOUNDATION  
BIOTECHNOLOGY CAREER FELLOWSHIPS**

The Rockefeller Foundation announces a program of career development fellowships designed to enable scientists from developing countries, trained at outstanding centers for advanced research in biotechnology, to continue to work at those or other institutions for three months each year, over a period of at least three years, conducting advanced research and keeping abreast of new developments in their fields. The program will focus upon the development and application of advances in molecular and cellular biology and immunology relevant to agriculture, health, reproductive biology, and environmental protection.

Funding will be shared between the Foundation and the host laboratory, with the Foundation providing travel and per diem support. It is hoped that the fellowships will encourage the establishment of ongoing working relationships between outstanding younger scientists working at third world institutions, and research teams at advanced laboratories.

Applicants to this program should have at least Ph.D.- or M.D.-level training, a proven record of scientific productivity, and a permanent position at a research or teaching institution in their home country. A written project proposal must be developed and submitted jointly by the candidate and the laboratory sponsor.

Information about application procedures can be obtained by writing to **Biotechnology Career Fellowships, Fellowship Office, Rockefeller Foundation, 1133 Avenue of the Americas, New York, New York 10036, USA.**

# Predoctoral Fellowships in Biological Sciences

66 Fellowships will be awarded by the Howard Hughes Medical Institute for study toward a Ph.D. or Sc.D. degree in the biological sciences listed below. Awards, based on an international competition, focus on research directed to understanding basic biological processes and disease mechanisms. Fellowships may be held at any academic or research institution with appropriate degree programs.

## Fellowship Terms

- Full-time study toward the Ph.D. or Sc.D.
- Up to five years of support possible
- \$14,000 annual stipend
- \$12,700 annual cost-of-education allowance

## Fields of Study

- Eligible fields:

biochemistry	genetics	pharmacology
biophysics	immunology	physiology
biostatistics	mathematical biology	structural biology
cell biology	microbiology	virology
developmental biology	molecular biology	
epidemiology	neuroscience	

## Eligibility

- Beginning graduate study (prior study toward an M.P.H. or a medical degree does not rule out eligibility)
  - college seniors
  - first year graduate students
  - medical students and physicians (M.D., D.O., D.D.S., or D.V.M.) not past the first year of a Ph.D. or Sc.D. degree program
- Not in a funded M.D./Ph.D. program
- No citizenship requirements: U.S. citizens may study abroad, but others must study in the United States

## Schedule

Application deadline: November 5, 1993

Awards announced: early April 1994

Fellowships start: June 1994–January 1995

## For 1994 Program Announcements, Eligibility Guidelines, and Applications

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The Fellowship Office  
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Telephone (202) 334-2872

The Howard Hughes Medical Institute, an Equal Opportunity Employer, welcomes applications from all qualified candidates and encourages women and members of minority groups to apply.

## POSITIONS OPEN

### ASSOCIATE PROFESSOR BACTERIAL OR VIRAL IMMUNITY

The Department of Microbiology & Immunology, Bowman Gray School of Medicine of Wake Forest University, invites applications for a tenure-track position at the rank of **ASSOCIATE PROFESSOR**. We seek an individual with an active research program that focuses on the cellular, biochemical, or molecular aspects of the immune response against bacterial or viral pathogens. Applicants must have current NIH funding. The Department has active research programs in the biochemical and molecular aspects of bacterial and viral pathogenesis, immune cell function, and mRNA transport and turnover. The Department has an outstanding Ph.D. training program that is funded by a grant from the NIH. Excellent research facilities, shared equipment, and core laboratories are available with the Department as well as in the NIH-funded Comprehensive Cancer Center and the Program in Molecular Genetics. Applicants should send curriculum vitae, a statement of research plans and funding, and the names of three references to: **Dr. Steven B. Mizel, Department of Microbiology & Immunology, Bowman Gray School of Medicine of Wake Forest University, Medical Center Boulevard, Winston-Salem, NC 27157-1064. Wake Forest University is an Affirmative Action/Equal Opportunity Employer.**

**ASSISTANT PROFESSOR, TENURE-TRACK.** Department of Biomedical Sciences, University of Illinois College of Medicine at Rockford. A pharmacologist is preferred given the need to meaningfully contribute to a team-taught course in Medical Pharmacology, but individuals from other disciplines including clinical medicine will be considered. The emphasis will be excellence in research and the individual is expected to develop an independent, externally fundable research program. The specific research area is open, however, the individual is expected to be highly interactive with the present faculty, whose research interests include neurosciences, molecular virology, cell signalling, and molecular interactions with nucleic acids. Submit curriculum vitae, a short statement of research interests and teaching experience, and three references to: **Chair, Faculty Search Committee, Department of Biomedical Sciences, UIC College of Medicine at Rockford, 1601 Parkview Avenue, Rockford, IL 61107-1897.** Screening of candidates will begin 1 November 1993 and continue until the position is filled. *UIC is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT PROFESSOR—BIOORGANIC/BIOCHEMIST.** The Department of Chemistry at Union College invites applications for a tenure-track position at the Assistant or advanced Assistant Professor level during the current academic year to begin fall 1994-95. The candidate is expected to have a Ph.D. and preference will be given to those with postdoctoral experience. Applicants should have the potential for excellence in undergraduate teaching and research. Experience in organic laboratory teaching is desirable. Union College is a small, selective undergraduate institution with particular strengths in science and engineering. Applicants are to provide curriculum vitae, outline of research interest (and needs), three letters of recommendation, and undergraduate and graduate transcripts to: **Professor John R. Sowa, Chair of Search Committee, Department of Chemistry, Union College, Schenectady, NY 12308 by December 10, 1993. Union College is an Equal Opportunity/Affirmative Action Employer.**

### FACULTY POSITION UNIVERSITY OF WASHINGTON

Joint appointment in the Department of Genetics and the Division of Medical Genetics. We are seeking an investigator with an established research program in the field of human or mouse genetics for appointment to a tenure-track position, preferably at the **ASSOCIATE** or **FULL PROFESSOR** level. Laboratory space will be provided in a new research facility contiguous with laboratories of the Division of Medical Genetics and the Departments of Genetics, Molecular Biotechnology, Biochemistry, and Immunology. Initial research support will be available from the Markey Molecular Medicine Center. Review of applications will begin December 15, 1993. Please send curriculum vitae to: **Dr. Stanley M. Gartler, Co-Chairman, The Search Committee, Department of Genetics SK-50, University of Washington, Seattle, WA 98195. An Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

The Department of Chemistry of the University of Chicago invites applications from outstanding individuals for the position of **ASSISTANT PROFESSOR**. Applications from people with interests in any area of physical or inorganic chemistry will be considered. Postdoctoral experience is preferred. Applicants should submit curriculum vitae, a list of publications, and a succinct outline of their research plans. Candidates should arrange for three letters of recommendation to be sent directly to: **Jeremy Burdett, Chairman, Department of Chemistry, The University of Chicago, 5735 South Ellis Avenue, Chicago, IL 60637. An Equal Opportunity/Affirmative Action Employer.**

### BIOCHEMISTRY/MOLECULAR BIOLOGY AND PHYSICAL BIOCHEMISTRY MEHARRY MEDICAL COLLEGE

Faculty positions will be available in 1994 in the Department of Biochemistry, at the level of **ASSISTANT** or **ASSOCIATE PROFESSOR**. Applicants must have a Ph.D. or M.D. degree, or both, and appropriate formal postdoctoral research experience. Joint appointments in clinical science departments are possible. We are seeking individuals who have potential or demonstrated competence in physical biochemistry or in the use of molecular biological approaches to conduct research in molecular medicine, or on fundamental biochemical/cell biological problem(s). Selected individuals must also be capable of, and committed to, making significant contributions to the teaching and administrative functions of the department of biochemistry. Successful applicants will be expected to develop/maintain a funded research program of high quality and to participate in the graduate and professional (medical, dental and allied health) school teaching programs of the Department. Applicants should send curriculum vitae, names of four individuals who may be contacted for reference, and a summary (not exceeding 3 pages) of potential research project(s) to: **Ifeanyi J. Arinze, Ph.D., Chairman, Department of Biochemistry, Meharry Medical College, Nashville, TN 37208. An Equal Opportunity/Affirmative Action Employer.**

**FACULTY POSITION IN CHEMISTRY.** Applications are invited for a tenure-track position at the **ASSISTANT PROFESSOR** level beginning fall 1994 in the Department of Chemistry at Connecticut College. A higher-level appointment for an established scientist with an outstanding record of achievement also will be considered. The department offers ACS-certified majors in chemistry and biochemistry as well as a concentration in environmental chemistry. In 1994, the Chemistry Department will move much of its instructional activities to the F. W. Olin Science Center presently under construction. Excellent teaching and research equipment is available. The primary teaching responsibilities in this position include physical and analytical courses. The successful candidate will be expected to develop an active research program in which undergraduates can participate. Applicants must have a Ph.D. degree. Postdoctoral experience is preferred, but not required. Connecticut College is a selective, coeducational, private liberal arts college in New London, Connecticut. Faculty normally teach five courses a year. Laboratory sections are equivalent to courses. Untenured faculty on full-time appointments receive funding for a summer of research and other forms of research support. Tenured faculty receive eighty percent of salary during a sabbatical year. *Connecticut College is an Affirmative Action/Equal Opportunity Employer and encourages applications from minorities and women.* Interested individuals should send curriculum vitae, graduate transcripts, brief statement of research plans, and three letters of recommendation by November 29, 1993, to: **Professor Bruce R. Branchini, Connecticut College, Department of Chemistry, New London, CT 06320.**

**ASSISTANT RESEARCH PROFESSOR:** Molecular biologist/protein chemist to isolate, identify and characterize apolipoproteins, perform analyses of gene regulation, transcription factors, site-directed mutagenesis and protein purification. Applicants must have a Ph.D., postdoctoral experience, demonstrated research productivity and background in acute phase proteins. Send letter of interest, curriculum vitae and 3 letters of recommendation to: **Dr. Louis B. Hersch, Chair, Department of Biochemistry, University of Kentucky, Lexington, KY 40536-0084. An Equal Opportunity Employer.**

## POSITIONS OPEN

### ASSISTANT PROFESSOR: DEPARTMENT OF MOLECULAR BIOPHYSICS AND BIOCHEMISTRY YALE UNIVERSITY

The Department of Molecular Biophysics and Biochemistry seeks applicants for a position at the level of Assistant Professor in the general areas of biochemistry or molecular biology. The person appointed would be expected to develop an independent research program and to participate in departmental teaching. Candidates should submit curriculum vitae with a summary of present and future research interests, and request that three letters of recommendation be sent no later than November 30, 1993, to: **Thomas A. Steitz, Search Chair, Department of Molecular Biophysics and Biochemistry 0734, Yale University, P.O. Box 208114, 260 Whitney Avenue, New Haven, CT 06520-8114, USA. Yale University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.**

### ASSISTANT PROFESSOR: DEPARTMENT OF MOLECULAR BIOPHYSICS AND BIOCHEMISTRY YALE UNIVERSITY

The Department of Molecular Biophysics and Biochemistry seeks applicants for a position at the level of Assistant Professor in the general area of macromolecular crystallography. Individuals whose interests bridge biophysics, biochemistry and molecular biology are especially encouraged to apply. The person appointed would be expected to develop an independent research program and to participate in departmental teaching. Candidates should submit curriculum vitae with a summary of present and future research interests, and request that three letters of recommendation be sent no later than November 30, 1993, to: **Thomas A. Steitz, Search Chair, Department of Molecular Biophysics and Biochemistry 0734, Yale University, P.O. Box 208114, 260 Whitney Avenue, New Haven, CT 06520-8114, USA. Yale University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.**

**NEUROPHARMACOLOGIST/NEUROSCIENTIST.** The Department of Pharmacology at Texas Tech University Health Sciences Center School of Medicine invites applications for two tenure-track positions at the **ASSISTANT** and **ASSOCIATE PROFESSOR** level. The Department has recently expanded and is seeking outstanding scientists with an M.D. or Ph.D. degree who have a strong record of achievement. General areas of interest include the molecular basis of signal transduction, intracellular signaling, neuronal plasticity, and neurochemistry. Interested applicants should send curriculum vitae and three letters of reference by 30 November 1993 to: **Dr. Louis A. Chiodo, Chairman, Department of Pharmacology, Texas Tech University Health Sciences Center, School of Medicine, 3601 4th Street, Lubbock, TX 79430. An Equal Opportunity/Affirmative Action Employer.**

### MICHIGAN STATE UNIVERSITY CANINE MOLECULAR GENETICS

The College of Veterinary Medicine at Michigan State University seeks to fill up to two tenure-track faculty positions at the level of **ASSISTANT PROFESSOR** in the area of canine molecular genetics. The positions will be joint appointments in the Departments of Small Animal Clinical Sciences and Microbiology. Responsibilities include developing an externally funded research program as part of a college-wide commitment to the study of canine genetic disease along with limited teaching within the veterinary, graduate and/or undergraduate curricula. Applicants must possess a Ph.D. with extensive experience in molecular genetics and a demonstrated commitment to companion animal disease problems. Previous teaching experience is desirable. To apply, send curriculum vitae with an outline of plans for future research and the names of three references to: **Dr. N. Edward Robinson, Chairperson, Canine Molecular Genetics Search Committee, G100 Veterinary Medical Center, Michigan State University, East Lansing, MI 48824.** Review of applications will begin November 15, 1993. *Michigan State University is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are particularly encouraged to apply.*





## **Public Invitation to Participate in a New Research and Development Project on Broad Area Energy Utilization Network System (Eco-Energy City)**

*Announced by the New Energy and Industrial Technology Development Organization  
on October 1, 1993*

*In order to promote new energy technology, the New Energy and Industrial Technology Development Organization (NEDO) would like to inform all interested companies and research organizations regarding the research and development project described below.*

### **Theme of the Research and Development Project**

**"Broad Area Energy Utilization Network System (Eco-Energy City)"**

### **Outline of the Research and Development Work to be Entrusted**

This project, entitled "Eco-Energy City", will be implemented in order to establish technologies for the construction of a broad ranging and systematic energy network system, whose features are as follows:

1. High-efficiency recovery of relatively low-temperature waste and unused heat discharged from industrial sources.
2. Low-loss transportation of the recovered heat over long distances to residential and commercial consumption sites.
3. Supply of the recovered, transported heat to consumption sites in multi-functional ways depending on individual consumption patterns.

### **Procedures for Application**

#### **(1) Qualification Criteria**

All companies or research organizations who meet the following qualification criteria may submit an application to participate in the above projects:

1. The applicant must have previous research and development experience in the field covered by or related to the project and possess the organizational structure, human resources and research facilities required to carry out the project work.
2. The applicant must be in sound financial condition and have the ability to manage its finances and facilities as necessary to smoothly carry out the project work.
3. The applicant must be able to comply with NEDO's instructions, if such are necessary, to fully carry out the project work.
4. The applicant must have attended the explanatory meeting held by NEDO as set forth in item (2) below or been represented at the meeting by a responsible agent or representative who is capable of accurately conveying the contents of the meeting in detail.

#### **(2) Explanatory Meeting**

An explanatory meeting will be held on the date shown below in order for NEDO to fully explain the details of the project's research and development work to be entrusted and the application documents to be submitted. All companies or research organizations who are interested in submitting an application to participate in the project are required to attend this meeting or to send an agent or representative to attend on their behalf. Japanese will be the only language used during the meeting.

**Date:** *October 15, 1993*

**Time:** *14:00 to 15:00*

**Place** *NEDO's Head Office  
Sunshine 60 Building,  
30th Floor, Room 360  
1-1, Higashi-Ikebukuro 3-Chome  
Toshima-ku, Tokyo 170*

#### **(3) Further Information**

For further information regarding the research and development work to entrusted under the above project, please contact NEDO by telefax as follows:

**New Energy and Industrial Technology Development Organization  
Contract Division, Accounting Department  
28th Floor, Sunshine 60 Building,  
1-1, Higashi-Ikebukuro 3-Chome  
Toshima-ku, Tokyo 170 Japan  
Telefax: 03-5992-1184**



## POSITIONS OPEN

The University of San Diego (USD), Department of Biology, invites applications for a tenure-track position in **PLANT SYSTEMATICS** at the **ASSISTANT PROFESSOR** level beginning in September 1994. Preference will be given to applicants whose research employs molecular methods. Teaching responsibilities include a course with laboratory in plant systematics and floristics, an upper-division course for majors, and an introductory biology course. USD is an independent Catholic university whose primary aim is teaching excellence. Active scholarship by the faculty is considered essential to this aim, and the candidate is expected to maintain an active research program that has the potential for undergraduate involvement. Teaching experience is desirable. Submit curriculum vitae, a brief description of teaching philosophy and research interests, and names and addresses of three references by 15 November 1993 to: **Chair, Department of Biology, University of San Diego, 5998 Alcalá Park, San Diego, CA 92110-2492; Telephone: (619) 260-4729.** Women and minorities are particularly encouraged to apply. USD is an Affirmative Action/Equal Opportunity Employer.

**University of North Carolina, Greensboro:** The Department of Psychology invites applications for two tenure-track **ASSISTANT PROFESSOR** positions, one in **Developmental Psychology** and one in **Cognitive Psychology**. Candidates for these positions must have a Ph.D., have demonstrated promise of excellence in research, and be committed to teaching graduate and undergraduate students. Copies of curriculum vitae, representative publications and three letters of reference should be addressed to either **Gilbert Gottlieb, Chair, Developmental Search Committee** or **Reed Hunt, Chair, Cognitive Search Committee**.

We also invite applications for a one-year **VISITING PROFESSOR** position. These candidates must have a Ph.D. and be able to teach General Psychology and courses in either Social/Personality or Perception. Applications for this non-tenured position should be addressed to **David Soderquist, Chair of the Search Committee**.

Mail applications to: **Department of Psychology, UNC-Greensboro, Greensboro, NC 27412-5001** by December 31, 1993. *Equal Employment Opportunity/Affirmative Action, W/M/V/D.*

### ASSISTANT PROFESSOR

The Department of Entomology at the University of Georgia invites applications for a tenure-track 9-month position beginning September 1994. Qualifications include: doctoral degree, minimum of two years of postdoctoral experience, strong record of research productivity, and commitment to excellence in classroom instruction. Instructional responsibilities may include: undergraduate Medical Entomology or Introductory Entomology and a graduate course in area of specialty. Research area open; candidate expected to develop an extramurally funded program. Send curriculum vitae, statement of teaching goals and research interests, 2 to 3 key reprints, and arrange to have four letters of reference sent prior to the closing date, December 20, 1993, to: **Search Committee, Department of Entomology, Franklin College of Arts and Sciences, University of Georgia, Athens, GA 30602-2603.** The University of Georgia is an Equal Opportunity/Affirmative Action Institution.

### PLANT MOLECULAR BIOLOGY Indiana University-Bloomington

The Department of Biology seeks to fill a faculty position at the level of **ASSISTANT PROFESSOR** in the area of plant molecular biology. Exceptional senior-level scientists will also be considered. Individuals working on any aspect of plant molecular biology, genetics, or biochemistry, including the application of these approaches to problems in developmental or cellular biology, are encouraged to apply. The successful candidate will be expected to conduct a vigorous, independent research program and contribute to teaching. All interested candidates should submit curriculum vitae and a statement of research interests, including future plans. In addition, applicants should arrange for three letters of reference to be sent to: **Plant Molecular Biology Search Committee, Department of Biology, Indiana University, Bloomington, IN 47405.** Applications received before December 1, 1993, will be assured of consideration. *Indiana University is an Affirmative Action/Equal Opportunity Employer, and strongly encourages women and members of minority groups to apply.*

## POSITIONS OPEN

### MEDICINAL CHEMIST AND DIRECTOR Center for Drug Design and Development

The University of Toledo seeks a highly qualified senior scientist for a tenured faculty position at either the associate or full professor level in the Department of Medicinal and Biological Chemistry. The person selected for the position will conduct a nationally visible and extramurally funded research program with an emphasis on chemical approaches to drug design, provide leadership to the Center for Drug Design and Development and teach undergraduate and graduate Pharmacy students. The essential qualifications for the individual are a Ph.D. or equivalent terminal degree in chemistry, medicinal chemistry or related area, a working knowledge of the pharmaceutical industry and an interest in and corresponding ability for effective teaching. Applicants should submit a letter of interest, brief summary of research interests, current résumé and names, addresses and telephone numbers of four references to: **Dr. Wayne Hoss, Chair, Medicinal Chemistry Search Committee, College of Pharmacy, The University of Toledo, Toledo, OH 43606.** Applications will be reviewed as they are received and the search will continue until the position is filled. *The University of Toledo is an Affirmative Action/Equal Opportunity Employer.*

**NATIONAL PROGRAM LEADER for Product Quality, USDA, ARS, National Program Staff, Agri-products and Human Nutrition Sciences, Beltsville, Maryland, is seeking PHYSICAL or BIOLOGICAL SCIENTIST, GM-14/15 (salary \$56,627 to \$86,589).**

Incumbent provides national leadership in program planning, development, budgeting and evaluation of a basic and applied research program to increase utilization of agricultural commodities and devise value added products, food and nonfood, for domestic and export markets. Salary is commensurate with experience. Candidates must have 1 year of professional experience at least equivalent to the next lower level in an appropriate field and directly related to the duties of the position. *Must be a United States citizen.* For program information, contact: **Wilda H. Martinez at (301) 504-6275.** For information on application procedures/forms, contact: **USDA, ARS Personnel Division at 301-344-4578.**

*An Affirmative Action/Equal Opportunity Employer.*

**EUKARYOTIC GENETICIST**—Biology Department, Vassar College, seeks geneticist with research interests in developmental genetics, cellular genetics, or related areas who is committed to undergraduate education, to fill tenure-track position at the rank of **ASSOCIATE PROFESSOR** beginning August 1994. Excellent laboratory facilities and start-up support are available. Ph.D. required and postdoctoral work and teaching experience are desirable. The successful candidate will be expected to develop an independent research program and to engage students in research.

Send curriculum vitae, a description of current and planned research, a statement of teaching interests, three letters of reference to: **Robert B. Suter, Chair, Biology Department, Vassar College, Poughkeepsie, NY 12601** by November 15, 1993. *Vassar encourages women and minorities to apply. Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITION IN CELL BIOLOGY

A position is available at the **JUNIOR or SENIOR FACULTY** level to investigate the organization, migration, proliferation, and differentiation of normal and abnormal eukaryotic cells. Areas of special interest include Signal Transduction, Cell Cycle, Growth Control, Gene Expression, Cell Motility, and Membrane Trafficking, as well as other areas that will fortify or complement our existing strengths. We are particularly interested in individuals employing molecular and genetic approaches, although overall scientific excellence and promise will be the primary criteria for selection. Faculty appointments at the Worcester Foundation carry institute-backed salary guarantees and liberal start-up packages for personnel, equipment and operating costs. Submit detailed curriculum vitae, a brief summary of research interests and future plans, and three letters of reference to: **Cell Biology Search Committee, c/o Human Resources Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.** Review of applications will begin November 1, 1993. *An Affirmative Action/Equal Opportunity Employer, M/F/H.*

## POSITIONS OPEN

**NATIONAL PROGRAM LEADER for Product Quality, USDA, ARS, National Program Staff, Agri-products and Human Nutrition Sciences, Beltsville, Maryland, is seeking PHYSICAL or BIOLOGICAL SCIENTIST, GM-14/15 (salary \$56,627 to \$86,589).**

Incumbent provides national leadership in program planning, development, budgeting and evaluation of a basic and applied research program to define, ensure and improve the post-harvest quality of agricultural commodities and their products in domestic and export markets. Salary is commensurate with experience. Candidates must have 1 year of professional experience at least equivalent to the next lower level in an appropriate field and directly related to the duties of the position. *Must be a United States citizen.* For program information, contact: **Wilda H. Martinez at (301) 504-6275.** For information on application procedures/forms, contact: **USDA, ARS Personnel Division at 301-344-4578.**

*An Affirmative Action/Equal Opportunity Employer.*

### THE UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER AT DALLAS CHAIR, DEPARTMENT OF BIOCHEMISTRY

The University of Texas Southwestern Medical Center at Dallas invites applications and nominations for the position of **Chair, Department of Biochemistry**. Applicants should have an outstanding record of research accomplishments and demonstrated ability to provide leadership for this excellent department, which includes more than 30 faculty and over 100 fellows and students. Established research programs include major areas of molecular biology, genetics, developmental biology, and structural biology. There is opportunity for significant expansion, and the Chair will be responsible for recruiting, in addition to oversight of the research and the graduate and medical teaching functions of the department. Institutional support is from both state funds and generous endowments. Applications should be submitted by November 1, 1993, although the search will proceed until the position is filled. Send curriculum vitae to: **Dr. Alfred G. Gilman, Department of Pharmacology, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235.** *The University of Texas Southwestern Medical Center is an Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR PATHOGENESIS JUNIOR AND SENIOR FACULTY POSITIONS AVAILABLE

The Department of Microbiology and Immunology invites applications for multiple junior and senior-level, tenure-track positions focusing on the molecular analysis of significant problems in bacterial pathogenesis. Senior candidates should have strong records of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop high-quality, independent research programs with long-term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental and graduate students. The Department offers a high-quality intellectual environment with 80% of the faculty holding active extramural research grants.

A large Center of Excellence grant has resulted in establishment of a Molecular Resource Center within the Department featuring state-of-the-art facilities for: oligonucleotide synthesis, peptide synthesis, monoclonal antibody production, amino acid analysis, DNA sequencing, molecular graphics, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive.

Review of applications will continue until the position is filled. Applications should consist of curriculum vitae, copies of several recent publications, a brief statement of future research goals and three letters of reference to be sent to:

**Dr. Terrance G. Cooper  
Department of Microbiology and Immunology  
The University of Tennessee, Memphis  
858 Madison Avenue, Room 801  
Memphis, Tennessee 38163**

*The University of Tennessee, Memphis is an Equal Employment Opportunity/Title IX/Section 504/ADA Employer.*

## PROFESSOR OR ASSISTANT PROFESSOR

The Section of Cell Growth, Regulation and Oncogenesis, Duke Comprehensive Cancer Center, Duke University Medical Center, invites applications for positions at the level of either Professor or Assistant Professor. Research within the Section is focused on the genes and biochemical pathways that regulate cell growth and the molecular analysis of the disruption of such controls in cancer cells. Investigators working at the molecular level on signal transduction, oncogenes/anti-oncogenes, angiogenesis, metastasis and apoptosis are especially encouraged to apply. Applicants seeking a tenured professorship must have distinguished records of accomplishments and be internationally recognized as a leader and innovator in research. Applicants seeking a tenure-track assistant professorship must have a doctoral, at least 2 years of postdoctoral training and must have demonstrated high potential for imaginative independent research. Successful candidates will also be appointed into a basic science department within the Medical Center. Applicants for a tenured professorship position need send only a letter expressing interest, curriculum vitae and list of publications. All inquiries will be held in confidence. Applicants for an assistant professorship should send curriculum vitae, a brief description of present and proposed research and arrange for three or more letters of recommendations to be forwarded to: **Dr. Robert M. Bell, Head, Section of Cell Growth, Regulation and Oncogenesis, Duke Comprehensive Cancer Center, Box 3686, Durham, NC 27710.** To be assured of full consideration, the application should be received by November 8, 1993.

**Duke University  
Medical Center**

Duke University is an Equal Opportunity/Affirmative Action Employer.

## PARALLEL PROCESS, UNPARALLELED PROGRESS.

*Vertex Pharmaceuticals, Inc. is a leader in the use of structure-based rational drug design, a scientific approach to drug discovery which uses atomic level information to design synthetic compounds that interact with protein targets involved in disease processes. Vertex is using advanced techniques of biology, chemistry and biophysics to create novel, small molecule compounds that the Company plans to develop as orally deliverable drugs to treat major human disease. Vertex is concentrating on the development of drugs in the areas of immunology, inflammation and antiviral therapy.*

### Protein NMR-PhD

Currently we are seeking a Ph.D. research scientist for our Protein NMR group. Using a variety of multidimensional NMR techniques, the successful candidate will examine the solution structure and dynamics of therapeutically relevant target proteins and protein/ligand complexes, and will play a key role in the development of small molecule therapeutics within a multidisciplinary effort in structure-based drug design. Candidates with two or more years of postdoctoral experience in the application of multidimensional NMR methods to biological systems, or with a strong background in design and implementation of pulse NMR experiments, NMR hardware design/modification, or application of pulsed field gradient techniques are encouraged to apply.

Our facilities include several dedicated high-field NMR spectrometers equipped for triple resonance, as well as excellent computational resources for data processing, structure refinement, and molecular visualization. Candidates will have the opportunity to interact with a diverse group of scientists, including X-ray crystallographers, computational chemists, and medicinal chemists. An eagerness and ability to apply insights from biology, structural biophysics and computational chemistry to the process of drug design is essential.

With our resourceful approach to structure-based rational drug design and a strong financial base, we invite you to take advantage of our excellent salaries, benefits and professional development potential. Please send c.v., list of publications, and the names of three persons from whom references may be solicited to: Vertex Pharmaceuticals Incorporated, c/o Recruiting Coordinator, SCV10/93, 40 Allston Street, Cambridge, MA 02139-4211. We are an Equal Opportunity Employer.



**VERTEX**  
PHARMACEUTICALS  
INCORPORATED  
*We're Not Leaving Success To Chance.*

## POSTDOCTORAL FELLOWSHIPS

St. Jude Children's Research Hospital, a premier research center for catastrophic diseases of childhood and biomedical research, offers the **GEORGE J. MITCHELL and RICHARD A. GEPHARDT ENDOWED FELLOWSHIPS IN BASIC SCIENCE RESEARCH.** The fellowships were established by the American Lebanese Syrian Associated Charities/St. Jude Children's Research Hospitals Board of Governors and Directors in honor of Mr. Mitchell and Mr. Gephardt's contributions to the political life of the nation.

The fellowships are open to junior investigators with an M.D., Ph.D., D.V.M. or Pharm.D. degree who seek training experience in one of the specialty areas of laboratory biomedical research available which include: biochemistry, experimental oncology, experimental hematology, infectious diseases, genetics, immunology, pharmaceutical sciences, molecular pharmacology, tumor cell biology and virology/molecular biology.

Fellowship awards are made for up to three years and are based on merit, recommendations and promise of a productive career in biomedical research. Stipends are highly competitive.

Applicants should provide a curriculum vitae, a brief description of their research interests and have three references, send letters of reference to:



**Christian C. Patrick, M.D.**  
Department of Infectious Diseases  
**St. Jude Children's  
Research Hospital**

P. O. Box 318 • Memphis, TN 38101-0318 USA

All information must be received by 1 January, 1994. Award notification will be 1 February, 1994, with a beginning date thereafter.

An Equal Employment/Affirmative Action Employer

## MRC Group in Protein Structure and Function Faculty Position in Protein Chemistry

The Medical Research Council of Canada Group in Protein Structure and Function at the University of Alberta invites applications for membership in the Group and an associated Faculty position in the Department of Biochemistry. Applicants should have a strong background in protein chemistry and will be expected to develop a research project that will complement and contribute to the overall research efforts in the Group. Some areas currently under investigation by the Group include: chemistry and structure of contractile proteins of both muscle and non-muscle systems and the molecular mechanism by which calcium triggers muscle contraction; structure-function relationships of calcium binding proteins; mechanistic studies of seryl and aspartyl proteinases, and of lipases, thioesterases, esterases and enzymes involved in fatty acid synthesis pathways, through the establishment of their high resolution X-ray structure and protein phosphatases as intracellular targets for tumor promoting toxins. Preference in the selection process will be given to those individuals who have a background in any of the following areas: computational techniques, molecular biological approaches to protein structure-function, spectroscopic approaches, or mass spectrometry of proteins. Appointments can be made at any level from Assistant to Full Professor depending upon the qualifications. Salary for Assistant Professor (Min. \$40,035); Associate Professor (Min. \$49,593); and Professor (Min. \$61,813).

The MRC Group in Protein Structure and Function was established in 1974 and has undergone three successful renewals. The major techniques of protein chemistry are included in the armament used by the group members for the study of protein systems: hydrodynamic and spectroscopic methods, nuclear magnetic resonance spectroscopy, X-ray crystallography, solid phase synthesis of peptides, recombinant DNA technology and protein engineering. There is also a close association of the MRC Group with the Alberta node of the Protein Engineering Network Centre of Excellence (PENEC) which has complementary as well as unique facilities.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents. The deadline for the position is November 30. Applicants should forward curriculum vitae, list of publications and names of three referees as soon as possible to:

**Professor Brian D. Sykes**  
Department of Biochemistry  
University of Alberta  
Edmonton, Alberta, Canada, T6G 2H7

The University of Alberta is committed to the principle of equity in employment. The University encourages applications from aboriginal persons, disabled persons, members of visible minorities and women.



# PENNSTATE



## Pre and Postdoctoral Positions Department of Microbiology and Immunology Pennsylvania State University College of Medicine at Hershey

The Department of Microbiology and Immunology invites applications from qualified individuals for several funded predoctoral and postdoctoral positions. Availability of expanded research facilities, well established departmental and interdepartmental training programs, and macromolecular synthesis core facilities contributes to a strong and interactive training environment. The research interests of the faculty cover a wide variety of important problems in virology, immunology, oncology, and cell and molecular biology. The faculty and their research interests include the following.

Michael Chorney	Molecular structure of the major histocompatibility complex
Richard Courtney	Molecular studies of herpes simplex virus proteins and glycoproteins
John Goldman	Immune regulation of host defense mechanisms, viral immunity
Margaret Goldman	Immune regulation of biosynthesis of macrophage products - both host and virally encoded proteins
Mary K. Howett	Molecular biology of human papillomavirus infection of human tissue xenografts
Harriet Isom	Regulation of hepatocyte growth and gene expression; molecular studies of guinea pig cytomegalovirus and hepatitis B virus
Sebastian Joyce	Immunobiology of organ-specific autoimmune diseases and tumor immunity
Michael Katzman	Mechanism of retroviral integration; characterization of the integration reaction for the human immunodeficiency virus
John Kreider	Human papillomaviruses; immunology and treatment
Craig Meyers	Papillomavirus cell interactions and oncogenicity
David Spector	Molecular mechanisms of adenovirus and human cytomegalovirus gene transcription
Richard Tenser	Herpes simplex virus infection and latency in sensory ganglion neurons
Mary J. Tevethia	Genetic and molecular studies of transformation by SV40 T antigen
Satvir Tevethia	Molecular basis for recognition of tumor antigens by cytotoxic T lymphocytes
Michael Verderame	Molecular mechanisms of neoplastic transformation by the oncogene v-src; role of receptor protein kinases in development
Brian Wigdahl	Molecular characterization of cellular and viral gene products involved in the neuropathogenesis of herpes simplex virus and retroviruses
John Wills	Molecular analysis of the retrovirus budding mechanism (viral and host components)

Applications or inquiries for additional information should be sent to **Dr. Richard Courtney, Professor and Chair**, Department of Microbiology and Immunology, The Pennsylvania State University College of Medicine, Post Office Box 850, Department 30L, Hershey, PA 17033. We are an Equal Opportunity/Affirmative Action Employer and encourage minority and female applicants to apply.

## WRIGHT STATE UNIVERSITY CHAIR-DEPARTMENT OF BIOLOGICAL SCIENCES

Wright State University College of Science and Mathematics invites applications and nominations for Chair, Department of Biological Sciences. The University is a comprehensive public university with an enrollment of over 17,000. The Biological Sciences Department includes 20 full time faculty, over 400 undergraduate majors and 40 graduate students. It offers bachelor degrees in biological sciences, medical technology and environmental health, and the master of science degree in biological sciences. Many faculty are active participants and several graduate students are enrolled in the interdisciplinary Bio-medical Sciences Ph.D. program.

Candidates must have the capability and desire to provide strong leadership in research and undergraduate/graduate education. We expect candidates to have a record of scholarship commensurate with the rank of full professor and to have a strong record of funded research. Relevant areas include molecular/cellular biology, environmental/organismic biology, medical technology, toxicology and environmental health. Opportunities for collaboration with four other life sciences departments (Anatomy, Biochemistry and Molecular Biology, Microbiology and Immunology, and Physiology and Biophysics) as well as the WSU School of Medicine are available.

A letter of application and a resume including a brief statement of research interests and names of at least 3 references should be submitted to:

**Chair, Search Committee  
Department of Biological Sciences  
Wright State University  
Dayton, OH 45435**

Review of applications will begin November 15, 1993 and continue until the position is filled. *Wright State University is an equal opportunity/affirmative action employer. The Biological Sciences Department is particularly interested in increasing the number of qualified female applicants.*



## University of Illinois at Urbana-Champaign Dean College of Liberal Arts and Sciences

The University of Illinois at Urbana-Champaign invites nominations and applications for the position of Dean of the College of Liberal Arts and Sciences.

The Dean is the chief executive officer of the College and reports to the Vice Chancellor for Academic Affairs and to the Chancellor. The Dean implements College educational policy, as set by the faculty of the College according to its procedures of governance. The College's 700 faculty members instruct 11,500 undergraduate students and 3,300 graduate students in more than 40 units.

Qualifications include outstanding scholarly accomplishment and demonstrated academic leadership; administrative, budgetary, and fund-raising skills; and commitment to the values of liberal education and to affirmative action.

Salary open. Position available January 1, 1994.

To assure full consideration, nominations and applications should be submitted by November 10, 1993:

Dean William R. Schowalter, Chair  
Search Committee for the Dean of the  
College of Liberal Arts and Sciences  
Swanlund Administration Building  
601 East John Street  
Champaign, Illinois 61820

Attention: Linda Rodriguez  
Telephone: (217) 333-4523  
FAX number: (217) 244-5639

The University of Illinois at Urbana-Champaign is an



## Chair Department of Pharmacology Columbia University College of Physicians and Surgeons

Applications are sought for the position of Professor and Chair of the Department of Pharmacology. We are seeking an individual with a distinguished record of accomplishment within the broadly defined area of pharmacological research who will lead the educational and research efforts of the Department. The Department of Pharmacology has an active research program, and the new Chair will have the opportunity to recruit additional faculty to expand the areas covered by the Department. The Chair will be responsible for the overall direction of an active Ph.D. program as well as the education of medical and dental students.

Applications should include a complete resume and the names and addresses of three references.

Please send replies to:

Dr. Frederick R. Maxfield, Chair  
Pharmacology Search Committee  
Department of Pathology  
Columbia University  
630 West 168th Street  
New York, NY 10032

Columbia University is an equal opportunity/affirmative action employer. Applications from women and minorities are encouraged.

**HUBBLE FELLOWSHIP PROGRAM OFFICE**  
Space Telescope Science Institute  
3700 San Martin Drive  
Baltimore, MD 21218

NSI/DECnet: 6559::HFELLOWS  
BITNET: HFELLOWS%STSCI.EDU@INTERBIT.BITNET  
INTERNET: HFELLOWS@STSCI.EDU

The Space Telescope Science Institute announces the continuation of the Hubble Fellowship Program in cooperation with astronomical institutions throughout the United States. The main objective of the Program is to provide recent postdoctoral scientists of unusual promise and ability, opportunities for research on problems (largely of their own choosing) that are related to the Hubble Space Telescope science and compatible with the interests of the host institutions. The program is open to scientists of any nationality who have earned their doctorates after January 1, 1991, in astronomy, physics, or related disciplines.

The duration of the fellowship is for a total of three years, which includes an initial appointment of two years and an extension to a third year, contingent on a positive mid-term review. Contingent on funding from NASA, up to 15 new Hubble Fellows will be supported this year by grants to United States institutions.

The Announcement of Opportunity, including the application instructions, may be obtained from the above address.

The application deadline is November 19, 1993. The new Hubble Fellow appointments are expected to begin on September 1, 1994. Minorities and women are strongly encouraged to apply.

EEQ/AA/MF/DN



# FACULTY POSITIONS CANCER CENTER

Completion of the new 125,000 sq. ft. Cancer Center is scheduled for the summer of 1994. This state-of-the-art facility will house ambulatory clinical services as well as a major basic research laboratory component. In support of our emphasis on translational research, applications are solicited for tenure track faculty positions at the Assistant, Associate and Professor levels in the following program areas:

## BIOLOGICAL RESPONSE MODIFIERS

The Program Director position is available at the rank of Professor to develop this cancer immunology program. Associate and Assistant Professor level appointments are also available.

## LYMPHOMA BIOLOGY

The Program Director position is available at the rank of Professor to develop this program. Appointments at Associate and Assistant Professor ranks are also available.

## MOLECULAR ONCOLOGY

Associate and Assistant Professor faculty positions are being recruited to contribute to this program led by Dr. Manuel Diaz.

## VIRAL ONCOLOGY

Dr. Lutz Gissmann is seeking Associate and Assistant Professor level faculty to lead projects in this program area.

## DRUG RESISTANCE

This program, led by Dr. Leonard Erickson, is seeking applications for Associate and Assistant Professor level faculty.

Interested applicants should submit a current Curriculum Vitae, three professional references, and a description of current and future research, with funding history, to the address below by **November 1, 1993.**

*Loyola University Chicago is an equal opportunity employer/educator.*



**LOYOLA  
UNIVERSITY  
CHICAGO**

**MEDICAL CENTER**

Richard I. Fisher, M.D., Director  
Leonard C. Erickson, Ph.D., Associate Director  
Loyola University Cancer Center  
Bldg. 105 - Room 3951  
2160 South First Ave., Maywood, IL 60153

## Max-Planck-Institute for Biochemistry Martinsried/Munich Research Unit to be headed by Junior Scientist

The Max-Planck-Institute for Biochemistry has an opening for a group leader position in the field of molecular structural biology.

Areas of research favored by the Institute include

- mechanisms of protein folding and assembly of macromolecules
- novel methods of structural analyses with x-ray and electron crystallography, magnetic resonance and mass spectrometry
- FTIR and the dynamics of protein structures
- near field microscopy and surface structures

The successful candidate should have several years of postdoctoral experience and an outstanding record of achievement in one of these or related research areas. The available position represents a five year appointment at a level equivalent to associate professor (C3). Appropriate laboratory space, funds for laboratory set-up and operation, and additional salaries for one Ph.D. level scientist and two technicians will be guaranteed; fellowships for postdoctoral fellows and graduate students are subject to negotiation. The group will have access to the computing center and the infrastructure of the Institute.

Candidates should submit their curriculum vitae, a list of publications, a short description of their future research objectives, and the names of three scientists familiar with the candidate's research accomplishments and scientific potential to the Managing Director of the Max-Planck-Institute for Biochemistry, Dr. G. Gerisch, D-82152 Martinsried, Germany. The application deadline is November 15, 1993.

**ROCHE**

Roche Institute of Molecular Biology

## ASSOCIATE SCIENTIST

Hoffmann-La Roche has an opportunity available at the Roche Institute of Molecular Biology for an Associate Scientist to be part of a team studying regulation of the eukaryotic cell cycle.

The qualified candidate will have a strong background in molecular biology and experience in, and proficiency with, relevant techniques for molecular analysis of DNA and RNA, subcloning and PCR. A BS/MS in Biology, Biochemistry or Molecular Biology and 2-3 years related laboratory technician experience are required. Additional experience in protein expression/purification and/or cell culture would be advantageous.

We offer an attractive salary and a comprehensive benefits package. To apply, please send resume and salary history/requirements to: **Joanna Harrington, Staffing Department JH173JG, Hoffmann-La Roche Inc., Nutley, NJ 07110-1199.** An equal opportunity employer.

**ROCHE**

**Hoffmann-La Roche**



## POSITIONS OPEN

**CHAIRPERSON, DEPARTMENT OF MEDICAL MICROBIOLOGY AND IMMUNOLOGY, COLLEGE OF MEDICINE, THE OHIO STATE UNIVERSITY.** The Department of Medical Microbiology and Immunology, College of Medicine, The Ohio State University invites both nominations and applications for the position of Department Chairperson. Deadline: October 31, 1993.

Candidates should hold the Ph.D. and/or M.D. degree, be committed to a balanced, vigorous teaching and research program, have demonstrated excellence in research and scholarly activities, and possess proven leadership qualities.

Nominations and/or applications should include curriculum vitae with bibliography and the names of at least three references. Reviews of candidates will begin November 1, 1993, and continue until the position is filled. Salary is negotiable.

Address applications to: James S. King, Ph.D., Chairperson, Medical Microbiology and Immunology Search Committee, The Ohio State University, Department of Cell Biology, Neurobiology and Anatomy, The Ohio State University, 4066 Graves Hall, 333 West 10th Avenue, Columbus, OH 43210.

The Ohio State University is an Equal Opportunity Employer.

USDA-Agricultural Research Service, Arthropod-borne Animal Disease Research Laboratory, Laramie, Wyoming, (located on the campus of the University of Wyoming) seeks an experienced scientist as a **VETERINARY MEDICAL OFFICER**, (GM-12/13/14) to do research on arboviral diseases and their animal hosts. Incumbent will develop an independent program and participate in team projects with virologists, geneticists, and entomologists. Candidates must have a D.V.M. or equivalent degree, plus one year of professional veterinary experience in the area of the position equivalent to the next lower grade level in the federal government. Applicants with a Ph.D. degree and publications in the applicable areas are encouraged to apply. Research experience in virology, microbiology, immunology, molecular biology, and pathology, and skill in surgical procedures are required. Knowledge of arbovirology, epidemiology, host immune responses, and entomology, and skill in experimental design and statistical analysis are desirable. Salary: \$38,861 to \$70,987 per annum commensurate with experience. For further information contact: Dr. Walter J. Tabachnick, Research Leader, Telephone: 307-766-3600. For application procedures/forms, call or write to: Cathleen Enuton, USDA, ARS, PD, 6305 Ivy Lane, Room 318, Greenbelt, MD 20770-1435. Telephone: 301-344-3138. Applications must be postmarked on or before December 1, 1993. An Equal Opportunity Employer.

**POSTDOCTORAL POSITION** is available immediately to study the role of heat shock proteins in the regulation of eukaryotic protein synthesis. Preference will be given to applicant with a recent Ph.D. degree in biochemistry or related fields with a strong background in molecular biology or protein chemistry. Send curriculum vitae, a brief statement of research interests, and names and telephone numbers of three references to: Dr. Robert L. Matts, Department of Biochemistry and Molecular Biology, 246 NRC, Oklahoma State University, Stillwater, OK 74078-0454. Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL POSITION** available immediately to study the role of inflammatory cytokines in the regulation of vascular smooth muscle function and vascular pathophysiology. Background in cell and molecular biology desirable. Please send curriculum vitae, a statement of research interests and the names of three references to: Debbie Beasley, Ph.D., Box 172, Department of Medicine, Tufts New England Medical Center, 750 Washington Street, Boston, MA 02111.

An Equal Opportunity Employer.

**POSTDOCTORAL POSITION** available with USDA to study the molecular biology and genetics of blister rust disease in eastern white pine. Candidates must have a Ph.D. and research experience in plant pathology and molecular biology. U.S. citizenship is required. Send résumé, publications, and names of three references to: Dr. Charles Michler or Dr. Craig Echt, USDA Forest Service, POB 898, Rhinelander, WI 54501. Telephone: (715) 362-1112. An Equal Opportunity Employer.

## POSITIONS OPEN

### FACULTY POSITION UNIVERSITY OF MARYLAND AT COLLEGE PARK

The Department of Microbiology invites applications for a tenure-track position in **prokaryotic molecular biology**. The department is particularly interested in candidates examining basic questions on the function and biogenesis of biomembranes and cell surface elements or in the application and development of ultrastructural techniques in the study of prokaryotes. The appointment rank would depend on experience and research accomplishments. The position includes highly competitive packages consisting of generous start-up funds, newly renovated laboratory space, and access to state-of-the-art core facilities. To apply, send curriculum vitae, pertinent reprints and a statement of research interests, and arrange for three letters of evaluation to be submitted to: Dr. Daniel Stein, Chair of Search Committee, Department of Microbiology, University of Maryland, College Park, MD 20742. Review of applications will begin on 10 December 1993 and continue until a suitable candidate is identified.

The University of Maryland is an Equal Opportunity/Affirmative Action Employer.

**FACULTY POSITION IN DEVELOPMENTAL BIOLOGY.** The Department of Embryology of the Carnegie Institution of Washington seeks a faculty member with a nascent or established research program in any aspect of developmental biology. The Department of Embryology is part of a nonprofit research institution (Carnegie Institution of Washington) and is affiliated with and is situated on the campus of the Johns Hopkins University in Baltimore. Applicants should send curriculum vitae, statement of research interest, and have three letters of recommendation sent to: Director, Department of Embryology, Carnegie Institution of Washington, 115 West University Parkway, Baltimore, MD 21210. An Equal Opportunity/Affirmative Action Employer.

### POSTDOCTORAL POSITION IN EXPERIMENTAL ONCOLOGY

St. Jude Children's Research Hospital  
Memphis, Tennessee

A postdoctoral position is available to participate in an ongoing research program aimed at elucidating the roles of cyclophilin- and FKBP-binding proteins in signal transduction. Current investigation focuses on the identification of novel endogenous immunophilin-ligands using the yeast two-hybrid system, and elucidation of protein function by biochemical and reverse genetic assays. Candidates with a Ph.D. and/or M.D. degree interested in joining a multidisciplinary group applying techniques of molecular biology, biochemistry, and yeast genetics to study the regulation of signal transduction in human cells should submit curriculum vitae, reprints, and names of three references to: Dr. Richard Bram, Department of Experimental Oncology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. An Equal Opportunity/Affirmative Action Employer. We provide a smoke-free environment.

### POSTDOCTORAL POSITION

Position available immediately for characterization and manipulation of antibiotic biosynthetic pathways in industrial microorganisms. Additional position for overexpression of peptide products in *E. coli*. Experience in plasmid construction, DNA sequencing, RNA quantitation essential. Biotechnology Labs are associated with the large-scale fermentation facility at Elkton, Virginia. Send résumé and names of three references to: Mr. J. Stephen Harris, Merck & Co., Inc., P.O. Box 7, Elkton, VA 22827. FAX: 703-298-4111. Merck & Co., Inc. is an Equal Opportunity Employer.

### MOLECULAR PARASITOLOGY POSTDOCTORAL

To study (a) Glycosylphosphatidylinositol (GPI) phospholipase C in metabolism of GPIs in *Trypanosoma brucei* and *Leishmania*, or (b) Mutational analysis of kinetoplast DNA replication. Molecular cloning skills required. Previous experience with parasite biology not required. Send curriculum vitae and 3 letters of recommendation to: Dr. Kojo Mensa-Wilmot, Department of Zoology, 724 BioSciences Building, University of Georgia, Athens, GA 30602.

## POSITIONS OPEN

### MOLECULAR IMMUNOLOGY JUNIOR AND SENIOR FACULTY POSITIONS AVAILABLE

The Department of Microbiology and Immunology invites applications for multiple junior and senior-level, tenure-track positions focusing on the molecular analysis of significant problems in immunology. Senior candidates should have strong records of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop high-quality, independent research programs with long-term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental and graduate students. The Department offers a high-quality intellectual environment with 80% of the faculty holding active extramural research grants.

A large Center of Excellence grant has resulted in establishment of a Molecular Resource Center within the Department featuring state-of-the-art facilities for: oligonucleotide synthesis, peptide synthesis, monoclonal antibody production, amino acid analysis, DNA sequencing, molecular graphics, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive.

Review of applications will continue until the position is filled. Applications should consist of curriculum vitae, copies of several recent publications, a brief statement of future research goals and three letters of reference to be sent to:

Dr. Terrance G. Cooper  
Department of Microbiology and Immunology  
The University of Tennessee, Memphis  
858 Madison Avenue, Room 801  
Memphis, Tennessee 38163

The University of Tennessee, Memphis is an Equal Employment Opportunity/Title IX/Section 504/ADA Employer.

**POSTDOCTORAL POSITION** available immediately in well-funded laboratory in Vancouver, Canada, to study the mechanism of dimerization of retroviral genomic RNAs. Individuals with a strong background in the biochemistry or molecular biology of RNA are encouraged to apply. Send curriculum vitae and three letters of reference to: Dr. D. Sen, Department of Chemistry, Simon Fraser University, Burnaby, B.C., Canada V5A 1S6.

**POSTDOCTORAL POSITION—PLANT MOLECULAR EPIGENETICS.** Petunia flower pigmentation patterns as model system for morphological pattern determination. Epimutable transgenes control pigmentation by "co-suppression" of endogenous homologues. Different epialleles respond to different morphological signals. Goals are to identify: (1) transgene promoter elements responsive to morphological information (2) nuclear factors mediating this response and (3) molecular basis of epimutations. Jorgensen, Phil. *Trans. Roy. Soc. Lond. B* (1993) 339:173-181. Position funded by Japanese Ministry of Agriculture thru March 15, 1996, at University of California, Davis. Rich Jorgensen, Department of Environmental Horticulture, UC-Davis, Davis, CA 95616-8587. FAX: 916-752-1819; rajorgensen@ucdavis.edu.

### POSTDOCTORAL POSITION: HUMAN MOLECULAR GENETICS

Analysis of the spontaneous mutational process in humans and animals. Projects may explore the implication of spontaneous mutation for disease causation or for evolution. The factor IX and p53 genes are the major models for study of human spontaneous germline and somatic mutation, respectively. The relationship between somatic mutation and both cancer and neurodegenerative disease is being explored with the aid of transgenic mouse system. Recent review: Steve S. Sommer, "Assessing the underlying pattern of human germline mutations: lessons from the factor IX gene," *FASEB J.* 6:2767, 1992. Applicants should submit curriculum vitae, reprints of 1 to 3 papers, and names of three references to: Steve S. Sommer, M.D., Ph.D., Department of Biochemistry and Molecular Biology, Mayo Clinic/Foundation School of Medicine, Rochester, MN 55905. Mayo Foundation is an Affirmative Action and Equal Opportunity Educator and Employer.

## BRAIN IMAGING RESEARCH OPPORTUNITIES

The Neuroimaging and Drug Action Section, Addiction Research Center, National Institute on Drug Abuse (NIDA) of the National Institutes of Health (NIH) has opportunities in the area of medical image processing for research fellows under the Intramural Research Training Award (IRTA) and/or research associates under the Postdoctoral Research Associateship Program conducted by the National Research Council (NRC). The research involves developing new modalities for analysis of medical images (PET and MRI) including image registration techniques and statistical analysis of change distributions. The applicant will work with an established PET team using components of the NIH Multimodality Image Processing System (MRIPS) to implement analysis algorithms. A Ph.D. in Physics or Electrical Engineering, with a strong background in computerized image processing is required. To qualify for the position, the applicant may have no more than five years relevant post-doctoral experience. Salary is commensurate with experience. Opportunities at NIH are open to all citizens of the United States and to foreign nationals who hold an Immigrant (Permanent Resident) Visa. The environment is smoke-free and drug-free. To apply, send a curriculum vitae, summary of research interests, publication list, and names of four scientists who can provide reference of scientific work to:

Dr. Edythe D. London, Ph.D.  
NIH, NIDA  
Addiction Research Center  
P.O. Box 5180  
Baltimore, MD 21224



NIH is an Equal Opportunity Employer

## SECTION HEAD Drug Metabolism

Wyeth-Ayerst Research, a Division of American Home Products Corporation, has an opportunity available at our pharmaceutical research facility in Princeton, New Jersey.

This position is responsible for directing and expanding the scope of the *in vitro* metabolism program and the discovery support group; which provides early data in support of drug candidate selection. Strong leadership and management skills and experience are required as well as the ability to effectively interact with discovery scientists and regulatory agencies.

Requirements include a Ph.D. in Chemistry, Pharmacology or Toxicology with extensive experience (8-12 years) in Drug Metabolism and *in vitro* techniques. Incumbent will be required to have an in-depth knowledge of *in vitro* metabolism techniques (i.e. tissue slice) and *in vitro* and *in vivo* models of drug absorption. The incumbent must also be well versed in leading edge techniques.

Wyeth-Ayerst offers an excellent compensation and benefits package in a highly professional environment. Please respond by sending your resume with salary requirements to: **Human Resources Department, Wyeth-Ayerst Research, Position #656-SC, CN 8000, Princeton, NJ 08543-8000.** An Equal Opportunity Employer M/F/D/V.



## Assistant Professors Cellular Neurobiology and Plant Population Biology

The Department of Biology of Pomona College invites applications for two tenure-track assistant professorships beginning fall 1994. Applicants should have broad training in biology with extensive training in one of the following two areas:

**Cellular neurobiology.** The neurobiologist should use cellular and/or molecular techniques to study questions of nervous system organization, function, or development. The successful candidate will teach one upper-division course each semester, one in neurobiology and one in another area of cell and molecular biology that will complement our current offerings. He/she will participate in interdisciplinary programs in Molecular Biology and Neuroscience, and must have postdoctoral experience.

**Plant population biology.** The plant population biologist will teach one upper-division course each semester, one in the area of evolution, and one in another area of interest. Preference will be given to applicants with post-doctoral experience.

Successful applicants will establish active research programs involving undergraduates; start-up funds are available. We particularly encourage applications from women and members of underrepresented groups. Appointees will demonstrate a commitment to teaching an ethnically-diverse student body in a liberal arts setting. To assure full consideration, send curriculum vitae, research plans, and statements of teaching interests including specific courses to be taught, and three letters of recommendation by 8 November 1993 to **Neurobiology Search Committee or Plant Population Biology Search Committee, Department of Biology, Pomona College, Claremont CA 91711.** (909) 621-8555, ext. 2993.

*Pomona College is an Affirmative Action/Equal Opportunity Employer.*

## THE UNIVERSITY OF ALBERTA FACULTY POSITIONS IN PULMONARY CELL AND MOLECULAR BIOLOGY

The Pulmonary and Cell Biology Research Group of the Division of Respiratory Medicine, University of Alberta invites applications for a Faculty position at the Assistant Professor level or higher. Applicants require an M.D. and/or Ph.D. degree and research training at a post-doctoral level. The successful applicant will have demonstrated outstanding potential or capability as an independent investigator and will be expected to develop an independent and dynamic research program in cellular and/or molecular biology pertaining to asthma or other aspects of respiratory health and disease. The position will be long term and will be funded through an external agency, but the incumbent will enjoy the privileges of the University Academic Rank at which the appointment is made. Remuneration will be based on salary scales at the University of Alberta appropriate to the level of appointment. Successful applicants will devote 75% of their time to research.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. Interested candidates should submit their curriculum vitae, names of three references, and an outline of their research interests and objectives to Dr. Paul Man, Director, Division of Pulmonary Medicine, The University of Alberta, Room WMC 2E4.36, Edmonton, AB T6G 2E1. The closing date is November 1, 1993.

*The University of Alberta is committed to the principles of equity in employment. The University encourages applications from aboriginal persons, disabled persons, members of visible minorities and women.*

## University of Arizona Department of Plant Sciences Head

The College of Agriculture invites applications and nominations for the position of Head of the Department of Plant Sciences. The department consists of 40 faculty members who reside on campus in Tucson and at several off-campus experiment stations located around the state. Strong innovative interdisciplinary leadership in an academic environment is being sought to lead the department in the areas of research, teaching and extension. The candidate should have established research credentials and be competitive in securing extramural grants in an area which could be considered part of a modern department of plant sciences, i.e., biochemistry, genetics, molecular and cellular biology, physiology, and agronomy/horticultural sciences. A Ph.D. in plant science, agronomy or one of the fields listed above is required. Evidence of administrative ability is essential. The successful candidate will be expected to maintain an active research program. In addition, a strong appreciation for cooperative extension is essential. The Department of Plant Sciences, in addition to serving the agricultural industry of the state of Arizona, has extensive collaborative interactions with faculty in the College of Arts and Sciences. A major strength of the University of Arizona is strong campus-wide cooperation in the biological sciences.

Applicants should submit a current curriculum vitae, the names, addresses and telephone numbers of six references, and a statement of qualifications and goals to Dr. Roy Ax, Chair, Plant Sciences Search Committee, Department of Animal Sciences, 205 Shantz Building, University of Arizona, Tucson, AZ 85721. The committee will begin considering applications on October 1, 1993 but will accept applications until December 15, 1993 or until suitable candidates have been identified. This appointment will be available April 1, 1994.

The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer. Women and minorities are especially encouraged to apply.



The Gillette Medical Evaluation Laboratories, a division of the Gillette Company, is seeking a scientist to head our in vitro alternatives development program.

## Cell Biologist

This program is currently researching in vitro methods in ocular toxicology but will also explore other areas of Company interest. Its mission is to develop reliable procedures that can be used to test Company products for medical safety. Responsibilities will include coordinating ongoing activities and proposing, planning and executing new research projects. This is a hands-on position requiring excellent communication skills and the ability to publish and present scientific data in various forums.

Qualified candidates will have a Ph.D. in cell biology/cell physiology and proficiency in techniques for the immortalization and characterization of new cell lines. A successful track record of collaborations with other investigators is desired. Experience in epithelial cell biology, mechanisms of inflammation and immunology is a plus.

The Gillette Medical Evaluation Laboratories is located in a modern facility, outside of Washington, D.C., in an area rich in government, academic, and industrial scientific laboratories. Gillette offers excellent compensation, a generous benefits package and an opportunity for career growth. For consideration, please submit your resume to:



**Gillette Medical Evaluation Laboratories**

**401 Professional Drive  
Gaithersburg, MD 20879**

An Equal Opportunity Employer

## Principal Scientists

IOLAB Corporation, a Johnson & Johnson Company and leader in ophthalmic research and development, is currently expanding its operations in the area of ocular pharmacology. We are seeking superior candidates for the position of Ocular Pharmacologist to work in our Pharmacology/Toxicology facility, located in Southern California.

Under the supervision of the Director of Pharmacology/Toxicology, you will be responsible for research activities in the Glaucoma Ocular Pharmacology Program. This will include the development of model systems and assays to test anti-glaucoma compounds.

This position requires a Ph.D. in Pharmacology or related field, with a minimum of 3 years pharmacology experience in industry. Ocular pharmacology experience is preferred, but cardio-vascular or central nervous system is acceptable. Candidates must possess strong written and verbal presentation skills for internal and external dissemination of scientific data.

We are an equal opportunity employer and take pride in our commitment to diversity in staffing. We encourage women, minorities, veterans and disabled individuals to apply. For consideration, submit your resume to: **Human Resources, IOLAB Corporation, 500 Iolab Drive, Claremont, CA 91711.**



a Johnson & Johnson company

## PHYSICIAN RESEARCH DIRECTOR

Excellent opportunity to be the Medical Director of a clinical research program for the person capable of initiating and managing a research program limited to women's diseases. You will be associated with one of the largest nonprofit women and infants' specialty hospitals with a newly established research division. Researcher must have demonstrated success in receiving grants and contracts with NIH or other federal agencies. Opportunities exist to collaborate with other researchers in the region including New Orleans, Houston, and Birmingham, as well as on-going research projects with Bowman-Gray and other institutions. Live in a university city of 450,000 with many cultural amenities, other major research institutions and mild winters. Please submit curriculum vitae, a statement of research background and interests, a list of projects completed with sources of funding and dollar value, salary expectation, and date of availability. Compensation package attractive and flexible. Please respond by December 15 to: Phyllis Greenblatt, Research Director, Women's Hospital, Post Office Box 95009, Baton Rouge, Louisiana 70895-9009.

*Equal Opportunity Employer*

## W. M. Keck Foundation Graduate Fellowships University of Colorado at Boulder

The University of Colorado at Boulder and the Center for the Study of Earth from Space (CSSES)/CIRES are offering two fellowships for the academic year 1994-1995 to first-year graduate students with degrees or strong backgrounds in physics, mathematics, or chemistry to pursue studies in interdisciplinary earth sciences in the Departments of Geological Sciences, Geography, or Environmental, Population, and Organismic Biology. Applicants must have a strong analytical training, proven scholarship, and demonstrated interest in pursuing a Ph.D. with a focus in global change research. Research should address broadscale questions from a theoretical point of view or experimentally with techniques such as remote sensing.

Stipends include tuition and half-time financial support for 12 months. Applications for entrance to the graduate program and for the W.M. Keck Foundation Fellowships should be addressed to one of the above departments at the University of Colorado at Boulder, Boulder, Colorado 80309. The deadline for receipt of applications is January 15, 1994.

For further information, address inquiries to: Professor Alexander F. H. Goetz, Director, Center for the Study of Earth from Space, Campus Box 449, University of Colorado at Boulder, Boulder, CO 80309-0449.

The University of Colorado, Boulder, has a strong institutional commitment to the principle of diversity. In that spirit, we are particularly interested in receiving applications from a broad spectrum of people including women, members of ethnic minorities and disabled individuals.

## THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

invites applications for the post of  
**AGRICULTURAL INDUSTRIES OFFICER**  
(Biotechnology)  
at its Headquarters in Rome - Italy

**Responsibilities:** To plan, coordinate and monitor activities in small-scale agro-industries with a particular emphasis on biotechnology, renewable energy, and residue utilization; to advise Member Countries regarding needs in related technical areas and to provide required technical input to relevant activities and technical backstopping of field projects.

**Requirements:** University degree in related science and technology including biotechnology and/or renewable energy. At least 7 years' progressively responsible professional experience with national or international organization or industry in a related technical field. Working knowledge of English or French.

**Benefits:** The post carries out a net salary per year (inclusive of a variable element for post adjustment) from US\$53,134 to US\$66,627 (without dependents) and US\$57,132 to US\$72,016 (with dependents). Other benefits of the International Civil Service.

Please send detailed Curriculum Vitae no later than 30 November 1993 quoting **VA 389-AGS** to: Central Recruitment, FAO, Via delle Terme di Caracalla, 00153 Rome, Italy, Telex 610191 FAO I - Telefax 57973152.

## Postdoctoral Research Fellow Neurological Disorders

The Neuroscience Pharmacology Department of PARKE-DAVIS Pharmaceutical Research Division, Warner-Lambert Company, seeks a self-motivated individual to study the structure and function of metabotropic glutamate receptors.

In addition to a PhD, candidates should have a sound background in both molecular and cell biology in order to clone and stably express metabotropic glutamate receptors for in vitro experiments and to perform site-directed mutagenesis studies. They should have a strong desire to learn biochemical techniques (e.g. receptor binding and measurement of second messengers), and must possess good communication skills and the ability to work in a team-oriented setting.

Interested individuals should send their resume and list of references to **Box JDM-98, Human Resources Department, PARKE-DAVIS Research Division, Warner-Lambert Company, 2800 Plymouth Road, Ann Arbor, MI 48105. "Smoke-Free Work Environment"**



"Equal Opportunity  
in Action"

## CELL/MOLECULAR BIOLOGIST

An Assistant/Associate Professor position is available in the Department of Cell Biology and Anatomy at Cornell University Medical College. The candidate should establish a strong research program in epithelial or neuronal cell or developmental biology, including areas such as intracellular signalling, protein sorting, organelle biogenesis, adhesion, transformation and epithelial-mesenchymal interactions. Excellent space and start-up resources are available. Numerous opportunities for collaborations exist with basic science and clinical faculties at New York Hospital-Cornell Medical Center and with investigators at neighboring institutions, Memorial Sloan-Kettering Cancer Center and the Rockefeller University. Teaching in one of the major medical and graduate courses is a responsibility of this position.

Interested applicants should send a C.V. statement of interests and three letters of reference to: **Enrique Rodriguez-Boulton, Chairman of Search Committee, Department of Cell Biology and Anatomy, Cornell University Medical College, 1300 York Avenue, New York, NY 10021. Fax: 212-749-5360. E-mail: Boulton@med.Cornell.edu. Deadline for application submission: November 15, 1993.** Cornell University Medical College is an equal opportunity employer. Under represented minority applicants are encouraged.

CORNELL UNIVERSITY  
MEDICAL COLLEGE



## THE NEUROSCIENCES INSTITUTE La Jolla, California

THE NEUROSCIENCES INSTITUTE (NSI), AN INDEPENDENT not-for-profit organization at the forefront of research on the brain, invites applications for positions in theoretical and experimental neurobiology. The NSI is also the home of the Neurosciences Research Program and serves as an international meeting place for neuroscientists; Fellows have opportunities to interact with visitors from many institutions worldwide. The NSI is now located on the campus of The Scripps Research Institute in La Jolla, California, where new buildings will be completed in the autumn of 1994.

### THEORETICAL NEUROBIOLOGY

**A**PPPLICATIONS ARE INVITED FOR POSITIONS AS INSTITUTE Fellow in Theoretical Neurobiology. Since 1987, the NSI has had a research program dedicated to developing biologically based, experimentally testable theoretical models of neural systems. Current projects include large-scale simulations of neuronal networks, the design of behaving automata, and detailed formulations of biologically based models of perceptual systems. Advanced supercomputer facilities are available. Institute Fellows will be encouraged to interact with Fellows in Experimental Neurobiology.

Applicants should be at the postdoctoral or assistant professor level with strong backgrounds in experimental or theoretical neuroscience or related fields. Experience in computer modeling is especially welcome.

### EXPERIMENTAL NEUROBIOLOGY

**A**PPPLICATIONS ARE INVITED FOR POSITIONS AS SENIOR Fellow and Junior Fellow in Experimental Neurobiology. The NSI is beginning a research program in experimental neurobiology designed to increase understanding of brain process at several organizational levels from the molecular to the cognitive. After completion of new NSI laboratory facilities in the autumn of 1994, research will be carried out in such areas as molecular biology, cellular neurobiology, pharmacology, neuroanatomy, functional brain imaging, and psychophysics. Fellows in Experimental Neurobiology will be expected to take advantage of opportunities for scientific exchanges with Fellows in Theoretical Neurobiology.

Applicants should be at the assistant professor (Senior Fellow) or postdoctoral (Junior Fellow) level and should have backgrounds in experimental neurobiology. Senior Fellows will be provided with adequate financial support to equip laboratories and maintain ongoing independent research programs. Starting dates for these positions will be autumn 1994 or thereafter.

**A**LL FELLOWS WILL RECEIVE STIPENDS APPROPRIATE TO their qualifications and experience. Candidates should send a short statement of research interests, a curriculum vitae, and the names of three references to: **Dr. Gerald M. Edelman, Director, The Neurosciences Institute, 3377 North Torrey Pines Court, La Jolla, California 92037.**



## POSITIONS OPEN

**TWO POSTDOCTORAL POSITIONS** in Biochemistry and Molecular Biology are available immediately to work on flavonoid prenylation in relation to plant disease resistance. We desire candidates with experience in enzyme purification, especially with membrane-associated enzymes, and molecular biology. Candidates should submit curriculum vitae, related publications, and the names, addresses and telephone numbers for three references to: **Dr. P. Gulick, Department of Biology, Concordia University, 1455 de Maisonneuve Boulevard West, Montreal, Quebec, Canada, H3G 1M8. Telephone: (514) 848-3407, FAX: -3399.**

**POSTDOCTORAL POSITION** to study the molecular genetics of DNA replication and the mammalian cell cycle. Epstein-Barr virus sequences and immunoglobulin, globin, *myc* and ribosomal RNA gene families are being used as model systems both *in vivo* and *in vitro* to study cell cycle regulation of DNA replication. Other projects include the role of cell cycle checkpoints in regulating DNA replication. Apply by mail and a FAX copy to: **Dr. Carl Schildkraut, CH 416, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461. FAX: (718) 829-7619. Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available immediately to work on a multidisciplinary approach to the Ah receptor, a novel ligand binding transcriptional activator (see Burbach, K. et al., *Proc. Natl. Acad. Sci.* 89:8185-8189, September 1992). Send curriculum vitae and names of two or three references to: **Dr. Alan Poland, McArdle Laboratory for Cancer Research, University of Wisconsin-Madison, Madison, WI 53706. FAX: 608-262-2824. Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL POSITIONS IN BACTERIAL PATHOGENESIS

Two postdoctoral positions available immediately to study the cellular and molecular pathogenesis of *Salmonella typhi* and *Shigella flexneri*. Available projects include: coordinate regulation of virulence gene expression; cell surface expression and secretion of virulence gene products; identification, characterization, and cloning of genes essential for bacterial invasion of mammalian cells. Experience in molecular biology and/or bacterial molecular genetics is required. This person will be an employee of the Henry M. Jackson Foundation. Interested individuals should send curriculum vitae and a list of references to: **Dr. Eleanor S. Metcalf or Dr. Anthony T. Maurelli, Department of Microbiology, 4301 Jones Bridge Road, Uniformed Services University of the Health Sciences, Bethesda, MD 20814-4799. Equal Opportunity Employer.**

### RESEARCH ASSOCIATE Molecular Neurobiology/Mouse Genetics

**POSTDOCTORAL POSITION** available to study molecular neurobiology of circadian rhythms using a novel clock mutant in the mouse. Ph.D. in molecular genetics and experience with positional cloning or transgenic mice desirable. Send curriculum vitae, research interests and 3 letters of recommendation to: **Dr. Joseph S. Takahashi, Department of Neurobiology & Physiology, Northwestern University, 2153 North Campus Drive, Evanston, IL 60208. Telephone: (708) 491-4598. Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION

Position available in the laboratory of Dr. John Krupinski at the Weis Center for Research in Danville, Pennsylvania. The successful applicant will have a Ph.D. in biochemistry, cell biology, or pharmacology with experience in molecular biology. The project will involve the expression and characterization of novel forms of adenylyl cyclase (see *J. Biol. Chem.* 267:24858-24862). Emphasis will be placed on determining those structural features of the adenylyl cyclases responsible for mediating unique physiological effects.

The Weis Center is a well-equipped, modern research facility in a semi-rural environment. Competitive salary and fringe benefits are available. Please send curriculum vitae with the names and telephone numbers of three references to: **Geisinger Human Resources (JK), 100 North Academy Avenue, Danville, PA 17822-1529. Equal Opportunity Employer, M/F/H/V.**

## POSITIONS OPEN

### POSTDOCTORAL POSITIONS

Postdoctoral positions available to join ongoing research programs in: (1) Chemical-induced alteration of sulfation, and (2) Function and regulation of metallothionein. Position to begin anytime between December 1, 1993, and June 1, 1994. Please send curriculum vitae and three references preferably before November 1, 1993, to: **Curtis Klaassen, Ph.D., Department of Pharmacology and Toxicology, University of Kansas Medical Center, Kansas City, KS 66160-7417. The University of Kansas is an Affirmative Action/Equal Opportunity Employer.**

### HARVARD UNIVERSITY BULLARD FELLOWSHIPS IN FOREST RESEARCH

Each year Harvard University awards a limited number of Bullard Fellowships to individuals in biological, social, physical and political sciences to promote advanced study, research or integration of subjects pertaining to forested ecosystems. The fellowships, which include stipends up to \$30,000, are intended to provide individuals in mid-career with an opportunity to utilize the resources and to interact with personnel in any department within Harvard University in order to develop their own scientific and professional growth. In recent years Bullard Fellows have been associated with the Harvard Forest, Department of Organismic and Evolutionary Biology and Kennedy School of Government and have worked in areas of ecology, tree physiology, forest management, policy and conservation. Fellowships are available for periods ranging from four months to one year and can begin at any time in the year. *Applications from international scientists, women and minorities are encouraged.* Fellowships are not intended for graduate students or recent postdoctoral candidates. Further information may be obtained from: **Committee on the Charles Bullard Fund for Forest Research, Harvard University, Harvard Forest, P.O. Box 68, Petersham, MA 01366-0068 USA. Annual deadline for applications is February 1.**

### POSTDOCTORAL FELLOW/ RESEARCH FACULTY SCHOOL OF BIOLOGICAL SCIENCES UNIVERSITY OF MISSOURI-KANSAS CITY (UMKC)

A position, renewable for up to 3 years, is immediately available to study structures and interactions of proteins and nucleic acids in viruses. Objectives include development of UV-resonance Raman spectroscopy as a probe of structure and dynamics in supramolecular assemblies. English proficiency is required, as some supervision of graduate students is expected. Please send curriculum vitae and have three letters of reference forwarded to: **Dr. George J. Thomas, Division Head, School of Biological Sciences, University of Missouri, Kansas City, MO 64110. (UMKC is an Equal Opportunity/Affirmative Action Employer.)**

### FELLOWSHIP IN HUMAN BEHAVIORAL PHARMACOLOGY

**POSTDOCTORAL FELLOWSHIP** is available at Johns Hopkins University School of Medicine in human behavioral pharmacology research related to substance abuse. Our laboratory has an ongoing program of research characterizing the behavioral pharmacology of benzodiazepine and non-benzodiazepine anxiolytic/sedatives, caffeine and cocaine. Studies in normal subjects and drug abusers are investigating the reinforcing, discriminative stimulus, physical dependence-producing and performance-improving/enhancing effects of these drugs. The fellow will be trained in relevant procedures and will contribute to the clinical research program. The training program is part of a clinical and preclinical training program in the behavioral pharmacology of abused drugs and there are opportunities to participate in related preclinical research. Ph.D., research experience, *U.S. citizenship or permanent residency* are required by PHS policy. Send letter of interest, curriculum vitae and telephone numbers of three references to: **Roland Griffiths, Ph.D., BPRU, Behavioral Biology Research Center, Johns Hopkins Bayview Research Campus, 5510 Nathan Shock Drive, Baltimore, MD 21224. Telephone: (410) 550-0034. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**RESEARCH ASSISTANTSHIP** immediately available at a postdoctoral level in fish nutritional biochemistry to investigate amino acid requirement. Knowledge of HPLC techniques essential. Contact: **Dr. K. Dabrowski, School of Natural Resources, Ohio State University, 2021 Coffey Road, Columbus, OH 43210, U.S.A. Telephone: (614) 292-4555.**

**RESEARCH ASSISTANT**—Maintenance of stock *Drosophila* and bacterial cultures for experimental studies; conduct mutagenesis studies in *Drosophila* and microbial test systems; perform research in carrying out bioassay-guided extraction, isolation and characterization of genotoxic plant natural products and determine their mutagenic effect in *Drosophila* and bacteria; collection of experimental data and analyses of genetic studies; carry out routine lab duties such as media preparation, preparation of biochemical solutions and reagents, and gel electrophoresis, using knowledge of bioanalytical techniques like centrifugation, spectrophotometry, and handling and use of hazardous chemicals essential for experimental work. Must have Ph.D. in Microbiology. Research background must evidence ability in: *in vitro* and *in vivo* evaluation of plant-derived/based formulations for antimicrobial activity; Microbiological methods for evaluating antibacterial and antiprotazoal chemotherapeutics; Chromatographic techniques for isolation of bioactive natural products, such as Vacuum Liquid Chromatography and Centrifugally Accelerated Chromatography (Chromatotron); Characterization of bioactive natural products by spectrometric methods such as Nuclear Magnetic Resonance and Mass Spectrometry; Aseptic culture techniques; Performance of mutagenesis assays in bacterial systems, especially Ames assay. \$23,951 per year, 40 hours per week, 8:00 am to 5:00 pm. Résumé to: **M. Thomas, Alabama State Employment Service, P.O. Box 428, Huntsville, AL 35804-0428. Job Order Number AL 4019049.**

### SURGICAL CRITICAL CARE

The Department of Surgery at Duke University Medical Center is seeking to hire a **RESEARCH ASSOCIATE** or **RESEARCH SCIENTIST** to conduct studies related to the molecular mechanisms in critical illness and sepsis. Applicants should have a strong background in molecular biology and microbiology. They should have expertise in recombinant DNA technology, Southern, Northern and Western analyses, PCR techniques for the evaluation of DNA and messenger RNA, and tissue and bacterial culture. This individual will interact with other basic scientists and clinicians involved in basic and clinical studies. Additionally, this individual would work closely with and help direct research fellows in the basic laboratory. Contact: **Dr. R. Lawrence Reed at (919) 681-5080. Duke University is an Equal Opportunity Employer.**

The Anatomy Department of the Medical College of Ohio is opening a search for a tenure-track or tenured **NEUROBIOLOGIST** studying neural organization at the molecular, cellular, or system level. Applicants for an assistant professorship should be able to demonstrate an ability to establish an independent and funded research program. Applicants for more senior appointments should have an ongoing, funded program. Teaching responsibilities will be in Histology. The Medical College and the Department of Anatomy offer freedom of time to pursue research, excellent core facilities, very competitive salaries, and generous start-up funds. Forward curriculum vitae, a brief statement of research plans, and the names of 3 to 4 references by **JANUARY 1, 1994, to: John T. Wall, Faculty Search Committee, Department of Anatomy, Medical College of Ohio, Toledo, OH 43699-0008. Equal Opportunity Employer.**

The Institute of Genetics and Microbiology of the University "Paris Sud" (Associated to CNRS) will have space for two scientists wishing to develop two small research groups. This space will become available during 1994. Research at the IGM is focused on the utilisation of eucaryotic and procaryotic microbial models to study basic problems of biology. While we would strive to maintain this approach, all high-quality candidatures are welcome. Candidates, especially those wishing to apply to an ATIP program (CNRS program for young scientists) in connection with this offer should contact immediately.

Contact: **Jean-Luc Rossignol, IGM, Bât 400, Université "Paris Sud", 91405 Orsay cedex, France. Téléphone: 33.1.69417014, Télécopie: 33.1.69416678.**

## Tampa Bay Research Institute Laboratory Director/Professor

Tampa Bay Research Institute of St. Petersburg, Florida, and Salem-Teikyo University of Salem, West Virginia, announce the development of a joint Graduate Program in Molecular Biology/Biotechnology. Currently, several senior positions as Laboratory Directors and at the Associate or Professor levels are considered.

The focus of the research will be in the study of human virus latency with emphasis using molecular biology approach and antiviral therapy. The area of signal transduction and oncogenes will also be considered.

Salem-Teikyo University, already committed to strengthen its Undergraduate training in Molecular Biology/Biotechnology, is establishing a Graduate Program to be implemented in the Fall of 1993. Incumbent must have demonstrated communication skill and ability to teach at the graduate level.

Successful candidates will have their research programs located in Florida and will teach one course per year at STU. Joint appointments at the Tampa Bay Research Institute are expected for successful candidates.

Tampa Bay Research Institute is based in a modern facility with excellent individual laboratory and office space, and centralized facilities including a Biotechnology Service Laboratory, transgenic mice and in-house DNA sequence database.

Investigators will enjoy complete freedom to pursue their research goals. While junior candidates will be considered, individuals with ongoing, active programs are encouraged to apply.

Applicants should have a Ph.D. or equivalent. Interested individuals should send curriculum vitae, list of publications, a short statement of research achievements, and names and addresses of three referees to the Chairman, Search Committee, Tampa Bay Research Institute, 10900 Roosevelt Boulevard, FL 33716.

## CELL BIOLOGIST

SmithKline Beecham Pharmaceuticals, a world leader in pharmaceutical research, has an exciting, new opportunity for a Molecular Biologist to join its expanding research team.

The selected individual will establish and conduct an independent research program in the molecular and cellular mechanisms of chronic renal disease. The successful candidate will have a Ph.D. in Cell Biology, Molecular Pharmacology, Biochemistry or related discipline with two to eight years of relevant postdoctoral and/or industrial experience. A strong record of scientific publications, superior oral/written communication skills, and a high level of motivation and organization skills are also required.

Our state-of-the-art research facility is located in suburban Philadelphia. We offer a competitive compensation/benefits/relocation package, as well as a stimulating and challenging work environment based on creativity, commitment and teamwork. For confidential consideration, please submit your C.V. and the names of three references to: SmithKline Beecham Pharmaceuticals, Employment Administrator, #L046, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/D/V.



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## FACULTY POSITIONS HOPE COLLEGE MOLECULAR BIOLOGIST AND FUNCTIONAL MORPHOLOGIST

Hope College has two tenure-track positions open in biology beginning in August, 1994. Appointment is expected to be at the **ASSISTANT PROFESSOR** level. Applicants must have a strong interest in undergraduate liberal arts education.

**1. MOLECULAR BIOLOGY.** The successful candidate will teach genetics and participate in the general introductory biology courses and appropriate upper level courses that include molecular perspectives.

**2. FUNCTIONAL VERTEBRATE MORPHOLOGY.** The successful candidate will teach human anatomy and participate in both introductory biology courses and an integrated vertebrate biology courses.

In addition, both appointees will be expected to seek extramural funding to support an active research program which will involve undergraduates. Postdoctoral experience is preferred.

Hope College is a distinguished liberal arts college with an enrollment of approximately 2500 and a faculty of more than 140. The College is affiliated with the Reformed Church in America. Hope College maintains a strong tradition in "teaching through research" in the sciences.

Qualified applicants should arrange to have a curriculum vitae, transcripts, a statement of teaching competencies and philosophy, an outline of proposed research, and three letters of recommendation forwarded as soon as possible to:

**Dr. Kathy Winnett-Murray (for functional morphology position)**  
or

**Dr. David Netzly (for molecular biology position)**  
Department of Biology  
Hope College  
35 East 12th Street  
Holland, MI 49423

Review of applications will begin November 15, 1993.

*Hope College complies with Federal and State requirements for non-discrimination in employment. Applications are strongly encouraged from persons belonging to groups under represented in science.*

## The George Washington University

The Department of Biological Sciences of the Columbian College and Graduate School of Arts and Sciences invites applications for the position of:

### RONALD B. WEINTRAUB RESEARCH PROFESSOR OF BIOLOGICAL SCIENCES

This tenure-track position will be filled at the Assistant Professor level by a scientist using phylogenetic systematics and vertebrates to investigate questions in evolutionary biology.

Candidates with postdoctoral experience will be preferred and should be prepared to develop a funded research program involving graduate and undergraduate students. In addition to training students in research, the Ronald B. Weintraub Research Professor will offer one or two graduate courses per year. Substantial start-up funds are available. The starting date for the position will be July 1, 1994.

Please send a letter of application describing your research goals for the next five years as well as your teaching interests, a curriculum vitae and three letters of reference to:

**Randall Packer, Chairman**  
Department of Biological Sciences  
307 Lisner Hall  
the George Washington University  
Washington, DC 20052

In order to assure consideration for this position, applications should be received by November 12, 1993.

*The George Washington University is an Equal Opportunity, Affirmative Action Employer. Applications from women and minorities are strongly encouraged.*

**LECTURER**  
**Physiology**  
**Department of Biology**  
**University of Michigan**

A nontenure-track lecturer position in the Department of Biology at the University of Michigan is available. The initial term of appointment is for one semester. The department is seeking authorization to convert this to a 3-year lectureship which we anticipate will be on a 12-month basis and will be renewable, based upon satisfactory performance. The appointee will organize, coordinate and supervise a one-semester laboratory course in introductory animal physiology. To be considered, applicants must have a Ph.D. degree in biology, teaching experience in undergraduate biology, and research experience in animal physiology including publications. This position is available immediately, with instructional duties to begin January of 1994. The deadline for receipt of applications is November 1, 1993. Applicants should provide curriculum vitae and have three letters of recommendation sent to:

Chair, Temporary Physiology Lecturer  
Search Committee  
Department of Biology  
The University of Michigan  
Ann Arbor, MI 48109-1048

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**GRADUATE PROGRAM**  
**CELL AND MOLECULAR BIOLOGY**  
**(INTER-DISCIPLINARY)**

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- THE HUMAN GENOME AND GENE THERAPY
- DEVELOPMENTAL BIOLOGY AND GENETICS
- CELL CYCLE, GROWTH CONTROL AND CANCER BIOLOGY
- MOLECULAR VIROLOGY, IMMUNOLOGY AND AIDS
- STRUCTURAL AND COMPUTATIONAL BIOLOGY
- SIGNAL TRANSDUCTION AND MEMBRANE BIOLOGY
- LIPID METABOLISM AND CARDIOVASCULAR BIOLOGY

The Graduate School at BAYLOR COLLEGE OF MEDICINE has created a graduate program in CELL AND MOLECULAR BIOLOGY stressing basic research in the above areas. Students accepted for studies leading to the Ph.D. will receive financial support. For further information please contact Dr. Savio L. C. Woo, Director at the following address:

Graduate Program in Cell and Molecular Biology  
Baylor College of Medicine  
The Graduate School  
One Baylor Plaza Room S-101  
Houston, Texas 77080  
Phone: (713) 798-6557

**MINORITY APPLICANTS ARE ENCOURAGED**

**DIRECTOR**

**Boston Biomedical Research Institute**

Boston Biomedical Research Institute invites applications and nominations for the position of Institute Director. Applicants should have a distinguished scientific research record, demonstrated administrative leadership, and should be willing to participate in the fund-raising and developmental programs of the Institute.

Located in the heart of historical Boston the Institute is a 25-year old internationally known, independent, non-profit, basic biomedical research organization. With a research faculty of 24 principal investigators, its major research interests include muscle biology, cell motility, control of cell growth and gene expression, and membrane structure and function.

In addition to the overall responsibility as Director of the Institute, the successful candidate will conduct a vigorous research program that builds on or complements ongoing research at the Institute. Interested individuals should send a letter and curriculum vitae to:

Mr. Edgar G. Davis  
Chairman of the Search Committee  
Boston Biomedical Research Institute  
20 Staniford Street  
Boston, MA 02114.



*Boston Biomedical Research Institute, an Equal Opportunity Employer, is dedicated to basic biomedical research, with a view to promoting the understanding, treatment and prevention of human diseases.*

**FACULTY POSITION: CANCER RESEARCH -  
TRANSGENIC MICE**

The Department of Molecular Genetics at the Ohio State University, in collaboration with the OSU Comprehensive Cancer Center, is searching for a tenure-track faculty member at the Assistant, Associate or Full Professor level. We are interested in highly qualified applicants who are conducting basic investigations in the general field of cancer research and who use transgenic mice as the experimental system. The faculty member will be housed in a spacious, newly renovated laboratory in the Biological Sciences Building and will have excellent access to the recently completed transgenic mouse facility located at the OSU Biotechnology Center. The transgenic facility includes state-of-the-art equipment as well as technical support.

A generous recruiting package is available, including a highly competitive, hard money salary, as well as substantial funds for equipment purchase and initial operating expenses. The Ohio State University is in the process of a major expansion in Molecular Biology and Biotechnology, and a substantial number of additional positions are anticipated in the future. Research with transgenic mice is one of the areas targeted for expansion.

The Ohio State University is the flagship institution of the state's higher education system. It is located in the state capital, Columbus, which is a growing, yet highly affordable metropolitan area of about 1.3 million people. Columbus has been ranked by Newsweek as one of the country's best places to live and work.

Applications should include a detailed curriculum vitae, a description of research experience, a statement of the nature of the planned independent research program, and the name, address and telephone number of each of four scientists who have agreed to serve as references. Applications will be accepted until suitable candidates are hired, but recruiting is scheduled to begin in earnest by January 1994. Information about our Department can be obtained by calling our office at 614-292-8084.

Applications should be sent to: Dr. Lee Johnson, Molecular Genetics Search, Department of Molecular Genetics, The Ohio State University, 484 W. 12th Avenue, Columbus, OH 43210.

*The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Qualified women, minorities, Vietnam-era Veterans, disabled veterans and the disabled are encouraged to apply.*





THE HONG KONG  
UNIVERSITY OF SCIENCE  
AND TECHNOLOGY  
Department of Biochemistry

#### FACULTY POSITIONS

The Hong Kong University of Science and Technology, established in April 1988, is a publicly-funded research university with a mandate to teach, to do research, to nurture talents and to facilitate technological development in Hong Kong. The medium of instruction is English. The Department of Biochemistry invites applications for **Lecturer** positions in all areas of biochemistry, protein-NMR, as well as the allied areas of microbiology, cell biology and pharmacology. Applicants should have a Ph.D. in Biochemistry or related discipline with at least one year of postdoctoral experience. Generous fringe benefits include medical and dental benefits, annual leave, and children's education allowances. Air passages and housing are also provided where applicable. Salary will be in the range of US\$48,400 to US\$80,800 (exchange rate: US\$1 = HK\$7.8) per annum depending on qualification. Initial appointments will normally be on a three-year contract which is renewable subject to mutual agreement. A gratuity of an amount equal to 25% of the total basic salary drawn will be payable upon successful completion of contract. Approved sabbatical leave will be at full salary. Applications/nominations should be sent with a C.V., together with the names and addresses of three referees, to **Professor J. Tze-Fai Wong, Head of Department of Biochemistry, HKUST, Clear Water Bay, Kowloon, Hong Kong (Fax: 852 3583978)** by 31 December 1993, but the search will continue until suitable appointments have been made.



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Candidates should have strong practical experience in molecular biology or a related field. Sales experience is beneficial. Sales Representatives will attend an extensive training program at our beautiful coastal location in La Jolla, California.

We offer an excellent company benefits package, including a 401(K) Plan, and a competitive salary and incentive program. All qualified candidates forward resume of qualifications to: **Stratagene, Attn: Professional Staffing, 11099 N. Torrey Pines Rd., La Jolla, CA 92037. AA/EOE.**



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## POSITIONS OPEN

**POSTDOCTORAL RESEARCH POSITION** immediately available to participate in the cloning and characterization of *Arabidopsis* genes conferring resistance to geminivirus infection. Candidates should have a strong background in genetics and molecular biology. Interested individuals should send curriculum vitae and 3 letters of recommendation to: **Keith R. Davis, Biotechnology Center, 1060 Carmack Road, Columbus, OH 43210-1002. Equal Opportunity Employer.**

The Human Gene Therapy Research Institute (HGTRI) at Iowa Methodist Medical Center is actively recruiting **M.D. and Ph.D. SCIENTISTS** of various experience levels with expertise in hematology/oncology, infectious diseases, genetics, molecular biology, surgical oncology and neurosurgery to participate in the development and initiation of human gene therapy clinical trials. The HGTRI was established in 1993 under the direction of **Dr. Kenneth W. Culver** and contains more than 12,400 square feet of laboratories and clinical facilities. Iowa Methodist Medical Center is a 710-bed non-profit tertiary care hospital located in Des Moines, Iowa. Academic affiliates with Iowa State University and the University of Iowa provide an ideal environment for the efficient development of gene therapy as a new treatment modality and clinical discipline. Please forward a copy of your curriculum vitae to: **Dr. Kenneth W. Culver, Human Gene Therapy Research Institute, Iowa Methodist Medical Center, 1415 Woodland Avenue, Des Moines, IA 50309.**

California Department of Health Services, Genetic Disease Branch, announces an examination to fill a position for **BIostatistician IV**. This position is responsible for designing and evaluating statistical assessment of risks for hereditary disorders. The interrelation of physiological variables with biochemical analytes will be used to develop algorithms developed for maximizing screening efficiency. A doctoral degree in biostatistics or a closely related field and eighteen months of teaching/research experience in Biostatistics (postdoctoral) is required. Salary is \$3827 to \$4618 monthly. The position will be located in Berkeley, California. Obtain an application form and announcement for a Civil Service Examination by contacting: **Maxie Spears at (510) 540-3117 [TDD (916) 657-3042]**. Applications for this examination must be postmarked no later than December 1, 1993. *California State Government is an Equal Employment Opportunity/Affirmative Action Employer.*

## CINVESTAV-IPN MEXICO

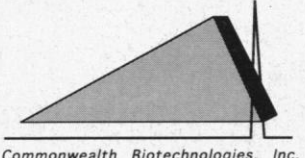
### RESEARCH SCIENTISTS IN MOLECULAR BIOLOGY AND GENETICS (Virus, Parasites, Yeast and Mammalian Cells)

Positions will be available in the Department of Genetics and Molecular Biology by January and September 1994. A Ph.D. degree or foreign equivalent is required. Applications from interested persons must include personal curriculum vitae, a brief statement of research interests and experience, names, addresses and telephone numbers of three references. Direct application material to: **Dr. Maria de Lourdes Muñoz, Head of Genetics and Molecular Biology, Av. IPN No. 2508, C.P. 07360, Mexico, D. F. Telephone: 754-02-00 Extension 5346 FAX: 752-63-30.**

## ANNOUNCEMENTS

**PROPOSALS SOUGHT TO DEVELOP IMPROVED METHODS OF CONTRACEPTION.** The *Contraceptive Research and Development (CONRAD) Program* is seeking applications to develop contraceptive methods that are more efficacious, safe, and acceptable. These include, but are not limited to: improved barrier methods, especially female-controlled methods that also prevent STD's; systemic male methods; vaccines; reversible and/or non-surgical sterilization technology; drug delivery systems, including steroid-releasing devices; and methods for lactating women. Program focus is on initial phases of clinical testing and product-oriented preclinical studies. Next application deadline is December 1, 1993. For information, contact: **Lee E. Claypool, Ph.D., CONRAD Program, 1611 North Kent Street, Suite 806, Arlington, VA 22209; Telephone: (703) 524-4744, FAX: (703) 524-4770.**

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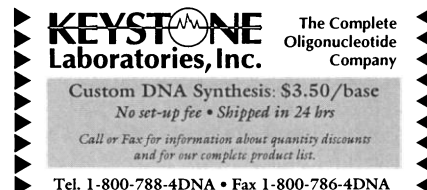
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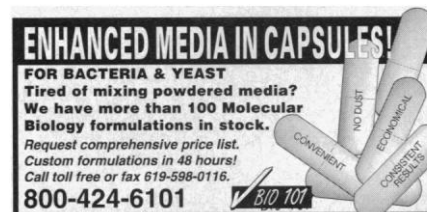
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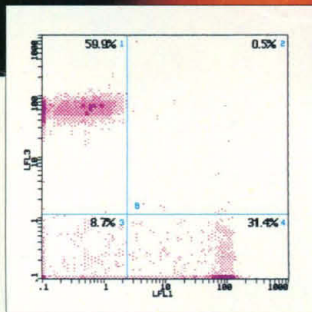
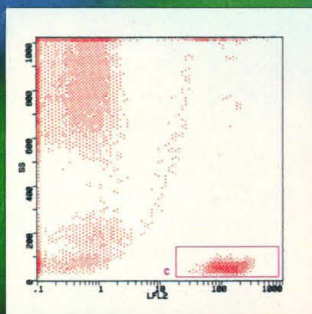
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Quantum Red Offers:

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- Less compensation required than in previous generation third color dyes

- Equivalent brightness when compared to PE
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- Economical cost

Quantum Red is available conjugated to:

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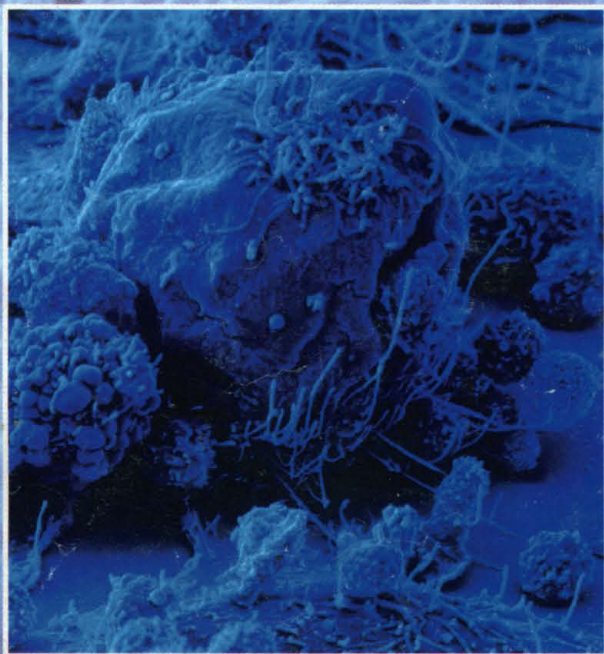
**In Switzerland:** Tel. 081 756 9721, Fax: 081 756 7420

**Outside these countries:** Tel. 314-771-5750, Fax 314-771-5757

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# New Products For Cell Adhesion and Tumor Biology Research



## Two New Elisa Kits

### **sELAM-1 ELISA Kit\***

**Uses:** Monitoring of sELAM-1 (soluble Endothelial Leukocyte Adhesion Molecule-1) levels in normal as well as number of pathological conditions such as cancer, rheumatology, infectious diseases, allergies, transplant rejection and inflammatory diseases appears to have significant research interest.

**Range:** 1.6-50ng/ml. **Sensitivity:** < 1.6ng/ml.

**Rapid:** Total incubation only 2 hours, 15 minutes

### **sLECAM-1 ELISA Kit\***

**Uses:** Altered levels of sLECAM-1 (soluble Leukocyte Endothelial Cell Adhesion Molecule-1) have been found in disease states including sepsis, HIV-infection, neoplastic diseases, neonatal infection, transplantation and insulin dependent mellitus.

**Range:** 0.3-25ng/ml. **Sensitivity:** 0.3ng/ml.

**Rapid:** Total incubation only 2 hours, 15 minutes

BioSource International offers an extensive line of MABs, ELISA Kits, and cytokines for the study of cellular adhesion, tumor biology and immune regulation.

### **Monoclonal Antibodies Against:**

- |        |                   |                    |                                |
|--------|-------------------|--------------------|--------------------------------|
| •CD11a | •CD44v exon v3-v4 | •CD44v exon v8     |                                |
| •CD11b | •CD44v exon v5    | •CD44v exon v9-v10 | •ICAM-3                        |
| •CD11c | •CD44v exon v6    | •ICAM-1            | •HER-2 (c-erbB-2) <sup>†</sup> |
| •CD44  | •CD44v exon v7    | •ICAM-2            |                                |

### **Other ELISA Kits available from BioSource:**

- |                              |                 |                 |                                 |                                       |
|------------------------------|-----------------|-----------------|---------------------------------|---------------------------------------|
| •mIL-1 $\alpha$ <sup>†</sup> | •hIL-2          | •hIL-8/NAP-1*   | •hTNF- $\beta$ *                | •sTNF Receptor (75 kDa)* <sup>†</sup> |
| •hGM-CSF                     | •hIL-2 Receptor | •hIL-10         | •sICAM-1*                       |                                       |
| •hIFN- $\gamma$              | •hIL-6          | •h & m SAA      | •hSCF/C-kit Ligand <sup>†</sup> |                                       |
| •hIFN- $\alpha$              | •hIL-6 Receptor | •hTNF- $\alpha$ | •sTNF Receptor (60 kDa)*        |                                       |

If you don't see the kit you're interested in, call us --it's probably under development.

Please contact BioSource International for your free copy of our 1993/94 Research Catalog containing over 600 reagents and assays for studies in cell biology and immunology.

CAUTION: FOR RESEARCH USE ONLY.  
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<sup>†</sup>Available soon.

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