

lished under the title *Modern Aspects of Species* (K. Iwatsuki, P. H. Raven, and W. J. Bock, Eds., University of Tokyo Press). The present volume stems from the 1986 symposium, at which the awardee was Peter Raven. The volume opens with Raven's Special Lecture, "Biological resources and global stability." There follow papers dealing with social organization in primates (J. Yamagiwa on mountain gorillas and T. Kato on pygmy and common chimpanzees) and in eusocial insects (B. Hölldobler on ants and T. Abe on termites). Adaptations of animals to the extreme environments of terrestrial caves and glaciers are reported on by S. Uéno and by S. Kohshima, and plant-animal coadaptation is discussed as related to volatile chemicals, pollination energetics, and "universal parasitism" by G. Bergström, T. Yumoto, and R. Dawkins. The volume concludes with two papers representing community ecology—J. H. Connell on maintenance of species diversity and M. Hori on a study of mutualism and commensalism among Lake Tanganyika fish. Author, taxonomic, and subject indexes are included.—K.L.

Lattice Defects in Ice Crystals. X-Ray Topographic Observations. AKIRA HIGASHI, Ed. Hokkaido University Press, Sapporo, 1988. viii, 156 pp., illus. ¥6,000.

Akira Higashi and his colleagues at Hokkaido University have been studying lattice defects in ice crystals by means of x-ray diffraction topography for over 20 years. In the course of their work, Higashi reports, they have accumulated many topographs that were poorly reproduced in the professional journals in which they appeared or that have remained unpublished though they "are interesting in themselves, and supplement the published data in addition to being simply photographically beautiful." The primary intent of this book, printed on heavy, coated paper in a 21-by-29-centimeter format, is to show many of these topographs at a large scale. An introductory chapter by Higashi gives a brief history of the work and an explanation of the technique. The topographs are then presented in chapters devoted to dislocations in natural ice crystals and in artificially grown single crystals; stacking faults; generation, multiplication, and motion of dislocations; interactions between dislocations and point defects; and large-scale grain boundaries. Each chapter, in addition to the topographs and their captions, contains a discussion of the structures shown and the procedures by which they were revealed. A bibliography and index complete the volume.—K.L.

Books Received

Abstract Interpretation of Declarative Languages. Samson Abramsky and Chris Hankin, Eds. Horwood, Chichester, U.K., and Wiley, New York, 1987. 284 pp., illus. \$64.95. Ellis Horwood Series in Computers and Their Applications.

Acarology. Mites and Human Welfare. Tyler A. Woolley. Wiley-Interscience, New York, 1988. xxii, 484 pp., illus. \$57.50.

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Advances in Applied Psycholinguistics. Sheldon Rosenberg, Ed. Cambridge University Press, New York, 1987. Two volumes. Vol. 1, Disorders of First-Language Development. xii, 303 pp. Paper, \$21.95. Vol. 2, Reading, Writing, and Language Learning. x, 326 pp. Paper, \$21.95. Cambridge Monographs and Texts in Applied Psycholinguistics.

Advances in Computer Vision. Vol. 1. Christopher Brown, Ed. Erlbaum, Hillsdale, NJ, 1988. xiv, 233 pp., illus. \$32.50.

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The Alpha-1 Adrenergic Receptors. Robert R. Ruffolo, Jr., Ed. Humana, Clifton, NJ, 1987. xx, 543 pp., illus. \$79.50. The Receptors.

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Archaeology and Language. The Puzzle of Indo-European Origins. Colin Renfrew. Cambridge University Press, New York, 1988. xiv, 346 pp., illus. \$29.95.

Biology of the Reptilia. Vol. 16, Defense and Life History. Carl Gans and Raymond B. Huey, Eds. Liss, New York, 1987. xii, 659 pp., illus. \$74.50.

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Cell Biologist, Ph.D. Extensive experience in academic and biotechnology research and development in tumor cells, large scale tissue culture, lymphocyte biology, and immune-mediated tumor cell cytotoxicity. Seeking industrial research position. Box 124, SCIENCE.

Image Processing and Machine Vision. Expert in the design and construction of practical computing systems, especially devices for image analysis and machine vision. Extensive experience in medicine and biology but knowledgeable in other areas. Have worked in both commercial and university settings. Interested in consulting on problems of both hardware and software design. Robert S. Schehr, Ph.D., P.O. Box 109, Lake Placid, NY 12946. Telephone: 518-523-9086.

Molecular Biologist, Ph.D. Research in gene regulation of oncogenes and Ig genes. Broad knowledge in a variety of techniques used in cell culture, immunology, molecular genetics and transgenic mice. Seeks group leader position in academic industrial laboratory in Europe. Excellent publication record. Box 117, SCIENCE.

Toxicologist, Ph.D., Board-certified with extensive industrial and governmental experience (laboratory and non-laboratory). Seeks industrial/consulting position in the Mid-Atlantic area. Box 116, SCIENCE.

Toxicologist, Board-Certified. Scientific-legal consultant: toxic torts, workers' compensation and environmental issues. Ph.D. in biochemistry. Excellent credentials and skills. Box 125, SCIENCE.

POSITIONS OPEN

ASSISTANT LABORATORY DIRECTOR: The Genetics & IVF Institute invites applications for permanent position with reproductive cryopreservation laboratory in Houston, Texas. Applicants should have B.S. or M.S. and experience in semen or embryo cryopreservation, artificial insemination, embryo transfer, or IVF procedures. Salary commensurate with experience and education. Send résumé to: **Dr. Edward F. Fugger, The Genetics & IVF Institute, 3020 Javier Road, Fairfax, VA 22031. Telephone: 703-698-7355.**

The USDA, Agricultural Research Service is seeking candidates for the position of **AGRICULTURAL ADMINISTRATOR**, GM-401-15. The successful candidate will serve as Center Director of the Red River Valley Agricultural Research Center, Fargo, North Dakota. Responsibilities include planning, coordinating, and evaluating research programs and providing leadership and management of programs. Applicants must meet specified education and/or experience requirements. Ph.D. degree in biological sciences, agricultural, natural resource management, or allied disciplines plus professional experience directly related to the position is desired. Knowledge of biological and physical sciences, and research methods in relation to crop production, grain processing, and genetic and biochemical processes associated with pesticide metabolism of plants and animals is desired. Knowledge of research planning and evaluation and skill in resource management desirable. Salary range \$54,907 to \$71,377 based on experience. For information about the position, contact: **Dr. T. J. Army, Telephone: 303-229-5557.** For filing procedures, contact: **Cathleen Enuton, 301-344-3138.** Response deadline is 31 August 1988. Must be U.S. citizen. An Equal Opportunity Employer.

ASSISTANT PROFESSOR OF MEDICAL ONCOLOGY

The University of Texas Health Science Center at San Antonio, Department of Medicine, will fill a tenure-track position in 1988. The successful candidate will have an M.D. degree and be Board-certified or eligible in medical oncology and have a strong postdoctoral research record. Preference will be given to candidates with molecular approaches to oncology problems. Applicants should submit curriculum vitae, a letter discussing current and future research plans, and three letters of reference to: **Dr. William L. McGuire, Department of Medicine, Division of Oncology, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7884.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA DEPARTMENT OF DERMATOLOGY

Applications are invited for a Ph.D.-level **ADJUNCT ASSISTANT PROFESSOR** to coordinate an NIH research project on sphingolipid metabolism in cultured keratinocytes. Prior experience in lipid biochemistry and metabolism essential. Salary: Negotiable.

Contact: **Dr. Peter M. Elias, Professor and Vice-Chairman, Department of Dermatology, VAMC, 4150 Clement Street, San Francisco, CA 94121.**

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

ASSISTANT PROFESSOR BIOPHYSICAL CHEMISTRY/MEMBRANE BIOLOGY

The Department of Pathology and Laboratory Medicine at Hahnemann University invite applications from biochemists, biophysicists, or physiologists who are interested in joining our Membrane Biology Laboratory. The candidate should have a strong background in either biophysical techniques (e.g., fluorescence, magnetic resonance) or in molecular mechanism of biological transport with an interest in bioenergetics, proton transport and calcium transport. Existing research projects include: proton transport in mitochondria, calcium regulation in the brain, and alcohol effects on membranes. The appointee is expected to participate in these projects, with an opportunity to develop an independent project. The laboratory is well equipped and endowed for these studies. In addition, the appointee's duties may include teaching, supervision of students and technicians, and some laboratory administration. Salary is competitive. Submit application, including recent reprints and the names and addresses of three references to: **Dr. Hagai Rottenberg, Department of Pathology and Laboratory Medicine, Hahnemann University, Broad and Vine, Philadelphia, PA 19102.**

DEPARTMENT OF MICROBIOLOGY NORTH CAROLINA STATE UNIVERSITY RALEIGH, NORTH CAROLINA

The Department of Microbiology, North Carolina State University, has available a newly created research and teaching position as **ASSISTANT PROFESSOR IN IMMUNOLOGY**. A Ph.D. degree in immunology and postdoctoral experience are required. The position is a 12-month tenure-track appointment and includes continuing institutional research support. The successful candidate is expected to develop a vigorous research program in basic immunology and to direct graduate students. Excellent opportunities exist for collaboration with other immunologists on campus and in the Research Triangle Area.

Applicants are invited from qualified individuals with expertise in immunology. Included in the application should be a statement of research interest, curriculum vitae and list of publications. Have three letters of recommendations submitted and indicate your professional association with these individuals. Application materials should be sent to:

Dr. Geraldine Luginbuhl
Immunology Search Committee
Department of Microbiology
Box 7615
North Carolina State University
Raleigh, NC 27695-7615

The closing date for applications is 30 September 1988 or until a suitable candidate is selected.

North Carolina State University is an Equal Opportunity Employer.

The Department of Neurological Surgery at the University of Virginia School of Medicine announces the availability of a full-time position as **ASSISTANT PROFESSOR OF NEUROLOGICAL SURGERY**. The candidate must be Board-certified or Board-eligible with a primary interest in stereotaxic pain and epilepsy surgery. Applicants should send curriculum vitae and bibliography to: **John A. Jane, M.D., Ph.D., Department of Neurological Surgery, University of Virginia, School of Medicine, Box 212, Charlottesville, VA 22908.** The University of Virginia is an Affirmative Action/Equal Opportunity Employer.

Tenure Track Staff Positions at the Biological Response Modifiers Program, NCI

The Clinical Research Branch, Biological Response Modifiers Program, Division of Cancer Treatment, the National Cancer Institute, National Institutes of Health, Public Health Service, is accepting applications for two staff positions. Positions are available to physicians who are either Board eligible or Board certified in medical oncology.

The incumbent will be responsible for primary patient care and the design and conduct of clinical trials utilizing biological response modifiers. Emphasis is also placed on continuity of patient care, principles of patient management, and correlation of clinical response with changes in immunologic parameters.

Staff Fellows are eligible for benefits including health insurance, life insurance options, vacation, and sick leave. In addition, travel expenses for the Fellow to his duty station are available.

For further information and application procedures, please contact:



Ronald G. Steis, M.D.
Medical Pavilion
Frederick Memorial Hospital
335 Park Avenue
Frederick, Maryland 21701
(301) 698-5929

An NIH Associate Training Program
NIH is an Equal Opportunity Employer

Staff Scientist

Tumor/Cell Biology

Triton Biosciences Inc. has an opening for a Staff Scientist to take charge of our tumor/cell biology group. This group is engaged in a variety of projects in the areas of tumor biology, growth factors, growth factor receptors, lymphokines, and oncogenes.

We desire an individual with an established record of research in one or more of the above fields. It is anticipated that the successful candidate will have 5-8 years experience beyond the post-doctoral level and preference will be given to those having industrial experience, including responsibility for a research group.

Triton Biosciences Inc., is an emerging, fully integrated pharmaceutical and diagnostics company located in the San Francisco Bay Area. We offer competitive salaries and benefits including a full relocation package. For consideration, please send your C.V. and names of three references to: Triton Biosciences Inc., Box JJM, 1501 Harbor Bay Parkway, Alameda, CA 94501. Triton is an Equal Opportunity Employer.



Triton Biosciences Inc.

FACULTY APPOINTMENT GASTROINTESTINAL RESEARCH

Major university/medical center seeks and individual experienced in G.I. physiology/pharmacology/arachidonic acid metabolism to work with the Chairman of the Department of Medicine. Candidate must be capable of independent work. M.D. or Ph.D. required. This position will provide a faculty appointment in the Department of Medicine plus a competitive salary and fringe benefits. Send resumes, to: Donald E. Wilson, M.D., Chairman, Department of Medicine, SUNY Health Science Center at Brooklyn, 450 Clarkson Avenue, Box #50, Brooklyn, NY 11203.



State University of New York
HEALTH SCIENCE CENTER
AT BROOKLYN

EO/AA Employer

DMC #C-0197

Monsanto Japan

The **Asia-Pacific Research Center** for **Monsanto Agricultural Company** is seeking a **Research Biologist**. Applicants with a Ph.D. are preferred although M.S. applicants with exceptional experience will be seriously considered.

Qualified applicants must have 5-10 years experience and possess a background in **plant science** (plant pathology, crop science, plant physiology or agronomy) research. Research responsibilities are **product oriented** and will include all aspects of the discovery, advanced evaluation and initial development of crop protection products. The successful candidate will work closely with research colleagues in the U.S. and Europe and with marketing and product development in the Asia-Pacific region. Applicants should have strong technical and communication skills, the ability to work within a product oriented multidisciplinary team, and must be fluent in verbal and written Japanese. Written and verbal English proficiency is required.

The Asia-Pacific Research Center was opened in 1984 and is located about 60 km northeast of Tokyo and about 20 km southeast of Tsukuba Science City. A group of 22 permanent staff does **crop protection product discovery** and **product support research** in biology, formulation chemistry, and environmental chemistry. For confidential consideration send resume and cover letter to: Mr. H. Nakamichi, Monsanto Japan Ltd., 520 Kokusai Bldg., 1-1, Marunouchi 3-chome, Chiyoda-ku, Tokyo 100 Japan. Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR POSITIONS DIVISION OF PHYSIOLOGY DEPARTMENT OF CELL BIOLOGY DUKE UNIVERSITY MEDICAL CENTER

Two tenure-track appointments are available to candidates with a Ph.D. and/or M.D. who have postdoctoral experience and are strongly committed to a program in the areas of systemic and integrative physiology. Preference will be given to candidates whose research will complement existing programs in cell physiology and biophysics. Teaching responsibilities will require participation in the medical and graduate school courses in areas that relate to integrative respiratory, cardiovascular and/or renal physiology. Please send curriculum vitae, statement of research plan, teaching experience and the names of at least three references to: **Physiology Search Committee, Duke University Medical Center, Box 3709-E, Durham, NC 27710.** *Duke University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR TOXICOLOGY

The Toxicology Program at North Carolina State University invites applications for a 12-month tenure-track position that is available to investigate the mechanisms of xenobiotic toxicity utilizing a molecular/cellular approach. The successful candidate will have a Ph.D. in toxicology or related field and postdoctoral experience. The applicant will be expected to develop an independent, competitively funded research program in molecular and/or cellular toxicology and participate in graduate student education. Submit curriculum vitae, pertinent reprints, a statement of research interests, and the names of three references by 15 September 1988 to:

Dr. Ernest Hodgson
Toxicology Program
North Carolina State University
Campus Box 7633
Raleigh, NC 27695-7633

North Carolina State University is an Equal Opportunity Employer and operates under Affirmative Action Policy. The University strongly encourages all qualified applicants.

Applications are invited from suitable qualified individuals for **ASSISTANT PROFESSORS OF ANIMAL SCIENCE, and AGRICULTURAL ECONOMICS.** Tenure-track 12-month employment (initially a 3-year contract). Major activity is research. Includes some teaching and extension work in both positions. Minimum qualifications: Ph.D. degree in animal science and agricultural economics respectively. Send résumé and request three referees to send their evaluations to: **Mr. Jose T. Barcinas, Acting Dean, College of Agriculture and Life Sciences, University of Guam, Mangilao, Guam 96923.**

ASSISTANT RESEARCH PROFESSOR. The Department of Biochemistry is seeking a person with significant experience in the characterization of proteins and the investigation of protein-protein and protein-ion interactions by various physical means, including analytical ultracentrifugation, viscosity, light scattering and uv and fluorescence spectroscopy. A Ph.D. in chemistry or biochemistry and postdoctoral experience for 3 years or more preferred. Experience with milk proteins a definite plus. Salary range \$32,000 to \$40,000 per year. *Only U.S. citizens may apply.* Applicants should provide curriculum vitae and names of three references by 19 August 1988. Send applications to: **Dr. Charles Slaterry, Department of Biochemistry, School of Medicine, Loma Linda University, Loma Linda, CA 92350.**

Fels Institute of Cancer Research and Molecular Biology is looking for outstanding candidates at the levels of **ASSOCIATE AND ASSISTANT PROFESSOR** in the field of human retrovirology. The candidate should have an outstanding track record in molecular studies of human retroviruses including HIV and are expected to develop strong independent research programs. The applicants should submit curriculum vitae and a brief description of their research interests to: **FELS Institute of Cancer Research and Molecular Biology, Temple University School of Medicine, Medical Research Building, 3420 North Broad Street, Philadelphia, PA 19140.** *An Equal Opportunity/Affirmative Action Employer.*

Research Opportunities at Pfizer

Pfizer, a U.S. based multinational pharmaceutical company, is seeking qualified scientists to join our Central Research facility in Groton, Connecticut. Immediate openings are available in the following disciplines:

Molecular Neurobiology

Participate in multidisciplinary approaches to therapy for CNS disorders and neurodegenerative diseases in our Molecular Neurobiology group. You should possess an MS or BS degree in Biochemistry, Molecular Biology or a related field. You should also have laboratory experience in two or more of the following areas: Receptor binding; Enzymatic assays; ELISA; Molecular biology; Tissue culture.

Molecular Genetics

Apply your strong background and skills in molecular biology to exploratory biomedical research in our Molecular Genetics research group. You should possess an MS or BS degree with significant laboratory research experience. You should also be skilled in basic recombinant DNA techniques and have additional experience in one or all of the following: Mammalian cell culture; mRNA isolation, Characterization; Eucaryotic transcription regulation methodology; Protein purification.

Pfizer offers a stimulating scientific research environment with the opportunity to interact with scientists from several disciplines. In addition, Pfizer has a competitive compensation/benefit package along with relocation assistance to this southeastern Connecticut shoreline community. Please send a resume indicating position of interest, a description of your research experience, and names of three references to: **Mrs. Lorraine Corr, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.**



An equal opportunity employer

Senior Investigator, Medicinal Chemistry

A health care company that markets prescription and proprietary products for human and animal health care has an opening for a Senior Investigator in its Department of Medicinal Chemistry at its research and development facility in King of Prussia, Pennsylvania.

The principal duties of the position include (i) Conceiving, planning and executing synthetic/organic medicinal chemical research aimed at the discovery of inhibitors of enzymes involved in the cholesterol biosynthesis, prostatic growth factors and trophic factors of hormonally supported tumors; (ii) utilizing molecular modeling techniques, asymmetric synthesis, photochemistry and manipulation of phosphorous and fluorine containing molecules to pursue such research; (iii) collaborating with other research groups in the development of biological or biochemical assays to evaluate the potential of the synthesized compounds as novel drugs; (iv) directing a team of Senior Chemists in carrying out the requisite research; (v) compiling and evaluating the experimental data generated and reporting on research findings including, where appropriate, in national and international professional journals and (vi) evaluating the work of Senior Chemists who are already members of the research team and hiring of additional personnel to serve as team members.

The minimum requirements for the position are a Ph.D. degree in Chemistry and seven years experience in synthetic/organic medicinal chemical research designing and synthesizing complex molecules such as enzyme inhibitors that serve as new drugs to lower serum cholesterol levels and to treat benign prostatic hypertrophy and breast cancer, including three years experience in molecular manipulation of phosphorous and fluorine containing molecules.

Salary of \$56,937 with liberal employee benefits. Qualified applicants should submit resume or curriculum vitae to Philadelphia Job Bank, 444 N. 3rd Street, Philadelphia, PA 19123 and refer to Order Number 4192905. Equal Opportunity Employer, M/F/H/V.

Argonne National Laboratory

Postdoctoral Research Appointment

The Biological, Environmental, and Medical Research Division has a postdoctoral position available in the area of biochemical/molecular toxicology. The focus of the research will be to examine the molecular basis for cadmium-induced bone loss that has been identified in both *in vitro* and *in vivo* systems that are relevant to studying mechanisms of postmenopausal osteoporosis.

Candidates should have experience in biochemistry/physiology, preferably related to this research. Competitive salary is commensurate with experience. For technical information, contact Dr. Maryka H. Bhattacharyya, (312) 972-3923. Applications should include curriculum vitae and the names of three references. They should be forwarded to:



Rosalie L. Bottino
Employment and Placement
Box D-BEM-POSTDOC-55
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439-4844.

Argonne is an affirmative action/equal opportunity employer.



Agricultural
Research
Service

US Department of Agriculture
Eastern Regional Research Center
600 E. Mermaid Lane
Philadelphia, PA 19118

POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS

Four RESEARCH ASSOCIATE appointments are available immediately for conducting research at this large, state-of-the-art, multidisciplinary research facility in suburban Philadelphia. Areas of research are:

Enzymatic reactions in supercritical fluid: proteolysis of wool in supercritical carbon dioxide. Ph.D. in Chemistry or Biochemistry with expertise in enzymatic reactions or in biopolymers. Contact Dr. William N. Marmer; refer to position RA-88-20.

Novel use of carbohydrates for inhibition of enzymatic browning in fruits and vegetables; applied, basic, analytical and biochemical aspects. Ph.D. in Biochemistry, Chemistry, Food Science or Plant Physiology. Contact Dr. Kevin B. Hicks; refer to position RA-88-19.

Interaction of aluminum ions with purified plasma membrane of plant root cells. Ph.D. in Biochemistry or Plant Physiology with expertise in membrane structure and function. Contact Dr. Shu-I Tu; refer to position RA-88-25.

Reduced virulence of Salmonella and other foodborne organisms through induced cell surface alterations. Ph.D. in Microbiology or Biochemistry with knowledge of pathogenic microbiology and biochemical isolation/purification. Contact Dr. Robert C. Benedict; position RA-88-27.

Appointments are for up to two years. Generally, new Federal employees are hired at the first salary level, or step, of the General Schedule (GS) grade. The salaries associated with the first steps of these GS-11 and GS-12 positions are \$27,716 and \$33,218, respectively. Candidates must have obtained a relevant Ph.D., preferably within the last three years. Applicants should send résumés, which include the names and addresses of three references, to the appropriate contact at the above address. Further directions for application will be provided by the contact. For information, call (215) 233-6400.

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— WOMEN AND MINORITIES ARE ENCOURAGED TO APPLY —

U.S. Department of Energy Fossil Energy Postgraduate Research Program

METC conducts research in fossil energy conversion and utilization. Several postgraduate positions available in systems analysis of fossil energy technologies, applied sciences research, engineering R&D, and project management.

- Graduate degree within last 3 years
- Science or engineering background
- Stipend based on degree and research area
- U.S. citizens and PRAs eligible
- Information and applications

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Fossil Energy Postgraduate Program
University Programs Division
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, TN 37831-0117
(615) 576-3456

Research Assistants/ Associates

Genentech, Inc., a leader in the field of biotechnology, has a number of opportunities available for Research Assistants/Associates. Working on programs to discover new human pharmaceuticals, these positions offer a challenging opportunity to be a key team participant.

Typical requirements include a BS/MS in Biochemistry, Molecular Biology, or closely related scientific field, and a minimum of 2 years' experience in one or more of the following: molecular biology techniques, assay development, biochemical techniques, tissue culture techniques, protein sequencing and characterization, and hybridoma techniques.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to Yvonne Davino, Human Resources Department XX, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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POSITIONS OPEN

BIOCHEMIST. Research scientist position in a dynamic biotechnology company at its research facility in Rochester Hills, Michigan. Ph.D. in biochemistry and experience in protein purification and mammalian cell culture are required. Unique opportunities for professional growth. Competitive salary and benefits. For further information call 313-852-8815 or send a résumé and names of three references to: **Director of Research, Oxford Biomedical Research, Inc., 1858 Starr Batt Drive, Rochester Hills, MI 48309.**

BIOCHEMISTRY FACULTY POSITION UNIVERSITY OF WISCONSIN-MADISON

The Biochemistry Department, University of Wisconsin-Madison invites applications for a tenure-track position at the assistant professor level. We are particularly interested in applications from individuals whose research emphasizes chemical approaches to fundamental problems in biochemistry or molecular biology. Potential areas include enzymology, bioorganic chemistry, the chemistry of proteins, nucleic acids, complex carbohydrates, or of low-molecular weight compounds. The successful candidate is expected to develop a vigorous independent research program and participate in the undergraduate and graduate teaching programs of the department. Applications, including curriculum vitae, list of publications, summary of past work and accomplishments and a statement of plans for future research, should be sent to: **Professor William S. Reznikoff, Chairman, Department of Biochemistry, University of Wisconsin-Madison, 420 Henry Mall, Madison, WI 53706.** In addition, applicants should arrange for three letters of reference to be mailed to the same address. To assure consideration, all application materials should be received by 1 October 1988. *The University of Wisconsin-Madison is an Affirmative Action/Equal Opportunity Employer, and encourages applications from women and minorities.*

CANCER RESEARCH TECHNOLOGIST. Forty hours per week. 8:00 a.m. to 5:00 p.m. \$23,462 per year salary. To process tissues for histological, histochemical, and immunochemical studies; perform electron microscopy and high resolution electron microscopic autoradiography. Prepare special diets containing carcinogens and maintain animals for long-term immunogenic studies and transplant and maintain rats bearing pancreatic and liver carcinoma; photography; printing and developing electron microscopy; morphometric analysis. Education required, Bachelor Degree Arts and Science. Major field of study in medical technology. Two years of experience. Must be registered in Illinois and have passed the test required by the American Society of Clinical Pathologists. (ASCP) Metropolitan Chicago area. Send résumés to: **Illinois Department of Employment Security, 401 South State Street—3 South, Chicago, IL 60605, Attention: Marie E. Ninneman. Reference #: 7950-N.** Employer paid ad.

CHAIRMAN, DEPARTMENT OF OTOLARYNGOLOGY AND HEAD AND NECK SURGERY—Georgetown University School of Medicine seeks an experienced academician to lead new department with established residency. Candidates should have active research program and be prepared to assume teaching and patient care responsibilities. Send curriculum vitae to: **Louis F. Rittelmeyer, M.D., Chairman, Search Committee, Department of Psychiatry, Georgetown University Hospital, Washington, DC 20007.** *Affirmative Action/Equal Opportunity Employer.*

CHAIRMAN DEPARTMENT OF PHARMACOLOGY

Jefferson Medical College of Thomas Jefferson University invites applications and nominations for the position of Professor and Chairman of the Department of Pharmacology. Candidates must have a distinguished record of achievement in a field of research of current importance, and demonstrated commitment to teaching at graduate and undergraduate levels. The position offers an excellent opportunity to develop an outstanding department in an atmosphere of strong University commitment to academic and scientific growth. Applications and nominations with a complete curriculum vitae should be sent to: **Emanuel Rubin, M.D., Search Committee for Pharmacology, Jefferson Medical College, 1020 Locust Street, Room M-63, Philadelphia, PA 19107.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CHAIRPERSON, DEPARTMENT OF ANATOMY SCHOOL OF MEDICINE AND HEALTH SCIENCES THE GEORGE WASHINGTON UNIVERSITY

The George Washington University School of Medicine and Health Sciences in Washington, D.C. invites applications/nominations for the position of Chairperson of its Department of Anatomy which will be vacant at the end of the current academic year. The successful candidate will possess an active research program and an outstanding record of scholarly achievement and teaching skills in the anatomical disciplines; the leadership qualities and administrative skills necessary to develop the diverse educational and research programs of the department; and a broad appreciation of the multifaceted needs of modern anatomy departments with particular emphasis on the neurosciences. The Department is responsible for teaching medical students, residents, graduate students and health specialists in anatomy and relevant areas of the neurosciences. The George Washington University Medical Center is strongly committed to research.

The George Washington University Medical Center is an Affirmative Action/Equal Opportunity Employer. Inquiries and curricula vitae should be directed to: **Dr. Robert M. Allman, Department of Radiology, Chairperson, Department of Anatomy Search Committee, The George Washington University Medical Center, 901 23rd Street, N.W., Washington, DC 20037.**

CHAIRPERSON OF ANATOMY AND CELL BIOLOGY. The University of Kansas Medical Center is seeking a chairperson for the Department of Anatomy and Cell Biology. The Department presently has a diverse research program with strength in neuroscience and cellular development. The successful candidate must have an active research program and a national reputation in one of these areas, although candidates with superior qualifications in other areas will be considered. Previous administrative experience is desirable. Nominations, letters of inquiry, and applications (to include curriculum vitae and bibliography, a description of research activities and administrative experience, and the names of three references) should be sent to: **Dr. David Morrison, Chairman, Department of Microbiology, University of Kansas Medical Center, Kansas City, KS 66103.** *The University of Kansas Medical Center is an Equal Opportunity/Affirmative Action Employer.*

IMMUNOMEDICS

DIRECTOR, IMMUNOCHEMISTRY

Immunomedics, the pioneer Company in the use of antibodies for cancer imaging and therapy, is expanding its Immunochimistry Department.

Reporting to the Group Director of Immunology and Chemistry, responsibility will be to direct a team of scientists developing reagents for clinical trials.

Applicants should have experience in the purification and characterization of monoclonal antibodies/fragments under GMP for in vivo use. Experience in writing specifications for IND/PLA FDA submissions preferred.

We offer an attractive employment package including paid health/dental, a 401K retirement plan, and the opportunity for stock and stock option merit rewards.

Please send curriculum vitae, salary requirements and career objectives to:

**Personnel Director
Immunomedics, Inc.
150 Mt. Bethel Road
CN #4918
Warren, NJ 07060**

Equal Opportunity Employer M/F.

DIRECTOR OF GASTROENTEROLOGY AND HEPATOLOGY—The Department of Medicine of the Jefferson Medical College is seeking a Director for the Division of Gastroenterology and Hepatology. Responsibility for research, teaching and clinical programs at Thomas Jefferson University. Please forward inquiries and curriculum vitae to: **Willis C. Maddrey, M.D., Chairman, Department of Medicine, Jefferson Medical College of Thomas Jefferson University, 1025 Walnut Street, Philadelphia, PA 19107.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

CLINICAL PATHOLOGY. The Department of Pathology at the University of California, Los Angeles (UCLA) School of Medicine has **JUNIOR FACULTY POSITIONS** available in hematopathology and microbiology beginning on or after 1 January 1989 and clinical chemistry/toxicology-therapeutic drug monitoring and transfusion medicine beginning 1 July 1989. Qualifications include an M.D. degree, certification in clinical or specialty pathology or equivalent experience, demonstrated research ability and potential for the development of an independent research program. Applications including curriculum vitae, summary of research interests, and names and addresses of four references should be sent to: **P. A. Cancilla, M.D., Chairman, Department of Pathology, UCLA School of Medicine, Los Angeles, CA 90024-1732.** *UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

FACULTY POSITION IN ENVIRONMENTAL CHEMISTRY JOHNS HOPKINS SCHOOL OF HYGIENE AND PUBLIC HEALTH

The Division of Environmental Chemistry invites applications for a tenure-track faculty position in environmental chemistry. Emphasis will be placed on an appointment at the assistant professor level although the appointment of an established investigator at an advanced rank will be considered. The candidate should have a strong background in chemistry, biochemistry, or molecular biology and research interests in environmental chemistry. The appointee will be responsible for expanding the research and training program in environmental chemistry at the School and will interact with faculty in the division, other divisions of the Department of Environmental Health Sciences and with other departments of the School and the University.

Training and Research in the Division of Environmental Chemistry represents an interdisciplinary approach to understanding the basic molecular mechanisms of the interaction of physical and chemical agents with biological macromolecules, which is reflected in genetic damage or in inhibition of cellular functions.

Qualified individuals should send curriculum vitae and the addresses of three references to: **Dr. Terence H. Risby, Acting Division Director of Environmental Chemistry, The Johns Hopkins University School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, MD 21205.**

The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

DEPARTMENT OF BIOCHEMISTRY THE UNIVERSITY OF ARIZONA FACULTY POSITIONS IN X-RAY CRYSTALLOGRAPHY

Applications are invited for two tenure-track positions in x-ray crystallography for macromolecular systems, one of which can be at a senior level. This is part of an ongoing effort to develop an exceptionally strong program in structural biology. Applicants will be expected to carry out a vigorous research program with ample opportunities for collaboration, as well as to contribute to our graduate and undergraduate teaching programs. Well-equipped crystallography facilities are available, including a diffractometer, a rotating anode generator, Evans and Sutherland PS390 molecular graphics system and VAX computer systems. Additional funds will be provided for the purchase of another anode generator and an AREA detector, as well as other equipment. Applicants should submit curriculum vitae, list of publications, a short statement of research goals and the names of at least three references to: **Dr. Gordon Tollin, Chairperson, Search Committee, Department of Biochemistry, The University of Arizona, Tucson, AZ 85721.**

Review of applications will begin 1 October 1988 but the positions will remain open until filled.

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

POSITIONS OPEN

DOCTORATES, any field considered. Mature attitude, excellent teaching ability, congenial personality, and professional presence necessary. We train you for intensive laboratory instruction of surgeons. Permanent instruction sites in New York City, West Palm Beach, or Chicago (Arlington Heights). Some travel required. Not a sales position. Salary: \$40,000. Write for application information to: **Director, Midas Rex Institute, 2929 Race Street, Fort Worth, TX 76111.** New applicants only, please.

ENCLOSURE REPRODUCTIVE PHYSIOLOGIST. Postdoctoral research associate—for research on bovine embryo development and cloning by nuclear transfer. Need Ph.D. and experience with embryo culture and development or micromanipulation. Salary \$20,000 to \$30,000, depending upon experience. Apply to: **Dr. N. L. First, University of Wisconsin, 1675 Observatory Drive, Madison, WI 53706.** Telephone: 608-263-4308.

FACULTY POSITION HEMOTROPIC DISEASES

The Department of Veterinary Pathobiology, College of Veterinary Medicine, University of Illinois is committed to continuing the research program in hemotropic diseases currently led by **Professor Miodrag Ristic**. Dr. Ristic's impending retirement creates a vacancy for a tenure-track faculty member. Applicants should exhibit a strong commitment to hemotropic disease research, especially biochemical and immunological aspects of protective immunity, and have familiarity with the application of modern techniques in parasitology, epidemiology, pathology and molecular biology. Candidates should exhibit evidence of administrative and organizational skills, and have an interest in continuing current programs in hemotropic diseases. Applicants should have a Ph.D. and/or clinical professional degree, e.g., D.V.M. or M.D., and at least 2 years of postdoctoral experience. Salary and rank are commensurate with training and experience. To receive maximum consideration applications should be received by 15 October 1988. The position will be filled as soon as possible thereafter. Submit applications and the names of three references to:

**Dr. Ronald D. Smith, Chairman
Hemotropic Disease Search Committee
College of Veterinary Medicine
University of Illinois
2001 South Lincoln
Urbana, IL 61801
Telephone: 217-333-3290**

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

FOREST TREE MOLECULAR BIOLOGIST

Westvaco Corporation is seeking a scientist to fill a molecular biology position in our Forest Research organization. Building upon a strong conventional tree-breeding program, we are expanding our genetic program in molecular biology and plant transformation technology.

The duties of our molecular biology position are to explore the use of molecular tools to advance our conventional breeding program, especially RFLP's to fingerprint germplasm and to study the inheritance of quantitative traits in trees; and to work with our cell and tissue culture scientists to obtain genetic transformations.

We seek an individual actively engaged in plant molecular biology research; with a Ph.D. or postdoctoral experience in plant molecular biology or related fields, with a strong background, training and experience in molecular cloning, RFLP techniques, and plant transformation in technology; has experience working in a research team environment where colleagues are encouraged to be supportive of one another yet individually are expected to do independent research; and with an outstanding record of research accomplishment. In addition, it would be desirable to have experience with woody plants and a plant breeding and genetics background.

This position will be located at our Forest Research Headquarters in Summerville, South Carolina. Summerville lies 20 miles northwest of Charleston. For consideration, please send your résumé, college transcripts, and three letters of recommendation before 16 September 1988 to: **Mr. Ted Bush, Personnel Department, Westvaco Corporation, P.O. Box 1950, Summerville, SC 29484.** Equal Opportunity Employer M/F.

SAFETY ASSESSMENT/TOXICOLOGY INFORMATION SPECIALIST

The Parke-Davis, a Division of Warner-Lambert Co., has an immediate opening in its Pathology and Experimental Toxicology Department for an experienced toxicologist to participate in the compilation of verbal and written communiques associated with department projects. The summarization of study results and presentation of findings in safety assessments is a major responsibility of this position. This requires the collation of published data pertinent to subject compounds and therapeutic categories. This individual will also serve as a participant in departmental associated research which includes serving as a study director for in-house studies and as a study monitor for contracted studies. The design of studies to address unforeseen circumstances is required.

Requirements for this position include a Ph.D. in toxicology or related discipline with several years of experience; effective communication skills; a background in toxicology research; experience with GLP requirements; and, effective information gathering skills.

This position is located at our research facilities in Ann Arbor, Michigan, adjacent to the University of Michigan campus. The successful candidate will participate in dynamic drug discovery and development teams, and enjoy an excellent salary, benefits, professional development and living and working environment.

Qualified candidates send response, salary requirements and reference list in confidence to: **Ms. M. Wolin, Parke-Davis, 2800 Plymouth Road, Ann Arbor, MI 48105.**

"EQUAL OPPORTUNITY IN ACTION"

PARKE-DAVIS

DIVISION OF WARNER-LAMBERT COMPANY

Senior Investigator, Immunology

A health care company that markets prescription and proprietary products for human and animal health care has an opening for a Senior Investigator, Immunology, in its Department of Immunology at its research and development facility in King of Prussia, Pennsylvania.

The principal duties of the position include (i) planning and designing experiments in mast cell immunology and biochemistry aimed at defining new molecular targets and mechanisms for the pharmacologic manipulation of mast cell responses, (ii) supervising such experiments including performing non-routine, specialized work, (iii) investigating, adapting, developing and implementing appropriate in vitro and in vivo methodologies and mechanisms for the discovery and development of novel anti-allergic agents which have a high specificity towards inhibiting human mast cell activation and degranulation and (iv) coordinating, evaluating and drawing conclusions from experimental data and recommending curtailment or expansion of current projects and programs as well as the initiation of new projects and programs.

The minimum requirements for the position are a Ph.D. degree in Chemistry/Biology and six (6) years experience (i) in mast cell biochemistry and immunology including second messenger pathways of mast cell activation/inhibition, mast cell growth factors and the development of mast cell lines; (ii) in immunopharmacology of mast cells and mediators of inflammation and models of allergic and inflammatory diseases and (iii) in protein purification including HPLC and FPLC methods.

Salary of \$45,600 with liberal employee benefits. Qualified applicants should submit resume or curriculum vitae to Philadelphia Job Bank, 444 N. 3rd Street, Philadelphia, PA 19123 and refer to Order Number 4192958. Equal Opportunity Employer, M/F/H/V.

RESEARCH ASSOCIATES IN CELL BIOLOGY

Amgen is a dynamic and growing organization that is a recognized leader in advanced biotechnology. Our leadership in the development of Erythropoietin has placed us firmly at the forefront of the industry. Our continued growth has created immediate opportunities for Research Associates in Cell Biology.

Qualified applicants should have a BS or MS in Cell Biology, or a related discipline, and 2-4 years of experience in mammalian cell culture. Responsibilities for these positions will include maintaining mammalian cell lines as well as performing a variety of IN VITRO bio-assays to support on-going exploratory research projects. Some familiarity with molecular biological techniques is highly desirable.

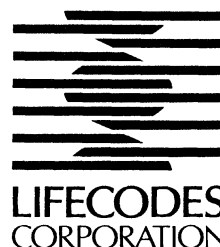
Amgen offers a stimulating and challenging research environment as well as an attractive location one hour northwest of Los Angeles. **Amgen** also offers an excellent compensation and benefits package. Qualified applicants should send a resume and a list of 3 references, in confidence, to:

Recruitment, Dept. #29

AMGEN

**1900 Oak Terrace Lane
Thousand Oaks
CA 91320**

Equal Opportunity Employer



NUCLEIC ACID CHEMIST Ph.D. Level

Lifecodes Corp., a leading company in the use of DNA probes for human genetic diagnostics, is undergoing expansion and is committed to building a strong and innovative Department of Nucleic Acid Chemistry. To that end we are seeking a nucleic acid chemist at the Ph.D. level. Candidates would be expected to have a thorough understanding in the basics of organic chemistry, and research experience in either oligonucleotide or nucleic acid chemistry would be a definite asset.

Lifecodes, a wholly-owned subsidiary of Quantum Chemical Corp., is located in attractive, modern facilities just 30 minutes from New York City in Westchester County.

For the right individual we offer an extremely attractive salary/benefits package, including a complete medical plan, 401-K savings and pension plans, and a stock bonus plan.

If interested, please send your curriculum vitae with the names and telephone numbers of at least two references to:

**NUCLEIC ACID CHEMISTRY DEPARTMENT
LIFECODES CORPORATION
Saw Mill River Road
Valhalla, NY 10595**

PILOT PLANT MANAGER

If you're interested in a career with a leading health care company, why not begin your search with a company respected the world-over for its profound commitment to care, to quality, and to innovation? Baxter Healthcare Corporation has demonstrated that commitment for over 30 years.

Currently, our Baxter Hyland Division is seeking a qualified individual to support manufacturing by managing the planning and implementation of programs to improve quality and yield of therapeutic proteins; coordinate and implement projects from inception to completion; conduct feasibility studies; organize scale-up activities; and provide support for transfer of technology into production. A technical degree or equivalent experience (Ph.D. in BioChemistry or an M.S. with 7+ years protein purification experience desirable); strong supervisory, communication, and project organization experience and knowledge of manufacturing scale-up techniques for protein purification by methods such as chromatography and ultra-filtration required.

Baxter offers a fast-paced, stimulating work environment, attractive benefit and compensation plans, and the opportunity to work for a world-class leader in the health care industry. For consideration, please send a current resume with salary history to: **Ms. Vickie Thrasher, Baxter Hyland Division, 4501 W. Colorado Blvd., Los Angeles, CA 90039. PRINCIPALS ONLY PLEASE.** Equal Opportunity Employer.

Hyland Division

Baxter

TOXICOLOGIST

You would be in our expanding Pharmaceutical Research & Development Division responsible for designing studies and protocols, supervising implementation, interpreting results, and writing and presenting reports of Toxicology studies in chronic and reproductive areas. The position requires a B.S. degree in a Biological Science plus several years of Toxicology or in-vivo pharmacology experience. A master's degree in Toxicology is highly desirable and will substitute for the required experience.

We are developing a world class Pharmaceutical Research organization and you can be part of this organization. We encourage and reward individual contribution. This unit of Research is located in Evansville, Indiana, a community of attractive residential areas, outstanding educational and recreational facilities and much more. Our salaries, benefits, and moving allowances are superb. Please send resume in confidence to:

BRISTOL-MYERS

**Research Employment Department 6L82
2404 Pennsylvania Avenue
Evansville, IN 47721**

An Equal Opportunity Employer M/F/H/V

**PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH
NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES
RESEARCH TRIANGLE PARK, NORTH CAROLINA
DIRECTOR, DIVISION OF INTRAMURAL RESEARCH
A SENIOR EXECUTIVE SERVICE VACANCY**

The National Institute of Environmental Health Sciences (NIEHS) invites nominations and applications for the position of Director, Division of Intramural Research. This is a Civil Service position in the Senior Executive Service (SES) with a salary range of \$65,994 to \$73,400 per annum. In addition, M.D. candidates may be eligible for a Physician's Comparability Allowance up to \$20,000 per year. (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) A one-year probationary period must be served if the individual selected is not currently in the SES.

The Division of Intramural Research plans and conducts the Institute's basic laboratory research programs which encompass the areas of cellular and molecular pharmacology, genetics, molecular biophysics, molecular carcinogenesis, molecular genetics, molecular and integrative neurosciences, pulmonary pathobiology, reproductive and developmental toxicology and an animal facility.

As Director for the Division of Intramural Research, the incumbent manages and directs a staff of approximately 397 employees and manages a budget of approximately \$17.5 million. DIR is composed of eight laboratories and a branch conducting bench research in-house and by contract. The incumbent evaluates research efforts and establishes Programs' priorities; allocates funds, space, and personnel ceilings and integrates ongoing and new research activities into Programs' structure; collaborates with other organizations, and NIH programs; and provides advice to the Institute Director and staff on matters of scientific interest. As a national expert in the field of environmental health, the incumbent serves as expert consultant within the United States and abroad.

Candidates must meet the following professional and managerial qualifications:

Mandatory Qualification Requirements

This is a multidisciplinary position. All candidates must: (1) meet the minimum educational requirements for either: (a) Biologist, GS-401, (b) Chemist, GS-1320, (c) Medical Officer, GS-602, (d) Pharmacologist, GS-405, (e) Microbiologist, GS-402, (f) Physiologist, GS-413, or (g) Geneticist, GS-440, as described in the U.S. Office of Personnel Management Handbook X-118 (Qualification Standards for Positions under the General Schedule) which is available in Federal Job Information Centers and Federal Personnel Offices; and (2) Biomedical research experience at the GS/GM-15 grade level or equivalent which reflects demonstrated abilities to develop, implement and administer intramural research programs using the multidisciplinary research approaches to environmental health; considerable experience involving research, analysis and evaluation of data related to the study of biological and hazardous effects of chemical, physical and biological substances found in the environment.

Mandatory Managerial/Executive Qualifications

The incumbent must have had extensive experience of sufficient scope to carry out the managerial duties of the position. Experience must have included progressively responsible experience in directing, guiding and managing complex research projects and/or programs. Must have demonstrated possession of: (1) a broad knowledge of and demonstrated ability to apply management practices and principles related to planning, organizing, staffing, directing, allocation of resources and coordinating complex research programs; (2) ability to develop policy and establish short-term and long-term goals,

priorities and objectives for complex programs; (3) ability to deal with diverse and complex problems through application of analytical and decision-making skills; (4) ability to select, develop and utilize a subordinate staff, including a demonstrated positive attitude regarding the implementation of an equal opportunity program; (5) ability to represent the organization and deal effectively with high level governmental officials, the scientific and academic communities, national/international professional organizations and societies and the general public; and (6) skill and ability to conduct analysis and evaluation of programs.

Candidates who meet the mandatory qualifications will be further evaluated on the following factors: training and education; research experience and leadership of a research program in or related to environmental health; scientific reputation/peer recognition; honors and awards; and additional managerial/executive qualifications in excess of the mandatory level.

Further information about the position and qualification requirements may be obtained by calling Bruce Wiggins, Supervisory Personnel Management Specialist at 919-541-3317. U.S. Citizenship is required.

Resumes are not acceptable applications for entrance into the Senior Executive Service. Applications, SF-171 (available at all Federal Job Information Centers and Federal Personnel Offices) accompanied by a current curriculum vitae and bibliography should be submitted not later than August 19, 1988 to:

Bruce Wiggins (Code: HNV2)
NIEHS Personnel Office
P.O. Box 12233
Research Triangle Park, NC 27709

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National Research
Council Canada

Conseil national
de recherches Canada

MOLECULAR BIOLOGIST/GENETICIST (Halifax, Nova Scotia)

The Atlantic Research Laboratory of the National Research Council of Canada requires a Molecular Biologist/Geneticist to work in its Marine Biosciences Section.

The incumbent will participate in the planning, development and implementation of molecular biology studies on marine algae, with a long-term view to future biotechnology applications; conduct independent research of high calibre; collaborate with colleagues at the Atlantic Research Laboratory and other research institutions; and contribute to the supervision of technicians and post-doctoral fellows.

Applicants will have a Ph.D. in molecular genetics or an appropriate area of biochemistry, with at least 2 years of post-doctoral laboratory experience in molecular biology/genetics. Candidates must be dynamic individuals able to contribute scientific and intellectual leadership in molecular biology research. They must also be able to perform all fundamental molecular genetic techniques such as DNA isolation, restriction mapping, construction of plasmid and phage libraries, construction and use of probes and vectors, and nucleic acid transfer and blotting techniques using radioisotopes. Computers experience as related to accessing data bases for sequence comparisons and previous research experience with algae would be important assets.

Send your curriculum vitae, transcripts, and three letters of reference before 16 September 1988 to: **The Personnel Office, Atlantic Research Laboratory, National Research Council of Canada, 1411 Oxford Street, Halifax N.S., Canada B3H 3Z1. Please quote reference AR-87-02 (SC).**

Canada

POSITIONS OPEN

UNIVERSITY OF SOUTHERN CALIFORNIA FACULTY POSITION

Applications are invited for a tenure-track assistant/associate professor position at the School of Pharmacy, Division of Pharmaceutics. Outstanding candidates with research interests in the mechanisms or kinetics of drug/peptide transport or processing are sought to join our strong multidisciplinary programs in drug targeting, pharmacokinetics, and cancer pharmacology. Participation in team teaching in graduate and professional programs is required. Please submit curriculum vitae, selected reprints, statement of research objectives and the names of three references by 30 September 1988 to: Vincent H. L. Lee, Ph.D., University of Southern California, John Stauffer Pharmaceutical Sciences Center, 1985 Zonal Avenue, Los Angeles, CA 90033-1086. Equal Opportunity Employer/M/F/H.

FACULTY POSITIONS, NEPHROLOGY. The Section of Nephrology at the Yale University School of Medicine seeks individuals to establish independent research programs utilizing cell or molecular biologic approaches to study issues of relevance to renal physiology or pathology. Applicants should have appropriate clinical training in internal medicine and nephrology to serve as teaching attendings. Positions will be based at the Yale School of Medicine or the West Haven V.A. Hospital. Tentative starting date, 1 July 1989, with initial term or tenured appointment as assistant professor, associate professor, or professor depending on qualifications. *Women and members of minority groups are particularly encouraged to apply.* Applicants should send curriculum vitae before 1 October 1988 to: Peter S. Aronson, M.D., Section of Nephrology, Department of Internal Medicine, Yale University School of Medicine, Box 3333, New Haven, CT 06510. Yale University is an Equal Opportunity/Affirmative Action Employer.

INSTRUCTOR (Western Medicine) for a university Oriental medicine/acupuncture program. Teach undergraduate and graduate courses including courses in pharmacology, western medical diagnosis, Western medical terminology, histology, endocrinology, neuroanatomy, physiology, psychiatry, pathology, clinical medicine, clinical sciences including obstetrics/gynecology, urology, radiology, and infectious diseases, with requisite knowledge thereof.

Prepare and deliver lectures/demonstrations to students, stimulate discussion, compile, administer, and grade exams, direct research. Undertake postgraduate work/training in California and qualify therefore. Serve on committees. M.D. or equivalent required.

No smoking on the job. Medical education must not be from medical schools black listed by California Board of Medical Quality.

Monday through Friday 1:30 p.m. to 10:00 p.m. (Teaching hours 6:00 p.m. to 10:00 p.m., administrative work at other times.) Salary: \$28,000 per annum. Job site and interview: Garden Grove, California.

Send this ad and a résumé or letter stating your qualifications to: Job # NOF #297, P.O. Box 9560, Sacramento, CA 92823-0956 not later than 14 August 1988.

MACROMOLECULAR STRUCTURE

The Agouron Institute, a multidisciplinary non-profit research organization located in La Jolla, California, is seeking a **SCIENTIST** to pursue independent research in the general area of macromolecular structure-function analysis. The applicant should demonstrate a strong research record in either protein x-ray crystallography or biophysical chemistry and have a broad perspective of the biological relevance of this research. The Agouron offers ample opportunity for, and encourages, interdisciplinary research in the fields of x-ray crystallography, computational chemistry, and molecular biology and is equipped with state-of-the-art instrumentation and facilities. Please send curriculum vitae including the names of three referees to:

Search Committee
Agouron Institute
505 Coast Boulevard South
La Jolla, CA 92037

Postdoctoral Research

The Department of Molecular Genetics of the SmithKline Animal Health Products is seeking a Postdoctoral Scientist to perform investigative studies on the Reagent Specific Immune Response to Rabies Virus. The specific area of research will focus on the recombinant DNA expression of rabies proteins and the differential immune response to those proteins. Candidates will be expected to publish their findings in scientific journals and make presentations at both local and national meetings.

Candidates for the position should hold a Ph.D. in Immunology/Molecular Virology or a related discipline. Experience in the cell-mediated immune responses to protein antigens is desirable.

The appointment is full time for a period of two years and is part of a research agreement between SmithKline Beckman Animal Health Products and the Centers for Disease Control (CDC) in Atlanta, GA. The successful candidate will work within the Rabies Laboratory of the Division of Viral Diseases at the CDC, in Atlanta, GA. Applicants should send curriculum vitae, including relevant reprints and names of three references to: Dr. William J. Bellini, Mailstop G-13, Centers for Disease Control, CID/DVD/VRZB, 1600 Clifton Rd., Atlanta, GA 30333. An Equal Opportunity Employer, M/F/H/V.

FACULTY POSITION IN MOLECULAR BIOLOGY

Department of Dermatology University of Michigan

Faculty position available for scientist with experience in molecular biology of growth differentiation and immune regulation. Candidate will be expected to institute an independent research program emphasizing molecular biological techniques and to collaborate with current faculty on the regulation of growth and differentiation of human epidermis. Current faculty research interests include: regulation of cytokine and growth factor gene expression, biochemistry of signal transduction, arachidonic acid metabolism, and immunodermatology. Research program should be compatible with studies on inflammatory hyperplastic skin diseases such as psoriasis. Applicants should send curriculum vitae, bibliography and statement of research interests and names of three references to:

Professor John J. Voorhees, Chairman
Department of Dermatology
University of Michigan Medical Center
1910 Taubman Health Care Center
Box 0314, Ann Arbor, MI 48109-0314



Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

RESEARCH FELLOWSHIPS 1989

The Natural Sciences and Engineering Research Council of Canada (NSERC) offers research fellowships to expand career opportunities for a select number of promising researchers in the natural sciences and engineering. These awards are tenable in universities or industries in Canada.

Eligibility: Canadian citizens or permanent residents of Canada holding a doctorate in science or engineering, preferably with post-doctoral research experience of not more than five years.

Nature of Appointment: Fellows will be employees of the university or industrial firm for the duration of the award and will be engaged in research or development.

Duration of Appointment: a) University Research Fellowships: Up to five years based on satisfactory performance; possibility of renewal for a second 5-year term.

b) Industrial Research Fellowships: Up to two years based on satisfactory performance.

Remuneration: a) University Research Fellowships: Salary is determined by the university; NSERC will reimburse the university up to \$30,500 per annum towards the cost of each fellow's salary; fellows will receive a three-year research grant.

b) Industrial Research Fellowships: Salary is determined by the industrial firm; NSERC will reimburse the firm \$25,000 per annum towards the fellow's salary.

Application Procedures: Contact the Canadian university or industrial firm of your choice to carry out appropriate negotiations concerning research plans, terms and conditions of appointment, salary, etc. Nominations must be submitted to NSERC by universities or industrial firms, as the case may be. Applications submitted directly to NSERC by candidates cannot be accepted.

Date of Submission: a) 1 November 1988 for University Research Fellowships.

b) anytime for Industrial Research Fellowships.

For more information, contact the:

Research Fellowships Officer
Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
Canada
K1A 1H5
Telephone: (613) 996-2009

Canada

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
U.S. PUBLIC HEALTH SERVICE
FOOD AND DRUG ADMINISTRATION
CENTER FOR FOOD SAFETY AND APPLIED NUTRITION**

The Food and Drug Administration is seeking Staff Fellow applicants with a strong background in analytical chemistry of pesticide residues or other chemical contaminants in foods and knowledge of application of immunoassay techniques to small molecules such as pesticides. The successful applicant will apply immunoassay techniques in development of pesticide residue analytical methodology.

Candidates should have a Ph.D. or have been certified by a university as meeting all requirements leading to such a doctorate in chemistry or closely related discipline. (Candidates holding a masters degree will also be considered.)

A current curriculum vitae and bibliography are to be sent to Dr. Marion Clower, Jr., Division of Contaminants Chemistry (HFF-426), Food and Drug Administration, 200 C St. SW, Washington, DC 20204, not later than August 20, 1988.

The Food and Drug Administration is seeking Staff Fellow applicants to conduct research on food package integrity with emphasis on new packaging systems. The successful applicant will design testing methods and perform research in areas such as seal integrity, container integrity, and migration of components of packaging material into food.

Candidates must have at least a masters degree in one of the following disciplines: Chemical or Food Engineering, Food Technology, Food Science or closely related disciplines with emphasis on food packaging.

A current curriculum vitae and bibliography are to be sent to Dr. Patricia Schwartz, Division of Food Chemistry and Technology (HFF-410), Food and Drug Administration, 200 C St. SW, Washington, DC 20204, not later than August 20, 1988.

Staff Fellowships are excepted appointments in the Federal service. Candidates must have a masters degree, doctoral degree or have been certified by a university as meeting all requirements leading to a doctorate in a health-related science. Candidates must be United States citizens or resident aliens eligible for naturalization within four years. Initial appointments will be for a minimum 2 years. Salary (\$22,907 to \$42,135) is based on qualifications.

**THE FOOD AND DRUG ADMINISTRATION IS SMOKE FREE
THE FOOD AND DRUG ADMINISTRATION IS AN
EQUAL OPPORTUNITY EMPLOYER**

POST-DOCTORAL POSITIONS

One position is available for study of the enzymes that participate in the metabolism of xenobiotics, including drugs. Interest is presently directed at hydrolytic enzymes that fall into the category of enzymes of detoxication. Send Curriculum Vitae to William B. Jakoby.

A position is available for study of the biochemistry of inherited disorders, e.g. the lysosomal storage diseases, utilizing techniques of molecular biology and protein chemistry. Facility with these methods is favored but is not essential. Send Curriculum Vitae to Rachel Myerowitz.

Both can be reached at:



National Institutes of Health
Laboratory of Biochemistry and
Metabolism, NIDDK
Building 10, Room 9N-114
9000 Rockville Pike
Bethesda, Maryland 20892

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

**POST DOCTORAL
FELLOW/
RESEARCH ASSOCIATE**

The Hospital for Sick Children, one of the world's leading paediatric research and care centres, is seeking a recent Ph.D. graduate with an indepth background in protein chemistry. You have a demonstrated working knowledge of enzyme purification, preparation and use of mono and poly-clonal antibodies. You should also have had experience in molecular biology.

Remuneration will reflect your training and level of expertise. Please send your curriculum vitae, quoting File #C072 and including 3 letters of recommendation, no later than **August 29, 1988**, to: **Ms. Celeste D. Walton-Ruzic, Recruitment Officer, Department of Human Resources.**

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.



**555 University Avenue
Toronto, Ontario M5G 1X8**

**THE HOSPITAL
FOR SICK CHILDREN**

**Principal Scientist/
Group Leader**

Contribute to some of the most advanced projects in pharmacology at Schering-Plough, a worldwide leader in the research, manufacture and marketing of pharmaceutical and personal care products.

This is your opportunity to expand your expertise with a team of leading scientists. Your background should include methods development for complex dissolution assays and familiarity with proteins. A PhD in Analytical Chemistry/Pharmaceutical Science with 3 years' relevant work experience or an MS with 10 years' relevant work experience required. Good oral and written skills along with previous management experience are necessary.

We offer a very competitive salary and benefits. For prompt confidential consideration, send your resume with salary history to: Ms. I. Brenneman, Box 87-52, Schering-Plough Corporation, E-17, K-6-1, 2000 Galloping Hill Road, Kenilworth, NJ 07033. We are an equal opportunity employer.



Schering-Plough

POSITIONS OPEN

The Institute for Medical Microbiology of the University of Berne, Switzerland announces positions for **JUNIOR POSTDOCTORALS** as from October, 1988. Research concerns virus-induced cell-cell fusion. Applicants must have M.D. or Ph.D.; research experience in molecular biology, microbiology or protein/membrane chemistry is preferred. Please send letter of interest and curriculum vitae to: **Hans Koblet, Professor, Institute for Medical Microbiology, Friedbühlstrasse 51, CH-3010 Berne, Switzerland.**

MOLECULAR BIOLOGIST

Northern California reference laboratory seeks dynamic individual to further develop and expand our Division of Clinical Molecular Biology. This exciting and challenging opportunity requires a doctoral level scientist (Ph.D.) with broad experience in microbiology, virology, immunology and recombinant DNA technology. Areas of interest include diagnosis of infectious disease and molecular oncology.

For confidential consideration, please submit your curriculum vitae and three references to: **Box 121, SCIENCE.**

MOLECULAR BIOLOGIST with extensive experience in nucleic acid electrophoresis and DNA sequencing to work full-time in the Research and Development Department. Duties include testing of existing and prototype instruments used in the separation sciences, and applications development. Applicants must be interested in instrumentation and be technically competent in the use of equipment. Send résumés to: **Hoefer Scientific Instruments, Attention: Carol Yamasaki, 654 Minnesota Street—PO Box 77387, San Francisco, CA 94107.**

MOLECULAR/CELLULAR NEUROSCIENCE DIVISION OF NEUROBIOLOGY BARROW NEUROLOGICAL INSTITUTE

Applications are invited for a tenure-track, staff scientist position at the assistant or associate professor level in the basic research division of a unique and dynamic institution. The appointee will be expected to establish an independent and vigorous research program utilizing contemporary approaches. Some preference will be given to applicants who are interested in development of the mammalian CNS and/or who are experienced in molecular biological applications. Ample opportunities exist for interaction with basic and clinical investigators in a rapidly developing neuroscientific community. Send curriculum vitae, names and addresses for three references, and a brief statement of research experience and objectives to: **R. J. Lukas, Division of Neurobiology, Barrow Neurological Institute, 350 West Thomas Road, Phoenix, AZ 85013. Equal Opportunity Employer.**

Ph.D. BIOSTATISTICIAN

Develop methodology, consultation, supervise graduate students. Statistical, leadership, communication skills. Work with cancer prevention project. Affiliate appointment, Biostat Department, University of Washington. Send curriculum vitae and names of three references to: **Dr. Dan Cherkin, Center for Health Studies, Group Health Cooperative, 521 Wall Street, Seattle, WA 98121.**

PLANT PATHOLOGIST—The U.S. Department of Agriculture, Cooperative State Research Service, is seeking an established, highly qualified scientist to serve as staff expert for plant pathology programs. Knowledge of microorganism genetics and epidemiology is helpful. Individual to be selected must be able to work well with scientists and administrators of state and Federal programs. This is a full-time permanent position providing leadership and direction to national research programs and projects. Starting GM-15 salary is \$54,907 to \$71,377 based on experience and salary history. Full Federal benefits package is included. For further information call **Wayne Winker at 202-475-4811**. Send SF-171 form detailing experience and training plus listing of courses taken to: **USDA, ES, PMSD, Room 3547-S, 14th Street and Independence Avenue S.W., Washington, DC 20250-0900**. Reference announcement 355-A. Applications must be postmarked by 22 August 1988. *USDA is an Equal Opportunity Employer.*

POSITIONS OPEN

PHARMACOLOGIST/CELL PHYSIOLOGIST PATCH-CLAMP ELECTROPHYSIOLOGIST

Natural Product Sciences (NPS) Inc. is a rapidly growing company involved in basic and applied research on compounds of non-human biological origin. We are seeking two Ph.D.-level scientists with expertise in cell physiology/pharmacology or electrophysiology to join a group investigating the effects of such compounds. Applicants for the first position should have experience studying responses to drugs in neural or cardiovascular tissues; the second position requires experience in patch-clamp analysis of responses in neuronal or cardiovascular cells. Both positions offer the opportunity to work with a wide range of novel compounds in an exciting and comprehensive program involving pharmacology, chemistry, and molecular biology. The successful applicant will be given major responsibility for directing his or her own efforts and will be expected to contribute to evaluating and guiding the general research program. Qualified applicants will also be eligible for faculty appointments in the University of Utah Department of Physiology, which is adjacent to the company's facility. NPS offers competitive salaries and a full benefits package. Please send a résumé and the names of three references to: **Dr. Hunter Jackson, Natural Product Sciences Inc., 420 Chipeta Way, Salt Lake City, UT 84108. Natural Product Sciences Inc. is an Equal Opportunity Employer.**



IMMUNOMEDICS

Ph.D., M.S., AND B.S. SCIENTISTS IMMUNOCHEMISTRY

Immunomedics, the pioneer company in the use of antibodies for cancer imaging and therapy, is expanding its product/process development department.

Reporting to the Group Director of Immunology and Chemistry, responsibility will be for development of reagents for clinical trials.

Candidates should have experience in the purification and characterization of monoclonal antibodies/fragments, or in the conjugation of monoclonal antibodies to chelates/polymers/enzymes.

We offer an attractive employment package including paid health/dental, a 401K retirement plan, and the opportunity for stock and stock option merit rewards.

Please send curriculum vitae, salary requirements, and career objectives to:

**Personnel Director
Immunomedics, Inc.
150 Mt. Bethel Road
CN #4918
Warren, NJ 07060**

Equal Opportunity Employer M/F.

University of Michigan: Unexpected immediate opportunity for **POSTDOCTORAL FELLOW** with synthetic or organometallic chemistry background to refine radiometal labeling of monoclonal antibodies. Well-equipped laboratory with multidisciplinary environment. Ideal position for the chemist desiring to apply chemical solutions to biological systems. Position is NIH-funded and applicants must be U.S. citizen or permanent resident. Please send curriculum vitae with name of two references to: **Richard L. Wahl, M.D., Division of Nuclear Medicine, University of Michigan Medical Center, Ann Arbor, MI 48109-0028. The University of Michigan is a non-discriminatory, Affirmative Action Employer.**

POSTDOCTORAL FELLOW (associate) position in cancer pharmacology/tumor biology laboratory. Must be experienced in cell culture and tumor stem cell assay. Working knowledge of molecular biology, HPLC, or biofluorescence techniques an asset. Salary to \$25,000 depending on experience. Please send a letter describing research experience and curriculum vitae to: **Dr. Thomas Chan, Lynn Hall, Purdue University, West Lafayette, IN 47907. Purdue University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to study mechanisms of osmotolerance in lactobacilli. Candidates should have a Ph.D. in microbiology, biochemistry, or equivalent. Experience in molecular biology techniques preferred. Send curriculum vitae and names of three references to: **Dr. E. R. Kashket, Department of Microbiology, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL ASSOCIATES MOLECULAR BIOLOGISTS COMPUTER SPECIALISTS DNA SEQUENCERS LABORATORY TECHNICIANS

To join research team for megabase sequencing technology. Send résumé to: **Sequencing Technology Search Committee, University of Wisconsin, 445 Henry Mall, Room 210, Madison, WI 53706. Affirmative Action/Equal Opportunity Employment.**

POSTDOCTORAL FELLOW—OSTEOPOROSIS

The Regional Bone Center at Helen Hayes Hospital is seeking a postdoctoral fellow to participate in studies on the mode of action, regulation, and ontogeny of the osteoclast (Project Director: **Dr. David Dempster**). The successful candidate will join a group of investigators engaged in basic and clinical studies on osteoporosis as part of a national Specialized Center of Research in Osteoporosis funded through Health Research, Inc. by the NIH (Principal Investigator: **Dr. Robert Lindsay**). Studies will be based on an established in vitro model of isolated osteoclast activity. Preference will be given to candidates with a strong background in cell biology and experience in cell and tissue culture. Formal training in immunology, hematology, or biochemistry would also be advantageous. Starting salary range: \$20,000 to \$25,000, depending on experience, with excellent fringe benefits. The position is available for 4 years in the first instance. Helen Hayes Hospital is a Columbia University-affiliated, New York State Department of Health facility located within easy reach of New York City. Résumés should be submitted to: **Human Resources, Helen Hayes Hospital, Route 9W, West Haverstraw, NY 10993. Health Research, Inc. is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW—Schering-Plough's Department of Chemotherapy offers an outstanding Ph.D. scientist an opportunity to pursue research on the characterization and cloning of novel aminoglycoside resistance genes. The successful candidate will have a background in microbiology or genetics; additional experience in molecular biology and/or clinical microbiology preferred. To explore, please send curriculum vitae to: **R. Blackburn, Box TM88-45, Schering Research, 60 Orange Street, Bloomfield, NJ 07003. We are an Equal Opportunity Employer.**

POSTDOCTORAL POSITION BIOCHEMISTRY/MOLECULAR BIOLOGY

Study protein:DNA interactions involved in the positive regulation of prokaryotic transcription by a putative Zn²⁺ binding protein. Applicants should have a strong background in either protein biochemistry or molecular genetics. This is a grant-funded position available for up to 3 years, beginning in September 1988. Send curriculum vitae and names of three references to: **Dr. Gail E. Christie, Department of Microbiology and Immunology, Virginia Commonwealth University, Box 678 MCV Station, Richmond, VA 23298-0678.**

MOLECULAR/CELL BIOLOGY POSTDOCTORAL POSITION available immediately to study the role of extracellular matrix, cell-cell interactions and growth factors in regulating programs of gene expression that control hepatocyte growth and differentiation. Experience in cell biology and/or molecular biology is desirable. Please send curriculum vitae and names of two references to either: **Dr. Stephen R. Farmer, Department of Biochemistry or Dr. Nancy L. R. Bucher, Department of Pathology, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118.**

PHILADELPHIA, PENNSYLVANIA

POSTDOCTORAL POSITION—The Graduate Hospital's Research Department has a position available for someone to study inositol lipid metabolism in intact vascular smooth muscle from normal and hypertensive rats. Training in biochemistry essential. Candidates should send curricula vitae and the names of three references to: **Edward F. LaBelle, Ph.D., Bockus Research Institute, Graduate Hospital, 19th and Lombard Streets, Philadelphia, PA 19146. Equal Opportunity Employer M/F/H/V.**

POSITIONS OPEN

POSTDOCTORAL POSITION available (15 August 1988) in biochemical pharmacology of cancer chemotherapeutic agents: (i) enzymatic mechanisms of bio-reductive activation of drugs and combinations; and (ii) their cytotoxic selectivity in animals. Training or recent experience in experimental cancer chemotherapy with strong biochemistry background is desirable. Competitive stipend based on experience. Application may be made to: **Dr. Herbert S. Schwartz, Department of Experimental Therapeutics, Roswell Park Memorial Institute, Elm and Carlton Streets, Buffalo, NY 14263.** *Equal Opportunity Employer/Affirmative Action.*

POSTDOCTORAL POSITION available immediately in virus assembly. Biochemical and recombinant DNA techniques will be used to study replication and genomic packaging of dsRNA phage, and assembly of its simple membrane structure. Send résumé and references to: **Leonard Mindich, Public Health Research Institute, 455 First Avenue, New York, NY 10024.**

POSTDOCTORAL POSITION available for studies of protein-nucleic acid interactions involved in gene regulation, combining protein crystallography and mutagenesis. Individuals with experience in crystallography or protein chemistry are encouraged to apply. The laboratory is equipped with state-of-the-art equipment for protein isolation, x-ray diffraction, computer graphics, etc. Send curriculum vitae and names of three references to: **Dr. Kathryn Ely, c/o North Beddingfield, La Jolla Cancer Research Foundation, 10901 North Torrey Pines Road, La Jolla, CA 92037.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITION—HUMAN MOLECULAR GENETICS, available 1 October 1988, to apply the direct sequencing techniques of GAWTS and RAWTS to study spontaneous germline mutations in humans [Stoffet *et al.*, *Science* **239**, 491 (1988); Sarkar and Sommer, *Nucleic Acids Res.* **16**, 5197 (1988)]. NIH NRSA funding is available for 2 to 3 years; U.S. citizenship or permanent residency is required. Applicants should submit curriculum vitae, selected reprints, and names of three references to: **Steve S. Sommer, M.D., Ph.D., Department of Biochemistry and Molecular Biology, Mayo Clinic/Foundation School of Medicine, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Institution.*

POSTDOCTORAL POSITION/RESEARCH ASSOCIATE available to study human disorders of visual-oculomotor systems. Candidates with a Ph.D., a research background in oculomotor systems, vision psychophysics or motor control systems are preferred. The position is sponsored by the Department of Neurology, Stanford University. Send résumé and three letters of reference to: **John Hotson, M.D., Department of Neurology, Santa Clara Valley Medical Center, 751 South Bascom Avenue, San Jose, CA 95128.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS

Two postdoctoral positions are available in Fall 1988 to investigate the biochemical and molecular biological basis of increased plant growth, NH_3 assimilation and N_2 fixation in legumes. These effects on the legumes accompany a selective, partial inhibition of plant glutamine synthetase in the legume nodules. An initial report of these findings is in press, in *Science* 1988. Highly motivated individuals with experience in either pro- or eukaryotic metabolism/enzymology or molecular biology are sought to join active research efforts characterizing this system. **Dr. P. Langston-Unkefer of Los Alamos National Laboratory, Mail Stop C345, Los Alamos NM 87545** leads the overall project with emphasis on the biochemical investigation. **Dr. C. Sengupta-Gopalan of the Plant Genetic Engineering Laboratory, New Mexico State University, Las Cruces, NM 88003** leads the molecular biological investigation. Contact either researcher directly for additional information.

To formally apply, send résumé, employment application, undergraduate and graduate transcripts, and three letters of reference to: **Carol Rich, Human Resources Development Division PD-88-028, Los Alamos National Laboratory, Los Alamos, NM 87545.** *Los Alamos National Laboratory is an Affirmative Action/Equal Opportunity Employer.*

29 JULY 1988

Director Woods Hole Oceanographic Institution

The Trustees Search Committee of the Woods Hole Oceanographic Institution invites nominations and applications for the position of Director.

The Woods Hole Oceanographic Institution is a privately endowed research and educational institution with a scientific and technical staff of 235, a total personnel complement of 800, and a current operating budget of 55 million dollars. The Institution operates a fleet of research vessels engaged in world-wide oceanographic research. Research includes all aspects of ocean-related work, geology, geophysics, physical oceanography, biology, chemistry, engineering and marine policy. A Graduate Program in Oceanography/Oceanographic Engineering is offered jointly with the Massachusetts Institute of Technology.

The Director is the chief executive officer of the Institution and is accountable to the Board of Trustees. Generally responsible for all scientific, fiscal and operating activities of the Institution, the Director is also expected to participate in relationships with various Federal agencies and to be responsible for fund-raising activities in the private sector.

The Search Committee expects that candidates will have a distinguished record of scientific accomplishment and administrative experience in research and/or academic institutions. A strong commitment to the furtherance of research in the oceans is essential.

Address communications to:

**Mr. Guy W. Nichols, Chairman
Trustees Search Committee
Woods Hole Oceanographic Institution
Box 54P
Woods Hole, MA 02543**

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Associate Senior Investigator — Synthetic Chemistry

A health care company that markets prescription and proprietary products for human and animal health care has an opening for an Associate Senior Investigator — Organic Radiochemical Synthesis at its research and development facility in King of Prussia, Pennsylvania.

Principal duties are planning, conducting, supervising, and evaluating laboratory experiments utilizing isotopically labeled organic compounds often referred to as organic radiochemical synthesis aimed at designing synthetic compounds which can be used as health care products. Such research involves the preparation and analysis of isotopically labeled candidate drug compounds and research tool compounds and exploiting these compounds with the goal of synthesizing, principally through molecular manipulation new chemical structures which may be substituted for specific natural products such as hormones, vitamins or for existing drugs.

Ph.D. Degree in Chemistry with eight (8) years experience in synthetic chemistry including (i) three (3) years experience in synthesizing radioactive sterols, steroids and peptides, leukotriene inhibitors and heterocycles and (ii) two (2) years experience planning, conducting, supervising and evaluating laboratory experiments including the use of isotopically labeled organic compounds and the operation of high field multinuclear nuclear magnetic resonance (NMR) and interpretation of the resulting data.

Salary of \$42,000 with liberal benefits. Qualified applicants should submit resume or curriculum vitae to Philadelphia Job Bank, 444 N. 3rd Street, Philadelphia, PA 19123 and refer to Order Number 4191991. Equal Opportunity Employer, M/F/H/V.

Dynamic, expanding diagnostics company and European leader in Coagulation is looking for a

MANAGER RESEARCH & DEVELOPMENT COAGULATION

in order to head a small research team.

You are an expert in Thrombosis and Hemostasis and will lead our growing team in the development of chromogenic and immunological based assays for clotting factors.

Ideally you have a Ph.D. in Biochemistry or equivalent and proven experience in the commercial assay development in this field.

Please send your C.V. to Mrs. M. von Anacker, Manager Human Resources, Baxter Dade AG, Bonnstrasse 9, CH-3186 Düringen/Switzerland, phone (41 Int.) 37 / 43 91 11.

Baxter Dade AG

Baxter

POSTDOCTORAL POSITION AVAILABLE AT THE NATIONAL INSTITUTES OF HEALTH, PHS

The Human Motor Control Section in the Medical Neurology Branch, at the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) has an opening for a 2-3 years postdoctoral fellowship. We would expect this person to be a neurophysiologist familiar with Evoked Potentials and to study normal volunteers and patients with different neurological disorders. We are looking for an individual capable of interacting in an interdisciplinary group interested in topographic brain mapping and evaluation of plastic changes in human motor and sensory cortex using noninvasive techniques. Skills in recording and analyzing evoked potentials, programming in languages such as FORTRAN, assembly, Pascal and C, and using PDP 11 with RT-11 operating system and MicroVAX with VMS operating system computers are desirable.

Candidates must be U.S. citizens and have completed their doctorate training with no more than 3 years postdoctoral experience. Stipends begin at \$24,000 but may be adjusted depending on the candidate's postdoctoral experience. Appointments would be as an intramural research training associate (IRTA).

The NINCDS is located at the National Institutes of Health in Bethesda, Maryland just north of Washington, D.C. If you have an interest in this position, please send a letter describing yourself and include a statement of scientific and/or clinical interest, a resume, and three letters of reference to:

Attention: Postdoctoral Position Application
c/o Leonardo G. Cohen, M.D.
Human Motor Control Section
Medical Neurology Branch-NINCDS-NIH
9000 Rockville Pike
Building 10, Room 5N226
Bethesda, Maryland 20892.
Phone: (301) 496-0219



"For further information on benefits, contact: Wallace Holland
NINCDS Personnel Office (301) 496-6334."

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

Senior Science Project Manager

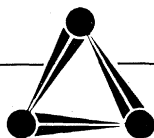
Cambridge NeuroScience Research, Inc. is an exciting, young, private company focusing on neurobiology and its applications. We are looking for a Senior Science Project Manager with a Ph.D. in a relevant scientific discipline and a minimum of 5 years' experience in the pharmaceutical industry.

The candidate will have developed a working relationship with pathology/toxicology labs and be well-versed in the stages and regulatory requirements of preclinical and clinical drug development.

Responsibilities would include: designing product development strategies; ensuring that projects remain on schedule; establishing close rapport and effective working relationships with project team members as well as outside laboratories; coordinating and managing the submission of development plans, progress reports to Management and IND applications. The Senior Science Project Manager would report directly to the Head of Research and would provide administrative direction to selected research projects.

CNS Research is located in Cambridge, Massachusetts and offers a stimulating research environment with competitive salaries and excellent benefits, including Founders stock.

Please send curriculum vitae, including the names of two references, to: CNS Research, Human Resources Manager, One Kendall Square, Building 700, Cambridge, MA 02139.



CNS RESEARCH

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Glaxo's Growth Is Your Opportunity

Glaxo Inc. is not only one of the Top 10 ethical pharmaceutical firms in America, we're also the fastest growing research-oriented company in the country. As such, we can offer exceptional career opportunities, state-of-the-art facilities, and a firm commitment to producing the most effective pharmaceuticals that experience, imagination, and advanced technology can create. Join Glaxo, and apply your knowledge and career ambitions where they'll do you the most good.

We currently have the following position available at our Corporate Headquarters located in Research Triangle Park, N.C.

POSTDOCTORAL POSITION IN BIOCHEMICAL TOXICOLOGY

The department of drug metabolism has a position for a recent Ph.D. graduate in Biochemistry, Pharmacology, Toxicology, or a related discipline. The postdoctoral fellow would propose independent research relevant and complementary to *in vitro* drug metabolism and biochemical toxicology. Current research interests include tissue specific regulation of drug metabolizing enzymes and the biosynthesis of leukotriene C₄ in the lung. A background in biochemical and molecular biological techniques is desirable.

At Glaxo, growth opportunities and up-to-date facilities are complemented by a location (Raleigh-Durham) that has excellent resources in close proximity. Prestigious universities, scenic vistas, lively recreational areas, and exciting cultural opportunities are all a part of the daily life of the Glaxo professional. Further, we reward talent and creativity with an excellent salary and benefits package (including a completely equipped, on-site athletic facility). Candidates interested in this position, please send resume including salary history, to:

Human Resources Department
Job #8625 X928

Glaxo Inc.

PO Box 13398
Research Triangle Park, N.C. 27709
(No Phone Calls, Please)

No Private Agency Referrals, Please

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PERMANENT AND POSTDOCTORAL MOLECULAR BIOLOGISTS

Battelle, Pacific Northwest Laboratories, is seeking applicants for two permanent staff and four postdoctoral positions.

Molecular Biologist with experience in eukaryotic systems to work in growing program on the molecular biology of radiation carcinogenesis. At least two years of postdoctoral research experience in molecular biology is required, but we welcome applications from more senior investigators. Experience in the areas of development, oncogenes, mutation or gene expression is desired.

Molecular Biologist required to work at our Marine Sciences Laboratory at Sequim, Washington. The position requires at least two years of postdoctoral experience in molecular biology research. The applicants should have a desire to develop a research program which applies molecular biology techniques to marine biology research.

Postdoctoral Positions are available in molecular biology of carcinogenesis with an emphasis on examining the role of oncogene activation in radiation-induced tumors. Applicants should be recent PhD's with a background in molecular or cellular biology or biochemistry; experience in recombinant DNA techniques is desired. The stipend for these positions will be \$25-30K per year depending on qualifications; group health insurance is included.

The Pacific Northwest Laboratories in Richland, Washington, are operated by Battelle Memorial Institute for the Department of Energy and have a staff of about 3,000 with approximately 350 in the Life Sciences Center. Send resume, salary history, current salary requirements and references to: **Manuel Chavallo, Battelle, Pacific Northwest Laboratories, P.O. Box 999, Department 048, Richland, WA 99352.** U.S. citizenship required. An Equal Opportunity Employer M/F.



Battelle

Pacific Northwest Laboratories

POSITIONS OPEN

POSTDOCTORAL POSITION IN IN VIVO NMR—The Pennsylvania State University College of Medicine, Department of Radiology has a position available immediately at the postdoctoral level for an individual with interest/experience in in vivo NMR spectroscopy/imaging in a number of projects in animals and man. Additional experience in biochemistry, physiology, or rf electronics is highly desirable. Applicants should submit letter of application, curriculum vitae, and the names of at least three references to: **Dr. Michael B. Smith, Department of Radiology, P.O. Box 850, Hershey, PA 17033.** An Affirmative Action/Equal Opportunity Employer. Women and Minorities encouraged to apply.

THREE POSTDOCTORAL POSITIONS to study (i) skin cytochrome P-450 and mechanisms of skin tumorigenicity, (ii) skin photosensitization and photodynamic therapy of skin cancer, and (iii) immunodermatology and photoimmunology. Ph.D. with relevant experience desirable. Send curriculum vitae with names of references to: **Dr. Hasan Mukhtar, Research Director, Department of Dermatology, Case Western Reserve University, Cleveland, OH 44106.**

TWO POSTDOCTORAL POSITIONS available for studies of the role of calcium and physiological metabolism in myocardial regulation in physiological and pathological states, including irreversible ischemic injury in heart and cultured myocytes. One position will investigate the role of phospholipases in these processes utilizing biochemical techniques and phospholipase inhibitors. The other will utilize fluorescent indicators, such as fura-2, and cellular imaging techniques to study the dynamic changes in calcium metabolism in myocytes. Our laboratory is well-funded and these positions are for 3 years. U.S. citizens or permanent residents send curriculum vitae with names and telephone numbers of three references to: **Drs. L. M. Buja and H. K. Hagler, H2-130 Pathology, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9072.** An Equal Opportunity Institution.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Available immediately for studies on glycation and oxidation of proteins in diabetes and aging. Prefer Ph.D. in biochemistry with experience in bioanalytical/bioorganic chemistry or protein chemistry, and working knowledge of HPLC or GC/MS for project on characterization of products of modification of proteins by glucose and oxidative reactions. Send curriculum vitae to: **Professor John W. Baynes, Department of Biochemistry, University of South Carolina, Columbia, SC 29208.** Telephone: 803-777-7272.

POSTDOCTORAL RESEARCH ASSOCIATES

(i) To study the mechanism of pH-regulated gene expression in *E. coli*. Experience with DNA analysis, microbial genetics, or bacterial physiology required. (ii) To construct and analyze mutants of a small drug resistant dihydrofolate reductase. Experience with DNA mutagenesis technology, protein overproduction, or protein stability required. Opportunity to collaborate on enzymology and biophysical studies. Send curriculum vitae and letters of reference to: **G. N. Bennett, Department of Biochemistry, Rice University, P.O. Box 1892, Houston, TX 77251.**

POSTDOCTORAL RESEARCH ASSOCIATE(S)

Positions available Autumn, 1988 for (i) cell biologist/biochemist to study phagocytic leukocytes. Areas of interest include cell stimulation, surface receptors, and endocytosis. Experience in enzyme analysis, cell fractionation, and electrophoresis desirable. And (ii) cell biologist to study endocytosis and vesicular transport in endothelial cells. Experience in electron microscopy and immunocytochemistry desirable. Send curriculum vitae with description of research background and names and addresses of three references to: **Dr. John M. Robinson, Department of Anatomy, The Ohio State University, 4072 Graves Hall, 333 West 10th Avenue, Columbus, OH 43210.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE position available to study RNA Processing in animal cells and viruses. Background either in biochemistry, microbiology or molecular biology needed. Experience in recombinant DNA technology desirable. Salary negotiable. Send résumé with two names for references to: **Dr. Mary Edmonds, Department of Biological Sciences, University of Pittsburgh, Pittsburgh, PA 15260.** Equal Opportunity/Affirmative Action Employer.

HOWARD HUGHES MEDICAL INSTITUTE—PHILADELPHIA

Position available July 1989 for **POSTDOCTORAL (M.D. or Ph.D.) RESEARCH ASSOCIATE** to carry out molecular studies of chromosomal fragile sites. Candidate must have documented research experience and proven expertise in (i) cytogenetic analysis of human and somatic cell hybrid lines, (ii) in situ hybridization of single copy DNA, and (iii) cloning of large genomic fragments in *S. cerevisiae* using artificial chromosome vectors. Send curriculum vitae to:

Robert L. Nussbaum, M.D., HHMI-Philadelphia, Department of Human Genetics, University of Pennsylvania School of Medicine, 37th and Hamilton Walk, Philadelphia, PA 19104-6072

POSTDOCTORAL RESEARCH POSITION available immediately (M.D. or Ph.D.) for research on the intestine: control of intestinal differentiation, cell adhesion to basement membrane, determinants of cell polarity and plasma membrane glycoprotein synthesis, basement membrane synthesis and the roles of vitamin D and A in the control of enterocyte differentiation. Send curriculum vitae, names, and addresses of three references to: **Dr. Milton M. Weiser, State University of New York at Buffalo (SUNY), Division of Gastroenterology, Buffalo General Hospital, Kimberly Building, 100 High Street, Buffalo, NY 14203.** SUNY is an Equal Opportunity and Affirmative Action Employer.

Associate Senior Investigator — Cardiovascular Pharmacology

A health care company that markets prescription and proprietary products for human and animal health care has an opening for an Associate Senior Investigator, Cardiovascular Pharmacology in its Department of Cardiovascular Pharmacology at its research and development facility in King of Prussia, Pennsylvania.

The principal duties of the position include planning, conducting, supervising, and evaluating pharmacologic research directed at finding pharmacological entities which provide a rational basis for the design of new cardiovascular drugs capable of preventing and retarding hypertension, congestive heart failure and myocardial infarction. Such research includes (i) studying the vasoconstrictor effects of platelet-derived growth factors ("PDGF"), (ii) investigating the mechanism of action for the antihypertensive effects of novel compounds, (iii) studying the mechanism by which certain chemical agents produce vasoconstriction in the cardiovascular system and (iv) studying the mechanism by which coronary artery reperfusion exacerbates myocardial infarction and discovering chemical agents to inhibit this process.

The minimum requirements for the position are a Ph.D. degree in Cardiovascular Pharmacology and four years experience in cardiovascular pharmacologic research including two years pharmacologic research (i) characterizing adrenoceptors in the cardiovascular system, (ii) studying the vasoconstrictor effects of platelet-derived growth factors and (iii) experience in studying mechanisms of myocardial infarction.

Salary of \$42,000 with liberal employee benefits. No fee charged. Qualified applicants should submit resume or curriculum vitae to Philadelphia Job Bank, 444 N. 3rd Street, Philadelphia, PA 19123 and refer to Order Number 4192904. Equal Opportunity Employer, M/F/H/V.

Research STUDY DIRECTOR

The INSTITUTE OF MEDICINE is seeking a staff officer to direct the newly established Roundtable on the Development of Drugs and Vaccines Against AIDS. The Roundtable will convene private and public sector participants in drug and vaccine development, to help speed research, testing, and the availability of therapy for HIV infection. Responsibilities include planning committee meetings, workshops and symposia; preparing background materials; writing meeting summaries and related papers; and participating in other AIDS-related activities. Applicants should have a Ph.D., M.D., or equivalent and at least four years of research or policy experience. Familiarity with government and private institutions involved in drug and vaccine development (e.g., FDA, NIH, academic institutions), expertise in a biomedical science, excellent oral and written communication skills, and the ability to work with expert committees required.

The NRC offers a competitive starting salary and excellent benefits including paid relocation to the Washington, D.C. area. Interested persons should send a résumé in confidence to: **INSTITUTE OF MEDICINE, RW-AIDS Activities, 2101 Constitution Ave., N.W., Washington, D.C. 20418.** EOE.





Opportunities in Biotechnology

Repligen Corporation is a leader in the application of Biotechnology to the health care and personal care markets. We are currently developing an AIDS vaccine and AIDS therapeutic products, products for the treatment of infectious diseases, cancer therapies, and novel biocompatible personal care products. We take pride in the high caliber of our scientific staff and our collaborations with major research institutions and corporate partners in Europe and the United States. The expansion of our efforts has created the following opportunities:

Protein Chemistry

Research Scientist Ph.D with 2-4 years' post-doctoral experience. We are seeking a creative individual to lead protein structure-function projects in the area of retroviral infection and immunomodulation. Experience with physical methods of protein characterization and computer modeling of protein structure is required. The successful candidate will have a proven record of creative research and accomplishment.

Research Scientist/Associate Scientist We are looking for a recent Ph.D in Protein Chemistry with extensive experience in protein isolation, purification, and characterization.

Immunology

Research Scientist/Associate Scientist Ph.D. in Immunology or closely related field with 1-3 years' post-doctoral experience. Two positions exist for scientists with extensive backgrounds in cellular immunology or direct experience with hybridomas and monoclonal antibodies.

Repligen Corporation offers a competitive salary, excellent benefits, and equity participation. Please submit a cover letter, resume, and references to **Barbara Fleming, Recruiter, Repligen Corporation, One Kendall Square, Bldg. 700, Cambridge, MA 02139.**

An Equal Opportunity Employer.

**RepliGen**

Research Assistant/ Associate

Genentech, Inc., a leader in the field of biotechnology, has the following opportunity available in our Pharmacological Sciences group.

An individual with 3-5 years of post-graduate experience is sought to assist with radioreceptor binding technology and assay development for novel drug discovery projects. This opportunity requires experience with computer-assisted analyses of receptor binding data, such as the London program, as well as a background in enzyme inhibition studies. Knowledge of HPLC and in vivo receptor binding techniques is desirable. An MS in Biology/Chemistry or Pharmacology or equivalent is preferred.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to Carol B.G. Deasy, Human Resources Department, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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R & D PROJECT TEAM LEADER BIOCHEMISTRY/ MOLECULAR BIOLOGY

FMC BioProducts, a major manufacturer of agarose and other fine materials for biotechnology and life science research, is recruiting a project leader for its Research and Development department. The project leader will be responsible for the scientific and administrative direction of product development for specified areas of the research market.

The successful candidate will have a PhD or equivalent and five or more years of postdoctoral experience, at least two of which must be in industry. Previous supervisory or administrative experience is required. Areas of professional expertise/experience should include molecular biology and protein chemistry. Experience in polysaccharide, polymer or physical chemistry is highly desirable. The successful candidate will possess strong communication skills and be willing to travel up to 20%.

This position is located in FMC's facilities in Rockland, Maine. Our beautiful coastal location offers relaxed but relatively cosmopolitan small-town living, with excellent schools and easy access to outdoor recreation. FMC offers a competitive salary and excellent fringe benefits.

Applicants must be US Citizens or permanent residents. Applications from female and minority candidates are strongly encouraged. Send your resume in confidence (no later than September 23) to: **Human Resources Department, FMC BioProducts, Box 308, Rockland, ME 04841.** Equal Opportunity Employer, M/F.

**FMC**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately to study tobacco smoke uptake and carcinogenic potential. Experience in immunoassay, HPLC and autoradiography essential. Proposed studies include animal assays and clinical protocols to evaluate biomarkers of active and passive smoking. Please send curriculum vitae a brief description of prior research, and names of three references to: **Dr. N. J. Haley, Division of Nutrition and Endocrinology, American Health Foundation, 1 Dana Road, Valhalla, NY 10595.** An Equal Opportunity Employer M/F/H/V.

YALE MEDICAL SCHOOL DEPARTMENT OF CELLULAR AND MOLECULAR PHYSIOLOGY

An NIH **POSTDOCTORAL TRAINING GRANT POSITION** is available immediately to study the molecular biology of the Ca-gated K channel (Gardos) as expressed in red blood cells and other cell lines. Approaches include labeling, purifications, antibiotics, probes, cloning, expression, reconstitution and transport function. Background in biochemistry and cellular physiology desirable. Send curriculum vitae and two letters of reference by 15 August to: **Joseph F. Hoffman, Department of Cellular and Molecular Physiology, Yale Medical School, 333 Cedar Street, New Haven, CT 06510.** Yale University is an Equal Opportunity Employer.

PREDOCTORAL AND POSTDOCTORAL FELLOWSHIPS AVAILABLE IN TOXICOLOGY

Positions to be filled in the following areas: percutaneous absorption, cutaneous toxicology, metabolism and toxicokinetics; mechanisms of comparative toxicity; mechanisms of xenobiotic interactions; monooxygenase enzymes; molecular basis of enzyme specificity; mechanisms of tumor promotion. Applicants should submit a statement of research interests and curriculum vitae, to:

**Chairman, Toxicology Program
North Carolina State University
Box 7633
Raleigh, NC 27695**

North Carolina State University is an Affirmative Action University.

PRODUCT MANAGER

Promega Corporation, based in Madison, Wisconsin and a leading manufacturer of molecular biological products for research and industrial scientists, is seeking a talented individual for the position of Product Manager. This position has product management responsibility for Promega's existing Research Products line. Responsibilities include advertising and promotion of current products, competitive comparisons, sales aids, product line pricing and forecasts, as well as profit and loss monitoring by product. This position requires a M.S. degree or equivalent in a molecular biology related field with a minimum of 3 years of industrial experience in a product management role. Extensive travel is required. Promega Corporation offers a competitive salary, comprehensive benefits program, and a challenging environment in which to apply your professional skills. To apply, please forward a résumé and references to:

**Promega Corporation
Personnel Department
2800 South Fish Hatchery Road
Madison, WI 53711-5305**

Promega Corporation is an Equal Opportunity Employer.

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

PROJECT LEADER/SUPERVISORY RESEARCH PLANT PATHOLOGIST. USDA-FS, Southern Forest Experiment Station, is seeking a research plant pathologist to lead a team of researchers on fusiform rust, needle cast diseases (a new one with unknown causes(s)) and nursery diseases (replacement for methyl bromide). Knowledge of plant or fungal genetics and forest pathology are required. Salary range is GM-13/14 (\$39,501 to \$46,679). Information concerning the position may be obtained from: **Personnel Management, Room T-10210, USFSB, 701 Loyola Avenue, New Orleans, LA 70113.** Telephone: 504-589-3921. The USDA is an Equal Opportunity Employer.

POSITIONS OPEN

HARVARD MEDICAL SCHOOL PROFESSOR OF BIOLOGICAL CHEMISTRY AND MOLECULAR PHARMACOLOGY

Applications are invited for the position of professor of biological chemistry and molecular pharmacology, Harvard Medical School. Candidates should have strong credentials in the area of eukaryotic molecular genetics and gene regulation. Major responsibilities will include supervision of an active research program in this area and teaching of biochemistry to graduate and medical students. Applicants should submit curriculum vitae and bibliography to: **Dr. Priscilla A. Schaffer, Chairperson of the Search Committee, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.**

Harvard Medical School is an Equal Opportunity/Affirmative Action Employer. Qualified female and minority applicants are encouraged to apply.

RECEPTOR EXCITATION AND ADAPTATION

POSTDOCTORAL POSITION available 1 September 1988 to join group identifying pathways regulating the excitation and adaptation of photoreceptor outer segments, a model for many other receptor systems. Research areas include kinetic modeling, electrophysiology, and enzymological studies of permeabilized cells. Send curriculum vitae and names of three references to: **Dr. Deric Bownds, Laboratory of Molecular Biology, 1525 Linden Drive, University of Wisconsin-Madison, Madison, WI 53706.**

An Equal Opportunity Employer M/F.

RESEARCH AND POLICY ANALYSIS

Major corporation providing technical support to the U.S. Environmental Protection Agency in the area of global climate change has openings for **JUNIOR AND MID-LEVEL ANALYSTS** in the fields of:

- energy programs
- energy efficiency analysis
- alternative energy sources
- global agriculture and forestry
- climate modeling
- global tropospheric and stratospheric chemistry

Requirements: minimum of master's degree and 2 to 5 years of experience. Familiarity with economics and systems analysis is desirable.

Candidates should send a résumé to:

**The Bruce Company
Suite 410
3701 Massachusetts Avenue, NW
Washington, DC 20016**

RESEARCH ASSOCIATE. Ph.D. in physics or biophysics with 2 years of training in electron microscopy and 2 years of experience in x-ray crystallography or electron image processing to conduct research into the structure and functions of CaATPase. Ability to prepare sarcoplasmic reticulum membranes required. Forty hours per week. Salary: \$17,500. Apply to: **Employment Security Commission, 516 North Mangum Street, Durham, NC 27701** or your local Job Service Office. Refer to Job Order Number NC7103017, DOT Code 090.227-010. Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE

The Laser and Applied Technology Laboratory, Charlotte Memorial Hospital and Medical Center, invites applications for a full-time research associate position. The position will involve research in cardiovascular applications of lasers. Individuals applying should have previous experience in small animal cardiac surgery, cardiac catheterization, cardiopulmonary bypass perfusion of canines, and the use of lasers. A 2- or 4-year degree in a related field is also required. Salary range \$24,003.20 to \$36,004.80. Interested applicants should submit curriculum vitae and letters of recommendation by 15 September 1988 to:

**George Tatsis
Heineman Medical
Research Laboratory
P.O. Box 32861
Charlotte, NC 28232**
Equal Opportunity Employer

POSITIONS OPEN

RESEARCH ASSOCIATE (MANHATTAN): Applying principles of bacteriology, immunology, tissue culture techniques and detailed knowledge of the pathogenesis of rheumatic fever, researches the immunological and genetic aspects of rheumatic fever. Researches relationship between streptococcus bacterium and rheumatic fever to develop a diagnostic test to predict how children are susceptible to rheumatic fever. Requirements: Ph.D. in bacteriology/immunology plus 1 year of experience on job. Salary \$23,000 per year, 40 hours per week. Send résumé in duplicate to: **RG #309, Room 501, One Main Street, Brooklyn, NY 11201.**

RESEARCH ASSOCIATE: BIOPHYSICIST/PHYSICIST with knowledge of biological macromolecules needed to participate in NIH-supported study aimed at determination of molecular structure of lipid: protein systems. Experience in dealing with x-ray and neutron diffraction results required. Please send curriculum vitae and three letters of recommendation by 1 October 1988 to: **Dr. Leonard J. Banaszak, Department of Biological Chemistry, Washington University School of Medicine, Box 8094, St. Louis, MO 63110.** Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE POSITION available immediately to conduct research on ocular surface epithelium. Position involves establishing immortalized or tumor cell lines representative of certain epithelial phenotypes and using the cells to study the structure, function, and regulation of ocular specific components. Work will be conducted in collaboration with **Drs. John R. Hassell, Richard A. Thoft** and other members of the Department of Ophthalmology, University of Pittsburgh School of Medicine and The Eye & Ear Institute. The work will utilize both clinical and basic resources. Applicants should have a Ph.D., 2 years of postdoctoral experience and experience in cell culture. Familiarity with immunological techniques, molecular biology, chromatography and virology desirable. Send curriculum vitae, a brief statement of research interests, and three letters of reference to: **Mary Ann Masullo, Administrative Coordinator, The Eye & Ear Institute of Pittsburgh, 203 Lothrop Street, Pittsburgh, PA 15213.**

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

RESEARCH ASSOCIATE POSITION available immediately for Ph.D. to study the molecular biology and regulation of the kidney vacuolar H+ATPase. Background in either recombinant DNA work or in protein purification required. [Recent work: see *PNAS* 85, 3004 (1988); *JBC* 262, 15780 (1987); *Nature* 331, 622 (1988).] Excellent salary and comprehensive benefit package. Send curriculum vitae and names of three references to: **Dr. Stephen Gluck, Jewish Hospital/Washington University School of Medicine, 216 South Kingshighway, St. Louis, MO 63110.**

RESEARCH Ph.D.

Immediate opening for Ph.D. with interest in basic and clinical research work in cardiac physiology, electrophysiology/biochemistry. The successful candidate should have interest and experience in cardiovascular animal research. Experience in handling various biochemical techniques like HPLC, RIA, spectrophotometry desirable. This challenging position offers opportunity for growth in clinical as well as basic cardiovascular research. Winthrop-University Hospital is a 533-bed teaching affiliate of SUNY, Stony Brook School of Medicine, offering competitive salary, comprehensive benefit package and a professional working environment. The institution has state-of-the-art animal research, electrophysiology, invasive cardiac and cardiac surgical facilities. Send résumé or contact:

**Steven Zeldis, M.D., or Kul D. Chadda, M.D.
Winthrop-University Hospital
259 First Street
Mineola, Long Island, NY 11501**

or call: **The Human Resources Department, Telephone: 516-663-2351.**

Equal Opportunity Employer M/F/H

POSITIONS OPEN

RESEARCH ASSOCIATE wanted to join an active, pediatrically based research group working on the molecular biological aspects of skeletal tissue remodeling, in particular, gene expression in bone resorption. The successful candidate will hold a doctorate in a biological or biochemical discipline, and have 2 to 5 years of postgraduate experience in research related to the mission of the laboratory. The associate will be expected to help supervise trainees/technicians, and to undertake some independent research. Interested parties should send curriculum vitae, a description of laboratory experience, and the names and addresses of three referees to: **Dr. A. J. Kahn, Director, Pediatric Research Institute, 3662 Park Avenue, St. Louis, MO 63110. An Equal Opportunity Employer.**

RESEARCH ASSOCIATE—NEUROBIOLOGY. Position in established laboratory to study neurobiology of peripheral and central auditory and vestibular processes. Experience in receptor binding, immunocytochemistry, recombinant DNA techniques, or peptide/protein microchemistry required. Salary commensurate with experience. Duration: 2 to 3 years, renewed annually. Send curriculum vitae, representative publications, and names of three references to:

Dr. Dennis Drescher
Laboratory of Bio-otology
Wayne State University
School of Medicine
540 East Canfield Avenue
Detroit, MI 48201

Wayne State University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH POSITION available as senior staff or junior faculty, depending on qualifications. We seek an individual to work with a research group concerned with the molecular mechanism of action of steroids on ion transport in epithelia. Candidate should have experience with primary cell cultures and monoclonal antibodies to prepare immunodissected cultures. A background in membrane transport is desired but not required. Send letter of application, curriculum vitae, and names and addresses of three references to: **John P. Hayslett, M.D., Yale University, Department of Internal Medicine, 333 Cedar Street, New Haven, CT 06510.**

RESEARCH SCIENTIST: Develop non-radioactive receptor ligand binding assays animal models for studying cellular differentiation; ligand binding assays for growth-inhibitory peptides and assays studying signal transduction pathways such as protein phosphorylation—dephosphorylation and study gene expression in cells during terminal differentiation using knowledge of the following techniques: Cellular differentiation of epidermal and leukemia cells, production and characteristics of polyclonal and monoclonal antibodies, synthesis of oligopeptides and oligonucleotides using Applied Biosystems peptide and DNA synthesizers, Southern, Northern and Western blottings, gene cloning and DNA sequencing and tissue culture for human Keratinocytes.

Ph.D. in biomedical sciences with concentration in pharmacology plus 3 years of experience required. Forty hours per week; \$41,800 per year. Send résumé to: **Job Service Technical Unit, Connecticut Department of Labor, 200 Folly Brooks Boulevard, Wethersfield, CT 06109. Refer to Job Order #3024764.**

RESEARCH SCIENTIST POSITION IN MOLECULAR VIROLOGY

A position is available in the Department of Medical Microbiology and Immunology at The Ohio State University Medical Center to study the molecular biology of Epstein-Barr virus, particularly in regard to its association with nasopharyngeal carcinoma. Applicants should have a Ph.D. or M.D. degree and postdoctoral training in molecular virology. Experience with herpesviruses is preferable but not required. Salary will be dependent upon experience. Send curriculum vitae and three letters of reference to: **Ronald Glaser, Ph.D., Professor and Chairman, Department of Medical Microbiology and Immunology, The Ohio State University College of Medicine, 333 West 10th Avenue, Columbus, OH 43210. Deadline for applications is 31 August 1988. The Ohio State University is an Equal Opportunity/Affirmative Action Employer.**

29 JULY 1988



Government
of Canada

Gouvernement
du Canada

VISITING FELLOWSHIPS IN CANADIAN GOVERNMENT LABORATORIES 1989-90

The Government of Canada offers visiting fellowships in Canadian Government Laboratories to provide promising young scientists with the opportunity to work with well-established research groups and leaders in their fields. These fellowships are tenable in the laboratories of the following departments and agencies:

Agriculture Canada
Atomic Energy of Canada Limited
Communications Canada
Energy, Mines and Resources
Environment Canada

Fisheries and Oceans Canada
Health and Welfare Canada
National Defence
National Museums of Canada
National Research Council Canada

Eligibility: Applicants should have received a doctorate from a recognized university within the last five years or a master's degree followed by at least two years of research experience and a demonstrated capability to conduct independent research.

There are no citizenship restrictions. However, successful candidates who are not Canadians or permanent residents of Canada must satisfy Canadian immigration requirements.

Stipend: Fellowships have an annual value of \$28,992 plus a travel allowance.

Duration of Tenure: Appointments are made for one year; renewals for a second year are possible.

Date of Submission: The deadline for receipt of applications is December 15, 1988.

For further information, contact the:

Visiting Fellowships Officer
Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
Canada
K1A 1H5
Telephone: (613) 996-4363

Canada

ASSISTANT/ASSOCIATE RESEARCH SCIENTISTS Anti-Cancer Research

Progress in anti-cancer research is accelerating at Bristol-Myers' pharmaceutical research facility in Wallingford, Connecticut. It's a setting that encourages interdisciplinary cooperation and rewards individual achievement. The following positions are now available:

Molecular Biology/Gene Regulation

This immediate opening for a Research Assistant/Associate requires a BS/MS in biological sciences. You'll enjoy active and original participation in a research program exploring the molecular basis of cancer. The primary focus will be on identifying cis and trans-acting factors involved in regulating growth factors and oncogenes. Experience in molecular biology and/or protein purification preferred.

Molecular Biology/Immunology

The Research Associate we seek will have a BS/MS and several years experience in several of the following: cDNA cloning, DNA sequencing, mRNA analysis, eukaryotic gene expression, cell culture, or immunological techniques. You will be studying the growth regulation of lymphocytes using molecular biological approaches.

Bristol-Myers offers sustained growth, highly competitive salaries, extensive benefits and career support. Our countryside location is convenient to New Haven and Hartford, Connecticut, New York City and New England. Please send resume with salary history to: **BRISTOL-MYERS COMPANY, Pharmaceutical Research & Development Division, P.O. Box 5100, 5 Research Parkway, Wallingford, CT 06492. An Equal Opportunity Employer M/F/H/V.**



Bristol-Myers Company

Explore with us.

POSITIONS OPEN

BIOHYBRID TECHNOLOGIES INC. RESEARCH TECHNICIAN

BioHybrid Technologies is a small research corporation currently focusing on the development of an artificial pancreas composed of isolated islet cells. Responsibilities will include small animal surgery, glucose tolerance testing and pancreatic islet implantation. Must be capable of working independently and able to work flexible hours including some weekends. Sterile technique and previous tissue culture experience helpful. M.S./B.S. and relevant experience required. Send résumé, names of three references, and salary history and requirements to: **BioHybrid Technologies Inc., 910 Turnpike Road, Shrewsbury, MA 01545.**

TUFTS UNIVERSITY— MEDICAL SCHOOL SENIOR FACULTY POSITION IN PATHOLOGY JEDDAH, SAUDI ARABIA

Applicants are being solicited for a pathologist to work in Saudi Arabia under a U.S. Treasury-sponsored program in conjunction with Tufts University to provide technical assistance to King Abdulaziz University, Jeddah, Saudi Arabia. Candidate must possess an M.D. with Anatomic Pathology training, experience in diagnostic Electron Microscopy, teaching and research are desirable. The selected candidate should be able to provide high-quality teaching and training of Saudi faculty and staff and to serve as a consultant to the medical faculty and hospital personnel.

The project provides overseas allowances, housing, vehicle, educational allowance for children, round trip air fare tickets for the family, shipping of household items, and others. The appointment is for 1 year commencing 1 September 1988 or as soon after as possible, with an opportunity for renewal. Salary will be commensurate with qualifications and experience. Candidates for the position must submit a detailed résumé and three letters of recommendation to:

Martin H. Flax, M.D., Ph.D.
Professor and Chairman
Department of Pathology
Tufts University School of Medicine
136 Harrison Avenue
Boston, MA 02111

Tufts University is an Equal Opportunity Employer.

SENIOR RESEARCH POSITION DEPARTMENT OF MEDICINE HARVARD MEDICAL SCHOOL

We are seeking a molecular biologist to join a multidisciplinary laboratory investigating the regulation of cellular receptors for adhesive molecules. Applicants should have a minimum of 2 years of postdoctoral work, a strong background in recombinant DNA techniques, and evidence of scientific accomplishments. In addition to participating in existing projects, the applicant will be encouraged to develop independent research within the broad scope of cell adhesion biology. Faculty appointment and salary will be commensurate with background and experience. Send curriculum vitae, statement of research interests, and names of three references to:

Dr. Jack Hawiger
Division of Experimental Medicine
New England Deaconess Hospital
Harvard Medical School
185 Pilgrim Road
Boston, MA 02215

SENIOR SAFETY AND HEALTH SPECIALIST

The University of Florida (UF) Division of Environmental Health and Safety has an immediate opening. Duties include general laboratory safety and biosafety. UF has 1500+ research laboratories in various colleges. B.A. in environmental health or an allied field plus 1 year of experience or master degree in above mentioned area. Salary is negotiable (\$21,000 to \$35,000). Send résumé to: **Central Employment Center, 4th Floor Stadium, University of Florida, Gainesville, FL 32611** by 12 August 1988. Refer to ID #22577. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

SENIOR RESEARCH ASSOCIATE

An individual is sought to participate in an active laboratory engaged in research related to the microbiology or oral disease. The successful applicant will be responsible for a small research group in studies of the progression of the microbiota in periodontal disease. This individual will also have input into studies of the cell surface of Gram-negative anaerobes, as well as having the opportunity to undertake some independent research. Research training is essential, as well as a strong background in clinical microbiology. Must be able to work in a close group setting, and to interact in a positive fashion with others. Requires a Ph.D. or equivalent in general microbiology. Send curriculum vitae to: **Office of Human Resources/Employment, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7972.**

Equal Opportunity/Affirmative Action Employer

CONFERENCES

4th ASM CONFERENCE ON THE GENETICS AND MOLECULAR BIOLOGY OF INDUSTRIAL MICROORGANISMS 2 to 7 October 1988 Bloomington, Indiana

The conference will focus on the genetics, biochemistry, and molecular biology of industrial microorganisms, with an emphasis on both bacteria and eucaryotes. Contributed papers will be presented in poster format. For registration information and abstract forms, contact: **Meetings Department, American Society for Microbiology, 1913 Eye Street, N.W., Washington, DC 20006. Telephone: 202-833-9680.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP

Available immediately to study mechanisms involved in macrophage activation and the regulation of cytokine secretion. Research experience in signal transduction mechanisms is desirable. Send curriculum vitae to: **Dr. Donald Beezhold, Laboratory of Macrophage Biology, Guthrie Research Institute, Sayre, PA 18840.**

STAFF FELLOWSHIPS IN BIOMEDICAL RESEARCH

DHHS, PHS, Food and Drug Administration, Center for Biologics Evaluation and Research, Divisions of Bacterial Products and Biological Investigational New Drugs are seeking applications for Staff Fellowships from outstanding candidates with Medical Degrees. This program offers an initial 2-year fellowship focusing research and regulatory review efforts in the area of vaccine development. These individuals will play a vital role in the development of clinical research on new vaccines.

Candidates must have a strong background in cellular and molecular biology, immunology, and/or clinical research. These individuals will spend approximately one-half of their time with the Division of Biological Investigational New Drugs, Rockville, Maryland, learning and participating in regulatory review of new vaccine products, characterization data, plans for clinical investigation and/or marketing approval applications. The remaining one-half time will be directed towards the development of laboratory skills learning a variety of laboratory techniques, participating in one of a variety of ongoing research programs in the Division of Bacterial Products, located on the campus of the National Institutes of Health in Bethesda, Maryland.

Salary range for candidates with a Medical Degree is from \$24,000 to \$50,744. Salary, research support and level of responsibility are commensurate with education and experience. *Applicants must be U.S. citizens or resident aliens eligible for citizenship within 4 years.*

Interested candidates should send a current curriculum vitae and bibliography to: **FDA, Center for Biologics Evaluation and Research, Building 29, Room 114-P, 8800 Rockville Pike, Bethesda, MD 20892.** For further information, call: **Ms. Boyer or Ms. Hutchison on 301-496-5394.** *FDA is an Equal Opportunity Employer.*

FELLOWSHIPS

University of Michigan: **POSTDOCTORAL FELLOWSHIP** available for recent Ph.D. or M.D., Ph.D. in immunology or relevant related field with expertise in immunoglobulin genetics and protein expression. Specific project involves cloning, modifying and expressing DNA for a murine monoclonal antibody with high-level reactivity with many carcinomas, for eventual targeted cancer therapy. Multidisciplinary laboratory with support available at various levels for the proposed work. For M.D. applicants, program may be tailored to allow for eventual board certification in nuclear medicine. Opportunity greatest for the venturesome. Please send curriculum vitae and names of two references to: **Richard L. Wahl, M.D., Division of Nuclear Medicine, University of Michigan Medical Center, Ann Arbor, MI 43109-0028.** *Applicants must be U.S. citizen or permanent resident. The University of Michigan is a Nondiscriminatory, Affirmative Action Employer.*

FELLOWSHIPS IN EYE-IMMUNOLOGY, Vision-Immunology Center, University of Connecticut Health Center, Farmington, Connecticut. Research in ocular aspects of inflammation and repair with emphasis on cell and molecular biology, coagulation, fibrin metabolism, plasminogen activator regulation and transplantation. Ph.D., M.D. or equivalent; experience in cell or molecular aspects of inflammation, immunology or cell biology preferred. Available January 1989. Applicants must be eligible for NIH Training Grant salary support. Send curriculum vitae and requests for information to: **Dr. Donald L. Kreutzer, Vision-Immunology Center, University of Connecticut Health Center, Farmington, CT 06032.** *An Affirmative Action/Equal Opportunity Employer M/W/H.*

TRAINING PROGRAM

POSTDOCTORAL POSITIONS IN MOLECULAR BIOLOGY

A diversified, interdisciplinary **TRAINING PROGRAM** in Molecular Biology with more than 20 research teams with excellent research support. Areas of research include:

TUMOR VIROLOGY

- MMTV and B cell differentiation
- Tumor cell surface glycoproteins in mammary cancer
- SV40 and adenovirus gene expression
- Molecular virology of AIDS

ONCOGENES

- Adenovirus and heat-shock genes
- Chromosomal mapping
- Effect on cell-cell communication
- Developmental expression of oncogenes

GROWTH FACTORS

- in muscle cell development
- Polypeptide hormones
- Colony-stimulating factor, granulopoiesis and cell differentiation
- Interleukin-2 receptor

This 3-year program is designed for Ph.D., Ph.D./M.D. or M.D. candidates with academic-research objectives. M.D.'s may enter a combined molecular biology-residency program. Highly successful candidates will be encouraged to compete for independent research support and may be considered for future faculty positions. Salaries negotiable. *Open only to U.S. citizens or permanent residents.* Send curriculum vitae and references to: **Dr. Carlos Goldenberg, University of Miami School of Medicine, Department of Microbiology and Immunology, P.O. Box 016960 (R138), Miami, FL 33101.** *Affirmative Action/Equal Opportunity Employer.*

PRE- AND POSTDOCTORAL TRAINING PROGRAM IN TOXICOLOGY

The Graduate Program in Toxicology at the University of Mississippi Medical Center offers pre- and postdoctoral training in these areas of toxicology: pulmonary, liver, CNS, neuromuscular and synaptic transmission, endocrine and cardiovascular system. *Requires U.S. citizenship or permanent residence visa in United States. We are seeking applications from all qualified candidates and especially from the minority students.* Candidates should write to: **Dr. H. M. Mehendale, Program Director, Toxicology Training Program, Department of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, MS 39216-4505.** *Equal Opportunity Employer, M/F/H/V.*

POSTDOCTORAL FELLOWSHIPS IN CYSTIC FIBROSIS

The Cystic Fibrosis Foundation announces the availability of postdoctoral fellowships for M.D.s, Ph.D.s, and M.D./Ph.D.s interested in conducting basic or clinical research related to cystic fibrosis.

Awards will be offered through the Foundation's network of research centers or through individual applications submitted to the Foundation. Stipends for these awards are **\$30,000** (first year); **\$31,000** (second year); and **\$33,000** (optional third year).

INSTITUTIONAL AWARDS

Research areas at the centers include, but are not limited to, **ion transport, genetics, immunology, and the mechanisms of inflammation**. Participating scientists are available to serve as sponsors for postdoctoral training at these institutions.

Interested individuals should contact the following program directors to obtain application information:

Case Western Reserve University	Pamela Davis, M.D., Ph.D.	(216) 844-3267
Columbia University	Samuel Silverstein, M.D.	(212) 305-3546
Hospital for Sick Children-Toronto	Jack Riordan, Ph.D.	(416) 598-7054
Stanford University	Merton Bernfield, M.D.	(415) 723-5904
University of Alabama at Birmingham	B. R. Brinkley, Ph.D.	(205) 934-0982
University of California, Los Angeles	Larry Shapiro, M.D.	(213) 533-3751
University of California, San Francisco	Jay Nadel, M.D.	(415) 476-1105
University of Chicago	Harry Fozzard, M.D.	(312) 702-1481
University of Iowa	Michael Welsh, M.D.	(319) 335-7619
University of North Carolina at Chapel Hill	Richard Boucher, M.D.	(919) 966-1077
University of Utah	Raymond White, Ph.D.	(801) 581-4330
University of Washington, Seattle	Arnold Smith, M.D.	(206) 526-2116

INDIVIDUAL AWARDS

A limited number of individual awards are available to support high-quality applicants interested in working on CF-related projects outside of the research center network. Preference will be given to applicants expressing a long-term commitment to CF-related research. **The application deadline for individual awards is October 1, 1988.**

For further information on these opportunities, please contact the program directors listed above or Robert J. Beall, Ph.D., Executive Vice President for Medical Affairs:



6931 Arlington Road
Bethesda, MD 20814
(301) 951-4422

AAAS Publications on

Science, Arms Control, and National Security

The Verification Challenge: Problems and Promise of Strategic Nuclear Arms Control Verification. By Richard A. Scribner, Theodore J. Ralston, and William D. Metz.

An authoritative examination of strategic nuclear arms control verification. Addresses principles and tasks of verification, technology and monitoring, compliance issues, and future verification needs. 1985; 249 pp.; softcover \$18.75 (\$15.00 for AAAS members); AAAS #85-31.

1986 Colloquium Reader—Science and Security: The Future of Arms Control. Edited by W. Thomas Wander, Richard A. Scribner, and Kenneth N. Luongo. More than 40 essays by leading experts. Examines key issues in arms control and national security. 1986; 205 pp.; softcover \$8.00 (\$6.40 for AAAS members); AAAS #86-16.

1986 Colloquium Proceedings—Science and Security: The Future of Arms Control. Edited by W. Thomas Wander and Kenneth N. Luongo. The edited proceedings from the first Annual AAAS Science, Arms Control, and National Security Colloquium. 1987; 326 pp.; softcover \$15.00 (\$12.00 for AAAS members); AAAS #87-17.

The Strategic Defense Initiative: Some Arms Control Implications. By Richard A. Scribner and Jeffrey Boutwell. A concise overview of topical SDI issues. 1987 (2nd ed.); 44 pp.; softcover \$2.50 (\$2.00 for AAAS members); AAAS #87-5.

Preventing Nuclear War: Steps That Can Be Taken Now. Edited by Richard A. Scribner. A survey of recent proposals for reducing the risk of nuclear war. It includes an extensive bibliography and glossary. 1987; 80 pp.; softcover \$4.00 (\$3.20 for AAAS members); AAAS #87-10.

Strategic Nuclear Arms Control Verification: An Annotated Bibliography, 1977–1984. By Richard A.

Scribner and Robert Travis Scott. A comprehensive guide to literature that is suitable for class or research use. Cross-referenced by subject. 1985; 90 pp.; softcover \$7.50 (\$6.00 for AAAS members); AAAS #85-8.

Strategic Nuclear Arms Control Verification Terms and Concepts: A Glossary. By Richard A. Scribner and Kenneth N. Luongo. A comprehensive glossary of weapons technology, arms control, and treaty terminology. 1985; 42 pp.; softcover \$2.50 (\$2.00 for AAAS members); AAAS #85-2.

Nuclear and Conventional Forces in Europe: Implications for Security and Arms Control. Edited by W. Thomas Wander. Original essays on major issues related to European security. 1987; 220pp.; softcover \$10.00 (\$8.00 for AAAS members); AAAS #87-18.

Emerging Technologies and the Conventional Defense of NATO. By Jonathan B. Tucker. Examines the broad range of issues in the debate over high technology conventional weapons and their implications for NATO defense. 1987; 74pp.; softcover \$7.00 (\$5.60 for AAAS members); AAAS #87-20.

Strategic Anti-Submarine Warfare: Technology and Strategy. By Tom Stefanick. An overview of the technologies, operations, and implications of strategic anti-submarine warfare. 1988; 60pp.; \$5.00 (\$4.00 for AAAS members); available in Fall 1988; AAAS #87-19.

Fear of Cheating, Fear of Spying: A Videotape and Companion Guide. Prepared by Richard A. Scribner and Shelley Alpern. This 40-minute videotape addresses the politics and technology of nuclear arms control verification with a special emphasis on the current compliance controversy. 1986; \$60.00 for VHS or Beta, \$75.00 for U-matic (please specify format); AAAS #86-10.

Order from: AAAS Marketing Dept. SG, 1333 H Street, NW, Washington, DC 20005. Please specify the appropriate AAAS #(s); add \$2.00 postage & handling per order; and allow 4–6 weeks for delivery. VISA and MasterCard accepted. For shipments to CA, add applicable sales tax.

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