

## Molecular Motors

**Cell Movement.** Liss, New York, 1989. In two volumes. Vol. 1, The Dynein ATPases. FRED D. WARNER, PETER SATIR, and IAN R. GIBBONS, Eds. xviii, 337 pp., illus. \$88. Vol. 2, Kinesin, Dynein, and Microtubule Dynamics. FRED D. WARNER and J. RICHARD MCINTOSH, Eds. xvi, 478 pp., illus. \$98.

In the past five years the study of intracellular movement has experienced a surge of major advances catalyzed by the development of electronically enhanced video images from light microscopes and a motility assay in which filaments are levitated and transported by molecular fingers attached to a coverslip. As a result of these developments, the diffraction image of a single microtubule, normally well below the resolution limit of a light microscope, can be visualized, and translocator molecules (the molecular machines that convert chemical energy in the form of ATP to kinetic energy in the form of moving organelles) can be detected in cytoplasmic extracts by imaging the motion of single microtubules. These new methods led to the discovery of kinesin, a microtubule-based translocator molecule, and of a previously unknown function for a well-characterized translocator molecule, dynein.

*Cell Movement* documents the resulting advances. The first volume, "The Dynein ATPases," is dedicated to the best-characterized microtubule translocator molecules, ciliary and flagellar dyneins (*dyne* = force). These molecules were discovered in 1965 by Gibbons and colleagues were later demonstrated to cause adjacent microtubules in axonemes to slide relative to each other, motion that is translated into the bending movements of cilia and flagella. Four groups of papers, dealing with the molecular biology, functional dynamics, ATPase mechanism, and regulation of the dyneins, provide a well-organized and detailed treatment of the nuts and bolts of dynein structure and function, concluding with one of the more dynamic areas of research in this field, the regulation of bend formation in cilia and flagella.

The eclectic selection of topics (including, for example, myosin I, nuclear division, and post-translational modification of tubulin) in volume 2, "Kinesin, Dynein, and Microtubule Dynamics," contrasts with the clear order of volume 1. Nevertheless, the broad range of topics covered makes for stimulating reading. At the core of the volume are three sections devoted to kinesin and cytoplasmic dynein, the two major microtubule translocator molecules active in the transport of intracellular organelles. In two of

these sections, cytoplasmic dyneins identified in lower organisms and as microtubule-associated proteins are presented, and Pratt provides a perspective of research in this field. The other section documents the impressive progress in the understanding of the structure and function of kinesin that has been made since its discovery by Vale, Schnapp, Reese, and Sheetz in 1985. During this short period the molecule has been identified in a variety of organisms, its morphology well characterized, its biochemical activities identified, and important insights into its mechanism of action gained.

As a compilation of current research results from nearly all of the major investigators in this field, these volumes will serve investigators of cytoplasmic transport as a baseline source of information for years to come. In addition, the "Perspective" chapters that open each major section will help make the volumes accessible to a more general scientific audience. Of particular interest among these are Gibbons's detailing of the recent advances in microtubule-based translocator research and Brokaw and Johnson's informative treatment of dynein force generation in volume 1 and Sheetz's discussion of kinesin structure and function in volume 2. Many of the papers conclude with interesting questions yet to be addressed, giving the reader a look into the future of this fast-moving field.

ROGER J. LESLIE

Department of Zoology,  
University of California,  
Davis, California 95616

## Books Received

**The Application of Remote Sensing Technology to Marine Fisheries.** An Introductory Manual. M. J. A. Butler *et al.* Food and Agriculture Organization of the United Nations, Rome, 1988. xviii, 165 pp., illus. Paper, \$18. FAO Fisheries Technical Paper, no. 295.

**Applications of Chlorophyll Fluorescence in Photosynthesis Research, Stress Physiology, Hydrobiology and Remote Sensing.** Hartmut K. Lichtenthaler, Ed. Kluwer, Norwell, MA, 1988. xiv, 366 pp., illus. \$91.50. From a symposium, Bad Honnef, F.R.G., June 1988.

**Aquatic Humic Substances.** Influence on Fate and Treatment of Pollutants. I. H. Suffet and Patrick McCarthy, Eds. American Chemical Society, Washington, DC, 1989. xxx, 864 pp., illus. \$109.95. Advances in Chemistry, vol. 219. From a symposium, Denver, CO, April 1987.

**Archaeological Chemistry IV.** Ralph O. Allen, Ed. American Chemical Society, Washington, DC, 1989. xiv, 508 pp., illus. \$89.98. Advances in Chemistry, vol. 220. From a symposium, Denver, CO, April 1987.

**Artificial Intelligence and Expert Systems.** Case Studies in the Knowledge Domain of Archaeology. J.-C. Gardin *et al.* May Katzen, trans. ed. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1988. 232 pp., illus. \$49.95. Ellis Horwood Series in Artificial Intelligence Foundations and Concepts. Translated from the French edition (Paris, 1987) by Richard Ennals.

**Building Databases for Global Science.** Helen Mounsey and Roger F. Tomlinson, Eds. Taylor and Francis, Philadelphia, 1988. xvi, 419 pp., illus. \$77. From a meeting, Rotherwick, U.K., May 1988.

**Cajal on the Cerebral Cortex.** An Annotated Translation of the Complete Writings. Javier DeFelipe and Edward G. Jones. Oxford University Press, New York, 1988. xviii, 654 pp., illus. \$65. History of Neuroscience, no. 1.

**An Introduction to Riemann Surfaces, Algebraic Curves and Moduli Spaces.** Martin Schlichenmaier. Springer-Verlag, New York, 1989. xiv, 148 pp., illus. \$22.30. Lecture Notes in Physics, vol. 322.

**An Introduction to Tropical Food Science.** H. G. Muller. Cambridge University Press, New York, 1988. x, 316 pp., illus. Paper, \$29.95.

**Numerical Analysis, Algorithms and Computation.** J. Murphy, D. Ridout, and Bridgid McShane. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1988. viii, 148 pp. \$49.95. Mathematics and Its Applications.

**Numerical Methods and Software.** David Kahaner, Cleve Moler, and Stephen Nash. Prentice Hall, Englewood Cliffs, NJ, 1989. xii, 495 pp., illus., + floppy disk in pocket. \$50. Revision of *Computer Methods for Mathematical Computations*.

**Numerical Solution of Optimal Control Problems with State Constraints by Sequential Quadratic Programming in Function Space.** K. C. P. Mächelsen. Centrum voor Wiskunde en Informatica, Amsterdam, 1988. vi, 214 pp. Paper, Dfl. 33. CWI Tract 53.

**Ozone Depletion Greenhouse Gases, and Climate Change.** National Research Council. National Academy Press, Washington, DC, 1989. xiv, 122 pp., illus. Paper, \$20.

**Photothermal Investigations of Solids and Fluids.** Jeffrey A. Sell, Ed. Academic Press, San Diego, CA, 1989. xiv, 346 pp., illus. \$75.

**The Psychobiology of Down Syndrome.** Lynn Nadel, Ed. MIT Press, Cambridge, MA, 1989. xii, 484 pp. \$35. Issues in the Biology of Language and Cognition. From a conference, New York, Dec. 1987.

**Psychogenesis and the History of Science.** Jean Piaget and Rolando Garcia. Columbia University Press, New York, 1989. xvi, 309 pp. \$37.50. Translated from the French edition (Paris, 1983) by Helga Feider.

**Psychology.** Themes and Variations. Wayne Weiten. Brooks/Cole, Pacific Grove, CA, 1989. xxxviii, 697 pp., illus. \$40.50.

**Pulmonary Vascular Physiology and Pathophysiology.** E. Kenneth Weir and John T. Reeves, Eds. Dekker, New York, 1989. xviii, 762 pp., illus. \$125. Lung Biology in Health and Disease, vol. 38.

**Random Fluctuations and Pattern Growth.** Experiments and Models. H. Eugene Stanley and Nicole Ostrowsky, Eds. Kluwer, Norwell, MA, 1988. xii, 355 pp., illus. Paper, \$29. NATO Advanced Science Institutes Series E, vol. 157. From an institute, Cargèse, France, July 1988.

**Science, Ethics, and Food.** Brian W. J. LeMay, Ed. Smithsonian Institution Press, Washington, DC, 1988. 144 pp., illus., + plates. Paper, \$10.95. From a colloquium, Washington, DC.

**The Search for Structure.** A Report on American Youth Today. Francis A. J. Ianni. Free Press (Macmillan), New York, 1989. xii, 336 pp. \$22.50.

**Second Messengers in Plant Growth and Development.** Wendy F. Boss and D. James Morre, Eds. Liss, New York, 1989. xii, 348 pp., illus. \$96. Plant Biology, vol. 6.

**The Serotonin Receptors.** Elaine Sanders-Bush, Ed. Humana, Clifton, NJ, 1989. xvi, 388 pp., illus. \$69.50. The Receptors.

**Simple Molecular Systems at Very High Density.** A. Polian, P. Loubeyre, and N. Boccara, Eds. Plenum, New York, 1989. x, 512 pp., illus. \$105. NATO Advanced Science Institutes Series B, vol. 186. From a workshop, Les Houches, France, March-April 1988.

**Stress-Induced Proteins.** Mary Lou Pardue, James R. Feramisco, and Susan Lindquist, Eds. Liss, New York, 1988. xviii, 294 pp., illus. \$62. UCLA Symposia on Molecular and Cellular Biology, vol. 96. From a symposium, Keystone, CO, April 1988.

**Thinking and Deciding.** Jonathan Baron. Cambridge University Press, New York, 1988. xii, 516 pp., illus. \$59.50; paper, \$29.95.

**Topological Methods in Galois Representation Theory.** Victor P. Snaith. Wiley-Interscience, New York, 1989. xvi, 299 pp. \$44.95. Canadian Mathematical Society Series of Monographs and Advanced Texts.

**Unconventional Photoactive Solids.** Harvey Scher, Ed. Plenum, New York, 1988. x, 259 pp., illus. \$62.50. Institute for Amorphous Studies Series. From a conference, Cleveland, OH, Sept. 1985.

**Using Oil Dispersants on the Sea.** National Research Council. National Academy Press, Washington, DC, 1989. xvi, 335 pp., illus. \$39.95; paper, \$29.95.



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## POSITIONS WANTED

**Free-Lance Computer Programmer** for research laboratories. Reasonable rates. Prefer C on a PC in New York Metro area. Background in neuroscience and behavioral pharmacology. Pat O'Connor, 1649 Springfield Avenue, Maplewood, NJ 07040.

**Immunologist, Ph.D.** Experienced senior-level scientist with broad-based experience in industry and academia seeking responsible position in established or start-up biotechnology company. In-depth experience in tumor immunology, hybridomas, and large-scale cell culture. Significant project management experience. Box 93, **SCIENCE**.

**M.D.**, early retired (age 55) from drug industry seeks part-time or projects; excellent at data interpretation and medical writing for NDAs, etc. Telephone: 215-794-5581 or Box 86, **SCIENCE**.

## POSITIONS WANTED

**Mass Spectroscopist, Ph.D.** Broad and productive research experience applying mass spectrometry in the chemical and biological sciences. Many publications. Excellent writing and interpersonal skills. Experienced in all aspects of NIH grant processes. Seeks interdisciplinary opportunity at the mid- to senior professional level in academia, government, or private sector. Box 81, **SCIENCE**.

**Ph.D.** Several years of experience in RIA, GC, HPLC, immunoassay development. Over 10 years in reproductive endocrinology research. Last 5 years involved in ANF research. Excellent references and publications. Seek academic, industrial, or clinical research position. Box 95, **SCIENCE**.

**Reproductive Physiologist/Endocrinologist, Ph.D.** Seeks position in academia or industry. Research training in reproductive physiology and reproductive endocrinology. Postdoctoral training in reproductive physiology/animal science. Research interests in ovarian physiology. Laboratory experience in radioimmunoassays, receptor assays, tissue and embryo cultures, human in vitro fertilization, and andrology. Excellent teacher and researcher. Box 88, **SCIENCE**.

**Toxicologist, Ph.D.**, Board-certified with 10-plus years of industrial experience seeks position in California: chemical, consumer product, pharmaceutical, and hazardous waste site experience. Box 71, **SCIENCE**.

## POSITIONS OPEN

**ADJUNCT ASSISTANT PROFESSOR OF SURGERY/ONCOLOGY** position available for Ph.D., with a minimum of 5 years of postdoctoral experience in human solid tumor oncology, glycolipid biochemistry, and cellular immunology. Individual will participate in designing and assessing biological response modifiers and vaccine in patients receiving therapy, isolation, and characterization of glycolipid tumor antigens, and will develop a program to investigate immune cell recognition of glycolipid tumor antigens. Salary is in the range of \$50,000. Send curriculum vitae and names of three references by 31 July 1989 to: **Donald L. Morton, M.D., Surgery/Oncology, UCLA Medical Center, 9-267 L. Factor Building, Los Angeles, CA 90024-1782. UCLA is an Affirmative Action/Equal Opportunity Employer.**

**ANATOMIC PATHOLOGIST**—University of California School of Medicine at San Francisco is seeking a full-time academic pathologist at the assistant or associate professor level for San Francisco General Hospital (SFGH). Candidate expected to share in service and teaching; subspecialty pathology interest desirable. Primary effort and time commitment to continuing or developing independent research program expected. Anatomic Pathology Board certification or eligibility and California license are required. Send curriculum vitae to: **SFGH Search Committee, Department of Pathology, University of California, San Francisco, CA 94143-0506. Inquiries: Edward L. Howes, 415-821-8212. UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities encouraged to apply.**

## ASSISTANT PROFESSOR PLANT BIOCHEMIST

The Department of Botany invites applications for a tenure-track position beginning as soon as possible. Applicants should have a Ph.D. in plant biology and postdoctoral experience. The successful candidate will be expected to develop a vigorous research program in the compartmental regulation of carbohydrate metabolism with emphasis on chloroplast membrane transport, to obtain extramural funding, and to participate in graduate and undergraduate teaching. Send curriculum vitae, reprints, summary of past accomplishments, future research plans and names (addresses) of four references to: **Dr. Glenn Patterson, Plant Biochemist Search Committee Chair, Botany Department, University of Maryland, College Park, MD 20742-5815 by 1 August 1989.**

*The University of Maryland is an Equal Opportunity/Affirmative Action Employer and especially seeks women and minority candidates.*

## POSITIONS OPEN

### AQUATIC SCIENTIST

The Maryland Department of the Environment seeks individual to work on multidisciplinary programs related to Chesapeake Bay water quality. Duties include project management, data analysis, report writing, technical review and committee representation. Positions available at Ph.D. and M.S. levels.

Submit résumé by 31 July 1989 to: **Dr. Robert Magnien, Chesapeake Bay and Special Projects Program, Maryland Department of the Environment, 2500 Broening Highway, Baltimore, MD 21224.**

**ASSISTANT DIRECTOR, TRANSPLANT IMMUNOLOGY:** University of Nebraska Medical Center (UNMC), Department of Pathology/Microbiology faculty position at the level of instructor-assistant professor. Candidates should hold a Ph.D. and minimum of 2 years of postdoctoral experience in immunology. Successful candidate will join a growing clinical and research laboratory which provides histocompatibility testing for programs in hepatic, renal, cardiac, and bone marrow transplantation (280+ transplants per year) and which actively conducts clinical and large animal research on bone marrow and peripheral blood stem cell transplantation. We will provide training in histocompatibility testing. Curriculum vitae and three letters of recommendation to: **David T. Purtilo, M.D., Pathology/Microbiology, UNMC, 42nd and Dewey Avenue, Omaha, NE 68105** by 1 October 1989. *An Affirmative Action/Equal Opportunity Employer.*

The Department of Biochemistry and Biophysics at the University of Pennsylvania plans to appoint an investigator in the area of cell growth and differentiation with emphasis on novel proteins and covalent modification of proteins involved in this process. The appointment will be made at the **ASSISTANT PROFESSOR** level on the research track. Please send curriculum vitae and three letters of reference by 15 August 1989 to: **Dr. Franz Matschinsky, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA 19104-6059.** *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR, Internal Medicine,** University of Texas Southwestern Medical Center at Dallas, 1 July 1989, full-time, permanent. Three to 4 years of experience in lipoprotein research (laboratory and clinical). Applicant should have a thorough knowledge of clinical presentations and current therapy of hyperlipidemia. Experience in preparing and submitting grant proposals. Authorship or coauthorship of reviewed journal publications in the lipoprotein field. Duties include clinical investigation, lipid disorders and coronary heart disease. Clinical activities include studies in subjects with lipoprotein disorders independently and in collaboration with other investigators. *University of Texas Southwestern Medical Center at Dallas is an Affirmative Action/Equal Opportunity Employer.*

Send curriculum vitae and cover letter to (no telephone calls):

**Scott M. Grundy, M.D., Ph.D.**  
Center for Human Nutrition—Y3.206  
University of Texas  
Southwestern Medical Center at Dallas  
5323 Harry Hines Boulevard  
Dallas, TX 75235-9052

### ASSISTANT PROFESSOR DALHOUSIE UNIVERSITY

The Department of Microbiology, Faculty of Medicine, Dalhousie University invites applications for a full-time, tenure-track teaching and research position at the assistant professor level. Applicants should have a strong background in microbiology and a major research interest in the molecular aspects of microbial pathogenesis. The successful candidate will be expected to enthusiastically participate in the teaching program at the undergraduate and graduate levels, establish an independent research program, and interact with members of an existing infectious disease group. Applications accompanied by curriculum vitae, three letters of reference and a research plan should be directed to: **Dr. K. B. Easterbrook, Head of Microbiology, Dalhousie University, Halifax, Nova Scotia B3H 4H7 Canada.** *Dalhousie University has a policy of Affirmative Action in hiring qualified women academic staff.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR:** To teach biochemistry/physiology. To conduct and supervise independent research in the metabolic roles and genetics of the zinc metalloenzyme alcohol dehydrogenase (ADH) isozymes and to isolate and characterize pharmacologically active compounds from plants with preventive or therapeutic effects on alcohol intoxication. Applicants should have experience in the isolation of ADH isozymes from human and animal tissues and in the determination of the phenotypes of human ADH isozymes; culture of mammalian cells; working with laboratory animals; receptor binding assay techniques; ion and ligand uptake experiments; kinetic analysis and chemical characterization of metalloenzymes. Applicants should also have knowledge of identifying herbs with preventive or therapeutic effects on alcohol intoxication and experience in the extraction and purification of pharmacologically active materials from plants. Requirements include Ph.D. in biochemistry, some teaching experience, and 4 years of related research experience. Salary: \$37,000. Send résumés to: **Massachusetts Department of Employment and Training, Special Program Department, 19 Staniford Street, Boston, MA 02144,** and refer to case number 9810.

**ASSISTANT PROFESSOR—Department of Biochemistry and Molecular Biology.** Applications are invited for a tenure-track position at the assistant professor level. Applicants should have two or more years of postdoctoral experience and should have the potential for establishing an independent research program in physical biochemistry. This includes, but is not limited to, enzymology, DNA-protein interactions, and site-directed mutagenesis of proteins. Interest and excellence in teaching and research are expected. The appointee will have the responsibility of teaching a graduate course in physical biochemistry. The department has biotechnology and tissue culture support units. Competitive start-up and equipment funds will be provided. The present department consists of 14 faculty with \$1.5 million in annual research grant support. Interested individuals should send curriculum vitae with bibliography, short (three-page) summary of planned research, and the names and addresses of three references to the following:

**Robert Roskoski, Jr.**  
Head, Department of Biochemistry and  
Molecular Biology  
Louisiana State University Medical Center  
1100 Florida Avenue  
New Orleans, LA 70112-2799

### THE UNIVERSITY OF TEXAS AT DALLAS TWO ASSISTANT PROFESSORS GENE EXPRESSION/ MOLECULAR STRUCTURE

The Molecular and Cell Biology Program of the University of Texas at Dallas invites applications for two tenure-track positions at the assistant professor level beginning no later than 1 September 1990. Applicants should have at least 2 years of postdoctoral experience and show evidence of the development of a vigorous and independent research program with the capability of obtaining external support. Candidates should be actively engaged in research in the broad areas of either (i) structural molecular biology or (ii) the biochemistry or genetics of gene expression (eukaryotic or prokaryotic), which could include, for example, the molecular biology of development. Applicants must be qualified to teach part of a graduate core course in molecular biology or cell biology or in macromolecular physical chemistry. The Molecular and Cell Biology Program is well-equipped and currently has 13 faculty and 43 graduate students, almost all of whom are Ph.D. candidates. Send curriculum vitae (indication of sex and ethnicity for Affirmative Action statistical purposes is requested but not required), a short description of research plans, and names of three or more references to:

**Academic Search Number 291**  
**The University of Texas at Dallas**  
P.O. Box 830688  
Richardson, TX 75083-0688

Applications should be received by 31 August 1989. *The University of Texas at Dallas is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**ASSISTANT/ASSOCIATE PROFESSOR.** Applications are invited for tenure-track positions. Candidates must have a Ph.D. or an M.D. and postdoctoral training, and are expected to maintain an independent research program and a strong commitment to teaching. Special consideration will be given to candidates with a background in molecular and/or cellular physiology and an interest in renal tubular transport, vascular smooth muscle, or endocrine mechanisms. Faculty rank and salary will be commensurate with credentials. Interested applicants should send curriculum vitae, a statement of research interests, and the names of at least three references to: **Dr. John Hall, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS 39216.** *Equal Opportunity Employer, M/F/H/V.*

### ASSISTANT/ASSOCIATE PROFESSOR OF TROPICAL PUBLIC HEALTH

The Department of Tropical Public Health at the Harvard School of Public Health is searching for an assistant/associate professor with expertise in molecular biology, biochemistry or physiology of arthropods of medical importance. The candidate should have a record of productivity on the study of insects. The individual will interact with other members of a multidisciplinary department including immunologists, molecular biologists, vector biologists and epidemiologists, and be expected to develop a strong research and teaching program. Applicants should send curriculum vitae including list of publications and reprints of representative recent publications to:

**Ad Hoc Committee on Medical Entomology**  
Harvard School of Public Health  
Department of Tropical Public Health  
665 Huntington Avenue  
Boston, MA 02115

*The Harvard School of Public Health is an Equal Opportunity Employer and applications from women and minority groups are encouraged.*

The University of California, Davis, School of Medicine, is recruiting for a full-time faculty member to be jointly appointed, 50% in the Department of Pharmacology and 50% at the California Primate Research Center. Appointment will be at the **ASSISTANT OR ASSOCIATE PROFESSOR** level commensurate with qualifications and experience. Candidates must have a Ph.D. and experience in reproductive and developmental pharmacology/toxicology. Responsibilities will include teaching at the medical and graduate student level.

A letter outlining research and teaching background and identifying current research interests, along with curriculum vitae and the names of three references, must be received by 1 August 1989.

Reply to: **Larry G. Stark, Ph.D., Professor and Chairman, Department of Pharmacology, School of Medicine, University of California, Davis, CA 95616.**

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**BIOMATERIALS SCIENCE: CELL-SURFACE INTERACTIONS.** The Bioengineering Department at Clemson University invites applications for an **ASSISTANT/ASSOCIATE PROFESSOR OF BIOENGINEERING** (tenure-track) in biomaterials science with an emphasis on cell-surface interactions. Applicants must have a Ph.D. and experience in the use of cell culture models. Responsibilities will include graduate-level teaching, acquisition and conduct of sponsored, peer-reviewed research and scholarly writing. Collaboration will be encouraged with the seven full-time members of the Department as well as with other departments and institutions. Excellent research and clinical facilities are available through the Department, the College of Engineering and the Bioengineering Alliance of South Carolina. Applications will be accepted until 1 September 1989 or until the position is filled. Send curriculum vitae, statement of research and teaching interests, representative reprints and names of three references to:

**Professor Jonathan Black, Chair**  
Faculty Search Committee  
Department of Bioengineering  
301 Rhodes Engineering Research Center  
Clemson University  
Clemson, SC 29634-0905

*Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

The Department of Microbiology and Immunology, East Carolina University School of Medicine invites applications for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level in immunology. Applicants must hold a Ph.D. or equivalent degree and have at least 2 years of postdoctoral training. Successful candidates will be expected to develop and maintain a vigorous, grant-supported research program, and participate in the teaching of medical and graduate students. Salaries and research start-up support are nationally competitive. Submit curriculum vitae, description of research interests, and names of three references to: **Paul V. Phibbs, Chairman, Department of Microbiology and Immunology, School of Medicine, East Carolina University, Greenville, NC 27858-4354.** ECU is an Equal Opportunity/Affirmative Action Employer.

**BASIC RESEARCH FACULTY POSITIONS.** The Pittsburgh Cancer Institute, School of Medicine, University of Pittsburgh, is continually searching for qualified candidates for faculty positions. Interested candidates should hold a doctorate with additional postdoctoral training. Applicants in the fields of immunology, molecular oncology, experimental therapeutics and biochemistry and cell biology are encouraged to apply. Send curriculum vitae to: **Ronald B. Herberman, M.D., Director, Pittsburgh Cancer Institute, 200 Meyran Avenue, Second Floor, Pittsburgh, PA 15213.**

*The University of Pittsburgh is an Equal Opportunity Employer.*

## INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER (CIMMYT)

CIMMYT, headquartered in Mexico, has a mandate to support national programs in developing countries to increase the productivity of resources committed to maize and wheat research and production. Applications are invited for the following positions:

**DEPUTY DIRECTOR GENERAL OF ADMINISTRATION AND FINANCE (DDG/AF).** The DDG/AF reports to the Director General and supervises six major officers: Financial Officer; Administrative Officer; Executive Officer; Human Resources Officer; Head/Visitor and Conference Services; and Head/Training Services Office. While differing academic backgrounds could qualify, a proven record of achievement in administration and finance is essential. Fluency in English is required, and Spanish competence is needed. Experience in international agricultural scientific or development efforts will be given priority.

**SUBPROGRAM LEADER FOR CROP PROTECTION (WHEAT).** Crop protection subprogram has eight international scientist positions, four outside Mexico. Research concentrates on reducing crop losses to all major diseases of wheat. The principal strategy is genetic resistance. The efficiency of selection procedures and the genetics of host-parasite relations are important themes. The subprogram collaborates in a Global Wheat Disease Surveillance Network and conducts training in wheat pathology.

**SUBPROGRAM LEADER FOR CROP MANAGEMENT AND PHYSIOLOGY (WHEAT).** The crop management and physiology subprogram has seven international scientists, four outside Mexico. Research activities include more efficient screening and testing for yield and resistance to abiotic stress, component agronomy, and on-farm trials with national program scientists. Crop management training is an additional activity.

The subprogram leader is responsible for planning and coordination of subprogram activities and is expected to do research. The person must have a Ph.D. degree, an international and broadly based reputation in cereal science, proven leadership qualities, experience in multidisciplinary work, and fluent English. Developing country exposure, administrative skills and Spanish are desirable.

Salary is negotiable depending on experience and qualifications and a complete package of employee benefits is provided. Applications should be received before 15 July 1989, and include the names of three professional referees. (Email, fax and telex addresses where possible.) Specify the position of interest and send to: **Dr. D. L. Winkelman, Director General, CIMMYT, Apdo. Postal 6-641, 06600 México, D. F., México. Email: CG1201. Fax: (595) 4 10 69. Telex: 1772023 CIMTME.**

## POSITIONS OPEN

### CHAIRPERSON DEPARTMENT OF ANIMAL SCIENCE UNIVERSITY OF FLORIDA

A Ph.D. in animal science or a related field, experience in research, teaching or extension, and potential to provide administrative leadership are required. Salary is open. Application deadline is 1 September 1989. Applicants should contact: **Dr. J. E. Moore, Department of Animal Science, University of Florida, Gainesville, FL 32611-0681.**

*An Affirmative Action/Equal Opportunity Employer.*

**DEPUTY DIRECTOR,** National Coastal Resources Research and Development Institute (NCRI), established by Congress to conduct research, education, demonstration projects/technology transfer for responsible/environmentally sound development and economic expansion of ocean/coastal resources. Deputy director is principal analytical staff to director and manages grants program and technology transfer functions. Candidates must have Ph.D. or equivalent experience in technical/business discipline associated with coastal economic development and resource management; 3 to 5 years of experience in research design, evaluation, administration; proven ability in technology transfer, marketing, commercialization; experience in preparing RFPs, evaluating research and development proposals, administering contract research. Request application materials from: **Chair, Search Committee, NCRI, HMSC, Newport, OR 97365.** Nominations and applications accepted through 31 July 1989. *Women, minorities, and the handicapped are encouraged to apply.*

### DIRECTOR, DIVISION OF SCIENCE RESOURCES STUDIES NATIONAL SCIENCE FOUNDATION WASHINGTON, D.C. 20550

NSF's Directorate for Scientific, Technological and International Affairs seeks qualified applicants to serve as Director, Division of Science Resources Studies (SRS). SRS is the main source of federal statistics and studies on scientists and engineers, their careers, disciplines, funding, facilities and equipment.

Appointment to this Senior Executive Service position may be on a career or 2- to 3-year limited term basis with salary range of \$68,700 to \$76,400. Alternatively, selectee may be assigned under Intergovernmental Personnel Act provisions, retaining current salary and benefits. Applicants must have advanced degree or equivalent professional experience in the physical, engineering or social sciences and skill in using large databases, statistics and survey methods, sampling techniques and measurements, manipulating data, etc.

Applicants should contact: **Barbara Coleman on 202-357-7601** (hearing impaired individuals may call: **TDD 202-357-7492**) to request Announcement EP 89-6 (career), EP 89-16 (limited term), or EP 89-26 (IPA) for complete qualification requirements and application procedures. Applications must be received by 11 August 1989.

*Equal Opportunity Employer.*

### ECOTOXICOLOGIST

Exxon Biomedical Sciences, Inc. has an immediate opening for a qualified individual specializing in ecotoxicology and environmental hazard assessment. The successful candidate will have a Ph.D. in ecotoxicology or in an environmentally related field with 0 to 2 years of postdoctoral experience. Experience in or a knowledge of the application of both effects and fate data to real world concerns as well as knowledge of regulatory requirements (TSCA/PMN) would be desired.

Exxon Biomedical Sciences, Inc. performs both consulting and laboratory toxicology for affiliates around the world. Its resources include state-of-the-art aquatic toxicology, environmental chemistry and mammalian toxicology laboratories. The candidate will perform as a study monitor and internal consulting toxicologist. Client interactions are an important aspect of our work, and thus, we are also seeking an individual who has excellent communication skills. Please forward résumé to: **Human Resources:**

**Exxon Biomedical Sciences, Inc.  
CN 2350, Mettlers Road  
East Millstone, NJ 08875-2350**

*Equal Opportunity Employer M/F/H/V*

## POSITIONS OPEN

### DIRECTOR, ENVIRONMENTAL/ OCCUPATIONAL HEALTH PROGRAMS TUFTS UNIVERSITY SCHOOL OF MEDICINE

The Center for Population Health and the Center for Environmental Management seek a candidate with a doctorate in a Health Science to direct and expand environmentally oriented research and educational programs for the health professions within the Tufts University academic community. The successful candidate should have experience in epidemiology. He/she will direct the design and implementation of environmental health curricula, administer certain federally funded grants, and be prepared to pursue an active research program. He/she should be eligible for appointment as professor or associate professor. The program is part of Tufts University's continued expansion of its University-wide environmental initiatives.

Applications will be reviewed beginning 15 June 1989. Please address inquiries and/or curriculum vitae with three references to:

**Chairman, Environment Health Search Committee  
Center for Population Health  
Tufts University School of Medicine  
136 Harrison Avenue  
Boston, MA 02111**

*An Affirmative Action/Equal Opportunity Employer.*

### THE UNIVERSITY OF BRITISH COLUMBIA DIRECTOR

#### WESTWATER RESEARCH CENTRE

Applications are invited for a Director, Westwater Research Centre. The Centre conducts inter-disciplinary research on water resources.

A Ph.D. or equivalent is required. The initial appointment will be 5 years. The Director will hold a cross-appointment in an appropriate academic unit of the University.

Application, curriculum vitae and names of three referees should be sent by 31 August 1989 to: **Dr. S. Cherry, Faculty of Graduate Studies, University of British Columbia, Vancouver, B.C. V6T 1Z3, Canada.**

*The University of British Columbia is an Equal Opportunity Employer. In accordance with Canadian Immigration Regulations, priority will be given to Canadian citizens and permanent residents. The position is subject to final budget approval.*

**ENVIRONMENTAL CHEMIST**—The Chesapeake Biological Laboratory of the University of Maryland's Center for Environmental and Estuarine Studies seeks an environmental chemist to fill a tenure-track position at the assistant professor level. Expertise in the transport and partitioning of organic contaminants across the air-sea and sediment-water interface in natural waters, and quantitative modeling of organic contaminant behavior is desired. Participation in the University's graduate program in environmental science is expected. Candidates should have an earned doctorate in environmental chemistry or engineering and postdoctoral experience. Submit curriculum vitae, a statement of research interests and the names of at least three references to: **Dr. Douglas G. Capone, Chesapeake Biological Laboratory, Solomons, MD 20688-0038.**

Applications received before 30 July 1989 will be given full consideration. *The University of Maryland is an Affirmative Action/Equal Opportunity Employer and welcomes applications from qualified minorities and females.*

**FACULTY POSITION IN NEUROSCIENCE:** Applicant should have an independent research program and an interest in some collaboration with a group interested in basic properties of olfactory system and also in mechanisms of olfactory involvement in Alzheimer's and other neurodegenerative disorders. Possible areas of interest: tissue culture/cell immortalization, properties of extracellular matrix/function; molecular biology or biochemistry of neuronal macromolecules. The Neuroscience Program is a small, highly interactive group with an active graduate program and opportunities for a moderate amount of teaching. New laboratories are available. Please send curriculum vitae, outline of research interests and the names of three references by 1 September 1989 to: **Dr. Barbara Talamo, Neuroscience Program, Tufts Medical School, 136 Harrison Avenue, Boston, MA 02111.** *Equal Opportunity/Affirmative Action Employer.*

## Queensland Institute of Medical Research D I R E C T O R

Applications are invited for the position of Director of the Queensland Institute of Medical Research on the retirement of its present Director, Professor C. Kidson.

The Institute is the major medical research facility in Queensland. It has staff of 190, at present, and is closely, and formally, affiliated with the University of Queensland. The two principal research streams at the Institute are interlinked through the Tropical Health Program and the Joint Oncology Program with relevant departments of the University of Queensland. The staff have a network of collaborative research in Australia and world-wide. Staff involved in the joint programs have adjunct appointments in the University.

A unique opportunity for the new Director to establish initiatives and expand the staff, will occur with the completion of a new building in 1991. This building of 15,000m<sup>2</sup>, will be centered in the heart of Australia's largest hospital complex (1,800 beds).

Strong clinical interactions are available and encouraged. The Institute has state-of-the-art equipment for a diversity of technologies based in molecular biology, immunology, biochemistry, microbiology, epidemiology, parasitology, entomology and genetics.

An attractive salary package including superannuation is negotiable.

Applications including a Curriculum Vitae and names and addresses and contact telephone numbers of at least three professorial referees should be forwarded to:

**The Secretary  
Queensland Institute of Medical Research  
Bramston Terrace  
BRISBANE Q 4006  
AUSTRALIA**

Closing date for applications is Friday, 28 July, 1989. Please note: Confidentiality of information is assured. Further details may be obtained by contacting: Professor K. Ellem, Deputy Director on 61-7 253 6205. Fax: 61-7 252 5499.

**Queensland Institute  
of Medical Research**

## STAFF POSITION IN MAMMALIAN MOLECULAR GENETICS/MOLECULAR BIOLOGY (GS-13/14)

The Cellular and Genetic Toxicology Branch, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC, invites applications for the position of Head, Mammalian Molecular Genetics Group. The successful candidate will be expected to conduct an active research program involving molecular genetic approaches to studying the carcinogenic and mutagenic effects of chemicals and other environmental agents in *in vivo* or *in vitro* systems. In addition to laboratory research the position would carry responsibility as a Project Officer or Co-Project Officer on research and development contracts. The mechanism of action of nonmutagenic carcinogens, and changes in gene expression as a function of chemical exposure and carcinogenesis are of particular interest. Eligible candidates should have a doctoral degree, postdoctoral and independent research experience in molecular genetics, molecular biology, molecular aspects of carcinogenesis or a related field. Experience in oncogene research, transgenic technology, virology, recombinant DNA or mammalian gene expression is desirable. A demonstrated record of productivity in one or more of the above areas is essential.

The salary range is \$ 41,121pa to \$63,172pa depending on qualifications and experience. US citizenship is required. Interested candidates should send their CV and the names of three references by August 11, 1989 to:

**Mr. Johnny L. McLean (Code: HNV7)  
Personnel Office  
National Institute of Environmental  
Health Sciences  
P.O. Box 12233  
Research Triangle Park, NC 27709  
(919) 541-7513**



"AN EQUAL OPPORTUNITY EMPLOYER"

## Director of Research

Natural Product Sciences Inc., a young and energetic Salt Lake City-based company, is seeking a Director of Research to manage its rapidly expanding research and development activities which target the development of novel pharmaceutical and agricultural agents derived from a wide range of natural products, including insect and animal toxins, marine organisms and plant tissues.

The Director of Research will direct a growing staff of researchers in chemistry and biology, as well as manage the scientific collaborations that are in place with major corporate partners. The Director of Research will also coordinate activities of the strong scientific advisory board and consultant network which has been established to enhance in-house research efforts. In addition, the Director of Research will have a pivotal role in developing strategies for future research directions of the company.

The successful candidate should have a Ph.D. degree in chemistry, pharmacology, or related field and should have experience in managing a multi-disciplinary research program. Preference will be given to candidates with a demonstrated record of scientific accomplishment, management experience, pharmaceutical or agricultural discovery and experience in natural product research.

This position represents a major career opportunity with salary and equity incentives commensurate with senior research and managerial responsibilities. Qualified applicants should submit their resume, including the names, addresses and phone numbers of three professional references, to President, Natural Product Sciences, Inc., P.O. Box 8327, Salt Lake City, Utah 84108. NPS is an equal opportunity employer.



## A B B O T T   L A B O R A T O R I E S

Abbott Laboratories' Diagnostics Division holds an undisputed leadership position in the development of medical diagnostic products. Our extensive technical resources create a superior environment for those who would like to make a significant personal and professional commitment.

### **BIOCHEMIST/IMMUNOCHEMIST** Immunoparasitology/Infectious Diseases

Currently we seek accomplished scientists to play lead roles in the development of Diagnostic Assays for infectious, parasitic agents. The selected candidates will possess a Ph.D. in Biochemistry or Microbiology, and experience with infectious diseases or parasitic infections. At least 2-3 years of post doctoral or industrial experience is necessary. Research background must include protein biochemistry, immunochemistry, ligand binding assays, cell surface proteins, and immunoassay techniques. Familiarity with nucleic acid probes and related techniques is desirable.

Located in an attractive suburban area approximately 30 miles north of Chicago, Abbott Laboratories provides a competitive compensation and benefits package including profit sharing. If your credentials meet the indicated requirements, please send your curriculum vitae to: Keith Allen, Corporate Placement, Job #7620, ABBOTT LABORATORIES, 1 Abbott Park Rd., Abbott Park, IL 60064. (To facilitate handling your resume, please indicate job number on your cover letter or resume.) Abbott is an Affirmative Action Employer.

#### **Meeting Bound?**

Please bring your resume and look for us at the Protein Society and American Association for Clinical Chemistry Conventions later this summer.

#### **ABBOTT LABORATORIES**





## POSITIONS OPEN

**ECOLOGIST**, GS-12 \$24,580 to \$44,957. Predictive ecology; development of modeling tools and associated databases to permit prediction of impacts of multiple stressors on ecosystems, habitats, and landscape-level systems. Work is in support of EPA Ecological Risk Assessment Program and Ecosynthesis/Global Climate/Stratospheric Ozone Effects effort. Conduct study of transport, fate, and effects of pesticides, toxics, and metals in terrestrial and aquatic environments. Position is located in Athens, Georgia. For more information, contact: **Maxine Kellum, 404-546-3517**. Send inquiries for application packages to: **Human Resources Office, USEPA, P.O. Box 98516, Las Vegas, NV 89193-8516**, received 14 July 1989. *The USEPA is an Equal Opportunity Employer.*

### FACULTY POSITION

The University of North Carolina at Chapel Hill invites applications for two junior or senior tenure-track faculty positions in the Department of Cell Biology and Anatomy. Appointees will be expected to establish or have a funded research program in a modern area of cell or departmental biology and to participate in the teaching of histology to first-year medical students. All applicants are welcome, but preference will be given to those employing techniques in molecular biology and biotechnology. *Women and minorities are encouraged to identify themselves.* Send curriculum vitae, a brief description of research plans, and the names of three references by 1 September 1989 to: **Dr. Charles R. Hackenbrock, Chair, Department of Cell Biology and Anatomy, School of Medicine, 108 Swing Building, CB #7090, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7090.** *An Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION IN MOLECULAR GENETICS

Assistant or associate professor in the Department of Genetics, Harvard Medical School, to form and direct a new Molecular Genetics Unit, situated in the Mailman Research Center (MRC) of McLean Hospital.

The appointee will be expected to establish an independent research program in the molecular biology of vertebrate or invertebrate systems with relevance to neuroscience and to have an interest in interacting with existing neurobiology research programs at the Center.

The MRC is a 45,000-square-foot facility entirely devoted to clinical and basic research in the neurosciences with laboratories for neuroanatomy, neurohistology, neurobiology, neuropathology, neurochemistry, molecular neurobiology, development neurobiology, neuropharmacology, neuroregeneration, molecular pharmacology, and experimental psychology. The Center also has a federally funded Clinical Research Center and a brain bank.

Applicants should send their curriculum vitae, a statement of their research interests, and the names of three references by 1 October 1989, to: **Bruce M. Cohen, M.D., Ph.D., Chairman, Molecular Genetics Search Committee, McLean Hospital, Mailman Research Center, 115 Mill Street, Belmont, MA 02178.** *McLean Hospital and Harvard Medical School are Equal Opportunity Employers, and we are especially eager to identify qualified women and minority candidates.*

**FACULTY POSITION: MOLECULAR VIROLOGY.** The Division of Molecular Virology at Baylor College of Medicine invites applications for a tenure-track faculty position at the assistant or associate professor level. An innovative scientist is sought with training and research interest in molecular aspects or pathogenesis of retrovirus infections (preferably AIDS retrovirology). Applicants should have a Ph.D. with at least 2 years of productive postdoctoral experience in molecular virology. The successful applicant is expected to establish an independent research program and to participate in graduate training in an expanding academic department. Newly renovated laboratories and well-equipped support facilities, including containment areas for HIV research, are available. Current faculty research activities focus on the molecular basis of viral replication, viral and cellular oncogenes, viral pathogenesis, viral vectors for gene therapy, and modern approaches to viral vaccines. Send curriculum vitae, names and addresses of at least three references, and a description of current research activities and future plans by 1 September 1989 to: **Dr. Janet Butel, Head, Division of Molecular Virology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**FACULTY POSITION** (Tenure-track), Department of Physiological Optics, School of Optometry, The University of Alabama at Birmingham. The Department of Physiological Optics is seeking a vision scientist for a faculty position at the assistant professor or possibly the associate professor level. The successful candidate will be expected to teach professional and graduate courses. Candidates should have a record of accomplishment in research. Applications should be submitted as soon as possible and should contain curriculum vitae and the names of at least three references. Send application to: **Dr. Graeme Wilson, Department of Physiological Optics, School of Optometry, The University of Alabama at Birmingham, Birmingham, AL 35294.** *UAB, an Affirmative Action/Equal Opportunity Employer.*

### 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 and participating in the Departmental teaching program. For consideration, send curriculum vitae, a statement of research interests, and the names and addresses of three references to:

**Biochemistry Search Committee  
Department of Biochemistry  
Purdue University  
West Lafayette, IN 47907-6799**

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

**FACULTY POSITIONS.** North Carolina State University: Animal Science Department. Three positions, joint research/teaching. Rank and salary negotiable. Applicants well-trained in biology and one or more of the following disciplines: biochemistry, genetics, immunology, microbiology, nutrition or physiology. Interested in solving economically important problems of animal agriculture of the future. The successful candidates will be expected to develop competitive research programs which will attract extramural funding, and to participate in teaching as needed within the Department. Opportunities for collaboration with institutions in the Research Triangle. One position will serve as advocate for African-American students in Animal Science. Ph.D. required. Postdoctoral experience desired. Interest in working with animals of present and future agricultural importance essential. Deadline for applications is 1 September 1989, or until suitable candidates are found. Send curriculum vitae and letter of interest to: **Dr. Leonard S. Bull, Head, Animal Science Department, Box 7621, North Carolina State University, Raleigh, NC 27695-7621.** *It is the policy of North Carolina State University to provide Equal Opportunity Employment without regard to race, religion, color, national origin, age or sex. Official documentation of employability and identity will have to be provided before the hiring process can be finalized.*

### FACULTY POSITIONS IN REPRODUCTIVE BIOLOGY

The Department of Obstetrics and Gynecology announces the availability of faculty positions at the assistant professor level for investigators in the areas of developmental biology and molecular genetics. Successful candidates will join the Division of Reproductive Biology and will establish independent research programs complementing the efforts of 12 active investigators working on various aspects of reproduction at molecular and cellular level. Applicants should have a graduate degree (Ph.D., M.D., or V.M.D.) and postdoctoral research experience. Interested individuals should submit their curriculum vitae and names of three references to:

**Jerome F. Strauss, III, M.D., Ph.D.  
Associate Chairman  
Department of Obstetrics and Gynecology  
Hospital of the University of Pennsylvania  
3400 Spruce Street  
Philadelphia, PA 19104**

*The University of Pennsylvania is an Equal Opportunity Employer. Minorities and women are encouraged to apply.*

## POSITIONS OPEN

### FACULTY POSITION IN DEVELOPMENTAL BIOLOGY

The Center for Endocrinology, Metabolism and Nutrition at Northwestern University Medical School is seeking applications from molecular biologists for a faculty position. The candidate should be using molecular biological techniques to study metabolic regulation, gene expression and growth factor actions during mammalian embryogenesis. The successful applicant will join an established multi-disciplinary program in this area with opportunities for collaborative and independent research. Candidates should have Ph.D. or M.D.; at least 2 years of postdoctoral experience; and a record of research productivity. Appointment will be at the level of assistant professor with appropriate departmental affiliation. Send curriculum vitae, brief description of previous research, names of three referees and letters of recommendations by 15 August 1989 to: **Dr. Norbert Freinkel, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.** *Northwestern University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

### GENETICS ASSISTANT LABORATORY DIRECTOR CYTOGENETICS

Large cytogenetics laboratory is seeking an individual to fill position of assistant director. Candidate must have either Ph.D. or M.D. and have completed 1 to 2 years of postdoctoral training and be Board-eligible or certified in clinical genetics by the American Board of Medical Genetics. Candidate should have strong clinical interest as well as the ability to conduct appropriate clinical research. Excellent salary and benefit package with full-time tenured appointment at the assistant professor or associate professor level in the Department of Child Health and Development of George Washington University. Position available for 1 September 1989. Send curriculum vitae to: **Jocelyn M. Hicks, Ph.D., Director, Department of Laboratory Medicine, Children's National Medical Center, 111 Michigan Avenue, NW, Washington, DC 20010** or call: **202-745-5335.** *Equal Opportunity Employer.*

### GLOBAL CLIMATE CHANGE

The World Resources Institute, a policy research and analysis center in Washington, D.C., seeks to fill a position within its interdisciplinary Climate, Energy and Pollution Program. Primary responsibilities are analysis and development of international and domestic policy options for global climate change and participation in related projects such as energy policy. The candidate must be able to write clearly on technically based policy issues, should have experience in policy development and/or a Ph.D. or equivalent degree in an appropriate field such as economics, engineering, or science. Rank is open, and salary will reflect experience. *WRI is an Equal Opportunity Employer.* Send a writing sample and curriculum vitae by 20 July 1989 to **Dr. William R. Moomaw, World Resources Institute, 1709 New York Avenue, Washington, DC 20006.**

### MICROBIAL ECOLOGIST

Assistant or Associate Professor. The Department of Biology, Utah State University, Logan, is seeking applicants for a tenure-track microbial ecologist position. A Ph.D. is required and postdoctoral experience is recommended. We seek an individual who will complement and strengthen existing programs in the Ecology Center and the areas of plant-microbe interaction and soil science. Publication and development of an externally funded research program in one of the following areas are expected: nutrient cycling, decomposition, mycorrhizae, nitrogen fixation, genetic exchange or a related area of microbial ecology. Excellence in teaching is expected. The applicant must be able to teach the undergraduate majors course in general microbiology and develop a course in microbial ecology. In addition, an upper division or graduate-level course or seminar in the area of specialty is required in alternate years. Please submit a statement of research and teaching interests, unofficial transcripts, and curriculum vitae and have three letters of recommendation sent to: **Dr. F. J. Post, Department of Biology, Utah State University, Logan, UT 84322-5500.**

Review of applications will begin 1 September 1989. *USU is an Affirmative Action/Equal Opportunity and IRCA Employer.*

## POSITIONS OPEN

### UNIVERSITY OF GLASGOW DEPARTMENT OF BOTANY

Applications are invited for a New Academic Appointment Scheme (NAAS) **LECTURESHIP** in the Department of Botany, which is part of the newly-founded School of Biological Sciences. Applicants should have research interests in the area of plant molecular biology, but candidates whose research uses molecular techniques to investigate fundamental problems in plant science are also encouraged to apply.

It is anticipated that the initial appointment will be on the Lecturer Grade A scale (£9,260 to £14,500). Further particulars may be obtained from: **The Academic Personnel Office, University of Glasgow, Glasgow, U.K. G12 8QQ**, where applications (eight copies), giving names and addresses of three referees should be lodged on or before 21 July 1989. In reply, please quote Ref. No. 6461/1.

### MASS SPECTROMETRY THE SECTION OF ANALYTICAL CHEMISTRY LABORATORY OF CLINICAL STUDIES (LCS) NIAAA, PHS

Invites applications for a **STAFF/SENIOR FELLOW** position to study **lipid and eicosanoid metabolism** and to participate in our basic and clinical studies of the effects of alcohol on cellular membrane function. A unique opportunity to join a multidisciplinary research team located on the grounds of the NIH in Bethesda, Maryland. The fellow will be responsible for the operation of a Kratos MS-80 GC/MS and must have MS experience. The salary ranges from \$24,000 to \$45,234 and is commensurate with qualifications and experience. Interested candidates should contact: **Norman Salem, Jr., Ph.D., Building 10, Room 3C-218, LCS-NIAAA, 9000 Rockville Pike, Bethesda, MD 20892. Telephone: 301-496-4900.**

The position is available immediately.

*An Equal Opportunity Employer.*

**NEUROSCIENTIST.** A position is available in the Physiology Department at the Armed Forces Radiobiology Research Institute (AFRRI) for a neuroscientist. Specific field is not critical; however, glial cell physiology, brain metabolism, second messenger systems and/or electrophysiology are areas of special interest. Applicants should have a Ph.D. and postdoctoral experience and be capable of establishing a strong research program. Send curriculum vitae, a statement of research interests and SF 171 to: **Dr. Terry Pellmar, Chief, Neurophysiology Division, Physiology Department, AFRRI, Bethesda, MD 20814-5145. Telephone: 301-295-1346.** Please reference announcement number AFRRI #5/89. U.S. citizenship is required. DNA is an Equal Opportunity Employer.

### NEUROTRAUMA RESEARCH LABORATORY DIRECTOR SOUGHT

The Department of Neurological Surgery at the University of California San Francisco (UCSF) and the Neurosurgery Service at the San Francisco General Hospital (SFGH) are seeking a qualified candidate to direct research efforts at the Laboratory for Neural Injury at the SFGH. Current and recent research have examined models of traumatic brain injury and focal cerebral ischemia and their treatment. Future investigations will include examination of mechanisms of progressive cellular injury, in vivo and in vitro, and evaluate possible methods of cell protection. The candidate should have a background in basic and/or applied research in brain injury and be prepared to conduct independent research as well as direct the research efforts of a variety of medical students and neurosurgical residents and fellows in this area. Existing grant support would be helpful but not essential for the position, but it is anticipated that the director will secure extramural support within several years. Interested applicants should send curriculum vitae to: **Lawrence H. Pitts, M.D., Department of Neurological Surgery, UCSF, San Francisco, CA 94143-0112.** UCSF is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

## POSITIONS AVAILABLE

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

### Scientist — Social anthropology (Ref. Sci/89/1)

A position is available to join a recently established multi-disciplinary team assessing the epidemiological, social and economic factors affecting the delivery and impact of improved methods of control of theileriosis and trypanosomiasis. The successful candidate will participate in collaborative research programmes in several African countries to assess potential social impacts of improved livestock disease control at the community, household and intra-household level. Applicants will have a doctorate in social anthropology and substantial experience of African livestock production systems. Candidates will have proven abilities in formal and informal survey techniques, analysis of large data sets and experience in working in an interdisciplinary environment.

### Post-doctoral scientist — Immunology/Biology (Ref. PD/89/1)

A position is available in a group studying endocytosis and related processes in salivarian trypanosomes. Applicants should have a first degree in the biological sciences and post-graduate qualifications in relevant areas of immunology and biochemistry. Research experience in the use of immunological and biochemical techniques to identify functional compartments in the endocytotic process in eukaryocytes will be advantageous.

### Post-doctoral scientist — Molecular Biology (Ref. PD/89/2)

A position is available in a group studying the molecular mechanisms underlying the processes of differentiation which occur during the life cycle of salivarian trypanosomes. Applicants should have a first degree in the biological sciences and post graduate qualifications in molecular biology of eukaryocytes. Research experience in the identification and characterisation of developmentally regulated genes will be advantageous.

### Post-doctoral scientist — Cellular Immunology (Ref. PD/89/3)

A position is available in a multidisciplinary research group studying the cellular immune responses of cattle to the protozoan parasite *Theileria parva*. Applicants should have a first degree in the biological sciences, or preferably a veterinary qualification, and post-graduate qualifications in analysis of cell-mediated immune mechanisms. Research experience in analysis of cell-mediated immune mechanisms to pathogenic agents in livestock would be advantageous.

### Research Associate — Bovine bone marrow cell culture (Ref. RA/89/1)

A research associate position is available in a group studying the mechanisms involved, at the cellular level, of the anaemia induced in cattle by infections with salivarian trypanosomes. Applicants will have advanced technical qualifications, or a degree in biological sciences, and at least five years experience in a senior technical position with supervisory and training responsibilities. Consideration will be given only to those applicants with proven abilities in the development and application of *in vitro* culture conditions for mammalian cells and preference will be given to candidates with experience of *in vitro* cultivation of haemopoietic cells from ruminant, mouse or man.

These are International staff positions and salary will be paid in US dollars. Initial salary will be determined by qualifications and experience. Scientific staff are expected to contribute to the training program. Moving, housing, commutation and education allowances are paid and there are medical and retirement benefits. Applicants should include current curriculum vitae and names and addresses of three referees. Applications, citing the position reference number, should be sent by August 15th, 1989 to:

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

## POSITIONS OPEN

### MOLECULAR BIOLOGIST

Full-time, tenure-track position available immediately for senior-level candidate in Department of Ophthalmology or appropriate basic science department, with reciprocal conjoint appointment. Some equipment support provided. Candidates preferably should have experience in the application of molecular biological approaches to vision research. Appointees are expected to establish strong research programs with potential interaction with existing basic and clinical vision scientists. Salary commensurate with experience. Publications and extramural support vital. Send curriculum vitae, five representative reprints, statement of research interests, and names of three references to: **Dr. Keith Green, Department of Ophthalmology, Medical College of Georgia, Augusta, GA 30912-3400.** To expedite communication, applicants may telephone: **404-721-4804.**

*Equal Opportunity/Affirmative Action Employer.*

### NEUROPHARMACOLOGIST

The Department of Psychiatry, Duke University Medical Center (DUMC) seeks applications for a tenure-track position at the assistant or associate professor level for an experienced preclinical neuropharmacologist with interests in interactions of neuropeptides and classical neurotransmitters. The position is based at DUMC and this faculty member will be expected to interact with other preclinical and clinical researchers within the department. Applicants should have a successful record of obtaining extramural funding. Salary will be negotiated based on experience. Send curriculum vitae to: **Charles B. Nemeroff, Chief, Division of Biological Psychiatry, Box 3859, Duke University Medical Center, Durham, NC 27710.** *Duke University is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### U.S. DEPARTMENT OF ENERGY (DOE) PHYSICISTS

The DOE's High Energy Physics Division, Office of High Energy and Nuclear Physics, is seeking two physicists (GS-1310-15) with broad knowledge of the field of experimental high-energy physics, its accelerator and detector research facilities, and the operation of those facilities for research. One of the positions will be concentrated on supervising the operation of facilities (HEP 1); the other (HEP 2) on their use by university-based researchers. Responsibilities will include technical review of proposals and laboratory facilities through site visits, outside peer review, and personal evaluation; recommending support or declination of projects or research contracts, their scope, and level of funding; organizing/chairing on-site reviews of programs and facilities; and budgetary activities. Contacts are with industry, universities, national/international laboratories, Congressional staffs, and the public. *U.S. citizenship required.* Salary range for GS-15 is from \$57,158 to \$74,303. Duty station: Germantown, Maryland. Send SF-171, application for federal employment, or direct inquiries to: **Mary A. Smith, Office of Personnel Operations, GTN, MA-504.4, (Ref: HEP 1 or 2), U.S. Department of Energy, Washington, DC 20545.** Telephone: **301-353-5591.** Applications accepted through 1 September 1989.

*The Department of Energy is an Equal Opportunity Employer.*

**PHYSIOLOGIST.** A position is available in the Physiology Department at the Armed Forces Radiobiology Research Institute (AFRRI) for a cell physiologist. White cell, endothelial or epithelial cell physiology, cellular metabolism, second messenger systems and/or electrophysiology are areas of special interest. Applicants should have a Ph.D. and postdoctoral experience. Send curriculum vitae, a statement of research interests, and SF-171 to: **Dr. Elaine Gallin, Chief, Cellular Physiology Division, Physiology Department, AFRRI, Bethesda, MD 20814-5145.** Telephone: **301-295-1212.** *U.S. citizenship is required. DNA is an Equal Opportunity Employer.*

Position available for a **POSTDOCTORAL FELLOW (M.D., Ph.D.)** interested in experimental carcinogenesis, and having experience with molecular biology. Please submit curriculum vitae and three letters of reference to: **Ms. A. Roman-Koller, Research Administrator, University of Pittsburgh, Department of Pathology, School of Medicine, 776 Scaife Hall, Pittsburgh, PA 15261.** *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### U.S. DEPARTMENT OF ENERGY (DOE) PHYSICISTS/GENERAL ENGINEER

The DOE's Superconducting Super Collider Office (SSC) is seeking two physicists, SSC 1 and 2, (GS-1310-15), and a physicist/general engineer (SSC 3), (GS-1310/801-15) with a high degree of knowledge of design, development, fabrication, use and operation of experimental high energy physics detector systems, and technical systems associated with the SSC, including proton injector system magnets, cryogenics, radio frequency and vacuum systems. Responsibilities will include managing SSC detector program, experimental physics program and SSC technical systems, respectively; review and analysis of SSC research and detector proposals through site visits, outside peer reviews and personal evaluation; organizing/chairing on-site reviews of programs and facilities; review and analysis of SSC technical systems designs through periodic on-site reviews and review of project documentation; liaison with SSC program advisory committee; and SSC budgetary activities. Contacts are with industry, universities, national/international laboratories, Congressional staffs, and the public. *U.S. citizenship required.* Salary range for GS-15 is from \$57,158 to \$74,303. Duty station: Germantown, Maryland. Send SF-171, application for federal employment, or direct inquiries to: **Mary A. Smith, Office of Personnel Operations, GTN, MA-504.4 (Ref: SSC 1, 2 or 3), U.S. Department of Energy, Washington, DC 20545.** Telephone: **301-353-5591.** Applications accepted through 1 September 1989.

*The Department of Energy is an Equal Opportunity Employer.*

**POSITIONS** for teaching plus research (postdoctoral), and teaching (post-baccalaureate), 1- and 2-year appointments starting August 1989. Typical teaching duties are introductory biology laboratory instruction: 12 contact hours, preparatory sessions, attendance at lectures, exam grading, office hours. Research appointees also work in collaboration with a member of the faculty who provides facilities. To obtain more information or to apply, send curriculum vitae, three letters of recommendation, and a brief description of teaching experience and research interests and activities to: **Paul Megrew, Department of Biology, University of Iowa, Iowa City, IA 52242.** *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

**POSTDOCTORAL FELLOW:** A position is available immediately to study the molecular biology of the LH/CG receptor. Projects include: (i) structure-function analyses using site-directed mutagenesis, and (ii) hormonal regulation of receptor mRNA in gonadal tissues. Recent M.D. or Ph.D. degree (or equivalent) required. Experience in molecular biology desirable. Salary from \$24,000. Send curriculum vitae and three letters of reference to: **Deborah L. Segaloff, Ph.D., The Population Council, 1230 York Avenue, New York, NY 10021.**

**POSTDOCTORAL FELLOWSHIP** available immediately in neurosciences program: projects include analysis of the purinergic ATP receptor or examination of neuronal modulation of second messenger and calcium transduction mechanisms in denervation supersensitivity using fluorescent dyes to monitor Ca, pH or other ions in cell suspensions and in individual cells with new imaging technology, as well as biochemistry of phosphoinositide and Ca transport systems. Submit description of research background and curriculum vitae, with names of three references to: **Dr. Barbara Talamo, Tufts University Medical School, Neurosciences Program, 136 Harrison Avenue, Boston, MA 02111.** *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWSHIP** available immediately for 3 years to study the basic properties of the olfactory system and its disruption in neurodegenerative disorders, especially Alzheimer's disease. Project involves analysis of autopsy and biopsy tissue and development of an animal model, using techniques of immunocytochemistry, gel electrophoresis, Western blot. Opportunity to learn molecular biology methods using PCR and in situ hybridization. Send description of qualifications, curriculum vitae, and names of three references to: **Dr. Barbara Talamo, Neurosciences Program, Tufts Medical School, 136 Harrison Avenue, Boston, MA 02111.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### POSTDOCTORAL FELLOWSHIP IN PERINATAL PHYSIOLOGY

A postdoctoral position is available for a neuroscientist to join a research team investigating the influence of sleep on cardiovascular, respiratory and thermoregulatory control during postnatal development. Salary range is \$24,000 to \$26,000 per year plus fringe benefits and travel allowance. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. The University of Calgary is committed to employment equity.* This term position is funded from external sources and is not a University support staff position. Submit curriculum vitae, statement of career interests, and three letters of reference prior to 30 July 1989 to:

**Dr. James E. Fewell**  
Chairman, Reproductive Medical Research Group  
The University of Calgary  
3330 Hospital Drive N.W.  
Calgary, Alberta T2N 4N1

**POSTDOCTORAL POSITION** available immediately to study the role of excitation-contraction coupling in cardiac muscle. Project involves use of the bioluminescent and fluorescent  $\text{Ca}^{2+}$  indicators in isolated cardiac myocytes from animals and man. Experience with cellular and/or isolated heart techniques is essential; an electrophysiologic background would be useful. Send curriculum vitae and names of three references to: **Dr. James P. Morgan, Harvard Thorndike Laboratory, Harvard Medical School, 330 Brookline Avenue, Boston, MA 02215.**

**POSTDOCTORAL POSITION** available 1 September 1989 to study role of complement in clearance of immune complexes using the techniques of genetic engineering and transgenic animals. A strong background in the basic sciences is required. Stipend: \$18,000 to \$20,000 per year. Send curriculum vitae and names of three references to: **Dr. Michael C. Carroll, Department of Pathology, Harvard Medical School, Children's Hospital, Enders 815, 320 Longwood Avenue, Boston, MA 02115.**

**POSTDOCTORAL POSITION** available for studies on multidrug resistance in human leukemia cell lines. These studies will focus on the isolation and characterization of new drug resistance-related genes and their protein products. Experience in gene cloning technology highly desirable. Send curriculum vitae and names of references to:

**Dr. Melvin S. Center**  
Division of Biology  
Ackert Hall  
Kansas State University  
Manhattan, KS 66506

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

**POSTDOCTORAL POSITION** studying the molecular mechanism of dominance by characterizing heterodimer formation and enzymatic activity of peptides from mutations at the *Drosophila* alcohol dehydrogenase locus. *Adh* mutations with a known change in their primary sequence of amino acids will be used. The results of these findings are to be related to dominance at the population level. Previous experience is desired in *Drosophila* genetics and molecular biology including electrophoresis. Send curriculum vitae and three letters of reference to: **Dr. Harold Silverman and Dr. William R. Lee, Department of Zoology and Physiology, Louisiana State University, Baton Rouge, LA 70803-1725** by 21 August 1989. *LSU is an Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** available immediately for Ph.D./M.D. to study protein transport and lipid flow between host and parasite membranes in malaria-infected erythrocytes. Background in biochemistry and/or cell biology required. Send your curriculum vitae, a brief description of research interests and names of three references to:

**Dr. Kasturi Haldar**  
Department of Microbiology and Immunology  
Stanford University  
School of Medicine  
Fairchild Building D319  
Stanford, CA 94305-5402



ANNOUNCING  
**NATIONAL RESEARCH COUNCIL**  
POSTDOCTORAL RESEARCH ASSOCIATESHIP AWARDS IN  
**BIOTECHNOLOGY**  
AT THE NATIONAL INSTITUTES OF HEALTH

*Research opportunities include:*

- MOLECULAR BIOLOGY
- MOLECULAR GENETICS
- BIOCHEMISTRY
- CELL & STRUCTURAL BIOLOGY
- PHYSIOLOGY
- IMMUNOLOGY
- CHEMICAL PHYSICS
- COMPUTER SCIENCE
- MATHEMATICS

The National Research Council in cooperation with the National Institutes of Health conducts three annual competitions for research awards for independent scientific research. Recipients will be free to pursue research problems of their own choice as guest investigators at NIH. Duration of award is one year renewable to a maximum of three. Annual stipends start at \$28,000. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is provided.

**Deadlines for application: August 15, 1989, January 15, April 15 and August 15, 1990 for competitions to be held in October 1989 and February, June and October 1990 respectively.**

*For application materials and further information concerning specific participating Institutes and Laboratories, write to:*

Associateship Programs  
(GR 430A/H)

**NATIONAL RESEARCH COUNCIL**

2101 Constitution Avenue, NW • Washington, DC 20418 • FAX: (202) 334-2759

**VICE CHANCELLOR—RESEARCH  
UNIVERSITY OF CALIFORNIA, DAVIS**

The University of California, Davis, seeks outstanding candidates for the newly-created position of Vice Chancellor-Research. The Vice Chancellor-Research is the senior campus officer responsible for overall leadership, development, management, and quality of the research programs of the Davis campus. A major purpose of this new position is to increase further the strength and effectiveness of the Davis campus as a major national and international research university.

The Vice Chancellor-Research will enhance, promote, and oversee research within all of the campus's colleges, schools, hospital, and clinics; enhance the research ethos of the campus; increase and manage extramural financial support including support for large, long-term, and interdisciplinary projects; and further relationships with government and industry.

The Vice Chancellor-Research must be familiar with the culture of a major research university; be able to deal effectively with public and private agencies that support scholarly research; have a full understanding of the contributions and requirements of scholars from all fields; and have a strong record of personal accomplishment as a research scholar and as an administrator.

**Nominations and applications, desired by October 1, 1989, should be sent to Chancellor Theodore L. Hullar, Office of the Chancellor, University of California, Davis, CA 95616.** Applicants should include a curriculum vitae and the names, addresses, and telephone numbers of five references. Salary will be commensurate with experience and qualifications; position open until filled.

Equal Opportunity/Affirmative Action Employer.

**BEHAVIORAL  
NEUROPHARMACOLOGIST**

The Merrell Dow Research Institute, located in suburban Cincinnati, has a challenging career opportunity for an experienced neuroscientist to join our CNS Pharmacology group.

The successful candidate will contribute actively to basic research and drug discovery programs directed toward the identification of new therapeutic approaches to CNS disorders. Qualified applicants should have a Ph.D. in Pharmacology/Psychology/Neuroscience with a minimum of 2 years post-doctoral experience. Experience with operant and non-operant behavioral paradigms is important. Drug discrimination or shock-titration techniques would be an additional asset. An ability to work with state-of-the-art equipment and techniques is consistent with our modern multidisciplinary approach to research and the candidate should have shown clear evidence of familiarity with these areas of expertise.

We offer excellent compensation, comprehensive benefits and relocation assistance. Please send your resume and names of three references in confidence to:

**Merrell Dow** **Job Code JHK**  
Manager, Human Resources

**MERRELL DOW  
RESEARCH INSTITUTE**

2110 East Galbraith Road  
Cincinnati, OH 45215

Equal Opportunity Employer M/F/H/V

## POSITIONS OPEN

**POSTDOCTORAL POSITION** is immediately available to study the molecular and cell biology of a newly described protein in breast cancer [See *Proc. Natl. Acad. Sci. U.S.A.* **86**, 1188-1192 (1989)]. A strong background in molecular biology is required; excellent training in protein chemistry and cellular aspects will be provided in the course of a comprehensive study. Send curriculum vitae and references to: **Gary R. Pasternack, M.D., Ph.D., Department of Pathology, The Johns Hopkins University School of Medicine, 600 North Wolfe Street, Baltimore, MD 21205.** An Equal Opportunity Employer.

A **POSTDOCTORAL POSITION** is available immediately in the Division of Pediatric Infectious Diseases of the Johns Hopkins University School of Medicine, to study humoral immune responses to human retroviruses using synthetic peptides. The project is part of a research program devoted to molecular diagnostic virology. A prospective candidate should have experience with organic or peptide synthesis or biochemical techniques, and preferably a background in virology, immunology, or protein chemistry. Salary is competitive. Interested individuals should call: **Dr. Raphael Viscidi, telephone: 301-955-3271.**

**POSTDOCTORAL POSITION** for a cellular immunologist with experience in T-cell cloning to study the molecular genetics of human immune response including human T-cell cloning, T-cell epitope mapping, and studies of HLA-D-Ag and HLA-D-CD4 interactions. We are moving to a newly constructed 135,000-square-foot building with highly equipped, state-of-the-art, spacious laboratories. The position offers opportunities for interactions with molecular biologists and cellular immunologists and future advancement for exceptional candidates. Salary commensurate with qualifications. Applications: **Aftab A. Ansari, Ph.D., Johns Hopkins University School of Medicine, 5601 Loch Raven Boulevard, Baltimore, MD 21239.**

**POSTDOCTORAL POSITION** available immediately to study the organization, expression, and regulation of murine class I MHC genes. Studies will also involve characterization of proteins encoded by these genes. Only U.S. citizens or permanent residents are eligible for this position.

Send curriculum vitae and names of three references to: **Dr. S. W. Hunt, University of North Carolina-Chapel Hill, 932 FLOB CB# 7280, Chapel Hill, NC 27599-7280.**

An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION IN MOLECULAR GENETICS.** Immediate opening in our Molecular Genetics Laboratory (**Dr. James Hixson**) for an individual with expertise in molecular methods and interest in gene mapping in nonhuman primates. This genome mapping project will require isolation of probes (and use of human probes) to detect DNA polymorphisms for linkage analyses in large baboon families ( $n = 1500$ ). Please send résumé, statement of research interests, and names, addresses, and telephone numbers of three references to: **Personnel Director (045), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.** Equal Opportunity Employer M/F.

**POSTDOCTORAL POSITION—PROTEIN CRYSTALLOGRAPHY.** Available immediately to study structure of tissue plasminogen activator. Ph.D. or equivalent degree required. Strong background in protein purification chemistry, macromolecular crystallography preferred. Send curriculum vitae and the names and addresses of three references to: **Dr. Jens Birktoft, Department of Biochemistry and Molecular Biophysics, Box 8094, Washington University School of Medicine, St. Louis, MO 63110.** Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL POSITIONS** in molecular development biology. Ongoing investigations involve isolation and functional characterization of gene sequences involved in the development of the retina and lens; manipulation of gene sequences and cell transfections and the study of their phenotypic consequences in cell culture. Send résumé to: **Dr. Suraj P. Bhat, Vision Molecular Biology, Jules Stein Eye Institute, University of California at Los Angeles School of Medicine, Los Angeles, CA 90024-1771.** Telephone: 213-825-9543.

## POSITIONS OPEN

**POSTDOCTORAL POSITIONS** available immediately to study (1) developmentally regulated enzymes of diacylglycerol metabolism and (2) lipid metabolism and transport in placental cells. Ongoing studies involve (i) purification and cloning of enzymes of hepatic diacylglycerol synthesis, (ii) delineation of enzymes involved in placental transport of fatty acids, and (iii) elucidation of metabolic pathways to which these enzymes contribute. Send curriculum vitae and three references to: **Dr. Rosalind Coleman, Box 3028, Pediatric Genetics and Metabolism, Duke University Medical Center, Durham, NC 27710.** Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL POSITIONS.** Two positions available for NIH-funded study of CNS neuron/glia interactions involving cell culture, completion of purification of novel glial growth factor, monoclonal antibody generation, growth factor localization during development, gene cloning, and regulation of expression. Background in biochemistry and/or molecular biology required. Send curriculum vitae, names and telephone numbers of three references, and research experience/interests to: **Dr. Jane Bottenstein, MBI (Department of Human Biological Chemistry and Genetics), University of Texas, Galveston, TX 77550.** Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITIONS IN MEDICAL CHEMISTRY AND PHARMACOLOGY** available 1 August 1989 for individuals interested in the study of (i) protein/nucleic acid interactions during DNA polymerization, and (ii) neuropeptide SAR and pharmacology. Experience in protein and nucleotide chemistry or cardiovascular pharmacology preferred but not required. Send curriculum vitae and three letters of recommendation to: **Dr. M. B. Doughty, Department of Medicinal Chemistry, University of Kansas, Lawrence, KS 66045-2506.** Equal Opportunity Employer/Affirmative Action.

**POSTDOCTORAL POSITIONS IN PLANT MOLECULAR BIOLOGY.** University of Arizona. Applicants are invited for appointments as postdoctoral fellows in plant molecular biology to study nuclear and chloroplast gene regulation in the laboratories of **Hans Bohnert, Don Bourque, David Galbraith, Richard Hallick, Martha Hawes, Brian Larkins, or Elizabeth Vierling.** Ph.D. with previous experience in biochemistry or molecular biology is desirable. Send letter of intent, curriculum vitae, and three letters of reference c/o: **Jane Huff, Biochemistry Department, Bio Sci West 524, University of Arizona, Tucson, AZ 85721.** An Equal Opportunity/Affirmative Action/Title IX, Section 504 Employer.

**POSTDOCTORAL RESEARCH ASSOCIATE:** The program includes isolation of complex carbohydrates of glycoproteins and bacterial polysaccharides combined with determination of their structure and conformation. Methods will be HPLC, circular dichroism spectroscopy, molecular modeling, molecular dynamics simulation and high-resolution 2-D NMR spectroscopy. Candidates should send curriculum vitae and three letters of recommendation to: **C. Allen Bush, Department of Chemistry, University of Maryland Baltimore County, Baltimore, MD 21228.** UMBC is an Equal Opportunity/Affirmative Action Employer, and applications from qualified women, minorities and disabled candidates are especially encouraged. Applications will be received until a suitable candidate is found.

**POSTDOCTORAL RESEARCH ASSOCIATE** needed to join our multidisciplinary research team to understand hippocampal function. Research focuses on associative potentiation/depression. Collaborators include a morphologist, an electrophysiologist, a single cell biophysicist, and a neural network theoretician. The ideal candidate is experienced in either electron microscopy or extracellular electrophysiology and is interested in acquiring and applying the other technique. Position is available September 1989, and is funded for 4 years. Salary range is \$20,000 to \$32,000 depending on experience and expertise. Send curriculum vitae and names of three references to: **Dr. William B. Levy, Department of Neurosurgery, University of Virginia Health Sciences Center, Charlottesville, VA 22908.** Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE POPULATION ECOLOGY/ CONSERVATION BIOLOGY

Two-year postdoctoral position available to conduct research on population dynamics and population viability of the endangered red-cockaded woodpecker. The investigator will analyze long-term data of woodpecker fecundity, survivorship, and genetic variation to develop population viability assessments involving modeling population persistence in relation to demographic, environmental and genetic variability. The ideal candidate will have demonstrated research capability in population modeling and the skills and inclination to communicate effectively with faculty and students in diverse departments as well as conservation managers. Starting salary is \$28,852 and applicants must be available no later than 1 October 1989. Applications will be accepted until 1 July 1989. *USDA Forest Service is an Equal Opportunity Employer. Women and minorities are encouraged to apply.* Send curriculum vitae and the names of three references to: **M. R. Lennartz, USDA Forest Service, Department of Forestry, Clemson University, Clemson, SC 29634-1003.**

### POSTDOCTORAL RESEARCH ASSOCIATE— GENE EXPRESSION

Available immediately to investigate molecular mechanisms of regulated secretions. We are studying gene expression, segregation and sorting of salivary proteins, i.e., histatins and proline-rich proteins. Candidates must have Ph.D. and experience in recombinant DNA methods. Send curriculum vitae and three letters of recommendation to: **Dr. Frank Oppenheim, Room G-217B, Department of Oral Biology/Biochemistry, Boston University Medical Center, 100 East Newton Street, Boston, MA 02118.**

Positions open at **POSTDOCTORAL, RESEARCH ASSOCIATE OR RESEARCH ASSISTANT PROFESSOR** levels in biochemistry and molecular biology to study genomic consequences of hormone receptor interaction and their contribution to hormonal carcinogenesis. Experience required in molecular endocrinology with emphasis on steroid hormones, hormone receptors, growth factors and oncogenes. Early start preferable. Send curriculum vitae and bibliography to: **Department of Biochemistry and Molecular Biology, University of Miami School of Medicine, P.O. Box 016129, Miami, FL 33101.** Attention: Search Committee. *The University of Miami is an Equal Opportunity/Affirmative Action Employer.*

### PRODUCTION ENGINEERS PROKARYOTIC/EUKARYOTIC FERMENTATION AND VACCINE FORMULATIONS

**BIOSTAR Inc.** has immediate openings for staff scientists in its vaccine development program.

We are seeking individuals to participate in the formation and operation of our bacterial and eukaryotic (mammalian and insect) cell production facilities, plus an individual who is an expert in large-scale product purification and vaccine formulations.

**Bacterial Fermentation Engineer:** One position in the area of bacterial fermentation, specifically involving recombinant protein production.

**Eukaryotic Cell Production Engineer:** One position involving large-scale production of eukaryotic cells expressing recombinant proteins. Initially, we are interested in growing insect cells to support baculovirus expression vectors, in addition to developing other eukaryotic cell systems for growth on microcarriers.

**Formulations Engineer:** One position for an individual experienced in downstream processing, product purification, antigen presentation and adjuvant technology.

Applicants for the above positions should have 2 to 4 years of postdoctoral and/or industrial experience.

**BIOSTAR Inc.,** in conjunction with the Veterinary Infectious Disease Organization (VIDO) provides a stimulating atmosphere with the opportunity to collaborate with other scientists in the fields of virology, bacteriology, immunology, and molecular biology. Successful applicants will be expected to operate as an integral part of a research team and should have good communicative skills. For consideration, please forward your curriculum vitae and the names of three referees to: **Dr. Stephen D. Acres, President, Biostar Inc., Box 1000, Sub P.O. #6, Saskatoon, Saskatchewan Canada, S7N 0W0.**

## MEDICAL AND SENIOR STAFF FELLOW

The Laboratory of Clinical Studies, National Institute on Alcohol Abuse and Alcoholism, Public Health Service, invites applications for one Fellowship position to study the pathophysiology, psychobiology, and molecular biology of alcoholism and its complications. Unique opportunity to become an active member of a multidisciplinary research team working with a 10 bed unit and outpatient clinic. State-of-the-art equipment and experienced technical support available. The position is that of a Medical or Senior Staff Fellow with a salary range of \$37,000 to \$52,000 per annum commensurate with qualifications and is located on the NIH campus in Bethesda, MD. Interested candidates must be board certified or eligible internists, who are U.S. citizens or permanent residents. Position information and qualification requirements may be obtained by contacting:

**Ted George, M.D.**  
Bldg. 10, Room 3B-19  
9000 Rockville Pike  
Bethesda, MD 20892  
Phone: (301) 496-9705



Submit Curriculum Vitae and names of three references to Dr. George.

The position is now available.

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## RESEARCH INVESTIGATOR

### Radiopharmaceutical Research

The Squibb Institute for Medical Research is an internationally recognized leader in the research and development of innovative pharmaceuticals and related health care products. Currently, we have a position available for a Research Investigator to join our Radiopharmaceutical Research Department at our New Brunswick, NJ facility.

Candidates should possess a Ph.D. in a chemical or biological science and 1-3 years of relevant post-doctoral experience in the analysis of samples in biological matrices. Experience in HPLC is essential while exposure to work in the separation of transition metal complexes is desirable. Pluses include computer and instrumentation skills and/or previous experience in the handling of radioactive materials.

You will be responsible for developing methods to determine the metabolic fate of technetium coordination complexes, and for the assays of in-vivo and in-vitro stability of radiodiagnostic agents.

We offer a very competitive compensation package and participation in our comprehensive benefits program. Interested candidates should submit their resume, including salary history to: **The Squibb Institute for Medical Research, Department AK/E20488, P.O. Box 191, New Brunswick, NJ 08903.** An Equal Opportunity Employer.



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## University of Pennsylvania

### Dean of the School of Engineering and Applied Science

Applications and nominations are invited for the position of Dean of the School of Engineering and Applied Science at the University of Pennsylvania. Correspondence should be directed to:

Professor Campbell Laird  
Chair  
Dean Search Committee  
School of Engineering and  
Applied Science  
c/o Office of the Secretary  
University of Pennsylvania  
121 College Hall  
Philadelphia, PA 19104-6382



The University of Pennsylvania is an  
Equal Opportunity Affirmative Action Employer.

## Nucleic Acid Diagnostics

Chiron Corporation is seeking to build a team for the commercial introduction of diagnostic products based on a unique nucleic acid probe technology. Located in the San Francisco Bay Area, the company offers competitive salaries and benefits, and excellent career opportunities.

### Assay Development Scientist

The scientist will be involved in the development of tests for Sexually Transmitted Diseases. Candidates should have a Ph.D. degree in Molecular Biology, Biochemistry or a related field and at least 2 years' experience in the development and market introduction of new products in human medical diagnostics. (Position NAC-201)

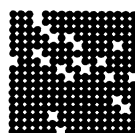
### Assay Development Associate

The individual will provide technical support in the development and market introduction of assays for Sexually Transmitted Diseases. Candidates should have a B.S. degree in Molecular Biology, Biochemistry, Immunology or a related field and at least one year experience in a basic research (preferably commercial) laboratory setting. Excellent organizational and record-keeping skills are necessary. (Position NAC-202)

### Clinical Microbiology

The scientist will acquire, grow, maintain and characterize human pathogenic organisms. A special emphasis on Sexually Transmitted disease-causing bacteria and/or transfusion-mediated viral pathogens is required. The successful candidate will have at least 4 years' post-graduate hands-on experience in related activities. (Position NAC-204)

Qualified individuals should send a resume and three references to: Personnel Department, Chiron Corporation, 4560 Horton Street, Emeryville, CA 94608. Please indicate the position sought. No calls please. EOE.



**CHIRON**  
CORPORATION

## oncor

Oncor, Inc. is a rapidly-growing company in the development and marketing of nucleic acid (DNA/RNA) probes, reagents and instrument systems for the early detection and characterization of molecular diseases such as cancer and genetic disorders.

### Director of Sales

Degrees and/or experience in the Life Sciences. Successful track record in sales management in both domestic and international markets. Experience in national account sales management.

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Requires B.S. in Life Sciences or minimum two years work experience in basic research or pathology laboratory. High level of motivation and initiative, excellent listening and organizational skills. Limited field travel with home office base.

### Technical Services Manager

Requires a Ph.D. in Biochemistry or Molecular Biology. Experience in nucleic acid analysis. Strong communication and writing skills.

### Product Manager

Requires a B.S./M.S. in Biochemistry or Molecular Biology. Experience with nucleic acid techniques. Minimum of two years of product management experience for research products.

### Senior Molecular Biology Laboratory Technicians

Requires skills in hybridization techniques such as Southern and Northern Blotting, nucleic acid/protein purification, radioisotopic labeling and other molecular biology techniques desirable.

Outstanding opportunity for career advancement, excellent salary and participation in Company stock option program. Please contact the personnel department and write with your C.V. and references to:

Personnel Department  
Oncor, Inc.  
P.O. Box 870  
Gaithersburg, MD 20884  
Tel. (301) 963-3500 Fax (301) 926-6129



## INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH, BANGLADESH

ADVERTISEMENT

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), is a non-profit international medical research institution situated in Dhaka, Bangladesh. Its aims are to conduct research and training in diarrhoeal diseases and related subjects of nutrition and fertility, and to develop improved health programmes for control of diarrhoeal diseases in developing countries. It is also involved in major demographic surveys. There are four scientific divisions: Clinical Sciences, Laboratory Sciences, Community Health and Population Sciences.

Salary scales, rules and regulations are similar to those followed by the UN. The 1,400 employees include 200 researchers coming from 13 countries. ICDDR,B is supported by 21 countries and international organizations, including WHO and UNICEF.

The Division of Laboratory Sciences have a vacancy for Scientist/Senior Scientist for a period up to 2 years (suitable for a sabbatical leave) to conduct Research. Interested individuals would be required to carry out research on diarrhoeal disease at the Centre. Specific area of research is to be mutually agreed upon and must fall within the research priorities of the Centre. It is expected that the investigation should broadly be on either clinical, epidemiological or laboratory aspect relevant to invasive, persistent or watery diarrhoea. The selected individual will have no administrative responsibilities and will be provided with technical staff and a grant to conduct research.

### Qualification and experience:

Medical or science graduates with appropriate postgraduate qualifications and experience in diarrhoeal disease are sought. Candidates must have a demonstrable ability to generate ideas and conduct and lead a research team. Candidates should submit a brief outline of a proposal for research they wish to conduct at the Centre.

### Salary:

Salary and grade level will be based upon an applicants experience up to a maximum of UN equivalent P4.

For further information, please contact Dr. Saul Tzipori, Associate Director, Laboratory Sciences Division OR Aminul Huque, Personnel Manager (Professional), ICDDR, B, GPO Box 128, Dhaka-1000, Bangladesh. Telex: 675612 ICDD BJ; FAX: 880-02-411846.

## HEALTH SCIENTISTS

ENVIRON® Corporation, a leading national scientific and regulatory affairs consulting firm, is seeking highly motivated health scientists looking for challenging career opportunities in the fields of chemical risk assessment and environmental risk management. Our multi-disciplinary staff assists our clients in addressing the complex issues and problems of human exposure to potentially hazardous substances in the environment.

Exciting career opportunities exist in our Washington, DC, Princeton, NJ, and Emeryville, CA offices for experienced health scientists. Qualified applicants must be familiar with the concepts and methodologies for evaluating risks from human exposure to toxic chemicals in various environments. M.S./Ph.D.s in biochemistry, epidemiology, pharmacology, public health, toxicology, or related disciplines are required. Must possess strong analytical ability and excellent writing skills.

ENVIRON offers competitive salaries, excellent benefits, and a challenging work environment. For an evaluation of your potential at ENVIRON, send your resume, writing sample, and salary history to ENVIRON Personnel, Dept. SC-789, 1000 Potomac St., N.W., Washington, DC 20007. We are an equal opportunity employer.

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Molecular Devices Corporation has developed a highly sensitive, silicon sensor assay system-Threshold™-to make innovative measurements for the biotechnology marketplace. To be part of this exciting technology, explore the following opportunities:

### **Molecular Biologist**

You will be involved in the research and development of novel diagnostic procedures to determine specific nucleic acid sequences. Requires a background in biochemistry or molecular biology and expertise with methods related to the use and design of oligonucleotide and large DNA fragment probe hybridization. Experience in the development of commercial diagnostic reagents preferred.

### **Protein Biochemist**

As part of our applications group supporting Threshold, you'll be responsible for customer support and application development with special emphasis on immunoassay applications. Requires experience in either protein chemistry or immunoassay development.

Both positions require a PhD or equivalent and at least 2 years' experience in the biotechnology industry.

Send your resume to Molecular Devices Corp., 4700 Bohannon Drive, Menlo Park, CA 94025. Principals only. EOE.



## **ONCOLOGY RESEARCH**

**WASHINGTON DC AREA**

Molecular Oncology, Inc. is a young, fast-growing biotech research company involved in the transfer of the latest molecular diagnostics to the clinical laboratory. If you're an enthusiastic individual with the demonstrated ability to apply advanced management and research skills to cancer diagnosis, we have a place for you on our team.

### **LABORATORY DIRECTOR—MOLECULAR BIOLOGY**

Duties include the daily supervision of a staff of investigators examining the correlation of gene structure and protein expression with tumor identification and progression. M.D. or Ph.D degree with 2 to 5 years supervisory experience required.

### **LABORATORY DIRECTOR—TUMOR BIOLOGY**

Molecular Oncology, Inc. is expanding its research efforts in the areas of tumor cell invasion and metastases. This laboratory will investigate biochemical processes involved in tumor progression with a specific focus on basement membrane interactions and proteolysis. M.D. or Ph.D. degree with 2 to 5 years supervisory experience required.

Send employment history and c.v. to:

Principals only.

MOI is an equal opportunity employer.



**Molecular Oncology, Inc.**  
Department S-1  
19 Firstfield Road  
Gaithersburg, MD 20878

## **Research Opportunities**

### **Molecular Sciences**

#### **Beckenham, Kent**

Wellcome and its worldwide associated companies develops and produces pharmaceutical products for the advancement of human healthcare. The Wellcome Foundation Limited is based in the U.K., has a turnover in excess of £1,250m and has been the source of many of the group's notable discoveries.

To complete our teams of dedicated scientists, we are currently looking for the following professionals to join the Department of Molecular Sciences.

### **Cell Biology (Oncogenes)**

We have an exciting opportunity for an experienced scientist to work in the Oncogene area where we are building a very strong team which has adopted an integrated multi-disciplinary approach to the discovery of the selective inhibitors of oncogene function and assessment of their potential in the treatment of cancer. Our initial target is the *ras* oncogene which has been implicated in many common human tumours.

The successful candidate should have 3-5 years' post-doctoral experience in the oncogene area and have a strong background in both cell and molecular biology with a proven track record of excellence in research.

### **Molecular Biologist**

We are seeking a young and talented molecular biologist to join a multi-disciplinary team devoted to the discovery of novel therapeutic agents. Heavily committed to AIDS research, we are expanding our activities to include work on *Pneumocystis Carinii*, a rather poorly understood organism which is a major cause of death in AIDS patients. The successful candidate will initially work in this new and challenging area identifying and cloning suitable target genes and expressing their products through genetic manipulation in heterologous systems.

A PhD is a necessary requirement for this post but post-doctoral experience is not essential. A background in molecular parasitology would be an advantage.

In addition to a competitive salary you can look forward to our generous benefits package which includes 5 weeks' holiday, annual profit sharing bonus, pension and free life assurance schemes, excellent sports and social facilities. Relocation assistance will be provided where appropriate.

Please write with full career details to Miss S. J. McKinlay, Personnel Officer, The Wellcome Research Laboratories, Langley Court, Beckenham, Kent BR3 3BS, quoting reference 91/126.

- The Wellcome Foundation Ltd.
- Major International Pharmaceutical Group
- Research Centre at Beckenham
- Annual Turnover >£1,250m
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**Wellcome**



## POSITIONS OPEN

**POSTDOCTORAL/SENIOR RESEARCH ASSOCIATE FELLOWSHIPS IN MOLECULAR ONCOLOGY.** Up to two positions will be available as early as 1 July 1989 in the Department of Therapeutic Radiology at Yale University School of Medicine for innovative researchers interested in pursuing problems relevant to the molecular biology, diagnosis, and treatment of cancer. Projects include:

(i) the development by genetic engineering techniques of new human hemoglobins able to improve delivery of oxygen to hypoxic tumor cells and their subsequent complete genetic, biochemical, and physiological characterization in vitro and in vivo (e.g., marrow transplant and transgenic mouse model systems), and;

(ii) the study of autocrine and paracrine mechanisms that govern stromal invasion by tumors, activated immune cells, and implanting embryos, with particular emphasis on the molecular biology of lymphohematopoietic cytokines, their receptors, and their biological role in the control of tumor growth, tissue invasion and metastasis, modulation of host response to foreign tumor and embryonic antigens, and alteration of tumor and normal tissue responses to radiation, chemotherapy, and other agents currently employed in cancer treatment.

Preference will be given to candidates with M.D. or Ph.D. degrees and research experience (pre- or postdoctoral) in molecular biology, protein and nucleic acid biochemistry, and/or molecular immunology. Interested individuals should send letters of application, including curriculum vitae and references, to: **Barry M. Kacinski, M.D., Ph.D., 136 HRT, Department of Therapeutic Radiology, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510. FAX: 203-785-6309.**

**POSTGRADUATE RESEARCH ANATOMIST.** Ideal candidate will hold an M.D. and a graduate degree in pharmacology; will have a computer programming background, especially in the FORTH language, experience in extracellular recording in chronic animal preparations and stereotactic surgery skills. Starting salary: \$20,000. Send curriculum vitae to: **Professor Ronald M. Harper, Department of Anatomy and Cell Biology, University of California, Los Angeles, CA 90024-1763.**

## PROFESSOR OF POLYMERIC BIOMATERIALS

The Bioengineering Department at Clemson University invites applications for associate or full professor of bioengineering (tenure-track). Applicants must have a Ph.D. and a record of achievement in biomaterials. Interest in polymeric and blood-contacting materials desired. Responsibilities will include graduate-level teaching, acquisition and conduct of sponsored, peer-reviewed research and scholarly writing. Collaboration will be encouraged with the seven full-time members of the Department as well as with other departments and institutions. Excellent research and clinical facilities are available through the Department, the College of Engineering and the Bioengineering Alliance of South Carolina. Applications will be accepted until 1 December 1989 or until the position is filled. Send curriculum vitae, statement of research and teaching interests, representative reprints, and names of three professional references to:

**Professor Jonathan Black, Chair  
Faculty Search Committee  
Department of Bioengineering  
301 Rhodes Engineering Research Center  
Clemson University  
Clemson, SC 29634-0905  
Affirmative Action/Equal Opportunity Employer.**

## RESEARCH ASSISTANT PROFESSOR

Temple University School of Medicine, Thrombosis Research Center, is looking for a research assistant professor, nontenured position, or postdoctoral fellow, depending upon qualifications, to participate in ongoing studies on the cellular expression of plasma proteins. Professional background in peptide or protein chemistry, cell culture, or molecular biology required. Please send curriculum vitae and names of three references to: **Alvin H. Schmaier, M.D., Temple University School of Medicine, 3400 North Broad Street, Philadelphia, PA 19140. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**RESEARCH ASSISTANT** needed to study the structure and biology of an intrinsic membrane golgi protein. Experience in protein and peptide chemistry, antibody production, immunochemistry, immunohistochemistry and molecular biology is required. \$23,500 to \$25,500 per year. Send curriculum vitae and names of two references to: **Dr. Ruth Hogue Angeletti, Developmental Biology and Cancer, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461. Equal Opportunity Employer.**

**RESEARCH ASSISTANT PROFESSOR.** To perform research on molecular genetics and biochemistry in various prokaryotic systems, and teach graduate courses in bacterial genetics. Requires: Ph.D. in chemistry, experience in biosynthesis of biopolymers (especially polysaccharides), microbiology, DNA recombinant techniques in the fields of resistance to antimicrobial agents and bacterial iron transport as well as extensive experience in plasmid systems at the DNA, RNA, and protein level. At least 3 years of experience teaching graduate students. Postdoctoral experience of at least 2 years. About 20 scientific articles in peer-reviewed journals being senior author in at least half of them. A history of successful grant support as Principal Investigator. Applications will be considered for a month after publication of this advertisement. Send application letter, curriculum vitae and names of three references to: **Dr. Jorge H. Crosa, Department of Microbiology and Immunology L220, Oregon Health Sciences University, 3181 SW Sam Jackson Park Road, Portland, OR 97201. Equal Opportunity Employer/Affirmative Action.**

## RESEARCH ASSOCIATE

Perform basic and clinical research in a new quantitative fluorescence microscopy laboratory equipped with state-of-the-art imaging and image analysis instrumentation. Experience in cell physiology, membrane biophysics, immunochemistry or fluorescence spectroscopy is desirable. Investigations include novel emission microscopic techniques as well as antigenic site and membrane fluidity mapping in living cells. Please submit résumé to: **Professor Josef Eisinger, Department of Physiology and Biophysics, Box 1218, The Mount Sinai School of Medicine, New York, NY 10029-6574. An Equal Opportunity Employer.**

**RESEARCH ASSOCIATE** to study the properties of novel enzymes which possess the pyrroloquinoline quinone (PQQ) prosthetic group. These studies will define the role of protein-bound PQQ in catalysis and the kinetics of the interaction of these enzymes with their physiological redox partners, which include cytochromes and metalloproteins. Experience in steady-state and rapid kinetics is desired. Apply to: **Dr. V. L. Davidson, Department of Biochemistry, The University of Mississippi Medical Center, Jackson, MS 39216-4505. Equal Opportunity Employer, M/F/H/V.**

**RESEARCH ASSOCIATE**—To conduct clinical research in visual function as applicable to retinal, optic nerve and macular function and visual development. Work specifically involves research into the evaluation and understanding of pediatric, hereditary and geriatric diseases resulting in visual impairment such as retinopathy of prematurity, macular gliosis, and retinitis pigmentosa, utilizing electrophysiological techniques such as the electroretinogram (both single and flash averaged), the electrooculogram, the visual-evoked response and pattern-reversal visual-evoked response, along with psychophysical tests such as the preferential looking test. Work also involves the development of models and structuring experiments to evaluate visual function in, and mechanisms of these disease processes, especially the conditions resulting in visual impairment; and the investigation into the structuring of tests to evaluate low vision in infants. Minimum requirements include an M.D. with a very strong background in retinal, macular and optic nerve disease pathologies. Candidate must have had demonstrated expertise in (i) performing and evaluating electrophysiological tests in various retinal/optic nerve diseases both hereditary and acquired, specifically in the electroretinogram, (ii) assessing pediatric/infant ocular conditions, especially amblyopia. Salary is \$25,000 per year for a 5-day, 40-hour work-week. Qualified applicants respond with résumé only to: **J.O. #9906, Massachusetts Department of Employment and Training, Special Programs Department, 19 Staniford Street, Boston, MA 02114.**

## POSITIONS OPEN

**RESEARCH ASSOCIATE:** LipoGen, Inc., located in the East Tennessee Technology Corridor, is a dynamic biotechnology company engaged in the development of novel immunodiagnostic assays. We currently have an opening for a research associate in molecular biology with the following experience: (i) cloning and screening of recombinant DNA expression libraries; (ii) protein purification; (iii) small scale fermentation (1-10L). Experience with host/vector systems in addition to those of *E. coli* would be an asset. This position requires a B.A./B.S. degree with experience or an M.S. degree. Please reply in confidence to: **Dr. L. A. Stringfellow, LipoGen, Inc., 10515 Research Drive, Knoxville, TN 37932.**

**RESEARCH ASSOCIATE IN ASTRONOMY.** To maintain and use PDS microdensitometer system, update trigonometric parallax catalogue, measure and analyze a survey of stellar proper motions and parallaxes. Thirty-seven and one-half hours per week, \$22,400 per year. Required: M.S. in astronomy, 6 months of experience using a PDS microdensitometer, one semester course in astrometry and knowledge of FORTRAN. Send résumé to: **Job Service Technical Unit, Connecticut Department of Labor, 200 Folly Brook Boulevard, Wethersfield, CT 06109. Refer to Job Order #3048724.**

## RESEARCH ASSOCIATE/ POSTDOCTORAL POSITION

Available now to investigate mechanisms of regulation of lipoprotein lipase and hepatic lipase gene expression, protein synthesis, and catalytic activities. Cell culture (liver, adipocyte, endothelial), molecular biology, immunochemical (monoclonal antibodies), and recombinant DNA technique approaches are employed. Applicants should have training in biochemistry or molecular biology. Experience with recombinant DNA desirable. Send résumé and names of three references to: **Dr. Andre Bensadoun, Division of Biological Sciences and Nutritional Biochemistry, 321 Savage Hall, Cornell University, Ithaca, NY 14853.**

## RESEARCH IN MOLECULAR ENDOCRINOLOGY

The University of Calgary Faculty of Medicine Endocrine Research Group invites applications for faculty positions at the **ASSISTANT PROFESSOR** level or higher in the area of molecular endocrinology.

Successful candidates will be expected to develop an independent research program in the general area of molecular endocrinology, but priority will be given to applicants dealing with the mechanism of hormone action using molecular biological techniques. Highly qualified individuals in other areas of molecular endocrinology will also be considered. Candidates will be expected to compete successfully for support from the Alberta Heritage Foundation for Medical Research or from the Medical Research Council of Canada.

Applicants require a Ph.D. and/or M.D. and research training at the postdoctoral level. Successful applicants will have 75% of their 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.

Interested candidates should submit curriculum vitae, the names of three references, and a letter stating their aims and research interests by 1 September 1989, to:

**Dr. H. Joseph Goren  
Chairman,  
Endocrine Research Group Search Committee  
Faculty of Medicine  
The University of Calgary  
3330 Hospital Drive, N.W.  
Calgary, Alberta, Canada T2N 4N1**

**RESEARCH SCIENTIST.** Position available for a research scientist in the Rheumatology and Immunology Division of Winthrop-University Hospital. The successful candidate will have a Ph.D. and at least 2 years of postdoctoral experience. Research interests of the division include the role of extracellular matrix and adhesive proteins in inflammation. Send curriculum vitae to: **John F. Aloia, M.D., Chairman, Department of Medicine, Winthrop-University Hospital, 259 First Street, Mineola, NY 11501.**

## RESEARCH OPPORTUNITIES

**THE JACKSON LABORATORY**, located by the coast of Maine on the fringe of Acadia National Park, is a world renowned center for mammalian biology and genetics.

### POSTDOCTORAL

**FELLOWS (2):** To study (1) genetics, biochemistry and immunobiology of non H-2 histocompatibility genes and antigens, (2) biology of immunity to *Pneumocystis carinii*.

### RESEARCH ASSISTANT

**(1):** BS or MS to carry out experiments in cellular immunology, immunogenetics, adept technically, have experience in tissue culture and background in genetics and biochemistry.

Openings are in the lab of Dr. Derry Roopenian. Please contact:



**The Jackson Laboratory**

Attn: Harold R. Wheeler  
Employment Manager  
600 Main Street  
Bar Harbor, ME 04609  
207/288-3371

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## Molecular Biologists Protein Chemists

BioGrowth, Inc., a biotechnology company located in the San Francisco Bay area, has immediate openings for **MOLECULAR BIOLOGISTS** and **PROTEIN CHEMISTS** to aid in the development of novel human therapeutic agents. A Ph.D. is required in addition to at least two years postdoctoral experience, preferably in biotechnology. Particular expertise in the areas of mammalian or bacterial gene expression and purification of proteins is desired.

BioGrowth offers competitive salaries, benefits, and the opportunity to make a major contribution. Please send resume to

**BioGrowth, Inc.**  
3065 Atlas Road, Suite 117,  
Dept. MB-3  
Richmond, CA 94806

## NATIONAL INSTITUTES OF HEALTH FELLOWSHIP IN NEUROCHEMISTRY

The Laboratory of Neurosciences, National Institute on Aging, invites applications for the position of Staff Fellow/Medical Staff Fellow to study the postmortem human brain in relation to age, Alzheimer's disease and Down syndrome, coordinated with ongoing clinical program. Animal models of disease (e.g., murine trisomy 16) and actions of centrally acting drugs will be examined. Applications are invited from individuals having a Ph.D. and/or M.D., plus experience in neurochemistry, molecular approaches to gene expression (including in situ hybridization) or neuroanatomy (including quantitative autoradiography). Salary is commensurate with qualifications. Appointments vary in duration from 2 to 7 years, and are tenure-track. Interested applicants should send Curriculum Vitae plus two letters of recommendation to:

**Stanley I. Rapoport, M.D.**  
Chief, Laboratory of Neurosciences  
Bldg. 10, Rm. 6C-103  
National Institute of Aging, NIH  
9000 Rockville Pike  
Bethesda, MD 20892



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## WHOLE ANIMAL BIOLOGIST

An entry level senior research scientist position is available in the Growth Factor Research Department of Merck Sharp & Dohme Research Laboratories for a whole animal biologist to study the physiology and endocrinology of specific hormone-dependent disorders and to evaluate therapeutic approaches to treat these disorders. Candidates should have either a D.V.M. or Ph.D. or equivalent plus postdoctoral training. Additional experience in either cell biology or biochemistry could be beneficial but is not mandatory.

Merck Sharp & Dohme Research Laboratories are located in Rahway, New Jersey approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Interested candidates should submit their curriculum vitae with the names of three references to **Dan Hoffman, Merck & Co., Inc., P.O. Box 2000, Rahway, New Jersey, 07065.**

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**Merck & Co., Inc.**

## Molecular Genetics Research Assistants

As part of our expanding research activities, we seek several innovative scientists to join our Molecular Genetics Department at the Central Research facility in Groton, Connecticut. These positions offer an opportunity to join a group of highly motivated scientists carrying out basic research and developing biotechnology applications for the advancement of our drug discovery and medicinal research programs.

Candidates should have a BS or MS degree in a biological science with 1-2 years of relevant laboratory research experience involving recombinant DNA techniques. In addition, you should have experience in one or more of the following:

- Analysis of gene expression
- cDNA library screening
- Mammalian cell culture
- Protein purification
- Construction of expression vectors
- DNA sequencing

In addition to a stimulating scientific environment, we offer a competitive compensation/benefits package and relocation assistance to an attractive southeastern Connecticut shore community. Qualified applicants should submit their resume and the names of three references, in confidence, to: Mrs. Lorraine C. Corr, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.



## POSITIONS OPEN

**RESEARCH FACULTY** position available beginning July 1989 in Department of Psychiatry, Duke University. Position entails working with nicotine research group investigating the psychopharmacology of nicotine and the role of conditioned stimuli in maintaining cigarette smoking. Must have experience in nicotine pharmacology and analysis of human smoking behavior. Strong background in neurosciences and pharmacology preferred. Please send curriculum vitae to: **Jed Rose, Ph.D., Nicotine Research (151), VA Medical Center, 508 Fulton Street, Durham, NC 27705.** *Duke University is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### RESEARCH SCIENTIST MOLECULAR BIOLOGY/ TRANSGENIC MOUSE TECHNOLOGY HHMI, UNIVERSITY OF CHICAGO

A position is available beginning summer 1989 in a laboratory studying the molecular mechanisms underlying differentiation and development in skin. Approaches include tissue culture, gene transfections, transgenic mouse technology, molecular biology, immunofluorescence and immunoelectron microscopy. Applicants should have a minimum of a B.S. degree. Experience with animals and molecular biology is preferred.

Send curriculum vitae, summary of experience, and names and telephone numbers of references to:

**Dr. Elaine Fuchs**  
**Howard Hughes Medical Institute**  
**University of Chicago**  
**5841 South Maryland Avenue**  
**Chicago, IL 60637**

**RESEARCH TECHNICIAN POSITION** available to conduct research on RFLP analysis of cereal crops. Applicants should have experience with standard molecular biology techniques. Familiarity with DNA sequencing and PCR technology is desirable. Candidates with a B.S. or M.S. in molecular biology and/or genetics are encouraged to apply. Please send résumé to: **Sybil Paul, Agronomy Department, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. Telephone: 703-231-6300.** *VPI&SU is an Equal Opportunity/Affirmative Action Employer.*

A **STAFF SCIENTIST** position is available to study the virological and immunological mechanisms of HIV infection as well as vaccine development in chimpanzees. A Ph.D., M.D., or D.V.M. is required with appropriate research experience and laboratory management in the areas of HIV cellular immunity, virology, or molecular biology. The program is under the direction of **Jorg W. Eichberg, D.V.M., Ph.D.** Annual salary ranges up to \$40,000, dependent upon relative experience. Please send curriculum vitae with names, addresses, and telephone numbers of three references to arrive by 1 August 1989. Address material to: **Personnel Director (040), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.** *Equal Opportunity Employer M/F.*

### U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE SOUTHERN FOREST EXPERIMENT STATION

**SUPERVISORY RESEARCH ENTOMOLOGIST/PROJECT LEADER** in Pineville, Louisiana. Provides technical and administrative leadership in three primary research problem areas, which are: effects of current control techniques on southern pine beetle populations and beetle dispersal; development of adequate techniques to predict the onset, duration, and severity of southern pine beetle outbreaks; and the development of adequate prevention and suppression techniques to achieve desired reduction in southern pine beetle damage in a cost-effective manner. Send letter of interest and résumé to: **Richard Quick, Personnel Management Specialist; or Dr. Stanley J. Barras, Assistant Director-West at Southern Forest Experiment Station, Room T-10210 USFSB, 701 Loyola Avenue, New Orleans, LA 70113 through 15 July 1989.** *The USDA, Forest Service is an Equal Opportunity/Affirmative Action Employer and encourages letters from women and minorities.*

## POSITIONS OPEN

### SENIOR RESEARCH ASSOCIATE

Applications invited for a research position within a large interdisciplinary program on neuroplasticity of monoaminergic systems in relation to neurological and psychiatric disease. Applicants must have a Ph.D. or its equivalent and extensive experience in biochemical techniques. Responsibilities include supervision of a neurochemistry lab, development of neurochemical methods, instructing in biochemical techniques, and participation in research. Starting salary: \$26,000 to \$32,000 plus benefits, commensurate with experience. Curriculum vitae and letters of reference to: **Dr. Michael J. Zigmond, Departments of Behavioral Neuroscience and Psychiatry, 570 Crawford Hall, University of Pittsburgh, Pittsburgh, PA 15260.** *The University is an Affirmative Action/Equal Opportunity Employer.*

### U.S. DEPARTMENT OF ENERGY (DOE) SUPERVISORY PHYSICIST

The DOE's High Energy Physics Division, Office of High Energy and Nuclear Physics, is seeking a supervisory physicist (GM-1310-15) with a high degree of knowledge of development, design, construction, operation and use of large, advanced particle accelerators and colliding beam facilities. Responsibilities include serving as principal assistant to the Division Director in managing Division technical activities, recommending long-range research objectives and strategies, program development to achieve objectives; recommending, establishing and implementing research policies; monitoring existing and proposed projects; and recommending funding levels, time schedules, and milestones. Contacts are with industry, universities, national/international laboratories, Congressional staffs, and the public. U.S. citizenship required. Salary range for GS-15 is from \$57,158 to \$74,303. Duty station: Germantown, Maryland. Send SF-171, application for federal employment, or direct inquiries to: **Mary A. Smith, Office of Personnel Operations, GTN, MA-504.4, (Ref: HEP 3), U.S. Department of Energy, Washington, DC 20545. Telephone: 301-353-5591.** Applications accepted through 1 September 1989.

*The Department of Energy is an Equal Opportunity Employer.*

**TOXICOLOGIST.** The Product Safety Department of a leading worldwide consumer product and specialty chemicals company seeks a toxicologist to review experimental product formulas, place and monitor toxicology studies, and evaluate toxicology data. He/she will also work closely with the Group Leader-Toxicology in addressing toxicologic issues pertaining to lawsuits, worker, consumer and environmental exposures, and regulatory actions. A working knowledge of mammalian toxicology, good written and oral communication skills, and the ability to work in a team are essential. The ideal candidate will have a B.S. in toxicology/biology and 5 or more years of direct experience in toxicology or an M.S. in toxicology/biology plus 2 or more years of toxicology experience. Salary is commensurate with qualifications. S. C. Johnson is in Racine, Wisconsin, a medium-sized city located along the Lake Michigan shoreline with easy access to Milwaukee, Chicago, and outstanding recreational opportunities. Qualified people should send résumé to: **Thomas G. Osimitz, Ph.D., Group Leader-Toxicology, S. C. Johnson and Son, Inc., Racine, WI 53403-5011.**

### TRANSPLANTATION BIOLOGIST

The Department of Pathology and Microbiology, University of Nebraska Medical Center (UNMC), is seeking a full-time transplantation biologist at the level of assistant or associate professor with an interest or expertise in the processing, culture, and purging of bone marrow cells for transplantation. UNMC is a major bone marrow and peripheral stem cell transplantation center. Individual would be expected to do applied clinical research and basic research in transplantation biology and immunology.

Curriculum vitae to: **David T. Purtilo, M.D., Chairman, Department of Pathology and Microbiology, UNMC, 42nd and Dewey Avenue, Omaha, NE 68105 by 1 October 1989.**

*Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### TOXICOLOGISTS ASSISTANT AND ASSOCIATE PROFESSORS OF TOXICOLOGY

Applications are invited for tenure-track positions in the Department of Medical Pharmacology and Toxicology at Texas A&M University College of Medicine. Candidates should have sufficient experience to demonstrate their ability to establish an independent basic research program with NIH or NSF extramural funding. Salary and rank are commensurate with experience and qualifications. These positions are available immediately. Applicants should send curriculum vitae, copies of three representative publications, and the names and addresses of three references by 31 August 1989 to: **Dr. George C. Y. Chiou, Head, Department of Medical Pharmacology and Toxicology, Texas A&M University College of Medicine, College Station, TX 77843-1114.** *Texas A&M University is an Equal Opportunity Employer.*

### VISITING ASSISTANT PROFESSOR

The Department of Pharmacodynamics at The University of Florida is searching for an individual to assist in the team teaching of anatomy and physiology and pathophysiology courses offered to pharmacy undergraduate students. Applicants must hold an M.S. or Ph.D. degree. Position is available in August 1989. Applicants should send their curriculum vitae, and have three letters of reference sent by 15 July 1989 to: **Dr. Maurcen Keller-Wood, Box J487 JHMH, University of Florida, Gainesville, FL 32610.** *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

## RESEARCH GRANTS

Benign Essential Blepharospasm Research Foundation, Inc. is pleased to announce the availability of basic science and clinical **RESEARCH GRANTS** relevant to essential blepharospasm or Meigs's syndrome. Support for up to \$50,000 is available.

The deadline for filing application is 1 October 1989. For information or applications, please contact: **Benign Essential Blepharospasm Research Foundation, Inc., P.O. Box 12468, Beaumont, TX 77726-2468.**

### AMERICAN EPILEPSY SOCIETY RESEARCH GRANTS AND FELLOWSHIPS PROGRAM 1990 to 1991

The American Epilepsy Society announces a Research Grants and Fellowships Program designed to encourage the development of academic physicians and scientists committed to epilepsy and to provide research support to investigators early in their careers. Preference is given to applicants and research proposals whose focus is on developmental or pediatric aspects of epilepsy.

**RESEARCH FELLOWSHIPS:** Eight first-year fellowships each carrying a stipend of \$25,000 will be available for funding 1 July 1990. Physicians or Ph.D. neuroscientists who desire postdoctoral research and training experience are eligible to apply. The Fellowships must be carried out at a facility where there is an ongoing epilepsy research program. Application deadline is 15 September 1989.

**RESEARCH GRANTS:** Six 1-year research grants will be awarded to support clinical or basic research that will advance understanding, treatment or prevention of epilepsy. This support is intended for investigators in the early stages of their careers and to new or innovative projects. Support is limited to \$25,000. Application deadline is 1 October 1989.

The American Epilepsy Society has the sole responsibility for selection of recipients. Awardees will be announced at the annual meeting of the American Epilepsy Society in Boston, 2 to 7 December 1989. Application forms and guidelines are available upon request from the American Epilepsy Society's Executive Office. Write to: **The American Epilepsy Society, Research Grants and Fellowships Program, 179 Allyn Street, Suite 304, Hartford, CT 06103-1488.** Funds for the Research Fellowships have been generously provided by the Milken Family Medical Foundation and Abbott Laboratories. The Research Grants Program is supported by the Milken Family Medical Foundation.

## DEPARTMENT OF BIOCHEMISTRY SUNY AT STONY BROOK POSTDOCTORAL POSITIONS

The Department of Biochemistry, State University of New York at Stony Brook has postdoctoral positions available in the laboratories of the following faculty members:

**Dr. William Lennarz:** Mechanism of assembly of glycoproteins. Structure and function of glycoproteins in cell differentiation and embryonic development.

**Dr. Kenneth Marcu:** Transcriptional control of the murine *c-myc* proto-oncogene by cis-acting positive and negative elements and their associated nuclear regulatory factors; biological properties of the *myc* gene product.

**Dr. Jakob Schmidt:** Regulation of acetylcholine receptor subunit expression during development and in response to plasma membrane activity.

**Dr. Sanford Simon:** Cell biology/biochemistry of inflammatory processes, e.g. inflammatory cell activation, degradation of extracellular matrix and cytokines.

**Dr. Rolf Sternglanz:** DNA topoisomerases and their roles in DNA replication, transcription and recombination. Histone acetylation and its role in chromatin structure and gene expression.

Send curriculum vitae and three letters of reference to: Drs. Lennarz, Marcu, Schmidt, Simon or Sternglanz, Department of Biochemistry, State University of New York at Stony Brook, Stony Brook, New York 11794-5215 by 15 August 1989.

*State University of New York at Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer.*

## RESEARCH SCIENTIST—Ph.D. PULMONARY INFLAMMATION

Wyeth-Ayerst Research has an immediate opening in its Immunopharmacology Division for a Pulmonary Pharmacologist to work at its modern research facility located in the Princeton, New Jersey area.

The successful candidate will investigate the contributions of pulmonary inflammation to airway hyperreactivity and disease of the lung, and will be responsible for establishing appropriate *in vivo* models of the late phase response and for evaluating the pharmacologic activity of drug candidates. Experience in the measurement of pulmonary function will be considered an asset.

A Ph.D. in Pharmacology, Physiology or a related medical science with 0-3 years post-doctoral training is required. Candidates should possess highly developed oral and written communication skills and a strong publication record in major scientific journals.

We offer an excellent salary and benefits package plus opportunities for career advancement. Interested candidates should submit their curriculum vitae and salary requirements to:

Personnel Manager, Dept. 2776-BW



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## RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

The Department of Biotechnology Research of Pioneer Hi-Bred International, Inc. is seeking applicants for our ongoing program of crop improvement. Pioneer offers competitive salaries, excellent facilities, and a highly cooperative research environment. Successful candidates will be expected to interact extensively with ongoing programs in transformation, regeneration, and gene isolation programs.

**Molecular Biologist.** Regulated expression of marker sequences and agronomically important genes in monocots is the principal goal. The position is well supported and will complement existing programs in plant transformation, biochemistry, and dicot gene expression. Candidates should have a PhD and post-doctoral experience or equivalent in a related discipline.

**Protein Biochemist.** Biochemical characterization of proteins from plants and bacteria and developing novel assay systems to detect and quantitate expressed proteins in transformed plant tissues are the principle goals. Tasks associated with the primary duty will include protein isolation and characterization of enzyme assays and ELISA development. Candidates should have at least a B.S. Degree or equivalent, preferably with two years' experience.

**Scientific Business Manager.** Responsible for handling administrative aspects of contracts between the biotechnology research department, universities, and other companies. This person will also aid in obtaining marketing information and will provide other general administrative support for the department. Candidates shall have a B.S. Degree in life science or equivalent with a minimum of five years' experience. Experience in business negotiations and administrative matters is highly desirable.

**Postdoctoral Associate Position** The successful applicant will join an existing group whose primary interest is genetic transformation of agronomic crops such as maize, soybeans, sunflowers, and alfalfa. This two-year position will emphasize transformation of dicots, especially alfalfa and soybeans, and will include subsequent analysis of putative transformants. Candidates should have a PhD in Biology or equivalent experience.

*Pioneer Hi-Bred International, Inc. is an Equal Opportunity/Affirmative Action Employer. Send resume with at least three references to:*

Lisa Wilson  
Pioneer Hi-Bred International, Inc.  
7300 Northwest 62nd Avenue • P.O. Box 38  
Johnston, Iowa 50131

## SENIOR ASSOCIATE RESEARCH SCIENTIST ELECTROPHYSIOLOGY

The Miles Institute of Preclinical Pharmacology is currently looking for an Electrophysiologist to join an expanding Institute in the new Miles Research Center in West Haven, Connecticut. This position will involve use of voltage-clamp techniques and study of voltage dependent channels in a variety of cell types. Responsibilities will also include investigation and analysis to assess drug/channel interactions.

The ideal candidate will have an MS in Physiology in Biophysics with a minimum of 2 years' experience or a recent PhD in a directly related field of study. Knowledge of computer programming (BASIC) is essential and experience in digital imaging and measurements using intracellular recording dyes is a plus.

We offer an attractive compensation commensurate with qualifications, generous benefits, and an excellent opportunity for personal growth and professional satisfaction. Resumes should be forwarded to: Department ARA.



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