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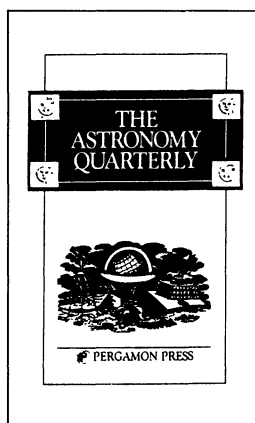
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Fig. 1. 2-D electrophoresis separation of proteins from *Escherichia Coli*.

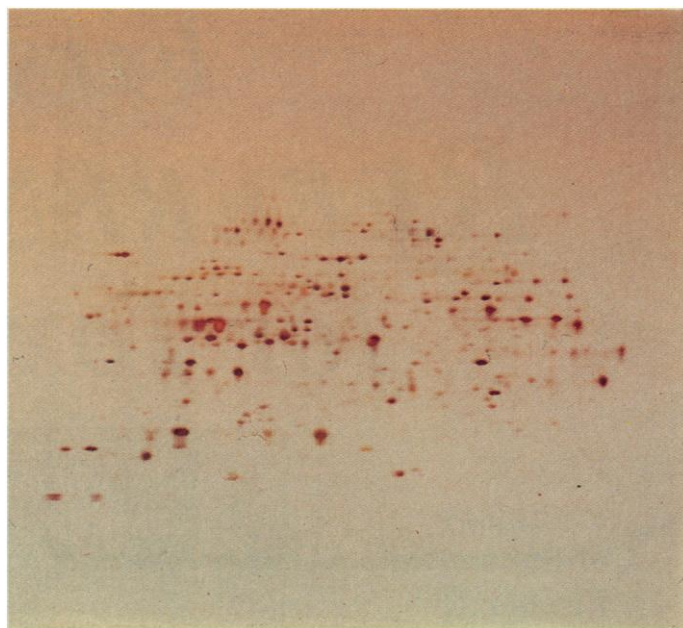


Fig. 2. Same as fig. 1.

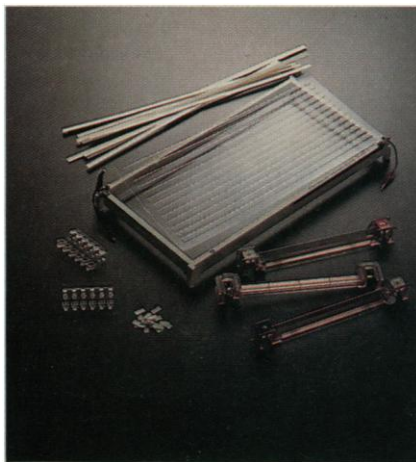
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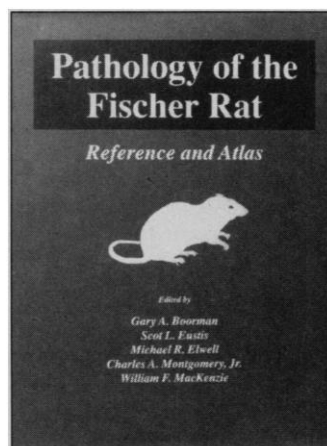
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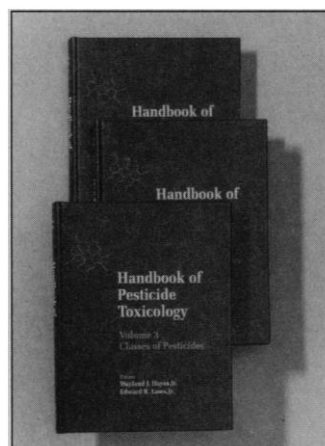
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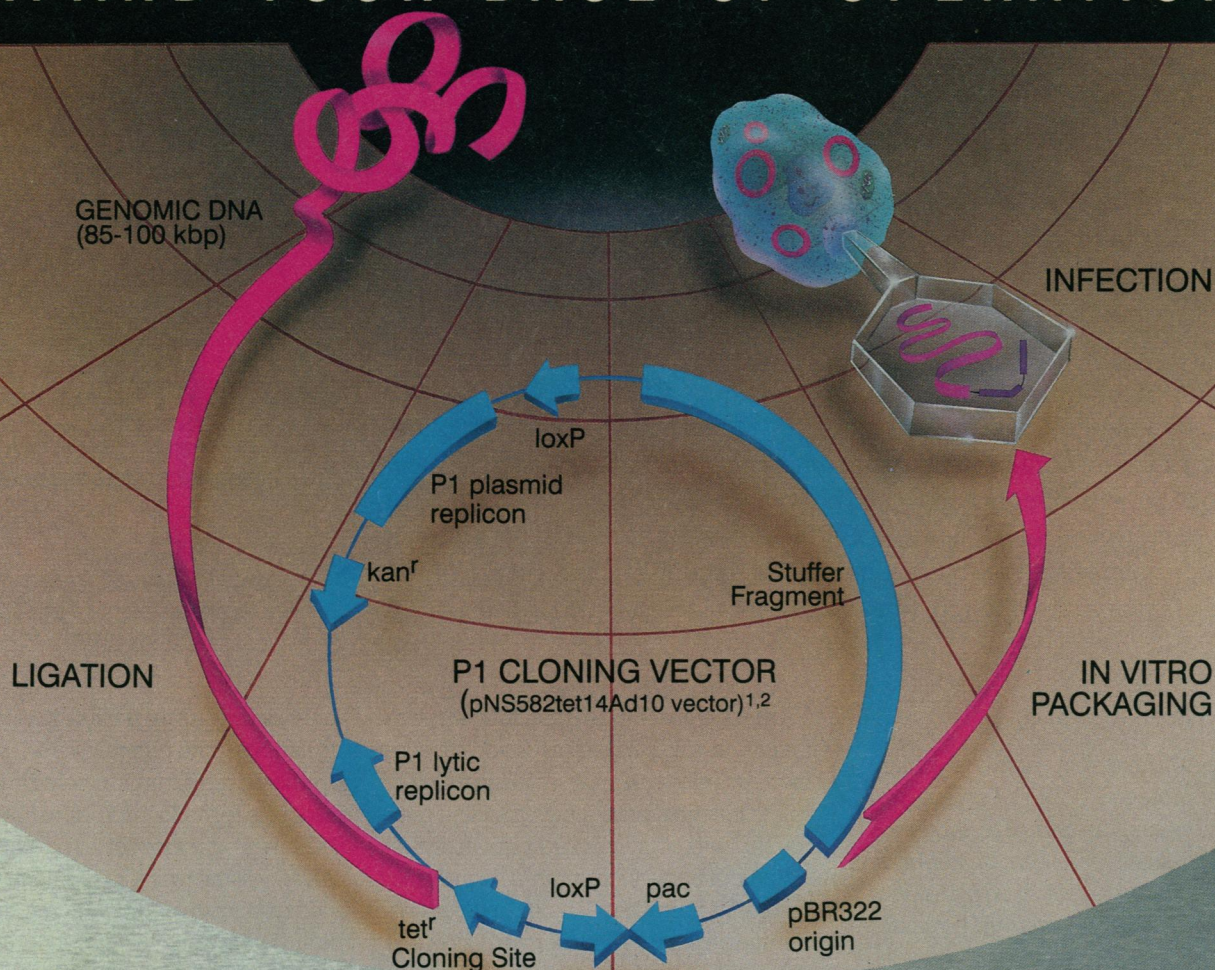
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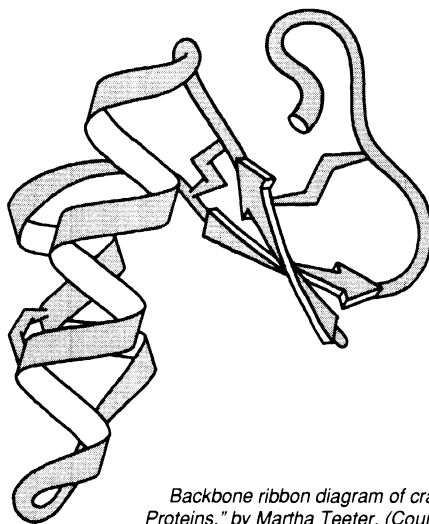
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Backbone ribbon diagram of crambin, from the chapter, "The Water Structure Surrounding Proteins," by Martha Teeter. (Courtesy of Jane Richardson; modifications by Marc Whitlow.)

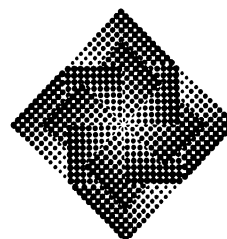
**V. Protein folding within the cell:** Conformations and interactions of signal peptides: elucidating the role of signal sequence in protein secretion; modulation of folding pathways of exported proteins by leader sequence; identification of amino acid sequences influencing intracellular folding pathways using temperature sensitive folding mutations; folding of collagen molecules containing mutant chains.

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*Deciphering the Second Half of the Genetic Code*



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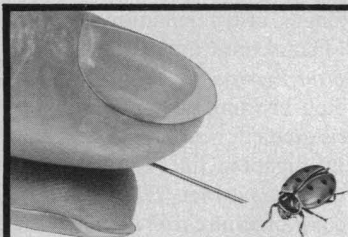
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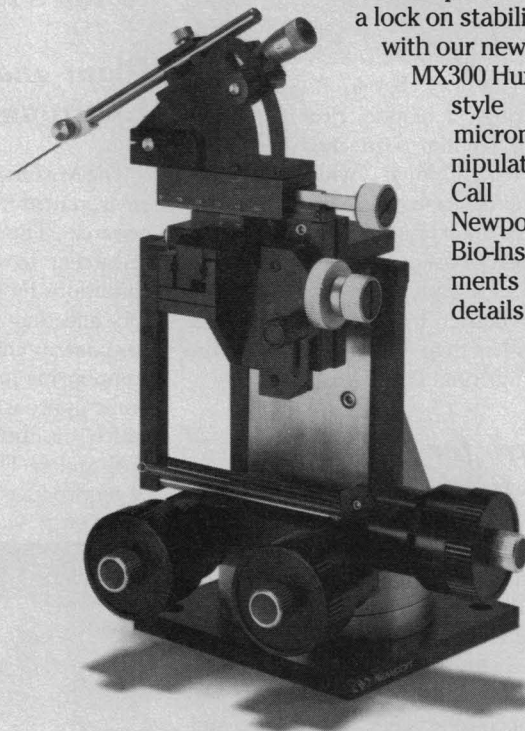
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**ENVIRONMENTAL BOTANIST, ASSISTANT PROFESSOR.** Tenure track; fall 1991. Botany, ecology, or environmental science Ph.D. Commitment to undergraduates and research required. Introductory team-taught nonmajors laboratory course, environmental science, topics course, general education. Top independent Lutheran university near Chicago. Submit letter, curriculum vitae, transcripts, and three letters of reference by 1 March 1991 to: Dr. James Tan, Chair, Department of Biology, Valparaiso University, Valparaiso, IN 46383. Telephone: 219-464-5373. *Affirmative Action/Equal Opportunity Employer.*

## COLUMBIA UNIVERSITY

The Center for Molecular Recognition and the Department of Physiology and Cellular Biophysics invite applications for a joint, tenure-track ASSISTANT PROFESSORSHIP. The center has been formed to bring together in one facility individuals using a variety of approaches to the molecular mechanisms of receptor and channel functions. Candidates should have doctoral and postdoctoral training in the biochemistry or biophysics of membrane receptors, channels, or transport proteins. Preference will be given to candidates with strong research accomplishments. Please submit curriculum vitae, bibliography, reprints, a summary of current research, a statement of research plans, and three letters of reference. Address applications to: Dr. Arthur Karlin, Center for Molecular Recognition, Columbia University, 630 West 168th Street, New York, NY 10032.

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

### CLINICIAN/INVESTIGATOR/EDUCATOR PSYCHIATRISTS OKLAHOMA UNIVERSITY MEDICAL CENTER

Access to state-of-art SPECT/MRS/MRI and psychophysiology laboratory, molecular medicine center, specialty clinics, start-up funds, statistician. Psychopharmacology (child, geriatric, and alcohol/drug) needed. ASSISTANT TO FULL PROFESSOR. Must obtain medical licensure, be ABPN eligible. Send curriculum vitae, statement of clinical/research interests, reprints, and names of three references to: Joe Westermeyer, M.D., Ph.D., P.O. Box 26901, Oklahoma City, OK 73190. *Oklahoma University is an Affirmative Action/Equal Opportunity Employer.*

### SURGICAL PATHOLOGISTS ASSOCIATE/ASSISTANT PROFESSOR

The Department of Pathology at Fox Chase Cancer Center invites applications for two positions in the Division of Anatomic Pathology: one at the associate professor level and one at the assistant professor level. Requirements include Board certification in anatomic pathology. Candidates should have experience in surgical pathology with a special interest in tumor pathology and hematopathology and/or cytopathology. Whereas the positions involve primary responsibilities in diagnostic oncologic pathology, a commitment to basic research in the understanding of the neoplastic process and/or in the development of prognostic indicators of tumor behavior is highly desirable. Special training in the areas of immunopathology, molecular biology, flow cytometry, and/or cell biology are welcome. Rank and salary commensurate with experience and training. Please send curriculum vitae to: Search Committee for Surgical Pathologists, c/o Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. *We are an Equal Opportunity/Affirmative Action Employer.*



## POSITIONS OPEN

**RESEARCH ASSISTANT PROFESSOR.** Department of Pharmacology, University of Pennsylvania. Applicant must have advanced degree and at least 3 years of postdoctoral research experience to join ongoing program in physiological and biochemical studies of NMDA receptors. Send curriculum vitae, names of three references, and a brief statement of career goals by 8 March 1991, to: **Dr. P. B. Molinoff, Professor and Chairman, Department of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA 19104-6084.** *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer. Women and minorities are especially encouraged to apply.*

**RESEARCH ASSISTANT PROFESSOR.** An individual is sought at the level of assistant professor to fill a position in the area of immunotoxicology. The individual should have an interest and background in the effect of metals on the immune system. The individual should also have expertise in flow cytometry and be able to conduct independent research, set up his/her own research program, and obtain grant funding. The successful individual will be expected to interact with a number of currently funded programs and offer advice and expertise in the areas of immunology and immunotoxicology. Send curriculum vitae and list of references to: **Dr. Max Costa, Department of Environmental Medicine, A. J. Lanza Laboratories, Long Meadow Road, Tuxedo, NY 10987.** *An Equal Opportunity Employer, M/F.*

Applications are invited for a tenure-track position at the **ASSISTANT PROFESSOR** or tenure-track **ASSOCIATE PROFESSOR** level. Applicants should have an M.D. or Ph.D. degree, or both. The goal of the search is to identify candidates who are trained to elucidate at the cellular and molecular levels the mechanisms by which environmental agents, inherited genetic factors, or biochemical deficits interact to cause neurodegenerative disorders in human and experimental systems. The position is supported, in part, by the Burroughs Wellcome Award and is a joint appointment in the Environmental Health Sciences Center and either the Department of Neurology or Pharmacology.

Applicants should send curriculum vitae, summary of research interest, and names of three referees. Deadline for receipt of applications is 1 May 1991.

Applications should be sent to:

**M. D. Maines**  
Department of Biophysics and Environmental  
Health Sciences Center  
Box BPHYS  
University of Rochester School of Medicine  
Rochester, NY 14642

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

## THE UNIVERSITY OF CALGARY MOLECULAR BIOLOGIST

The University of Calgary Joint Injury and Diseases Research Group (JIDRG) invites applications for a full-time academic position as a molecular biologist at the **ASSOCIATE PROFESSOR** level or higher. Qualifications include a Ph.D., a strong record of publications and support, and interest and training in the areas of molecular biology of extracellular matrix components, growth factors, connective tissue growth and repair or inflammation. The JIDRG is a multidisciplinary research unit comprised of molecular and cell biologists, immunologists, rheumatologists, orthopaedic surgeons, and biomechanical engineers.

The selected candidate must compete successfully for salary and establishment grant support from the Alberta Heritage Foundation for Medical Research, the Canadian Arthritis Society, or the Medical Research Council of Canada, and will have 75% of time protected for research. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. The University of Calgary has an Employment Equity Program and encourages applications from all qualified candidates, including women, aboriginal people, visible minorities, and people with disabilities.*

Please submit applications, including curriculum vitae and the names of three references, by 30 June 1991 to:

**Dr. C. Frank, Chair**  
Joint Injury and Diseases Research Group  
The University of Calgary  
3330 Hospital Drive N.W.  
Calgary, Alberta Canada T2N 4N1

## POSITIONS OPEN

**ASSISTANT OR ASSOCIATE PROFESSOR: IMMUNOLOGY.** The Department of Pathology and Laboratory Medicine at Boston University School of Medicine invites applications for a faculty position to begin September 1991. Applicants should have a strong, ongoing research program in cellular or molecular immunology, independent research support, and significant teaching experience. *Affirmative Action/Equal Opportunity Employer.* Send curriculum vitae, statement of research interests, and names and addresses of three references to: **Dr. Jacqueline Sharon, Boston University School of Medicine, K707, 80 East Concord Street, Boston, MA 02118.**

## ASSISTANT OR ASSOCIATE PROFESSOR DEPARTMENT OF BIOLOGY METROPOLITAN STATE COLLEGE OF DENVER

Applications are invited for a tenure-track faculty position effective August 1991. Qualifications: Earned doctorate with an emphasis in microbial genetics. Must have the training to teach general microbiology, virology, microbial genetics, general genetics, introduction to general biology (for science majors), and human biology for nonmajors (within the General Studies Program). Interest in a teaching career is required; teaching experience at the college level highly desirable. Applicants must submit by 1 April 1991: letter of application, curriculum vitae, copies of transcripts from all colleges/universities attended (official transcripts will be required of finalists), three current letters of reference from individuals able to state the applicant's expertise as a college science teacher, and brief statement on how applicant sees her/his role in undergraduate science education. To submit materials or request position announcement or further information, contact: **Dr. George Becker, Chair, Department of Biology, Metropolitan State College of Denver, Campus Box 53, P.O. Box 173362, Denver, CO 80217-3362.**

*Metropolitan State College of Denver is an Equal Opportunity Employer. Applications from minorities and women are particularly invited.*

New Mexico Highlands University is accepting applications for the position of: **ASSOCIATE PROFESSOR, ENVIRONMENTAL SCIENCE.** New Mexico Highlands University announces an opening for a non-tenure-track position to develop a curriculum for an environmental restoration and waste management program. Other responsibilities include instruction of one related course per term, preparation of grant proposals to enhance the program, and participation in the outreach component of the program. The position is a 12-month 4-year appointment funded by a grant from DOE. The position is available immediately. Closing date: 15 March 1991 or until filled. Submit letter of application, résumé, official transcripts, and three letters of reference to: **Environmental Science Search Committee, School of Science and Technology, New Mexico Highlands University, Las Vegas, NM 87701.** *New Mexico Highlands University is a small, state-supported university and is an Equal Opportunity/Affirmative Action Employer.*

## PLANT GENOME DATABASE PROJECT

The University of Maryland at College Park in cooperation with the National Agricultural Library (NAL) of the U.S. Department of Agriculture (USDA) in accordance with the Plant Genome Initiative is seeking a **DATABASE MANAGER** to provide systems analysis and expertise needed to accomplish the objectives of the Plant Genome Data and Information Center (PGC) at the NAL. Recommends and implements appropriate hardware and software systems needed to accomplish objectives of the project. The successful candidate will work closely with PGC personnel, members of USDA's Office of Plant Genome Research, and the clientele of research scientists in the public and private sectors to assess and provide access to data on the plant genome. Applicants should have a Ph.D. in biological or computer science, 3 years of experience, and demonstrated ability to manage multiuser computer-based information systems and to design and implement databases of research information. Salary: \$44,000 minimum commensurate with experience. Deadline for applications: 15 March 1991. Submit curriculum vitae and three letters of reference to: **Dr. Paul J. Bottino, Department of Botany, University of Maryland, College Park, MD 20742-7011.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT/ASSOCIATE PROFESSOR OF BIOMATHEMATICS** (tenure track). Evidence of research strength expected in mathematical biology, either in areas of relevant mathematical theory or biological application. Duties include research, teaching, and graduate student direction. Letter of application, curriculum vitae, and three letters of reference should be sent by 1 April 1991 to: **Dr. R. E. Stinner, Biomathematics Graduate Program, North Carolina State University, Campus Box 8203, Raleigh, NC 27695-8203.** *Equal Opportunity/Affirmative Action Employer.*

## ASSISTANT/ASSOCIATE PROFESSOR LANDSCAPE ECOLOGY

The Department of Animal Ecology at Iowa State University seeks applicants for a 9-month, tenure-track position. A Ph.D. in ecology or related discipline, strong quantitative skills, and familiarity with geographic information systems are required. The successful applicant is expected to conduct research in landscape-level problems in agroecosystems and to teach graduate and undergraduate courses in landscape ecology or related areas. Send curriculum vitae, college transcripts, three reference letters, and a statement of career plans by 15 March 1991 to: **James Dinsmore, Department of Animal Ecology, Iowa State University, Ames, IA 50011.** **Telephone: 515-294-7669.** *Iowa State University is an Equal Opportunity/Affirmative Action Employer.*

**FULL PROFESSOR** of psychiatry and/or psychology and **DIRECTOR** of Human Development and Social Ecology at the new Civitan International Research Center, University of Alabama at Birmingham (UAB). Distinguished record of productivity and funded longitudinal research; experience in pre- and postdoctoral interdisciplinary training essential. *UAB is an Affirmative Action/Equal Opportunity Employer.* Submit applications to: **Drs. Craig and Sharon Ramey, Civitan International Research Center, P.O. Box 313, UAB Station, Birmingham, AL 35294.** Closing date is 15 March 1991.

## SENIOR CANCER SCIENTIST

The Department of Pathology at Wayne State University invites applicants to lead a research group in cancer biology. The individual will be responsible for a new research program including recruitment of additional faculty. Ph.D. and/or M.D. scientists are invited to apply. The position will be responsible for developing a multifaceted research and teaching program in cancer biology. Send curriculum vitae and three references to: **John D. Crissman, M.D., Department of Pathology, 9374 Scott Hall, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201.** *An Equal Opportunity/Affirmative Action Employer, M/F.*

## PROJECT LEADER

We are seeking a project leader to coordinate and participate in a research program in terrestrial ecological risk assessment including studies of pesticide exposure and effects on birds and small mammals in both laboratory and field settings. Research will be done both in-house and through cooperating institutions, for at least 2 years, and will include a state-of-the-art terrocosm facility located nearby. Apply if you have at least 5 to 6 years of experience in wildlife toxicology or small mammal population ecology as evidenced by a publication record and a demonstrated ability in coordinating large-scale field studies. Potential hiring mechanisms include interagency agreements for federal or state employees (including state universities) or cooperative agreements to the home institution. Send a letter of intent, curriculum vitae, and the names of two references by 20 March 1991 to: **Dr. Anne Fairbrother, USEPA, Environmental Research Laboratories, 200 S.W. 35th Street, Corvallis, OR 97333.**

Kentucky State University, Community Research Service, invites applications for the position of **CO-INVESTIGATOR** in environmental toxicology/water quality project. Responsibilities: Knowledge of agricultural chemical dissipation, analytical chemistry, computer usage, experimental design, and statistical skills desirable. Qualifications: Ph.D. or M.S. required. Send inquiries to: **Business/Personnel Manager, Community Research Service, Kentucky State University, Frankfort, KY 40601.** **Telephone: 502-227-6863.** Send résumé, transcripts, three letters of reference, and selected reprints. *Equal Opportunity/Affirmative Action Employer.*

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**GEO-CENTERS, INC.'s** Biomedical R&D Division has immediate openings for technical staff positions in support of our R&D activities in Bethesda, MD. Applicants will be evaluated on their educational background and practical experience. Senior level applicants require a solid publication record in the appropriate field.

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**Product Development Manager - Code 2198** Primary responsibilities for this position will include the development of novel immunodiagnostic products, and immuno-based sensors. The successful candidate will possess an MD or PhD in Immunology or a related field, with a minimum of 10 years' demonstrated product development experience and an in-depth knowledge of fiber optic technologies. Candidates should also have previous experience in new venture start-ups, with commensurate technical, personnel, and financial management skills. Applicants should be familiar with FDA regulations and approval processes. Prior experience in Government-funded research for NIH, DoD, or EPA will be considered a definite plus.

**Microbiologist/Immunologist - Code 2186** A postdoctoral level candidate is sought to conduct investigations involving the isolation and characterization of stem cells from HIV seropositive subjects. The ideal candidate will possess a PhD in Microbiology or Immunology, and will have a minimum of 2 years' demonstrated practical experience in culturing cells infected with infectious agents. Previous experience with HIV infected samples and P-2 level facilities also required. Additionally, candidates will be evaluated on oral and written communication skills.

**Immunology Technicians - Code 2187** Support staff members are sought to assist our senior research staff in research activities relating to cell culture and analysis of HIV infected cell lines. Candidates should possess a BS/MS in Microbiology or Immunology, and a minimum of 2 years' practical experience with HIV infected cell lines.

**Biochemistry Technicians - Code 2188** Support staff members are sought to assist our senior research staff in the preparation of gels, blots, etc. Candidates should possess a BS in Biochemistry or a related field, and will require a minimum of 2 years' demonstrated practical laboratory skills.

**Inhalation Toxicologist - Code 2199** We anticipate the need for a senior level Inhalation Toxicologist. Applicants should possess a PhD in Toxicology, with 2 years' postdoctoral experience. The successful candidate will have demonstrated laboratory skills, along with substantial computer modeling capabilities, as well as extensive experience with prolonged low-level exposures.

**Cell Biologist/Immunologist - Code 2200** A postdoctoral level candidate is sought to evaluate novel biomaterials during angiogenic events of wound repair. Applicants should possess a PhD in Cell Biology or Immunology, with extensive experience with cytokines, as well as in-vitro and in-vivo models. The candidate should also possess expertise in the isolation and culture of endothelial cells, as well as knowledge of slow release systems.

**Industrial Hygienist - Code 2201: San Diego, CA** A senior staff level candidate is sought to conduct research focusing on industrial hygiene and hazardous material control. The candidate will be involved in the development of models which will be utilized by various personnel for decision support. The successful candidate will possess a PhD in Industrial Hygiene, and will be required to have minimum 2 years' demonstrated practical experience in epidemiologic investigations and statistical analysis. Demonstrated computer skills will also be required.

**Research Physiologist - Code 2202: San Diego, CA** A senior staff level candidate is sought to conduct research on human performance in various work, environmental and other stressors. This position involves the identification of the physical, mental, behavioral, and man-machine interface requirements for successful performance during sustained military operations. The successful candidate will possess hands-on experience in the assessment of human performance when subjected to various stressors, and the development and evaluation of effective performance degradation countermeasures.

**U.S. CITIZENSHIP OR GREEN CARD REQUIRED.** We offer a competitive salary and attractive benefits. Applicants are encouraged to send their resumes to: **GEO-CENTERS, INC., 10903 Indian Head Highway, Fort Washington, MD 20744, Attn: Deborah Hall-Greene, Human Resources Manager/Code \_\_\_\_\_.** **GEO-CENTERS, INC., is an Equal Opportunity/Affirmative Action Employer. (Principals Only.)**



**GEO-CENTERS, INC.**





## TENURE-TRACK FACULTY POSITION IN VISION RESEARCH

Applications and nominations are invited for a tenure-track faculty appointment in the Eye Research Institute of Oakland University. The position is open for research in biochemistry, molecular biology or immunology of ocular tissues, relating to gene expression, signal transduction, membrane function and metabolic regulation. Candidates should have a strong record of published research and grant support and should be able to establish a vigorous independent program in visual science. The level of appointment will be commensurate with the applicant's experience; salary is negotiable, with excellent fringe benefits.

The faculty of the Eye Research Institute engages in full-time research in biochemistry, physiology and molecular biology of the cornea, lens, retina and intraocular fluids, offering good opportunities for collaboration. The Institute also has an NIH Core facility in electron microscopy and tissue culture and conducts clinical research with the faculty of the affiliated Department of Ophthalmology of William Beaumont Hospital.

The Eye Research Institute is an independent academic unit of Oakland University, a state supported institution situated on a 1400 acre campus, 25 miles north of Detroit, with an enrollment of 12,300 students in baccalaureate and doctoral programs.

Applicants should send a curriculum vitae, 3 to 5 reprints and the names of three references by April 12, 1991 to Dr. M. V. Riley, Chair, Search Committee, Eye Research Institute, Oakland University, Rochester, Michigan 48309-4401.

*Equal Opportunity Affirmative Action Employer*

## VACANCY

# DEAN

## University of Oklahoma College of Medicine – Tulsa

The University of Oklahoma College of Medicine – Tulsa is a branch campus of the University of Oklahoma College of Medicine. Approximately one fourth of the third and fourth year students are assigned to Tulsa, and there are six independently accredited residencies. The Dean is the principal academic and administrative officer of the Campus and reports to the Executive Dean of the College of Medicine. Specifically, the Dean is responsible for maintaining a quality educational experience for students and residents, for stimulating scholarship within the faculty, overseeing the patient care activities of the faculty, and maintaining an efficient and effective administrative structure; all within the policies and procedures of the College of Medicine and the University.

The holder of this position should have an M.D. degree and be qualified for a senior faculty position in one of the academic departments, have an established record of academic and administrative competence, and be willing to work in and with professional and civic groups.

Nominations and applications should be sent to Robert W. Block, M.D., Chairman, Dean's Search Committee, University of Oklahoma College of Medicine – Tulsa, 2808 S. Sheridan Road, Tulsa, Oklahoma 74129.

*The University of Oklahoma is an equal opportunity employer.*

## SIMON FRASER UNIVERSITY



## DEPARTMENT OF BIOLOGICAL SCIENCES ENDOWED CHAIR IN ENVIRONMENTAL SCIENCE

Applications and nominations are sought for an Endowed Chair in Environmental Science within the Department of Biological Sciences at Simon Fraser University.

The successful candidate for this senior faculty position is expected to be a leading researcher in environmental science and to have a proven ability to lead a strong research team that would integrate with other strengths in the department such as environmental toxicology. The individual will be expected to participate in teaching and to assist in the promotion and development of a programme in Environmental Science.

Applications should be forwarded by

**1 May, 1991 to:**

**Dr. B.A. McKeown, Chairman  
Department of Biological Sciences  
Simon Fraser University  
Burnaby, B.C., V5A 1S6.**

Simon Fraser University is committed to the principle of equity in employment and offers equal employment opportunities to qualified applicants. This advertisement is directed to applicants who at the time of application are eligible for employment in Canada.

## Geisinger Clinic

# POSTDOCTORAL POSITION

Position available immediately to study the expression and function of structurally-distinct  $\beta$  and  $\gamma$  subunits of the signal transducing G proteins. Qualified candidates for this position will receive a highly competitive stipend with excellent benefits, and the opportunity to develop their own research ideas, working in a well-equipped facility in a semi-rural environment. Some familiarity with expression of recombinant protein and protein purification is desirable, but not required. Send curriculum vitae and names of three references to Dr. Janet D. Robishaw, Weis Center for Research, Geisinger Clinic, Danville, PA 17822. Equal Opportunity Employer M/F/H/V.

**Geisinger**

# BIOLOGY FACULTY

Salem State College is seeking a Marine Biologist to fill a full-time tenure-track Assistant Professor position in its department of Biology for the fall of 1991. This position is advertised **pending funding**. Duties will include the teaching of Biological Oceanography, General Ecology and Introductory Biology lectures and laboratories, as well as the coordination of the B.S. Biology, Marine Biology concentration.

Required qualifications include a Ph.D. in Biology or Marine Biology, at least two years of college level lecture and laboratory teaching experience, specific and current knowledge of Marine Biology, General Ecology and a general Biology background. Extensive field work experience is highly desirable.

Salary is competitive and is commensurate with education and experience.

To apply, submit a letter of application, resume, copies of transcripts and three letters of reference to: Office of Affirmative Action, Salem State College, 352 Lafayette St., Salem, MA 01970.

**CLOSING DATE:** Application review will begin April 1 and continue until the position is filled.

**SALEM STATE COLLEGE IS AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER. PERSONS OF COLOR, WOMEN AND PERSONS WITH DISABILITIES ARE PARTICULARLY ENCOURAGED TO APPLY.**

**Salem State College**

# TOXICOLOGISTS

IIT Research Institute, a leading R & D organization, continues to experience growth in its Life Sciences Department and is seeking PhD Scientists in the following disciplines:

- **Neurotoxicology**
- **Regulatory Toxicology/Pharmacokinetics**
- **Inhalation Toxicology**

We offer a competitive benefits package as well as opportunities for professional growth. For immediate consideration, please send curriculum vitae in confidence to: **Ms. Lucy Amft, Professional Staffing, IIT RESEARCH INSTITUTE, 10 W. 35th Street, Chicago, IL 60616.** Equal Opportunity/Affirmative Action Employer.

Meet IITRI's technical and personnel representatives at the Annual SOT Meeting February 26-March 1, 1991. Loews Anatole Hotel (booth 413).

**IITRI**

## RESEARCH OPPORTUNITIES

at the Shriners Burns Institute and the Massachusetts General Hospital/Harvard Medical School. Applications are invited from outstanding individuals for Senior Research Scientist and Postdoctoral positions in the following areas:

- Ultrastructural Cytology, Cytochemistry, Immunoelectron Microscopy
- NMR, GC-MS, and Bioseparations
- Tissue Remodeling and Wound Healing
- Materials Science and Engineering
- Polymer Science
- Eukaryotic and Prokaryotic Molecular Cell Biology
- Computational Chemistry and Molecular Modeling
- Pneumocyte Molecular Cell Biology
- Extracorporeal Therapies
- Cytokines and Monokines

Candidate requirements: MD and/or Ph.D. in an appropriate field with demonstrated ability to carry out creative independent research in one's area of expertise. Senior Scientist salaries range from \$50–72,000/year; Postdoctoral positions \$25–36,000/year. Interested candidates should submit an extended CV which clearly documents their qualifications and professional accomplishments and three letters of recommendation to:

Dr. Ronald G. Tompkins  
Chief of Staff  
Shriners Burns Institute  
51 Blossom Street  
Boston, MA 02114

Women and minorities are encouraged to apply.

## PhD TOXICOLOGIST SENIOR RESEARCH SCIENTIST

### BRISTOL-MYERS SQUIBB COMPANY

You'll head a team responsible for acute, subacute, dose range-finding, and certain chronic toxicity studies, including protocol design, conducting, interpreting and reporting research results. Requires a PhD in toxicology, Pharmacology, or other Biological Science plus at least three years of Toxicology experience in a pharmaceutical company or contract laboratory serving the pharmaceutical industry.

We're a world-wide leader in pharmaceutical research and have a strong heritage of innovation and accomplishment. Our operating style encourages personal creativity, contribution, and professionalism. This unit of Bristol-Myers Squibb is located in Evansville, Indiana, a community of beautiful residential areas, exceptional recreation, education and cultural facilities.

We offer excellent salaries, superb benefits, paid relocation, and real growth opportunities.

Send resume, including salary expectation, in confidence to:

Research Recruitment Box 6L52, B109  
Pharmaceutical Research Institute  
Bristol-Myers Squibb  
2400 W. Lloyd Expressway  
Evansville, IN 47721-0001

We are an Equal Opportunity Employer M/F/H/V



Bristol-Myers Squibb Company

University of Minnesota

Department of Pediatrics and  
Institute of Human Genetics

### Martin Lenz Harrison Chair in Developmental Biology

The University of Minnesota Medical School invites applications and nominations for the Martin Lenz Harrison Endowed Chair. The Institute of Human Genetics and the Department of Pediatrics are seeking a highly qualified, internationally recognized, mammalian developmental molecular biologist, who will recruit and direct a group of investigators with interests in mammalian developmental biology. Individuals with interests in other areas of vertebrate developmental biology will also be considered. This position will be a tenured full Professor (M.D. and/or Ph.D.) in the Department of Pediatrics and the appropriate basic science department, with membership in the Institute of Human Genetics.

To support this program, substantial financial and space commitments are available. Laboratory space for the Chair and additional faculty will be in the Institute of Human Genetics. Presently, the research laboratories of 9 faculty members from 4 departments are located within the Institute. Areas of ongoing research include molecular immunology, molecular neurogenetics, oncogenesis, control of gene expression, and hematopoiesis.

Please send nominations and inquiries to:

Dr. Harry T. Orr  
Chair, Search Committee  
University of Minnesota  
Institute of Human Genetics  
Box 206 UMHC  
Harvard Street at East River Road  
Minneapolis, MN 55455

The last date for receipt of applications is June 30, 1991.

The University of Minnesota is an equal opportunity educator and employer.

## BROOKHAVEN NATIONAL LABORATORY

### Plant Scientist

The Biology Department at Brookhaven National Laboratory seeks to appoint a junior level staff scientist who will develop an innovative, independent research program to study important problems in development, regulation or molecular genetics of higher plants, or the structure of macromolecules important to plant form or function.

Applicants with demonstrated creative research ability are sought. The proposed research program should complement current programs in molecular and cellular biology, plant molecular genetics, bioenergetics and structural biology. There is good potential for collaborations.

Brookhaven offers a unique combination of facilities for structural biology, including stations at the National Synchrotron Light Source for x-ray crystallography, low angle scattering and UV spectroscopy; stations at the High Flux Beam Reactor for neutron crystallography and low angle scattering; and a Scanning Transmission Electron Microscope capable of measuring the mass of individual molecules and particles.

Applicants having a Ph.D. or equivalent degree and relevant postdoctoral training should submit a curriculum vitae, the names of at least three professional references, and a statement of research goals to: Search Committee, Biology Department, Building 463, Brookhaven National Laboratory, Associated Universities, Inc., Upton, L.I., NY 11973. Equal opportunity employer M/F.



BROOKHAVEN  
NATIONAL LABORATORY  
ASSOCIATED UNIVERSITIES, INC.



## POSITIONS OPEN

**CHAIRPERSON.** Department of Pharmacology, School of Medicine, University of California, San Francisco (UCSF). Qualified candidates are invited to apply. Applicants should submit curriculum vitae, bibliography, and names of four references to: **J. Michael Bishop, M.D., Chair, Search Committee for Department of Pharmacology Chairperson, c/o Susan Hilary, Dean's Office, School of Medicine, S-224, University of California, San Francisco, CA 94143-0410.** UCSF is an Affirmative Action/Equal Opportunity Employer. Women and minorities are urged to apply.

### SIMON FRASER UNIVERSITY THE SHRUM CHAIR IN SCIENCE

Applications are invited for the Shrum Chair in the Faculty of Science at Simon Fraser University. This endowed chair is named after the late G. M. Shrum, the founding chancellor of the University. Candidates should be outstanding scholars whose research interests match those represented in the Departments of Biological Sciences, Chemistry, Physics, or Mathematics and Statistics. The chair is a 5-year appointment; the appointee will normally hold a tenured position as professor in the appropriate department. The salary will be commensurate with a distinguished chair appointment and the appointment will be effective 1 September 1992.

Applications, together with curriculum vitae and the names of four referees, should be sent by 1 May 1991 to:

**C. H. W. Jones, Dean  
Faculty of Science  
Simon Fraser University  
Burnaby, B.C. V5A 1S6, Canada**

*This advertisement is directed to those who would be eligible for employment in Canada. Simon Fraser University is committed to the principle of Equity in Employment and offers Equal Opportunity to all qualified applicants.*

### DEAN OF THE COLLEGE OF ENGINEERING THE OHIO STATE UNIVERSITY

The Ohio State University invites applications and nominations for the position of dean of the College of Engineering.

The dean will lead a distinguished 260-person faculty, serving 4500 undergraduate and 1400 graduate students in 16 academic units. The dean will administer a total budget of \$90,000,000, including the sixth largest engineering college research budget in the United States, and will have the support of 30,500 College of Engineering alumni. The candidate should be a recognized leader in administration, research, and teaching. The dean will be a key member of the university leadership and will be expected to contribute to the broad academic and cultural missions of the entire university.

The position will be available 1 July 1991. *The Ohio State University is an Equal Opportunity/Affirmative Action Employer*, and the candidate must be committed to these principles. The Search Committee will accept and review applications until the position is filled.

Send applications and nominations, including curriculum vitae and the names of three references, to: **Professor Leon Peters, Jr., Chair, Search Committee for the Dean of the College of Engineering, Department of Electrical Engineering, The Ohio State University, 2015 Neil Avenue, Columbus, OH 43210.**

### FLOW CYTOMETRY

**STAFF OR FACULTY POSITION** available to manage, operate, and develop the flow cytometry facility at Fred Hutchinson Cancer Research Center. Several years of research experience using flow cytometry; a working knowledge of a broad range of flow cytometric methodologies and computer data analysis techniques; extensive experience using instrumentation including optics, lasers, and computers; and knowledge of the principles of instrument operation and experience in instrument problem-solving required. Excellent communication, teaching, leadership, and managerial skills are necessary. Type of appointment to depend on qualifications of candidate. Excellent benefit package and a smoke-free environment. Apply in person or send résumé to:

**Fred Hutchinson Cancer Research Center  
Human Resources Office, #HN-2267  
1124 Columbia Street  
Seattle, WA 98104**

*An Equal Opportunity Employer.*

## POSITIONS OPEN

### REGISTRATION SPECIALISTS

Washington, D.C., consulting firm has two positions available involving the registration of pesticides. B.S. or M.S. in biology or chemistry required. One position requires 2 to 5 years of experience in pesticide registrations; second position is entry level. Send curriculum vitae and references to: **Rona Levy, c/o McKenna and Cuneo, 1575 Eye Street, N.W., Washington, DC 20005.**

### DEAN OF BIOLOGICAL SCIENCES

Brown University invites nominations and applications for the position of dean of biological sciences. Applicants are expected to have a record of significant research achievement and administrative and teaching experience. The dean, who carries the title of Frank L. Day Professor of Biology, has authority over and responsibility for academic and administrative affairs pertaining to faculty in the Program in Biology and certain components of the Program in Medicine. He/she also participates in managing the interface between biological and medical sciences, and between the campus-based and hospital-based research faculties.

The division has about 70 tenure-track faculty, 90 graduate students, and 220 undergraduate concentrators. Opportunities exist for collaboration with several other departments.

Applicants should submit a résumé describing research, teaching, and administrative experience and professional priorities, a list of publications, representative reprints, and have three letters of reference sent to: **Chair of the Search Committee, Professor D. H. Morse, Division of Biology and Medicine, Box G-A101, Brown University, Providence, RI 02912.** Screening of applications will begin on 1 April 1991 and continue until a successful candidate has been identified or the search is closed. *An Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION ENVIRONMENTAL TOXICOLOGY

The Department of Environmental Health Sciences of the School of Public Health, University of Alabama at Birmingham (UAB), is seeking an **ASSISTANT PROFESSOR** in toxicology. This is a tenure-track position with responsibilities that include teaching of graduate level toxicology courses and initiation of externally funded independent and collaborative research.

A doctorate as well as postdoctoral work with an interest in molecular biology as applied to toxicology or neurotoxicology will be shown preference. However, other areas of research will be considered. Salary is negotiable, depending on qualifications.

Send curriculum vitae and three reference letters to: **Dr. Robert G. Meeks, Chairman, Search Committee, Toxicology Program, Department of Environmental Health Sciences, School of Public Health, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294.** UAB is an Equal Opportunity/Affirmative Action Employer.

### FACULTY POSITION IN DEVELOPMENTAL BIOLOGY CHILDREN'S HOSPITAL RESEARCH FOUNDATION (CHRF) CINCINNATI, OHIO

The Basic Sciences Division has an opening for an **ASSISTANT/ASSOCIATE PROFESSOR** (tenure track) in the University of Cincinnati to be filled in 1991 or 1992. The position will allow over 90% of time to be spent on research, with the remaining time spent in an active developmental biology graduate program. A new research building is nearing completion. Outstanding candidates with research interests in mammalian developmental genetics, neurobiology, transcription factors, or homeobox genes are encouraged to apply. Please send curriculum vitae, research plans, and the names and addresses of three references to:

**Search Committee  
Division of Basic Science Research, IDR 731  
Children's Hospital Research Foundation  
Elland and Bethesda Avenues  
Cincinnati, OH 45229-2899**

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

## POSITIONS OPEN

### ANATOMISTS

Applications are being accepted for **TENURE-TRACK POSITIONS** in the discipline of anatomy, available 1 July 1991. Applicants should possess a Ph.D. degree in anatomy and the ability to teach gross anatomy and assist in the neuroanatomy and/or histology laboratories. Salary is competitive and commensurate with experience. *The college actively seeks applications from women and minorities for these positions.* Send curriculum vitae and three letters of recommendation to: **Dr. Gayle H. Nelson, Chairman, Anatomy Search Committee, College of Osteopathic Medicine of the Pacific, 309 East College Plaza, Pomona, CA 91766-1889.**

**DEVELOPMENTAL BIOLOGY.** Sabbatical replacement for the 1991-92 academic year to teach developmental biology, general biology, and other courses in area of specialty. Expertise in molecular and cellular biology of invertebrate development preferred. The position may be continued the following year to teach both genetics and general biology. Hanover College is a selective, independent, undergraduate, liberal arts college associated with the Presbyterian church. The Department of Biology utilizes our rural setting to support a well-rounded program in organismal and molecular-cellular biology. *Affirmative Action/Equal Opportunity Employer.* Send letter, curriculum vitae, transcripts, and at least three letters of recommendation to: **Charles Flynn, Dean of the College, Hanover College, Hanover, IN 47243.**

The University of Michigan Medical School, Department of Human Genetics, is seeking a tenure-track **FACULTY MEMBER** in human population genetics and/or quantitative genetics. The University of Michigan is a major research university, situated in Ann Arbor, that provides outstanding cultural and recreational facilities. Please send résumé, statement of research interests, and names of three references to: **Thomas D. Gelehrter, M.D., Chairman, Department of Human Genetics, M4708 MS II/0618, University of Michigan Medical School, Ann Arbor, MI 48109-0618.** *The University of Michigan is an Equal Opportunity/Affirmative Action Employer and specifically invites and encourages minority and women applicants.*

**FACULTY POSITION, CLINICAL RESEARCH,** Ph.D. or M.D. Division of Ophthalmology at the Brigham and Women's Hospital, Harvard Medical School, seeks senior psychophysicist with demonstrated abilities as an independent investigator and a strong commitment to clinical research program. The individual will be asked to establish a psychophysical assessment service and a clinical research program. Salary and academic rank are negotiable. Applicants, please submit curriculum vitae and three academic references to: **Leo T. Chylack, Jr., M.D., Center for Clinical Cataract Research, 221 Longwood Avenue, Boston, MA 02115.** *Harvard Medical School and Brigham and Women's Hospital are Affirmative Action/Equal Opportunity Employers. Women and minority candidates are encouraged to apply.*

### CHEMICAL ENGINEERING AND TECHNOLOGY AND POLICY MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

Applications are invited for a **TENURE-TRACK POSITION** in the Department of Chemical Engineering at either a junior or senior level. Applicants should have research and teaching interests which focus on the interdisciplinary connections between science, technology, and policy analysis. Areas of interest include energy production, chemical processing, environmental engineering, and the impact of these technologies on industrial and public policy. The successful applicant should have a Ph.D. in chemical engineering or a closely related field, should have demonstrated excellence in academic research, and should have a strong interest in teaching graduate and undergraduate subjects. The individual will be expected to develop close ties to the Center for Technology, Policy and Industrial Development at MIT.

Send résumé including names of at least four references and a description of research interests to:

**Robert A. Brown, Head  
Department of Chemical Engineering  
Massachusetts Institute of Technology  
Cambridge, MA 02139**

Material should be received by 15 April 1991. *MIT is an Equal Opportunity/Affirmative Action Employer.*

U.S. Army Medical Research Institute  
of Infectious Diseases  
Fort Detrick, Frederick, Maryland

**SCIENTISTS—BIOMEDICAL RESEARCH**

Numerous staff scientist positions exist at the U.S. Army Medical Research Institute of Infectious Diseases, Department of the Army. These openings are competitive Federal Civil Service positions and applicants must be U.S. citizens.

The Institute, which has excellent facilities, is a leading medical research facility engaged in the development of drugs and vaccines against militarily important diseases. All research is unclassified and publication is encouraged. The Institute is located in Frederick, MD in a semi-rural setting, with ready access to the metropolitan areas of Washington, D.C. and Baltimore, MD.

Salary Range (effective 1 Jan 91):

GS-12 — \$37,294 thru \$48,481

GS-13 — \$44,348 thru \$57,650

GS-14 — \$52,406 thru \$59,394 (step 5)

(1) **RESEARCH CHEMIST (GS-13/14):** Selectee will be part of a multidisciplinary team studying bacterial diseases. Research involves the biochemical characterization of bacterial virulence factors including toxins and their mechanism of action. Experience in protein chemistry and purification required. Areas of study include analysis of protein structure/function relationships and the mechanisms of toxin action at a cellular and molecular level.

(2) **IMMUNOLOGIST (GS-12/13):** Selectee will be a part of a multidisciplinary team studying the immunology and pathogenesis of bacterial diseases and toxins. Research involves measuring the cellular and humoral immune response to infections and vaccines, determination of in vitro correlates of immunity, study of antigen processing, adjuvants and other means of enhancing an effective immune response.

(3) **MICROBIOLOGIST (GS-12/13):** Selectee will participate in the development of rapid diagnostic tests for uses on toxins, and viral, rickettsial and bacterial human pathogens. Program emphasis is on development of diagnostic tests which are simple and rapid to perform, and utilize measurement of specific antigen, IgM antibodies, or nucleic acids. Candidates may have background in microbiology, molecular biology, biochemistry or related fields. Experience in diagnostic test development is desirable.

(4) **MICROBIOLOGIST/IMMUNOLOGIST (GS-12/13):** Expertise and interest in the study of microbial toxins. Research will involve (a) the development of protective vaccines against toxins, (b) the development of immunological-based identification systems for toxins, and (c) studies on the mechanisms of action of microbial toxins. Background and experience with protein purification and chemistry and experience with anaerobic bacteria would be positive factors.

(5) **MOLECULAR VIROLOGIST (GS-12/13):** Selectee must have research interests in virology and molecular biology as they apply to the development of antiviral drugs. Research directions may include basic studies on mechanism of drug actions and on design of assays for and approaches to the interruption of specific, functional viral processes, such as proteolytic enzymes or replicases. A close working relationship is expected with scientists in the Institute involved in antiviral drug development as well as with extramural contractors. Candidates should hold a Ph.D. and/or M.D. and should have experience and publications in virology, molecular biology, and research on antiviral drugs.

(6) **MOLECULAR VIROLOGIST (GS-13):** Selectee must have a research interest in modern molecular virology and the

development of virus vaccines. Research involves the cloning and expression of virus genes coding for antigenic determinants important for the induction of immunological protection from disease. Basic investigations employing recombinant DNA technology designed to improve vaccines and vaccination strategies represent a major component of the position. Collaborations include vaccine development scientists and basic researchers within the Institute as well as extramural contractors involved with vaccine production. Candidates should hold a Ph.D. and/or M.D. and should have research experience and publications in virology, molecular biology, and/or immunology.

(7) **IMMUNOLOGIST (GS-13):** Selectee must have a strong research interest in human vaccine development and experience in evaluating the immune response to viral immunogens. Development of animal models and a detailed exploration of both humoral and cellular immune responses to experimental candidate vaccines are important elements of the position. Collaborations are expected with molecular virologists and basic researchers in the vaccine development group as well as with medical personnel involved in testing and evaluation of vaccine candidates in human volunteers. Candidates should hold a Ph.D. and/or M.D. and should have research experience and publications in virology, molecular biology, and/or immunology.

(8) **MOLECULAR GENETICIST (GS-12/13):** Selectee must have experience in molecular genetics especially as applied to immunology. Research involves isolation and analysis of genes responsible for commitment of cells to respiratory mucosal immunity and/or development of mucosal vaccine expression vectors. Collaboration within or outside the Institute is encouraged.

(9) **RESEARCH CHEMIST (GS-12):** Selectee will be a part of a team managing the chemical and biological data for an antiviral drug discovery research program. Research involves the acquisition, identification, and development of potential compounds. Drug discovery is supported by the analysis of structure/activity relationships based on chemical structure, data generated in in vitro and in animal model systems, and design and implementation of computer systems for the retrieval of relevant data. Candidates should hold an M.S. degree or equivalent and experience in the design and principles of computer systems associated with integrated chemical and biological databases for the analysis of structure/activity relationships to support drug development.

(10) **MICROBIOLOGIST (GS-12/13):** Selectee will be part of a group studying the role of cytokines in inflammation, infection, and shock. Emphasis will be on identifying new areas with potential for therapeutic intervention. Work will include both in vitro and in vivo (animal modeling) programs. Close collaboration with a clinical research unit is expected.

(11) **IMMUNOLOGIST (GS-12/13):** Selectee will be a part of a multidisciplinary team studying immunity to protein toxins. Research emphasizes the fields of cellular immunology, protein chemistry and antigen processing. Goal is the development of new vaccines against protein toxins. Studies include the definition of toxin epitopes and basic research into the immune response against proteins.

Application procedures: Candidates should specify position(s) for which they are applying and submit an Application for Federal Employment (SF 171) and/or a Curriculum Vitae. Completed applications should be mailed to:

Mr. Raymond J. Mangold  
Directorate of Civilian Personnel  
Fort Detrick, Frederick, MD 21702-5000  
Telephone: (301) 663-2007

EQUAL OPPORTUNITY EMPLOYER



## POSITIONS OPEN

### BIOLOGY. THREE FACULTY POSITIONS.

Applications are invited for three positions (two assistant professors; one instructor) beginning August 1991. (Ph.D. required for assistant professor positions.) (i) Geneticist to teach general genetics, (ii) General biologist (physiology concentration) to teach in the freshman program, (iii) General biologist to teach general biology laboratory courses. Ability and willingness to teach freshman biology is required of all candidates. *Xavier University is a small predominantly African-American, Catholic, liberal arts institution.* Application deadline: 1 March 1991 or until filled. Send résumé and three letters of recommendation to: **Willie J. Caffey, Jr., Chairman, Search Committee, Biology Department, Xavier University, Box 858, New Orleans, LA 70125.**

### DRUG DELIVERY FACULTY POSITION.

A full-time, tenure-leading position is available in the University of Nebraska College of Pharmacy for a faculty member who will provide expertise in physicochemical approaches to targeted and controlled drug delivery. Physicochemical approaches is broadly defined but not limited to include the areas of pharmaceuticals/biopharmaceuticals, physical chemistry, polymer chemistry, pharmaceutical chemistry, and chemical engineering. Applicants with an earned doctorate and established research and funding record are sought. Send curriculum vitae and names of three references to: **Chair, Search Committee, Position #0-6148, Department of Pharmaceutical Sciences, College of Pharmacy, University of Nebraska Medical Center, Omaha, NE 68198-6025.** *The University of Nebraska is an Affirmative Action/Equal Opportunity Employer.*

### LECTURER

### INTRODUCTORY BIOLOGY LABORATORIES DEPARTMENT OF BIOLOGY THE UNIVERSITY OF MICHIGAN

The Department of Biology at the University of Michigan announces the availability of a nontenure-track lecturer position. The term of appointment is for a period of 3 years and is subject to renewal based on an evaluation of performance and continuing needs. The lecturer will serve as coordinator and supervisor of instruction in introductory laboratory courses in biology. A relevant Ph.D. degree is required, along with experience in teaching undergraduate courses in biology. In addition to general supervisory matters, duties will include working with faculty to update laboratory experiments and training of graduate student teaching assistants who serve in the laboratories. Appointments are on a 12-months basis and include a liberal benefits package. This position is available 1 September 1991, and the deadline for receipt of applications is 1 April 1991. Applicants should provide curriculum vitae and three letters of recommendation to:

**Dr. B. A. Hazlett  
Department of Biology  
The University of Michigan  
Ann Arbor, MI 48109-1048**

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

### NEUROSCIENCE

### HARVARD MEDICAL SCHOOL MASSACHUSETTS GENERAL HOSPITAL

Several **JUNIOR FACULTY POSITIONS** are available in the Department of Neurobiology at Harvard Medical School and also in the Neuroscience Center at the Massachusetts General Hospital (MGH). We are interested in a wide range of subjects ranging from molecular structure to neuronal mechanisms underlying higher integrative functions. At the MGH Center, special consideration will be given to individuals whose work has direct bearing on human neurological and psychiatric disorders. However, all successful candidates will be expected to participate fully in the Harvard neuroscience community and become involved in training medical students, graduate students, and postdoctoral fellows. Applicants should submit their curriculum vitae, a brief statement of current research (including reprints, if available) and future plans, and the names of three individuals who might write on their behalf to: **Gerald D. Fischbach, Chairman, Neuroscience Search Committee, Harvard Medical School, 220 Longwood Avenue, Building B2, Room 420, Boston, MA 02115.** *Women and minority candidates are encouraged to apply. Harvard Medical School and the Massachusetts General Hospital are Affirmative Action/Equal Opportunity Employers.*

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## POSITIONS OPEN

### FACULTY POSITION IN BIOCHEMISTRY

Applications and nominations are invited for a tenure-track faculty position in the Department of Biochemistry, Purdue University. We are particularly interested in individuals trained in molecular biological approaches to plant research problems. Candidates must have postdoctoral training, a strong research record, and be capable of developing and continuing a vigorous research program.

The individual selected for this position will participate in the instructional program of the department which encompasses undergraduate, graduate, and medical curricula.

Curriculum vitae, names and addresses of three individuals who can supply letters of reference, and a two-page summary of research interests are required for an application. The screening of applications will commence 1 March 1991 and continue until the position is filled.

**Plant Molecular Biology Search Committee  
Department of Biochemistry  
Purdue University**

**West Lafayette, IN 47907-1153**

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

### SIGNAL TRANSDUCTION DEPARTMENT OF BEHAVIORAL NEUROSCIENCE

Applications are invited to fill a new **TENURE-TRACK POSITION** available 1 September 1991. The appointee will be expected to develop and maintain a funded research program focusing on the analysis of signal transduction mechanisms and their effect on cell physiology. Collaborative research efforts are widespread in the department and the large neuroscience community in the university and are strongly encouraged. Some teaching at both the graduate and undergraduate level is expected. Applicants should have a Ph.D. or M.D. and some postdoctoral experience. Applicants should send curriculum vitae, a one-page statement of research goals, three representative publications, and have three letters of recommendation sent to:

**Faculty Search Committee  
Department of Behavioral Neuroscience  
University of Pittsburgh  
Pittsburgh, PA 15260**

All materials must be received by 15 March 1991.

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

**FACULTY POSITION IN IMMUNOLOGY.** A faculty appointment is to be available in the recently expanded Department of Immunology at St. Jude Children's Research Hospital from May 1991, coincident with the move of basic sciences into a new research building. This is a full-time research position, which can be held at any academic rank. Applications from both new and established investigators are welcome. The department currently has strong programs in molecular and cellular immunology, with specific interests in T lymphocyte ontogeny and effector function, genetic immunodeficiencies, the regulation of gene expression, macrophage/T cell interactions, mechanisms of tolerance, and viral immunity. A new faculty member might either establish an independent effort complementing one of these existing areas, or provide a completely new focus. Major research groups in other departments at St. Jude Children's Hospital are concentrating on: growth regulation and signal transduction in hemopoietic cells, human bone marrow transplantation, cancer chemotherapy, respiratory pathogens, and Epstein Barr virus. The research environment is highly interactive, and collaboration is encouraged.

Enquiries should be directed to: **Dr. Peter C. Doherty, Chairman, Department of Immunology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105.** *An Affirmative Action/Equal Opportunity Employer. We provide a smoke-free environment.*

**POSTDOCTORAL POSITION.** Participate in study of surface proteins of *C. albicans*: structure, expression, and regulation with morphogenesis and function in host-parasite interactions. Experience with fungi, monoclonal antibodies, or molecular techniques desirable. Anticipated availability: April 1991. Send curriculum vitae and names of three references to: **Dr. W. L. Chaffin, Department of Microbiology, Texas Tech University Health Sciences Center, Lubbock, TX 79430.**

# THE EMF- CANCER QUESTION

## A SCIENCE Reprint Booklet

Due to the popularity of *Science's* recent three-part series by Robert Pool examining the debate over the possible biological effects of electromagnetic fields, we put the articles together in one convenient and comprehensive reprint booklet. The first article looks at the epidemiological evidence for a link between electromagnetic fields and cancer. The second article deals with cell and animal studies, and the third examines policy questions and the politics behind the research.

To order copies of this booklet, complete the coupon below and send your check, payable to AAAS. *All orders must be prepaid.*

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### MAIL TO:

Corrine Harris • AAAS/Reprints  
1333 H Street, NW • Washington, DC 20005

ANTICIPATED FACULTY POSITIONS  
CANCER CENTER  
OF  
THE MEDICAL COLLEGE OF  
WISCONSIN

During 1991-1992 the Cancer Center of the Medical College of Wisconsin in Milwaukee anticipates adding new faculty to the following research programs:

Cytokines: Receptors and Function  
Immune Effector Cell Activation and Function  
Gene Perturbations In Malignancy:  
Biological Response Modifiers:  
Clinical Role  
Biostatistics

Appointments will be for established investigators at senior levels of achievement and will include appointments in the appropriate medical school department.

Deadline for applications June 1, 1991.

Individuals interested should send a curriculum vitae to:

Ernest C. Borden, M.D.  
Director  
Cancer Center of Medical College  
of Wisconsin  
8701 Watertown Plank Road  
Milwaukee, WI 53226

AN EQUAL OPPORTUNITY/  
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Schering

# Senior Principal Scientist

***Take action  
ensuring the safety  
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The time is now to bring your scientific knowledge and laboratory experience to Schering-Plough, a \$3+ billion leader in the health care industry. With our increasingly strong product line, we're continuing our efforts to ensure that all drugs meet stringent regulatory specifications.

Working out of our totally modern, 2500 square foot Cellular and Genetic Toxicology Unit, you will design, conduct, monitor and evaluate *in vitro* and *in vivo* genotoxicity studies conducted at the Lafayette, New Jersey site and at contract laboratories. This will involve supervision of three experienced full-time employees, as well as close interaction with toxicology staff, management and regulatory agencies to support registration of new drugs.

You should be skilled in the conduct/interpretation of all *in vitro* cytotoxicity/genotoxicity studies and *in vivo* genotoxicity studies employed in drug risk assessment. Requires 2-5 years in genetic toxicology, a PhD in a biological science, and familiarity with GLP procedures and regulatory issues. In addition, an interest in *in vitro* toxicology and immunotoxicology would be desirable.

We offer a competitive salary, outstanding benefits, and an attractive semi-rural living environment. Please send resume to: Mr. W. Decker, Schering-Plough Research, 60 Orange Street, Bloomfield, NJ 07003. We are an equal opportunity employer.

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## POSITIONS OPEN

**FACULTY POSITIONS: BIOCHEMISTRY, MICROBIOLOGY.** The Department of Biochemistry, Microbiology, and Molecular Biology at the University of Maine invites applications for two **ASSISTANT PROFESSOR**, tenure-track positions. Applicants will be expected to: teach at least a basic-level undergraduate course in biochemistry or microbiology and a graduate-level course in their field of expertise, establish an externally funded research program, and direct Ph.D. students. Applicants should have a Ph.D. and postdoctoral experience.

- **BIOCHEMISTRY** position: Preference will be given to applicants investigating cellular regulator mechanisms in eukaryotes including but not limited to transmembrane signaling pathways or nucleic acid binding proteins.

- **MICROBIOLOGY** position: Preference will be given to applicants using molecular approaches with prokaryotes in areas including but not limited to nitrogen metabolism, photosynthesis, cell signaling, or plant-bacterial interactions.

Applicants should send curriculum vitae, description of research interests, and three letters of reference to: **Dr. Bruce L. Nicholson, Chair, Department of Biochemistry, Microbiology, and Molecular Biology, University of Maine, Orono, ME 04469.** Consideration of applications will begin 1 March 1991. *The University of Maine is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### TENURE-TRACK FACULTY POSITIONS IN MOLECULAR PHARMACOLOGY (ASSISTANT PROFESSOR, ASSOCIATE PROFESSOR, AND PROFESSOR) UNIVERSITY OF MINNESOTA

Applications are invited for several positions of assistant professor (tenure track) in the Department of Pharmacology, Medical School. Successful candidates are expected to establish an outstanding independent research program in the area of molecular neuropharmacology and to participate in departmental teaching responsibilities. Requirements include a Ph.D. in pharmacology, biochemistry, cell biology, or related field, or an M.D., and 2 years of postdoctoral research experience. Candidates with a strong research background and experience using recombinant DNA technology for studying pharmacological problems and/or molecular biology of the CNS are preferred. Applicants must have demonstrated involvement in quality research published in peer-reviewed journals.

Appointment as associate professor (tenured) or full professor (tenured) may be considered for applicants with professional distinction in published research and who have demonstrated effectiveness in teaching and advising. Appointment at these ranks must meet the minimum qualifications established by the University of Minnesota.

Applicants should send curriculum vitae, significant reprints, a statement of research plans, and three names for reference purposes to: **Dr. J. W. Miller, Professor and Chairperson of Search Committee, Department of Pharmacology, 3-249 Millard Hall, University of Minnesota, 435 Delaware Street, S.E., Minneapolis, MN 55455.** Deadline for receipt of applications is 15 April 1991.

*The University of Minnesota is an Equal Opportunity Educator and Employer.*

A position at the **POSTDOCTORAL LEVEL** is available beginning in July of 1991 at the Cornell University Medical College and the Graduate School of Medical Sciences for an individual interested in studying the molecular mechanism of signal transduction and the regulation of gene expression during neural development in a multidisciplinary environment [see *MCB* 9, 135-143 (1989); *J. Cell Biol.* 110, 1333 (1990); *J. Neurosci. Res.* 25, 453-462 (1990)]. Experience in molecular biology or protein chemistry is desirable. The position carries an appointment in both the Department of Neurology and Neuroscience and the Department of Cell Biology and Anatomy. Please send curriculum vitae, a statement of research interests, and the names of three references to: **Ms. Ann Frey and Dr. John A. Wagner, Department of Neurology and Neuroscience, The New York Hospital-Cornell Medical Center, A-569, 525 East 68th Street, New York, NY 10021.**

*Equal Employment Opportunity/Affirmative Action, M/F/H/V.*

## POSITIONS OPEN

### POSTDOCTORAL POSITION UNIVERSITY OF MARYLAND

Available immediately to study the regulation of human neuroblastoma cell growth, differentiation, and metastasis, focusing on the regulation of expression of the amplified *N-myc* oncogene. Experience in molecular techniques is required. Send curriculum vitae and three letters of reference to: **Christopher N. Frantz, M.D., Director, Division of Hematology/Oncology, Department of Pediatrics, School of Medicine, University of Maryland, Box 123, 22 South Greene Street, Baltimore, MD 21201.** *The University of Maryland is an Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL POSITIONS

Available immediately for Ph.D. or M.D. in immunology and molecular biology. Research will involve studies on cellular and molecular mechanism of human B cell differentiation. This area includes (i) biochemical purification and molecular cloning of various factors and (ii) regulation of lymphokine gene expression. Salary is negotiable. *An Equal Opportunity Employer.* The interested candidate is encouraged to send curriculum vitae to:

**Dr. Y. S. Choi  
Director, Laboratory of Cellular Immunology  
Alton Ochser Medical Foundation  
1520 Jefferson Highway  
New Orleans, LA 70121**

**POSTDOCTORAL POSITION.** Available to study insect molecular genetics. Research program focuses on the molecular genetic analysis of transposable elements and the development of insect gene vectors. Both drosophilid and non-drosophilid systems are employed. Appointment will begin in July 1991 and continue for 2 years. Applicants with experience in molecular genetics are preferred; however all applicants will be considered. Familiarity with insect systems not required. Send curriculum vitae and names of three references to: **Dr. David A. O'Brochta, Center for Agricultural Biotechnology, 1206 H. J. Patterson Hall, University of Maryland, College Park, MD 20742.** *The University of Maryland is an Equal Opportunity Employer. Women and members of minority groups are specifically encouraged to apply.*

### POSTDOCTORAL POSITIONS IN IMMUNOLOGY ST. JUDE CHILDREN'S RESEARCH HOSPITAL

Applications are invited for postdoctoral appointments in the Department of Immunology at St. Jude Children's Research Hospital. The areas of interest are: T cell development and tolerance (M. C. Blackman, J. L. Hurwitz, D. L. Woodland), B cell memory (C. Coleclough), inherited immunodeficiencies (M. E. Conley), macrophage development and T cell regulation (W. S. Walker, D. Sun) and viral immunity (J. E. Allan, P. C. Doherty). *U.S. citizenship or permanent residency status is not required.* Please contact: **Dr. Peter C. Doherty, Chairman, Department of Immunology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105.** *An Affirmative Action/Equal Opportunity Employer. We provide a smoke-free environment.*

### POSTDOCTORAL POSITION

Available immediately, for up to 5 years, to study internal-image anti-idiotypic antibodies and their ability to serve as endocrine mimics in vivo. This is a well-funded program which aims to regulate hormones of commercial interest to animal production through manipulation of the immune system. Substantial experience in the production of monoclonal antibodies is essential. Experience with molecular techniques, particularly with immunoglobulin genes, is also desirable, but not essential.

*The University of Guelph is committed to an Employment Equity program that includes special measures to achieve diversity among its faculty and staff. We therefore particularly encourage applications from qualified aboriginal Canadians, persons with disabilities, members of visible minorities, and women.*

Send curriculum vitae and three references to:

**Dr. J. S. Walton  
Department of Animal and Poultry Science  
University of Guelph  
Guelph, Ontario N1G 2W1, Canada**

## POSITIONS OPEN

### POSTDOCTORAL ASSOCIATE

The National Cooperative Vaccine Development Group for AIDS at the Whitehead Institute is seeking a postdoctoral associate to participate in basic virology, microbiology, and immunology research aimed toward the development of new concepts for AIDS vaccines and management of the Whitehead Institute/MIT HIV Containment Facility. The successful candidate must have:

- an M.D. degree;
- at least 5 years of postdoctoral experience in molecular genetic approaches to basic HIV research, including work in the area of retroviral packaging;
- 2 years of postdoctoral research experience with mycobacterium bovis BCG molecular genetics;
- experience with cellular immunology assays;
- at least 2 years of experience in a BL3 containment facility;
- a record of productivity in the fields of HIV and mycobacterial research; and
- experience with primary human monocyte cell culture.

Applicants should forward curriculum vitae with a description of previous research experience and the names and telephone numbers of three references by 15 March 1991 to:

**Employment Manager/S100  
Whitehead Institute for Biomedical Research  
Nine Cambridge Center  
Cambridge, MA 02142**

*We are an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITIONS.** Available immediately to study (i) development of skeletal muscle and the role of the extracellular matrix; (ii) structural organization and genetic diseases of connective tissues. Experience in protein chemistry or molecular biology preferred. Salary is negotiable. Please send curriculum vitae to: **Dr. Richard Mayne, Department of Cell Biology, Box 302, University of Alabama at Birmingham, Birmingham, AL 35294.** *The University of Alabama at Birmingham is an Equal Employment Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL POSITION JOHNS HOPKINS UNIVERSITY



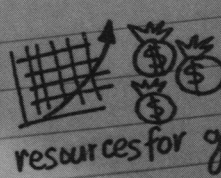
A postdoctoral position will soon be open for an individual interested in using biochemical and molecular biological approaches to understand structure-function relationships in membrane proteins. The focus will be on one of several membrane proteins under study involved in energy transduction. Students currently completing their Ph.D. thesis work will be given preference. Send curriculum vitae and names of three references to: **Dr. Peter L. Pedersen, Department of Biological Chemistry, School of Medicine, 725 North Wolfe Street, Baltimore, MD 21205.** *Equal Opportunity Employer.*

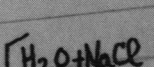




### POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY

Study of mammalian cellular and HIV DNA replication proteins with respect to mechanism of action, response to antiviral agents, and cellular regulation. Viral proteins are generated by expression in bacteria. Procedures involve preparation of model DNA and RNA substrates, monoclonal antibody production, polymerase chain reaction, and active site photolabeling. Submit a complete curriculum vitae and three references to: **Dr. Robert A. Bambara, Department of Biochemistry, Box 607, University of Rochester Medical Center, Rochester, NY 14642.**

**POSTDOCTORAL POSITION: PLANT ECOLOGY.** Available immediately to study methods for enhancing revegetation success in semiarid environment, to participate in design and evaluation of protective barriers for hazardous waste management areas, and to participate in study of competition between cheatgrass and a perennial bunchgrass. Fieldwork will be conducted at the Idaho National Engineering Laboratory. Expertise in soil-plant water relations and/or soil chemistry and physics desirable; *U.S. citizenship required.* Salary: \$24,000. Submit curriculum vitae, a short summary of research interests and relevant courses/experience, and names of three references to: **Dr. Jay Anderson, Department of Biological Sciences, Idaho State University (ISU), Pocatello, ID 83209.** For more information, call: 208-236-3145. *ISU is an Affirmative Action/Equal Opportunity Employer.*

# How to solve the equation for success.

 +  +   
scientific excellence + teamwork + resources for growth

 +  +  +  +  = Pfizer Research  
a great location + recognition + rewards

Pfizer is a lot more than a pharmaceuticals and healthcare industry leader. It's a group of people dedicated to discovering, developing and marketing innovative pharmaceuticals, animal health and specialty chemical products that improve the quality of life worldwide. As a Fortune 100 company, Pfizer is committed to continuing its remarkable growth by investing more than half a billion dollars annually in research and development.

## BS/MS Scientists

If you have relevant laboratory experience and strong theoretical knowledge, take advantage of this opportunity to join multi-disciplinary teams in one of the following areas:

**Inflammation Biology**—Conduct research into the mechanisms involved in the pathogenesis of chronic arthritis using *in vivo* models, cell culture and biochemical methodologies.

**Cellular Biochemistry**—Study basic mechanisms to identify and understand cellular processes involved in the inflammatory response.

**Pulmonary Biology**—Investigate eosinophil function related to the discovery of novel anti-asthma drugs.

**Osteoporosis**—Perform and develop a variety of osteoporosis studies to discover novel therapeutic agents.

**Cellular Electrophysiology**—Use patch-clamp recording and video-imaging technologies to investigate the role of lymphocyte ion channels in autoimmune diseases.

Our excellent benefits include competitive salaries, health and dental care, paid holidays and vacations, savings, investment and pension plans, and relocation assistance to our attractive Connecticut shore location.

To learn how you can be part of our success, please send your resume to: Mr. Kym Goddu, Central Research Division, Pfizer Inc, Eastern Point Road, Groton, CT 06340. We are an equal opportunity employer.



Central Research

The elements of success.

Boehringer Ingelheim Pharmaceuticals, Inc. is engaged in the discovery, development, manufacture and marketing of novel drug compounds. The following position is currently available in the Department of Toxicology and Safety Assessment at our Research and Development Center, located in DANBURY, CT.

## SENIOR TOXICOLOGIST

This position will act as Study Director for in-house preclinical toxicology studies including the design and interpretation of scientific data. Other responsibilities include the monitoring of toxicology studies performed at contract labs and participating in the evaluation of new drug candidates.

Requirements include a DVM or Ph.D in Toxicology, Pharmacology or related life science with two or more years post-doctoral experience as a Study Director for studies in support of new chemical/pharmaceutical agents.

Boehringer Ingelheim offers a competitive salary and benefits package including relocation assistance.

**We will be interviewing candidates at the Society of Toxicology Placement Service in Dallas.** If you are unable to meet with us, please send your curriculum vitae to Dept. JC-1S-027, Boehringer Ingelheim Pharmaceuticals, Inc., 90 East Ridge, P.O. Box 368, Ridgefield, CT 06877. *As a progressive health care company, we have a nonsmoking environment. We are an equal opportunity employer m/f/h/v.*



# Boehringer Ingelheim

*Join Wyeth-Ayerst Laboratories, one of the world's largest pharmaceutical research and development groups. Now is your opportunity to become an integral member of our fast-paced, innovative team in our Princeton, NJ facility.*

## Immunopharmacologist Adhesion Molecules

This position will be responsible for developing and performing in-vitro analyses of immune cell and endothelial cell adhesion molecule expression and function. A B.S. with 5-10 years experience or an M.S. with 4-6 years experience, plus a strong background in immunology and/or cell biology, are required. Familiarity with endothelial cell culture techniques and experience in in-vitro immunological testing procedures is preferred, but not required.

Wyeth-Ayerst offers an excellent compensation and benefits package in our highly professional environment. Please forward resume with salary requirements to: **WYETH-AYERST RESEARCH, Personnel Manager, Position #450, CN 8000, Princeton, NJ 08643-8000.** An Equal Opportunity Employer, M/F/H/V. Principals Only.



# SPACE LIFE SCIENCES

Lockheed Engineering & Sciences Company supplies management and technical resources to many government agencies and major corporations. Our Western Programs Office currently has several unique science management opportunities with its Flight Payloads Integration contract at NASA. Experiment Support Scientist positions offer an exciting environment for exceptional individuals to participate in NASA's Space Life Sciences research program.

Working at the Ames Research Center in Mountain View, California, you will support the Space Life Sciences Payloads Office in the development, integration and operation of space flight life sciences experimentation. The Science Management Department consists of life scientists who help integrate the research goals of principal investigators with the hardware and mission constraints/capabilities of the Space Shuttle. This requires close and continuing collaboration with investigators, NASA scientists and managers, and engineering staff.

As the primary contact with the principal investigator on all scientific issues, you will ensure the achievement of all scientific goals of the experiment. You will represent the investigator in all payload science issues, prepare documentation related to the scientific aspects of the experiment and assist with the conduct of the experiment.

You must have a PhD or MS plus laboratory experience, or equivalent work experience, in animal physiology, developmental biology or cellular and molecular biology. Experience with primate or rodent research is valuable. A publication record reflecting your research interests and experience is required. Excellent organizational and communication skills are essential.

Please forward a curriculum vitae and telephone number of two references to: Blythe Asagi, Human Resources, Lockheed Engineering & Sciences Company, P.O. Box 168, Moffett Field, CA 94035. Lockheed is an equal opportunity, affirmative action employer.

 **Lockheed**  
**Engineering & Sciences Company**  
*INNOVATION: giving shape to imagination.*



## Research And Development Opportunities

Baxter Diagnostics Inc., is a leading supplier of diagnostic products and instrumentation for clinical laboratories. Continued growth and expansion has led to R&D opportunities in our Stratus® Reagent, Product Support and Paramax Chemistry R&D groups. These positions require highly motivated, results-oriented individuals with strong technical, communication and organizational skills.

### **Scientists/ Project Leader Stratus® Immunoassay System**

The successful candidates will work with an exciting technology which has proven to be one of the most rapid and versatile means of automated enzyme immunoassay available today.

Reagent R&D Project Leaders supervise assay development project teams which are responsible for assays from their inception until their release to the marketplace. Besides the supervision of project team members, project leaders are expected to participate as members of their project teams at the bench.

Product Support R&D Scientists are talented scientists who supervise multi-disciplinary project teams which are responsible for product support and product improvement. These individuals must interact daily with Quality Control and Manufacturing.

### **Paramax® Chemistry System**

Positions are available for experienced individuals to become members of the Paramax R&D group. Successful candidates will supervise the development of immunoassays for the Paramax Chemistry Analyzer. Candidates with homogeneous EIA design experience and familiarity with automated chemistry systems will be given preference.

The ideal candidates for all positions will have a Ph.D. in a life science or an equivalent combination of education and work experience. These individuals will be well versed in EIA techniques with hands-on experience in their design and validation. Candidates with prior industrial experience will be given greater consideration.

### **Associates Immunochemistry and Chemistry**

Research Associates are members of the project team responsible for the day-to-day design, execution, and analysis of R&D experiments and will report to the Project Leader. These individuals should have a B.S. and 4-6 years industrial experience or a M.S. and 0-3 years industrial experience.

We offer an excellent scientific environment, supported by a highly competitive salary and complete benefits package. For confidential consideration, please send your resume with salary history, indicating position of interest, to: **Baxter Diagnostics Inc., Human Resources, East Facility, #348, P.O. Box 520672, Miami, FL 33152.** Equal Opportunity Employer. We Conduct Pre-Employment Drug Screening.

**Baxter Diagnostics Inc.**

***Baxter***

## **RESEARCH SCIENTIST NEUROPHARMACOLOGY**

**Amgen** is recognized as an industry leader in the application of biotechnology to human disease. As a result of our efforts to build a multi-disciplinary program in neurobiology, we currently have an opportunity for a Research Scientist in Neuropharmacology.

Qualified candidates must have a Ph.D. in Pharmacology or a related discipline, and post-doctoral training in neurobiology. Preference will be given to candidates with research experience in the area of drug effects on *in vivo* neurotransmitter metabolism. Familiarity with quantitative behavioral tests to assess brain function is highly desirable. Proficiency in parametric and non-parametric statistical analysis is essential.

**Amgen** offers a stimulating and challenging research environment on the cutting edge of biotechnology as well as an excellent compensation and benefits package. Our location is northwest of Los Angeles in an attractive community removed from the concerns typically associated with the Los Angeles area. If you have the necessary skills and qualifications and would like to be a part of a company that places a high priority on its human resources, please send us a Curriculum Vitae, in confidence, to:

**AMGEN, INC.  
Recruitment, Dept. #574  
Amgen Center  
Thousand Oaks  
CA 91320-1789**

Equal  
Opportunity  
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**AMGEN**

# TOXICOLOGISTS and PHARMACOLOGISTS

**Battelle**, a world leader in contract research and technical services, is expanding research efforts in toxicology and pharmacology. We have several professional positions available as described below:

**Inhalation Toxicologist** Involves generating and characterizing chemical atmospheres for large program inhalation studies. Includes documentation of purity and stability of test chemical atmospheres and running animal inhalation studies. Requires a PhD in toxicology, chemistry, or a related discipline and five years of experience in inhalation toxicology. Must be familiar with GLP.

**General Toxicologists** Involves designing and running general toxicity and preclinical safety studies for EPA, FDA, and international regulatory review. Work includes client interaction, protocol preparation, technical report writing, and project management. Requires a PhD in toxicology, pharmacology, or a related discipline and 2-3 years of relevant experience. Must be familiar with GLP.

**Pharmacokineticists** Involves study design and data analysis and interpretation for drug and chemical disposition, metabolism, and pharmacokinetics studies. Should be familiar with using a variety of common laboratory animals and techniques such as catheter implantations, radiotracer methods, autoradiography, and kinetic modeling methods. Requires a PhD in pharmacology, biochemistry or a closely related discipline and a minimum of 2 years of experience beyond the PhD.

Battelle offers competitive salaries, comprehensive benefits, and opportunities for career advancement. If interested, please contact us at the S.O.T. meeting or send your resume to: **Mr. Richard Shaw, Battelle, Dept. 228, 505 King Avenue, Columbus, OH 43201-2693.** An Equal Opportunity/Affirmative Action Employer M/F/H/V.



## POSITIONS OPEN

**POSTDOCTORAL POSITION.** An NIH-funded postdoctoral position is available to investigate the translational control of maternal mRNAs and regulation of poly(A) removal during *Xenopus* oocyte maturation [see *Genes Dev.* 4, 2278-2286 (1990)]. Training in molecular biology or biochemistry is preferred. Send curriculum vitae and three letters of reference to: **Dr. Michael Wormington, Department of Biology, University of Virginia, Charlottesville, VA 22901.** Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL POSITION.** To conduct a molecular genetic analysis of the development of malarial parasites in the mosquito *Anopheles gambiae*. Candidates should have experience working with molecular biology and/or biochemistry of an insect. Please send curriculum vitae, brief description of recent research, and names of references to: **Dr. Frank H. Collins, Department of Biology, Emory University, Atlanta, GA 30322.** Telephone: 404-488-4010. FAX: 404-488-4427. Emory University is an Equal Opportunity Employer.

**POSTDOCTORAL POSITION.** Available in the laboratory of Dr. Albert Wong. Research involves the study of genetic alterations that occur in human cancer and their underlying mechanisms. Research will utilize a molecular approach to analyze spontaneously occurring mutations in the EGF receptor and determine role of signal transduction protein in tumorigenesis. Familiarity with the methods of molecular biology preferred. Submit résumé and names of three references to: **Personnel Department, MAS, DAW, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** Equal Opportunity Employer.

**TWO POSTDOCTORAL POSITIONS.** In plant science available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Western Regional Research Center, 800 Buchanan Street, Albany, CA 94710. (i) **PLANT GENOME STRUCTURE.** Study organization of the genomes of the cereals wheat and rice. Participate in an effort to understand the structure and organization of several multigene quality-related loci and the more general questions involving monocot genome organization. Background in molecular biology/biochemistry. Contact: **Dr. Olin D. Anderson, 415-559-5773.** (ii) **MONOCOT TRANSFORMATION:** Explore strategies for monocot transformation. Develop regeneration, competent wheat tissue cultures, and utilize in studies of stable integration and tissue-specific expression. Experience in plant tissue culture, molecular biology, and recombinant DNA desirable. Contact: **Dr. Frank C. Greene, 415-559-5614.** Both positions are for 2 years. Salary: \$31,116 to \$37,294. USDA, ARS, is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

**POSTDOCTORAL FELLOW.** Position available in the Research Medicine/Radiation Biophysics Division, Lawrence Berkeley Laboratory (LBL), to investigate the biological effects of electromagnetic fields on signal transduction and calcium metabolism in the lymphocyte. These in vitro studies involve biophysical and biochemical characterization of signal transduction pathways, activated by antibody and mitogens, in the lymphocyte. Requires a Ph.D. within the last 4 years. Training in bioelectromagnetics or related field preferred. One-year term appointment, renewable up to 3 years. Send résumé and names and addresses of three references to: **Dr. Robert Liburdy, c/o LBL, M.S. 90-1042, Berkeley, CA 94720.** Job #A/6263. Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL FELLOW, MOLECULAR GENETICS.** Laboratory examines the pattern of spontaneous germline and somatic mutation in humans and other organisms; substantial effort is devoted to developing better PCR-based methods. Sample references: "Ectopic gene expression/rapid cross-species sequencing of factor IX," *Science* 244, 331-334 (1989); "Pattern of mutations in hemophilia B," *Am. J. Hum. Genet.* 47, 202-217 (1990); "Are most mutations endogenous," *Nature* 346, 22-23 (1990). Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Steve S. Sommer, M.D., Ph.D., Associate Professor, Department of Biochemistry and Molecular Biology, Mayo Clinic and School of Medicine, Rochester, MN 55905.** An Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### INTERNATIONAL CANCER RESEARCH FELLOWSHIP

The Hayashibara Foundation, a nonprofit-making organization within the Hayashibara Group, announces a fellowship program. Fellowship will be taken at the Fujisaki Cell Center which is devoted to basic and applied research related to the problems in human cancer. The fellowship is normally made for 1 year and is renewable for up to 5 years. The fellowship will be expected to commence within 6 months of the announcement of the awards. No fixed deadline for application is set throughout the year. The awards are for high-quality research work in one of the three categories described below:

- Fundamental leukemia-lymphoma research
- Cytokine-lymphokine research
- Hematopoietic cell lines

Qualified person who is holding a Ph.D., M.D., or equivalent qualifications should make inquiry for additional information and application forms from: **Jun Minowada, M.D., Director, Fujisaki Cell Center, 675-1, Fujisaki, Okayama 702, Japan.**

**POSTDOCTORAL FELLOW.** A position is available immediately for a postdoctoral fellow to participate in studies using in situ hybridization to explore human vascular disease. The goal of these studies is to define factor(s) synthesized locally in the vessel wall which contribute to smooth muscle differentiation and/or proliferation in atherosclerotic plaques and postangioplasty restenosis lesions [*J. Clin. Invest.* 82, 1134 (1988); *Proc. Natl. Acad. Sci. U.S.A.* 86, 2839 (1989)]. Previous experience in molecular biology, pathology, and/or cell biology is desirable. Send curriculum vitae and names of three references to: **Dr. Josiah N. Wilcox, Division of Hematology/Oncology, Drawer AR, Department of Medicine, Emory University, Atlanta, GA 30322.** We are an Equal Opportunity/Affirmative Action Employer.

**RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW.** To study: (i) molecular biological/biochemical questions in the eye as it is affected by aging, nutrition, protease, and/or antioxidant function; (ii) mechanisms of life extension via dietary caloric restriction. List of projects available. *Must be eligible to work in the United States.* Send résumé and three letters of reference to: **Dr. Taylor, USDA-Tufts Human Nutrition Research Center, 711 Washington Street, Boston, MA 02111.** Indicate date you are available. Equal Opportunity Employer.

### POSTDOCTORAL RESEARCH POSITIONS DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS CASE WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE

Postdoctoral positions are available in the areas of membrane protein structure and function, electrophysical and biophysical approaches, cell physiology, and biophysics.

Applicants should send a letter and curriculum vitae, the names and addresses of three references, a list of publications, and a brief letter describing past and present research activities as well as future plans to: **Christine G. Sciuilli, Coordinator of Educational Programs, Department of Physiology and Biophysics, Case Western Reserve University, 2109 Adelbert Road, Cleveland, OH 44016-4109.**

Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.

### POSTDOCTORAL RESEARCH ASSOCIATE

Positions are available for recent Ph.D. graduates in biochemistry and molecular biology to work on mechanisms of gonadotropin, EGF, and eicosanoids action. Candidates with experience in the techniques of biochemistry and molecular biology such as subcellular fractionation and nuclear isolation, membrane protein and enzyme purification, measurement of eicosanoid synthesizing and other enzyme activities, in vitro transcription, mRNA transport and translation, DNA and RNA isolation, cloning, preparation and labeling of DNA and RNA probes and hybridization, protein, RNA and DNA blotting are considered. If interested, contact: **Dr. Ch. V. Rao, Department of Obstetrics/Gynecology, 438 MDR Building, University of Louisville School of Medicine, Louisville, KY 40292.** FAX: 502-588-0881 and arrange to send four recommendation letters.

## Geisinger Clinic

### POSTDOCTORAL POSITION

Applications are invited from candidates with backgrounds in protein biochemistry molecular biology or cell biology to participate in research focused on ras-related low molecular mass GTP-binding proteins in mammalian cells. Specific emphasis is placed on defining the influence of post-translational modifications (e.g., isoprenylation) on the functions of these proteins.

The Weis Center is a well-equipped modern research facility located in an attractive region of central Pennsylvania. We offer competitive stipends, excellent benefits and opportunities for collaborative interactions. For consideration, please send curriculum vitae, statement of interests and names of three references to: **Dr. William Maltese, Weis Center for Research, Geisinger Clinic, 26-16, Danville, PA 17822** Equal Opportunity Employer M/F/H/V.

**Geisinger**

## NEUROSCIENCE RESEARCH

The ICI Pharmaceuticals Group, dedicated to the challenge of discovering and developing important new therapeutic agents, is seeking pharmacologists for the CNS drug discovery research group based in Wilmington, Delaware. The successful candidates will be part of an interdisciplinary team involved in exploring the interactions of neuropeptides and neurotransmission. The environment offers modern laboratory facilities supported by state-of-the-art technology.

### Neuroscientist/Molecular Pharmacologist

PhD in Pharmacology/Biochemistry with a minimum of 3 years' postdoctoral experience required. Proven application of molecular biology concepts and techniques, including gene cloning and transfection into mammalian cells necessary. Experience with receptor-mediated second messenger coupling mechanisms desired.

### Postdoctoral Assignments

Two industrial research positions sponsored by the Department of Pharmacology of the University of Pennsylvania. One year appointments with the potential to renew. Experience and research interests in neurochemical pharmacology and tissue culture techniques required. Knowledge of molecular biology preferred.

*Enjoy the benefits of belonging to a worldwide organization  
with the professional and financial resources  
to support and sustain aggressive long-term research.*

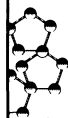
For consideration, submit c.v. to **Mary P. Grigas, ICI Pharmaceuticals Group, Wilmington, DE 19897.**



**Pharmaceuticals**

An Equal Opportunity Employer M/F.

## Immunology Post-Doctorate or Staff Research Scientist



Specialty Laboratories, Inc. is a leading provider of diagnostic and prognostic test services. With our wide spectrum of expertise and superior research capabilities, we are a "laboratory of the future" with a continual need for skilled professionals.

Currently, outstanding opportunities for PhDs are available in our advanced research environment, including this immediate staff opening for a Doctorate with 3-5 years experience in Cellular Immunology.

Working in the R&D department of our clinical reference laboratory, you will collaborate with a senior scientist on an immunology project funded by the NIH. Specifically, you will assist in generating human monoclonal antibodies in Severe Combined Immuno-deficient (SCID) mice. Preferred background will include experience with B-lymphocyte cultures and hybridoma formations.

In addition to excellent compensation and benefits, we offer active seminar series, opportunities for presentation and publication in national forums, and the chance to work in the state-of-the-art research facilities of an industry leader. For further information, please contact: **Kathleen A. Denis, PhD, SPECIALTY LABORATORIES, INC., 2211 Michigan Avenue, Santa Monica, CA 90404-3900. (213) 828-6543, ext. 491. EOE.**



**SPECIALTY  
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*Putting Tomorrow To The Test.*

## Associate Scientist/ Sr. Associate Scientist

The R.W. Johnson Pharmaceutical Research Institute integrates world-wide R&D efforts for five Johnson & Johnson Companies to maximize our traditional R&D efforts and our strengths in biotechnology. Expanding drug discovery programs have created an immediate opportunity with the Drug Metabolism Department at our campus-like setting in Raritan, NJ.

The successful candidate will have an MA/MS in Chemistry, Biochemistry or related field and at least 3 years' experience; or a BS with at least 6 years' experience. Familiarity with chromatographic instrumentation required. Using bioanalytical methodology, you will develop assays for the determination of drugs and their metabolites in biological fluids and tissues.

We offer a competitive salary and comprehensive benefits including health/dental insurance, 401(k) plan, tuition reimbursement, our LIVE FOR LIFE Wellness Program with on-site fitness center, and a smoke-free workplace.

Please send your resume, including salary requirements, to: **Mr. Thomas Hutton, Human Resources Dept. 6, R.W. Johnson Pharmaceutical Research Institute, P.O. Box 300, Raritan, NJ 08869-0602.**

An Equal Opportunity Employer, M/F



R W JOHNSON

**PHARMACEUTICAL RESEARCH INSTITUTE**

*A Johnson & Johnson Company*



## POSITIONS OPEN

**POSTDOCTORALS/RESEARCH ASSOCIATES.** Molecular biology, biochemistry, and cell biology. Study regulatory consequences of ligand-receptor interaction at the transcriptional and post-transcriptional levels. DNA cloning and mutagenesis to probe receptor structure-function relationships, and intracellular routing. Experience in molecular biology techniques, receptor methodology/isolation/cloning would be advantageous. Available immediately. Stimulating environment in new school focused on molecular recognition. Competitive salary. Send curriculum vitae and names of references to: **Dr. Ann Smith, School of Basic Life Sciences, 313 Biological Sciences Building, University of Missouri-Kansas City, MO 64110. The University of Missouri is an Equal Opportunity Employer.**

### U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE

**POSTDOCTORAL RESEARCH ASSOCIATE.** Position available for a cell/molecular biologist who is interested in studying cell-surface receptors of bovine neutrophils. The laboratory has modern equipment for tissue culture, microscopy, flow cytometry, electrophoresis, and centrifugation. Ph.D. required. Salary range \$31,116 to \$37,294 per annum. Send résumé and statement of research interests to: **M. J. Paape, MSML, Building 173, USDA-ARS, Beltsville, MD 20705. Telephone: 301-344-2302. FAX: 301-344-2798.** For information on application procedure/forms, contact: **Sandra Thomas, telephone: 301-344-3953.** Applications for this position must be marked 1EO13. *USDA/ARS is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

**POSTDOCTORAL RESEARCH ASSOCIATE.** Position available for person experienced in molecular biology of prokaryotic organisms and with a Ph.D. in the appropriate area. The research involves cloning, sequencing, and expression of enzymes involved in C1 metabolism. This research is part of a program to study structure-function relationships of several redox proteins containing flavin or quinone cofactors, including the recently discovered cofactor tryptophan tryptophylquinone, by x-ray crystallography and site-directed mutagenesis. Please send curriculum vitae and the names of three references to: **Dr. F. Scott Mathews, Department of Cell Biology, Washington University Medical School, Box 8228, St. Louis, MO 63110. An Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT RESEARCH IMMUNOLOGIST.** Program in Transplant Immunology is offering a position for a molecular/cellular immunologist with expertise in human immunogenetics and transplantation immunology. Candidate must have a Ph.D. degree with at least 3 years of postdoctoral employment and/or training in human immunogenetics and HLA system involving: serology or cellular immunology, T cell cloning, molecular genetics as related to histocompatibility, immunology. Responsibilities will include: Studies on human tolerance induction, regulation of HLA expression, and immune monitoring of transplant recipients. Salary range: \$41,600 to \$52,400 depending on experience. Send curriculum vitae and reference to: **Marvin R. Garovoy, M.D., University of California, San Francisco, 520 Health Sciences East, Third and Parnassus Avenues, San Francisco, CA 94143-0508.**

**RESEARCH ASSOCIATE.** Isolation, characterization, and biological actions of calcium channel antagonists from arthropod venoms. Involves HPLC purification of peptide toxins and use in binding and ion flux assays in nervous tissues. B.S. or M.S. in biological sciences; on the job training available. Salary: \$28,800 per year with full benefits. Curriculum vitae to: **M. E. Adams, Entomology Department, University of California, Riverside (UCR), CA 92521. UCR is an Affirmative Action/Equal Opportunity Employer.**

**RESEARCH ASSOCIATE.** To conduct research oriented to the study of inflammatory and neoplastic conditions of the stomach. Duties include the analysis of human specimens employing histochemistry, immunohistochemistry, enzyme immunoassay, and flow cytometry. Ph.D. in pathology or M.D. required. Also, 1 year in job offered or 1 year as a pathologist required; \$24,570 per year; 40 hours per week, 9:00 a.m. to 5:00 p.m. Contact: **Louisiana Office of Employment Security, Job Order 682225, 617 St. Charles Avenue, New Orleans, LA 70130.**

## POSITIONS OPEN

### POSTDOCTORAL/RESEARCH ASSOCIATE MOLECULAR BASIS OF CANCER

Positions available to: (i) study the molecular basis of tumor suppressor gene and oncogene action and (ii) identify and clone novel genes which modulate expression of the tumor cell phenotype. Expertise in current molecular biological techniques, such as cDNA cloning, library screening, and PCR required. To apply, send curriculum vitae, statement of research goals, and three letters of reference to: **Dr. P. B. Fisher, Columbia University, College of Physicians and Surgeons, 650 West 168th Street, New York, NY 10032. FAX: 212-305-5498. Equal Opportunity Employer.**

### RESEARCH ASSOCIATE/POSTDOCTORAL

A position is currently available to study genotoxic stress responses in mammalian cell. Emphasis will be given to a recently isolated group of novel DNA-damage-inducible genes that play a role(s) in negative growth control. Studies will also focus on the regulation of HIV-1 expression by genotoxic stress and on HIV-1 regulatory features shared with cellular stress-response genes. Experience in molecular biology and/or protein biochemistry, such as the purification and characterization of DNA-binding proteins, is desirable. Salary for a postdoctoral fellow (more than 3 years of experience) or a research associate (up to 5 years of postdoctoral experience) is commensurate with experience. Send curriculum vitae and names of three references to: **Dr. A. J. Fornace, Laboratory of Molecular Pharmacology, Building 37, Room 5C09, National Institutes of Health, Bethesda, MD 20892. email: fornace@fcrfvl.ncifcrf.gov.**

*An Equal Opportunity/Affirmative Action Employer.*

### ORGANIC CHEMIST

Work at the forefront in the development of new probe technology. Design, synthesize, test, and use new fluorescent dyes as probes to elucidate the structure, function, and health of biological cells and tissues. Skills with heterocyclic dyes and reactive chemical groups and knowledge of optical spectroscopic properties of organic chromophores is desirable. Recent or experienced postdoctoral associates will be considered. Write to: **Center for Fluorescence Research in Biomedical Sciences, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213. Carnegie Mellon University is an Equal Opportunity/Affirmative Action Employer.**

### RESEARCH SCIENTIST

To investigate the genetics of plasmids isolated from rapidly growing mycobacteria, the construction of Shuttle vectors, and the development of transformation methodologies. Also requires the ability to train and teach laboratory personnel the mycobacteriological techniques pertinent to this research program. Candidate must have a Ph.D. degree in microbiology with 4 to 5 years of relevant research experience, publications in the field, and demonstrated ability to develop a strong independent research program in this area. Forty hours per week; \$30,000 per year. Please submit curriculum vitae, a statement of research interest, and three reference letters to: **Dr. Arthur Bollon, Chairman, Department of Molecular Genetics, Wadley Institutes, 9000 Harry Hines, Dallas, TX 75235. Equal Opportunity Employer, M/F. Non-smoker.**

**STAFF SCIENTIST.** Position available in the Research Medicine/Radiation Biophysics Division, Lawrence Berkeley Laboratory (LBL), to investigate the biological effects of electric and magnetic fields. Participate in ongoing studies, develop independent research, and actively pursue funding support. Experimental focus is on elucidating basic interaction mechanisms with attention to the cell membrane. Current bioeffects research includes biophysical and biochemical studies of signal transduction pathways in the lymphocyte during antibody and mitogen activation and of alterations in membrane permeability of the blood brain barrier. Ph.D. and training and experience in bioelectromagnetics or related field preferred. One-year term appointment, renewable. Send résumé and names and addresses of three references to: **Dr. Robert Liburdy, c/o LBL, M.S. 90-1042, Berkeley, CA 94720. Job #A/6264. Equal Opportunity/Affirmative Action Employer.**

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**RESEARCH ASSOCIATE.** Forty hours per week, 8:30 a.m. to 5:30 p.m.; \$1666.67 per month. Development of apparatus and experimental protocols for fuel equivalence ratio imaging in combustion systems. Use of pulsed laser for ultra-fast measurements. Determination of optimum composition and emission properties of amine-containing exciplex-based vapor/liquid visualization systems. Development of instrumentation and computer software for photoacoustic calorimetry. Use of picosecond laser for high-time resolution. Digitizing of signals and transferring them to computers for further processing. Minimum requirements: doctorate degree in chemistry; 6 months in digitizing fast electronic signals, in transferring data from detection instruments to computers, and in either FORTRAN, PASCAL, or C programming. Past scientific research publication in photochemistry or photophysics, including use of pulsed laser excitation. Apply at the **Texas Employment Commission, Dallas, Texas**, or send résumé to: **Texas Employment Commission, TEC Building, Austin, TX 78778, J.O. #6122949. Ad paid by an Equal Opportunity Employer.**

**RESEARCH ASSOCIATE.** To conduct independent research in the area of molecular evolution of storage tissue in higher plants. Will involve isolation and sequence analysis of promoter elements from evolutionarily divergent species with different patterns of storage tissue differentiation, preparation of hybrid reporter gene constructs, their insertion into both monocotyledonous and dicotyledonous cells using protoplast or agrobacteria technology, regeneration of fertile transgenic plants, and analysis of the expression of the constructs in their new context. Will supervise graduate students and technicians and write research reports and grant proposals. Salary: \$25,000 per year, 40 hours per week. Requires Ph.D. in molecular biology and experience in gene isolation and preparation of gene constructs as well as transformation and regeneration of a wide range of both monocotyledonous and dicotyledonous species is essential. Apply at the **Texas Employment Commission, Bryan, Texas**, or send résumé to: **Texas Employment Commission, TEC Building, Austin, TX 78778, Job Order #6139018. Ad paid by an Equal Opportunity Employer.**

### VERTEBRATE BIOLOGIST RESEARCH ASSOCIATE

The Center for Water and the Environment of the Natural Resources Research Institute is looking for a general vertebrate biologist to join a core group of researchers to study the effects of natural resources development on ecological systems. The successful applicant should have broad training in vertebrate biology, ecology, statistics, and especially ornithology.

Minimum qualifications for the position include at least a Ph.D. in ecology, biology, or closely related field, five peer-reviewed publications, formal training and experience in the use of statistics including multivariate statistics, the ability to identify Minnesota's forest birds by sight and sound, and the physical ability to work in a variety of field environments.

The position will be a fixed-term appointment of up to 3 years under the University of Minnesota's Professional and Academic Staff. Salary is negotiable. The position is expected to begin around 1 July 1991.

To apply send an application letter, résumé, and the names, addresses, and telephone numbers of three references to: **Vertebrate Biologist Search Committee, Natural Resources Research Institute, 5013 Miller Trunk Highway, Duluth, MN 55811. Applications must be postmarked by 15 March 1991.**

*The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, veteran status, or sexual orientation.*

### RESEARCH INVESTIGATOR IN PERINATAL RESEARCH LABORATORY

Requires doctoral degree or equivalent education and experience in a related research area. Previous experience in isolated vascular smooth muscle and a working knowledge of its control and the role of the endothelium in it is highly desirable; \$24,500 starting salary.

The University of Iowa is an Equal Opportunity/Affirmative Action Employer. Women and minorities encouraged to apply. Send résumé to: **Carl Weiner, M.D., Department of Obstetrics and Gynecology, The University of Iowa Hospitals, Iowa City, IA 52242.**



**John F. Burke**  
**Postdoctoral Fellowships**  
**in Biomedical Science**

The Department of Surgery at Harvard Medical School/Massachusetts General Hospital invite applications for the John F. Burke Postdoctoral Fellowships in Biomedical Science. Three awards will be given in 1991: two to support two basic science research fellows and one to support a clinical research fellow. The awards are intended to encourage training in: (1) the basic phenomena which occur in burns and trauma (e.g. wound healing, inflammation, immunology), (2) the development of artificial organs, and (3) the development of bio-engineering approaches for the diagnosis and/or treatment of disease.

Basic Biomedical Science Fellows must have an MD and/or PhD; Clinical Research Fellows must have an MD with postgraduate medical training. Awards are made for a 2-year nonrenewable term and carry: (1) a stipend of \$38,000 for the first year and \$42,000 for the second year, (2) health insurance, and (3) travel allowance. Awardees will be selected by a panel of nationally recognized scientists and physicians.

Interested candidates should apply by May 1, 1991 by submitting: (1) a curriculum vitae, (2) a two-page description of research plans for the fellowship, (3) a one-paragraph description of long-term career goals, and (4) three reference letters to Ronald G. Tompkins, M.D., Sc.D., Chief of Trauma Services, Bigelow 1302, Massachusetts General Hospital, Boston, MA 02114. Reference letters should be sent directly to Dr. Tompkins. Selection of awardees will be made by July 1, 1991. Women and minority candidates are encouraged to apply.

## Neurobiology and Cellular Physiology Associate Scientists

Research positions are available in the following areas:

### Regulation of Epithelial Functions.

Study of the control of tight junction permeability and the role of exo- and endocytosis in the regulation of epithelial function by hormones and changes in ionic environment. The Associate will be involved in experiments using optical, ultrastructural and electrophysiological techniques. Experience in fluorescence imaging, electron microscopy or electrophysiology preferred. **Project Director: Dr. David Erlj, Department of Physiology, Box 31.**

### Cortical and Subcortical Contributions to Rhythmic Activity in a Network.

Study of the mechanisms underlying gating, pacing and generation of the hippocampal theta rhythm using electrophysiological and immunohistochemical techniques. The Associate will participate in determining the roles of extrinsic afferents in the brain state associated with rhythmic activity. Experience in electrophysiology and/or immunocytochemistry preferred. **Project Director: Dr. Steven E. Fox, Department of Physiology, Box 31.**

### Neurobiology of Chemical Senses.

Study of peripheral and central mechanisms of nasal chemical senses using electrophysiological techniques. The Associate will participate in an interdisciplinary program using behavioral, biochemical and anatomical techniques to understand the molecular and cellular basis of vomeronasal system transduction and central processing. Experience in single cell recording techniques preferred. **Project Director: Dr. Mimi Halpern, Department of Anatomy and Cell Biology, Box 5.**

**Salary range: \$23,000 to \$27,000**

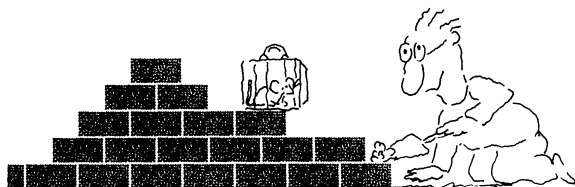
Candidates with a Ph.D. degree should submit a CV and two letters of reference to the Project Director (listed above).



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## CONFERENCE ON CHEMICAL RISK ASSESSMENT IN THE DoD: SCIENCE, POLICY, AND PRACTICE

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Although this conference will focus on DoD applications, the discussions should be applicable for ALL practitioners of risk assessment.

Session subject areas:

### Session I

- DoD Approaches to Chemical Risk Assessment
- Session Chair: From DoD, not confirmed

### Session II

- Principles of Chemical Risk Assessment
- Session Chair: Dr. John Doull, University of Kansas Medical Center

### Session III

- Issues in the Science and Methodology of Chemical Risk Assessment
- Session Chair: Dr. William Halperin, NIOSH

### Session IV

- Current Applications of Chemical Risk Assessment within Military Environments
- Session Chair: Dr. Renate Kimbrough, USEPA

### Session V

- New Directions in Chemical Risk Assessment Methodologies
- Session Chair: Dr. Daniel Krewski, Health and Welfare, Canada

### Session VI

- Issues in Risk Management
- Session Chair: Dr. Richard Thomas, National Research Council

Luncheon presentations by:

BRIG GEN Peter Hildalgo, USA (ret);  
Dr. Vernon Houk; CDC; and  
Dr. Larry Dietlein, NASA

To obtain further information, contact Ms. Lois Doncaster, Conference Coordinator, ManTech Environmental Technology, Inc., P.O. Box 31009, Dayton, Ohio 45431 (513, 256-3600, ext. 212). Respondents will be provided a detailed agenda and registration packet.

## POSITIONS OPEN

### TOXICOLOGIST

The Division of Biochemical Toxicology of FDA's National Center for Toxicological Research (NCTR) has an opening for a **STAFF SCIENTIST**. Ongoing research in the division is concentrated on the role of DNA adducts in mutagenesis and carcinogenesis, the importance of genetic heterogeneity in carcinogen activation and deactivation, drug-induced hypersensitivities, and the development of new NMR and mass spectral methods to detect toxic responses. NCTR is seeking an individual with research interests that complement these areas; however, we will consider applicants with research interests in other areas related to biochemical mechanisms of toxicity. The opening is a civil service position at the GS-12 (\$37,294) to GS-14 (\$52,406) level and is dependent upon peer review. Please send a résumé including an outline of proposed research to: **Frederick A. Beland, Director, Division of Biochemical Toxicology, NCTR, Jefferson, AR 72079. DHHS/PHS/FDA/NCTR is an Equal Opportunity/Affirmative Action Employer. Qualified men and minority candidates are especially encouraged to apply.**

### PHARMACOKINETICS/TOXICOLOGY/ RISK ASSESSMENT

Expansion of our Biosimulation Research Program will make a position available for a Ph.D. (or equivalent) to develop physiologically based computer simulation models. Solid background in biology/biochemistry/chemistry, with interest and ability to apply these skills to computer simulation, desired. Successful applicant will design and execute laboratory studies to support the co-development of physiologically based models. This individual will work in concert with our Risk Assessment Program to develop human risk assessments for the toxicants of interest. Publication of all results and presentation at national meetings is encouraged. Title and salary will be commensurate with background and experience. Interested individuals should send curriculum vitae, together with names and addresses of three references, to: **Ms. Lois Doncaster, Human Resources/04, ManTech Environmental Technology, Inc., A Subsidiary of ManTech International Corporation, P.O. Box 31009, Dayton, OH 45431.**

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### RESEARCH SCIENTIST

Applications are invited for a highly motivated scientist at the Florida Hospital Cancer and Leukemia Research Center. Applicants must have a Ph.D. in biochemistry with emphasis in protein chemistry. Postdoctoral experience is preferred. Available immediately to purify and characterize recombinant ricin toxin molecules produced in *E. coli* and yeast. Studies from this laboratory include *Mol. Cell. Biol.* 9, 415-420 (1989); *Mol. Cell. Biol.* 9, 5012-5021 (1989); *Mol. Cell. Biol.* 10, 6257-6263 (1990). Interested candidates are invited to send their curriculum vitae, bibliography, and three letters of recommendation to:

**Dr. Arthur Frankel, Director  
Florida Hospital Cancer and  
Leukemia Research Center  
616 East Altamonte Drive  
Altamonte Springs, FL 32701  
(Greater Orlando Area)  
Telephone: 407-339-1004**

**ASSISTANT RESEARCHER** Hawaii Institute of Tropical Agriculture and Human Resources, University of Hawaii, Biotechnology Program; full time; state funded, tenure track; to begin approximately 15 April 1991. Duties: establish a major program in the area of nitrogen fixation, and molecular genetics of tropical rhizobia; collaborate with NifTAL in tropical symbiotic nitrogen fixation studies, teach occasional courses in the general area of genetics of plant-microbe interaction, generate extramural funding. Minimum qualifications: Ph.D. in rhizobial molecular genetics, at least 2 years of postdoctoral experience in the molecular genetics of nitrogen fixation, and also 2 years of research experience with tropical legumes. Minimum salary: \$35,376 per year. Please send letter of application along with curriculum vitae and have three letters of reference forwarded to: **Dr. Suresh S. Patil, Director, Biotechnology Program, University of Hawaii, 3050 Maile Way, Honolulu, HI 96822.** Closing date: 15 March 1991. *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**CARBOHYDRATE CHEMIST-RESEARCH SCIENTIST** for small start-up company in California developing novel oligosaccharide sequencing technology. Ph.D. or equivalent experience, knowledge of glycoconjugate structure and conventional sequencing technology required. Competitive industrial salary and fringe benefits offered. Job requires staffing and laboratory supervisory skills. Résumés to: **Glyko, Inc., 81 Digital Drive, Novato, CA 94949.**

### RESEARCH SCIENTIST DIABETES RESEARCH LABORATORIES

Newly created position available to develop an independent diabetes research program involving the insulin gene utilizing techniques of molecular biology. Applicants must have a doctoral degree (or its equivalent) with in-depth experience with molecular biology research, a minimum of 2 years of postdoctoral experience, and a broad base of demonstrated research skills qualifying one to design and carry out innovative experiments and to write manuscripts and competitive grants. For consideration, send curriculum vitae to: **Mayer B. Davidson, M.D., Division of Endocrinology, Becker Building 131, Cedars-Sinai Medical Center, 8700 Beverly Boulevard, Los Angeles, CA 90048.**

## COURSES AND TRAINING

### CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain the Doctor of Optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **Dr. D. Chauncey, Program Director, Accelerated Program, The New England College of Optometry, Room S, 424 Beacon Street, Boston, MA 02115.**

**MEDICAL UNIVERSITY OF SOUTH CAROLINA (MUSC)** offers programs leading to Ph.D. and M.D./Ph.D. degrees in each of the basic biomedical sciences (anatomy, biochemistry, microbiology/immunology, pathology, pharmacology, physiology), biostatistics/epidemiology/systems science, pharmaceutical sciences, and molecular and cellular biology/medicine. Stipends (\$10,000 to \$15,000) available to qualified students. Contact: **College of Graduate Studies, MUSC, 171 Ashley Avenue, Charleston, SC 29425.**

### NEUROSCIENCE AT BAYLOR COLLEGE OF MEDICINE

The Division of Neuroscience at Baylor College of Medicine offers a program for advanced study of the nervous system leading to the Ph.D. degree in neuroscience. Applications for 1991-1992 must be completed by 1 June 1991, but earlier submission is strongly encouraged. Information regarding the program, financial support, and application procedures may be obtained from: **David Sweatt, Ph.D., Admissions Chairman, Division of Neuroscience (S603), Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, or call toll-free at 1-800-367-9149.**

### GRADUATE PROGRAM IN CANCER BIOLOGY

The Meyer L. Prentiss Comprehensive Cancer Center of Detroit and Wayne State University have established a **TRAINING PROGRAM** in cancer biology which includes more than 30 faculty from Wayne State University and the Michigan Cancer Foundation. The program offers a broadly based, multidisciplinary curriculum directed to the training of individuals who want to pursue careers in cancer research in academic, industrial, or governmental institution. The primary research areas include: molecular oncology, carcinogenesis, developmental therapeutics, tumor metastasis, cancer immunology, and breast cancer.

The program fosters innovative, interdisciplinary basic research in all of the above areas. Qualified individuals will receive competitive stipends and full tuition support. Postdoctoral fellowships are also available in the above areas with participating faculty. For further information contact: **Dr. Paul F. Hollenberg, Director, Graduate Program in Cancer Biology, Department of Pharmacology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201.**

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## MEETINGS

**BIOTECHNOLOGY PATENT CONFERENCE.** Sponsored by American Type Culture Collection (ATCC); 29 to 30 April 1991 in Washington, D.C. Presentations by biotechnology patent experts and federal regulators on all aspects of biotechnology patenting and associated litigation. Also, a review of Canadian biotechnology patenting policies. For more information: **Telephone: 301-231-5566 or FAX: 301-770-1805.**

### STROMAL REGULATION OF HEMATOPOIESIS 21-22 JUNE 1991/BETHESDA, MARYLAND

An NIH symposium to address the role of bone marrow stromal cells, the extracellular matrix, and the hematopoietic microenvironment in the regulation of cellular differentiation and proliferation. Keynote address and symposium summary by Nobel laureate E. Donnan Thomas. Abstracts are being accepted (until 1 May 1991) for poster presentation. For registration, contact: **Prospect Associates, Conference Department, 301-468-MEET.** For information, contact: **A. Levine, NHLBI, at 301-496-5911 or D. Badman, NIDDK, at 301-496-7458.**

## ANNOUNCEMENTS

### CALL FOR RESEARCH PROPOSALS

The Johns Hopkins Center for Alternatives to Animal Testing (CAAT) is soliciting proposals for the 1992-93 grant period. These research proposals should provide fundamental knowledge needed to develop alternative methods to whole animals for the safety evaluation of commercial products.

CAAT encourages the development of in vitro approaches to toxicity evaluation including, but not limited to, methods using human cells/cell lines and studies in the areas of skin hypersensitivity/toxicity, phototoxicity, target organ toxicity (e.g., neurotoxicity), and structure-activity relationships. Funds are not available for mutagenicity and carcinogenicity testing.

To apply, submit a one-page pre-proposal abstract (no specific format required) to: **Mrs. Joan Poling, CAAT, 615 North Wolfe Street, Baltimore, MD 21205. Telephone: 301-955-3193. FAX: 301-955-0258.** You will be notified of acceptance and sent guidelines for preparation of proposals. Deadline for submission of abstracts is 16 March 1991.

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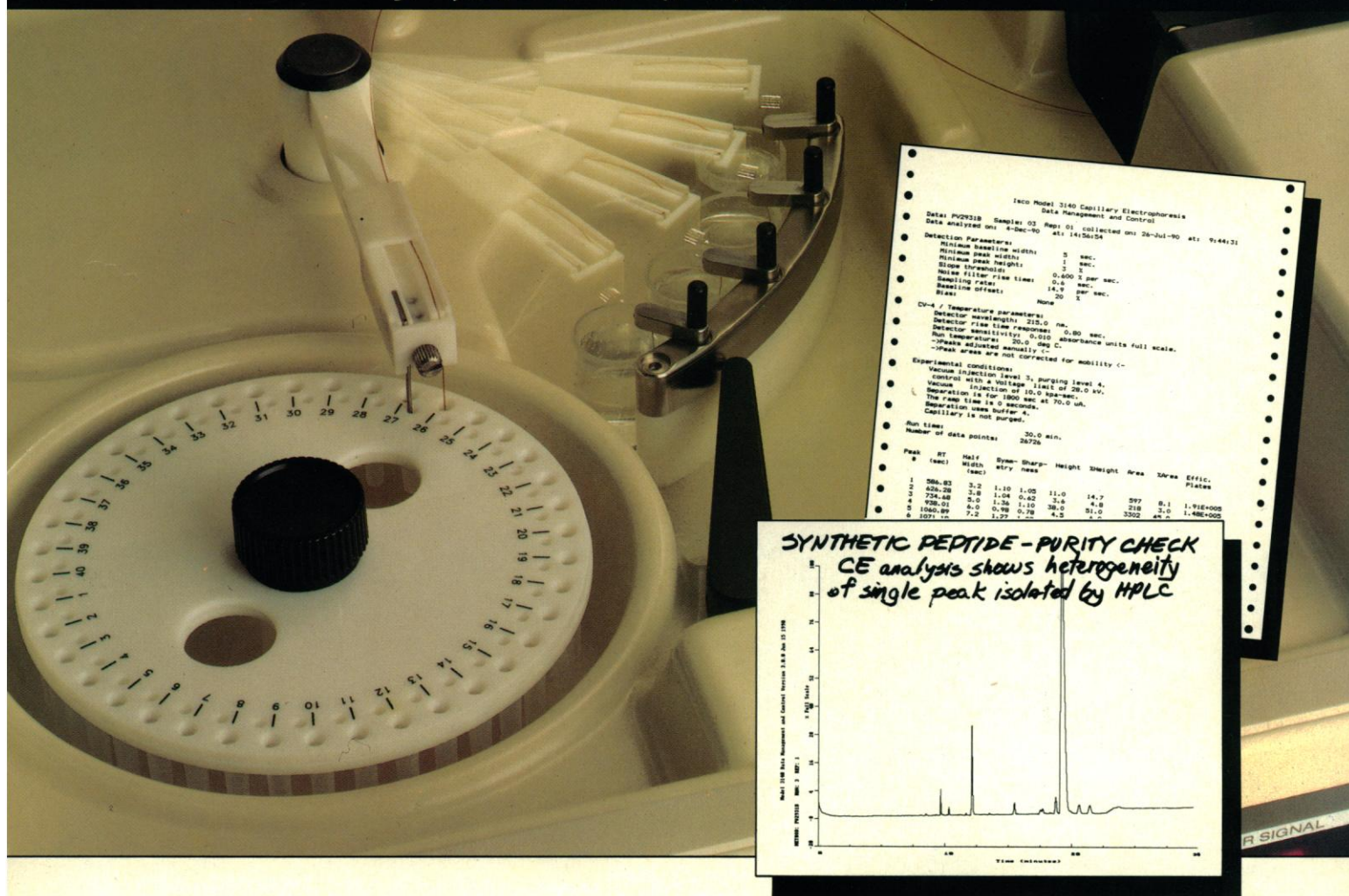
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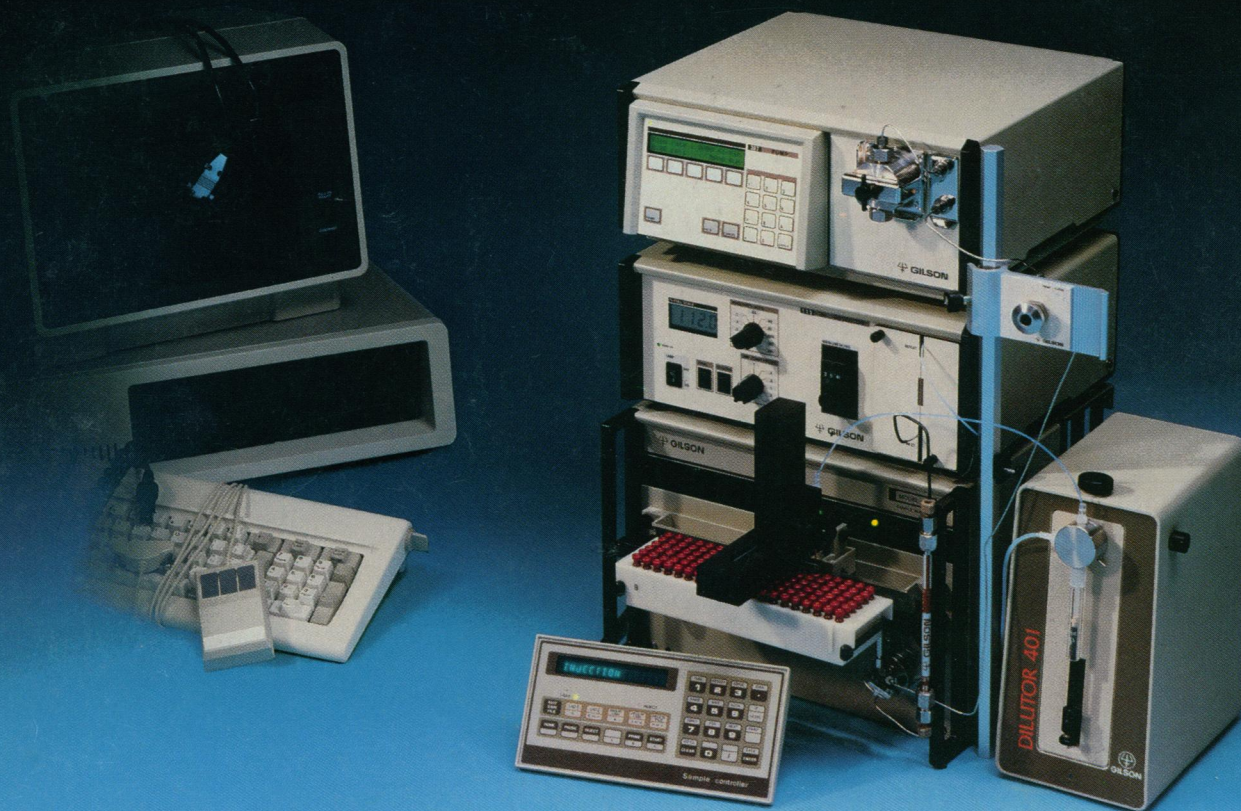


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