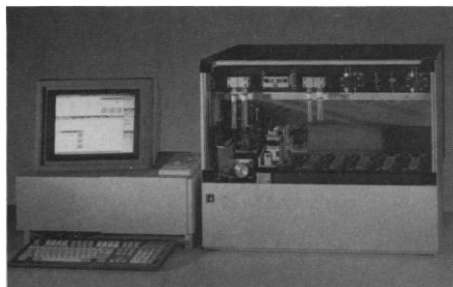


Products & Materials

2-D Protein Analysis System

The CP 2000 Chromatophoresis System performs automated two-dimensional (2-D) analyses of complex proteins. Samples are separated by high-performance liquid chromatography and then automatically transferred to a polyacrylamide gel for electro-



phoresis. The only handling required of the operator is to load ten or fewer samples and as many precast gels into the CP 2000. A single sample may be processed in less than 5 hours and ten samples in less than 15 hours. Because all operations are controlled by computer, separations are reproducible. Bionovus. Circle 515.

Nucleic Acid Sequence Software

HIBIO DNASIS 3.0 is a set of 25 software programs for collecting, analyzing, and presenting nucleic acid sequences. Data may be entered from the keyboard or directly from electrophoresis gels with a sonic digitizer. Bases may be acoustically confirmed as they are entered, either by tones or by a speech synthesizer. The software can manually or automatically combine "shotgun" fragments to construct a single sequence. The program can find initiation and termination sites on all three reading frames of a sequence and its complement and can calculate the molecular weights of translation products. Also, the program can graph guanine and cytosine content and compute the percentage of base usage. After analysis,

restriction enzyme physical maps are constructed from migration distances obtained from electrophoresis experiments. HIBIO DNASIS 3.0 operates on IBM XT or AT or completely compatible computers with 512 kilobytes of random-access memory, a hard-disk drive, and an IBM color and graphics adapter. Hitachi America. Circle 514.

Horizontal Electrophoresis Apparatus

The Isofocus device is a Peltier-cooled horizontal electrophoresis device. It was designed for isoelectric focusing gels or other horizontal gels. Temperatures between 0° and 80°C can be controlled within 0.1°C on a 25 by 12.5 cm glass surface. The Isofocus comes with two sets of electrodes. Platinum electrodes that can be positioned 4 to 12 cm apart are designed for isoelectric focusing. The other electrodes are built into two L-shaped buffer tanks that hold paper wicks for processing immunoelectrophoresis gels. Integrated Separation Systems. Circle 517.

Image-Analysis System

The IMAGE 3000 is a real-time image-analysis system that can be interfaced with a microcomputer. The user can obtain morphometric and densitometric measurements from live video images. Because the system has four 512 by 512 by 8 bit frame buffers and an on-board arithmetic and logic unit, true color images may be acquired with 24-bit precision. The IMAGE 3000's capabilities include simultaneous and automatic measurement of 15 parameters, automatic boundary tracing, user-programmable pseudocolor, densitometric calibration to known references, data storage in ASCII files, and object selection by size, shape, and density. Upper and lower size limitations may be entered for all 15 parameters, and logical equations may be written between parameters. Analytical Imaging Concepts. Circle 509.

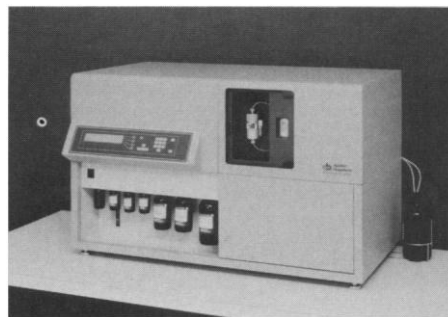
Ultralow Temperature Freezer

The model 8400 is an upright freezer that can maintain a temperature of -75°C. A microprocessor monitoring system digitally displays chamber temperature and allows the user to program upper and lower alarm limits. It also can report battery power remaining, monitor power line voltage, and check for and diagnose problems. An RS-232 port allows the model 8400 to interface

with a computer, which can then monitor temperature and alarms remotely. Temperature is maintained by two air-cooled 1/3-hp compressors. The model 8400 has a stainless steel interior. Forma Scientific. Circle 513.

Protein and Peptide Sequencer

The model 471A is a protein and peptide sequencer with a 93% sensitivity. The modular sequencer has an isocratic phenylthiohydantoin (PTH) amino acid analysis system and menu-driven software. The phenylthiocarbamyl peptide is cleaved by Pulsed



Liquid chemistry with liquid trifluoroacetic acid. Ethyl acetate extracts anilinothiazolinone, and no other solvents are needed. The PTH separation solvent recycles as an economy measure. Applied Biosystems, Foster City Biosystems Division. Circle 512.

Literature

Biochemica Information is a reference manual of analytical biochemicals that lists their characteristics, suggested applications, incubation conditions, and a bibliography. Boehringer Mannheim Biochemicals. Circle 521.

The 1988 *New Product Supplement* is a catalog update of research biochemicals, including detergents, immunoglobulin Fc receptors, and intracellular probes. Calbiochem. Circle 522.

Cell Lines & Hybridomas is a reference catalog of cell lines that tells for each the source, genetic data, bioprocesses, industrial applications, by-products, and media formulations. American Type Culture Collection. Circle 523.

Facts About Glass Made Clear is a brochure about the properties and applications of glass fiber filters. Schleicher & Schuell. Circle 525.

Sample Preparation and Affinity Products is a catalog of filtration, extraction, automation, and affinity products. Xydex, a Subsidiary of Genex. Circle 529.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

LINE CLASSIFIED ADVERTISING DEADLINES:
Thursday, 10 a.m., 2 weeks prior to issue date (mailed on issue date). For deadlines for display advertising, please contact Scherago Associates.

POSITIONS WANTED: 40¢ per word, plus \$4 for use of box number, per week. \$10 minimum, per week. Prepayment required. This rate is available only to individuals seeking jobs.

LINE CLASSIFIED (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$38.00 per line, \$380 minimum, per week (minimum charge covers one inch on a single column; one inch equals 10 lines of 52 characters and spaces per line). No charge for use of box number. No agency commission for ads less than 4 inches. No cash discount. Prepayment required for all foreign ads. Purchase orders and/or cover letter including billing address required for all other advertising.

To ESTIMATE ad cost:

Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines \times \$38.00 = approximate cost of ad. (This is an approximate cost ONLY. Allow for variation between estimated lines and actual typeset lines and the resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.)

CANCELLATION POLICY:

NOTE: Ad cancellations made after Thursday, TWO weeks prior to issue date incur a 10% production charge. Final deadline for cancellations is 12 p.m. Tuesday, ONE week prior to issue date. Cancellations must be in writing.

Send copy for all **Positions Wanted** ads and **Line Classified** ads less than 1/6 page in size (39 lines) to:

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

Scherago Associates, Inc.
1515 Broadway
New York, NY 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1333 H Street, NW
Washington, DC 20005

POSITIONS WANTED

Biophysicist. Interested in structural and molecular aspects of protein-protein and protein-DNA interactions. Experience in circular dichroism, laser light scattering, analytical ultracentrifuge, FPLC-HPLC and conventional chromatography (protein chemistry) and plasmid manipulation, with teaching interests in biophysics. Seeking position as an assistant or associate professor. Box 97, **SCIENCE**.

Ph.D. Physiology and Biophysics (1988). Seeks relevant position in PC-based company supplying computer automation products to scientific and medical communities. Experienced in biomedical research. Area: metabolic correlates of obesity and diabetes. Certified by top engineering school in computer programming and data processing. Highly motivated. Will travel. Box 99, **SCIENCE**.

POSITIONS WANTED

Experienced Writer/Editor. Translator. Versatile and imaginative; competent and cost-effective. Reports, proposals, information retrieval and verification. Manuals and specifications. Cost- and program analyses; reviews and newsletters. Fred Walter, Engineering Physicist, 35985 Row River Road, Cottage Grove, OR 97424. Telephone: 503-942-3611.

Immunologist, Ph.D. Research and development specialist in hybridoma technology, monoclonal antibodies, cancer/infectious disease immunology, and tissue culture. Broad academic and biotechnology experience in all phases of laboratory operations. Seeking group leader/supervisory position in industrial, academic, or clinical laboratory. Box 91, **SCIENCE**.

Pathogenic Microbiologist, Ph.D. Research in bacterial adherence, mucosal immunity, immunodiagnostics. Postdoctoral training and administrative experience. Seeks commercial research and development position in mid-Atlantic, Northeast. Box 98, **SCIENCE**.

Simultaneous Interpreter and Translator from Japanese publications, patents, and technical reports. P.O.B. 211063, Columbus, OH 43221.

Toxicologist, recent M.S. from St. John's University. Experienced in mammalian cell culture, spectrophotometric analysis, histochemical and immunohistochemical staining techniques and electron microscopy. Seeking position in academic/industrial laboratory in central Gulf coast of Florida. Box 100, **SCIENCE**.

POSITIONS OPEN

ACADEMIC POSITION. RESEARCH BIOCHEMIST with background in carbohydrates biochemistry with emphasis on bacterial adherence, or cell adherence in developmental biology. Additional skill/knowledge of protein biochemistry desirable. Individual will participate in a team effort with a group of researchers studying ear disease. Salary is commensurate with experience. Postdoctoral experience required. Send curriculum vitae with three professional references to: **Teresa Martin, The Ohio State University, Otological Research Laboratories, 456 West 10th Avenue, Room 4331, Columbus, OH 43210.**

The Department of Pathology of the SUNY Health Science Center at Syracuse announces a position in the Division of Clinical Pathology as **ASSISTANT DIRECTOR OF MOLECULAR DIAGNOSTICS LABORATORY** at University Hospital. Applicant must be a Ph.D. with experience or training in molecular biology. Doctoral degree must be in basic science from an institution associated with a college of medicine. Two years of postdoctoral training employing molecular biology techniques in a health setting preferred. Applications will be accepted through 1 August 1988. Submit a letter describing interest and experience in molecular diagnostics, curriculum vitae and the names of three references to: **Betty A. Forbes, Ph.D., Department of Pathology, SUNY Health Science Center, Syracuse, NY 13210.** An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR HIV AND AIDS RESEARCH

An assistant professor position is open for young scientists who have had multiple years of postdoctoral training in the virological, immunological, or molecular biological aspects of HIV research. A successful candidate should demonstrate a record of academic accomplishments and potential to continue the development into a productive researcher. He or she will interact actively with other members of the department and of the medical school. Those with strong experience in the areas of humoral and cellular immune responses against HIV infection and of the various HIV genes and proteins are especially encouraged to apply. This tenure-track position will be supported by available research funds for at least the first 2 years. Please send curriculum vitae to:

**Dr. J. L. Melnick, Chairman or
Dr. Tse Wen, Professor
Department of Virology
Baylor College of Medicine
Houston, TX 77030**

POSITIONS OPEN

ASSISTANT PROFESSOR, tenure-track. The Virginia Institute of Marine Science (VIMS), School of Marine Science, College of William and Mary, is seeking a scientist with a background in environmental organic analytical chemistry, experimental design, and environmental modeling. Applicant must be willing to work with a team on the fate and effect of toxic chemicals in aqueous environments. *Women and minority scientists are encouraged to apply.* Send three references and curriculum vitae by 1 July 1988 to: **Professor W. G. MacIntyre, Search Committee, VIMS, Gloucester Point, VA 23062.** Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR—INSECT PEST MANAGEMENT. (Research/Extension). Tenure-track. Long Island Horticultural Research Laboratory, Riverhead, New York. Duties include research (70%), extension (30%); emphasis on biology and management of insect pests on vegetables and other commodities of importance to Long Island Horticulture. Full position description available. Qualifications include Ph.D. in entomology or related discipline with training in insect pest management. Forward: (i) letter describing qualifications and interest, (ii) curriculum vitae, (iii) list of publications (include reprints), (iv) transcripts (post-secondary education), (v) names and addresses of three references to: **R. A. Morse, Chair, Department of Entomology, Cornell University, Comstock Hall, Ithaca, NY 14853-0999.** Application deadline is 1 August 1988. *Cornell is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF CINCINNATI COLLEGE OF MEDICINE

ASSISTANT PROFESSOR—Position available in the Liver Study Unit, Department of Medicine, involving isolation of hepatic membrane transport proteins and cDNA cloning. Ph.D. degree and postdoctoral research required. Experience with protein purification, monoclonal antibody and molecular biologic techniques desirable. Send curriculum vitae and names of three references to: **Bennett L. Blitzer, M.D., Director, Liver Study Unit, University of Cincinnati College of Medicine, 231 Bethesda Avenue (Mail Location 594), Cincinnati, OH 45267.**

ASSISTANT PROFESSOR, tenure-track. The Virginia Institute of Marine Science (VIMS), School of Marine Science, College of William and Mary, is seeking a Ph.D. biochemist with experience in the metabolism of polynuclear aromatic hydrocarbons in fish. Applicant must be willing to work with a team on the fate and effect of toxic chemicals in aqueous environments. *Women and minority scientists are encouraged to apply.* Send three references and curriculum vitae by 1 July 1988 to: **Professor R. H. Bieri, Search Committee, VIMS, Gloucester Point, VA 23062.** Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR MOLECULAR IMMUNOLOGY

Department of Medicine invites applications from Ph.D. and/or M.D. scientists with postdoctoral training and experience in molecular immunology to join an interactive, well-funded, multidisciplinary group of investigators conducting arthritis related research. Although exceptional candidates in any area of molecular immunology will be seriously considered, preference will be given to scientists interested in T cell receptor genes. Generous start-up funds, technical support and well equipped research facilities will be provided and a joint appointment in a basic science department is possible. The University of Tennessee is in an expansive phase with a major commitment to basic research. State-supported Molecular Resource Center, well-equipped with state-of-the-art instrumentation needed for molecular biology research is freely available to all faculty. This is a unique opportunity for a new investigator to develop an independent career in a supportive environment. Send applications including curriculum vitae and names of three references to: **Dr. Rajendra Raghov, VA Medical Center, 1030 Jefferson Avenue, Memphis, TN 38104.** The University of Tennessee is an Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR. Columbia University, Department of Pathology at the College of Physicians & Surgeons, invites applications for tenure-track appointments. Applicants should have a Ph.D. or M.D. and 2 years of postdoctoral research experience. The successful candidate will be expected to establish a strong independent research program and to participate in medical and graduate teaching. The field of research is open, but applicants with an interest in the cell and molecular biology of cell surface receptors are especially encouraged. Applicants should send a complete curriculum vitae, representative recent reprints, a description of future research plans, and the names and addresses of three references to: **Dr. Michael L. Shelanski, Chairman, Department of Pathology, Columbia University, 630 West 168th Street, New York, NY 10032.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

The Department of Microbiology, Immunology and Parasitology seeks candidates for a tenure-track position as **ASSISTANT PROFESSOR OF BACTERIOLOGY.** Appointment at a higher level may be possible for an exceptional candidate. The successful applicant will be expected to develop an independent, competitively funded research program focusing on bacterial diseases of animals and to teach veterinary and graduate students. Applicants should have a Ph.D., D.V.M./Ph.D. or equivalent. Postdoctoral experience is preferred and expertise in contemporary technology is required. This position is part of a major commitment by the department to apply the modern approaches to infectious disease research.

Applications including curriculum vitae and the names and addresses of three referees should be sent to: **Dr. John Timoney, Chairman of the Search Committee, Department of Microbiology, Immunology and Parasitology, NYS College of Veterinary Medicine, Schurman Hall, Cornell University, Ithaca, NY 14853-6401,** by 15 August 1988. Telephone inquiries will be welcomed: 607-253-3385.

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

ASSISTANT/ASSOCIATE OR FULL PROFESSOR of Soil Microbial Ecology in the Land, Air and Water Resources Department, University of California, Davis. The tenured or tenure-track position is available 1 December 1988 as an 11-month teaching and research appointment. Applicants are expected to have a Ph.D. in soil microbiology or a closely related field and a strong background in ecology. Experience with soil, soil-plant systems, residue management, or surface materials is essential. Teaching responsibilities include an undergraduate lecture and laboratory course in soil microbiology, a graduate course in the applicant's field, and advising. The successful candidate is expected to develop a research program encompassing basic and applied aspects of soil microbiology and microbial ecology. Submit a résumé; official undergraduate and graduate academic transcripts; statements of research and teaching interests and experience; copies of publications, in-press and submitted manuscripts; a summary or abstract of the Ph.D. dissertation; and names, addresses, and telephone numbers of at least three references to: **R. J. Zasoski, Soil Microbial Ecologist Search Committee Chair, Department of Land, Air, and Water Resources, University of California, Davis, CA 95616.** To ensure consideration applications should be received by 1 September 1988. *An Affirmative Action/Equal Opportunity Employer.*

The Children's Mercy Hospital in Kansas City, Missouri, is searching for a **CANCER PHARMACOLOGIST.** Our hospital is a 167-bed pediatric acute care center and is affiliated with the University of Missouri. This faculty position would be at an assistant or associate professor level. Responsibilities include monitoring chemotherapy levels in order to determine optimum treatment and perform research in cancer pharmacology. Laboratory and technician support provided. Qualified applicants will need to prove research accomplishments and evidence of independent research. Submit curriculum vitae to: **Dr. Arnold Freeman, Professor: Chief, Section of Hematology/Oncology, The Children's Mercy Hospital, 24th at Gillham Road, Kansas City, MO 64108.**

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHARMACOLOGY

A tenure-track faculty position of assistant professor is available in the Department of Pharmacology, University of California, Los Angeles (UCLA), for an individual with strong promise for research and teaching in the area of molecular mechanisms of drug action. Applicant should have significant postdoctoral research accomplishments, a solid background in molecular pharmacology, and the ability to respond to new challenges. Appointee is expected to establish a strong research program and effectively educate medical and graduate students in molecular pharmacology. Send curriculum vitae, bibliography, summary of professional accomplishments and goals, and names of three references to: **Chair, Search Committee, Dr. Louis J. Ignarro, Department of Pharmacology, UCLA School of Medicine, Center for the Health Sciences, Los Angeles, CA 90024.** *An Affirmative Action/Equal Opportunity Employer.*

BIOLOGIST OR PHYSICAL OCEANOGRAPHER

The Harbor Branch Oceanographic Institution (HBOI) is seeking to fill an entry-level position on the Resident Scientific Staff of the Division of Marine Sciences. Applicants should have 2 years of postdoctoral experience in at least one of the following areas of marine science: Microbial ecology, comparative animal physiology, deep-sea ecology, coral reef ecology, or blue-water physical oceanography. Research areas that involve the use of HBOI's unique resources, particularly the Johnson-Sea-Link submarines, will be given special preference. This is a full-time research position with some internal support. The chosen candidate is expected, however, to aggressively pursue external research funding. Interested applicants should send a letter outlining research background and current research interests, together with curriculum vitae and the names of three references to: **G. R. Harbison, Director, Division of Marine Sciences, Harbor Branch Oceanographic Institution, 5600 Old Dixie Highway, Ft. Pierce, FL 34946.** Application deadline: 31 August 1988. *The Harbor Branch Oceanographic Institution is an Equal Opportunity Employer.*

CELL BIOLOGIST: The Department of Neurology, Columbia University, seeks cell biologist at assistant professor level to develop novel cell lines for potential use in neural transplantation as part of multidisciplinary research effort in Parkinson's disease and Alzheimer's disease. Applicants must have M.D. or Ph.D., minimum of 2 years of postdoctoral research experience, and ability to obtain extramural funding. Send curriculum vitae and names of three references to: **Dr. Robert E. Burke, Neurological Institute, 710 West 168th Street, New York, NY 10032.** *Columbia University takes Affirmative Action to ensure Equal Opportunity.*

CHAIRPERSON, DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS: The University of Mississippi Medical Center invites nominations for the position of professor and chairperson of the Department of Physiology and Biophysics. Candidates should have extensive teaching experience and be established investigators with a record of scholarly contributions and participation in appropriate professional organizations. Candidates with administrative background are preferred. The Medical Center in Jackson is Mississippi's only academic health center. There are four health professional schools on the campus—Schools of Medicine, Nursing, Health Related Professions and Dentistry; graduate programs in the medical sciences; and the 541-bed University Hospital, teaching hospital for all programs. The Department of Physiology and Biophysics has campuswide teaching responsibilities. The department is particularly noted for its research in cardiovascular, renal and endocrine physiology and for its quantitative approach to physiology, especially in the application of control systems analysis and computer simulation of physiological mechanisms. There are also active research programs in the areas of cellular, respiratory and neurophysiology. Nominations for the position should include the nominee's name, curriculum vitae, and names and telephone numbers of three references, and should be addressed to: **I. K. Ho, Ph.D., Chairman, Search Committee, c/o the Department of Pharmacology and Toxicology, the University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505.** Application deadline is 1 August 1988.

POSITIONS OPEN

CELL BIOLOGIST/NEUROSCIENTIST: Tenure-track assistant professorship. Research interests should be in cellular and molecular aspects of neuroscience or development biology. Applicants must have or develop a strong research program with extramural research support. The Medical Center has National Biomedical Research Technology Resource (Electron Microscopy), including TEM, SEM and IVEM and multidisciplinary programs in molecular biology and molecular genetics and in cell biology. Teaching responsibilities will be in a team-taught medical gross anatomy course. Previous experience is preferable, but not required. Send curriculum vitae (and names of three references) to: **Craig K. Henkel, Ph.D., Chairman of Search Committee, Department of Anatomy, Bowman Gray School of Medicine of Wake Forest University, Winston-Salem, NC 27103.** *Affirmative Action/Equal Opportunity Employer.*

The Department of Pathology of the SUNY Health Science Center at Syracuse announces a position in the Division of Clinical Pathology as **CO-DIRECTOR OF CYTOGENETICS** at University Hospital. Applicant must meet the requirement for New York State Certification of Qualification as a Laboratory Director of Cytogenetics. Applications will be accepted through 1 July 1988. Submit a letter describing interest and experience in cytogenetics, curriculum vitae and the names of three references to: **Lawrence P. Gordon, M.D., Department of Pathology, SUNY Health Science Center, Syracuse, NY 13210.** *An Equal Opportunity/Affirmative Action Employer.*

DIRECTOR OFFICE OF RESEARCH SAFETY NORTHWESTERN UNIVERSITY

Northwestern University is seeking a Director for its Office of Research Safety, a centrally administered unit that has responsibilities on both the Chicago and Evanston campuses. The Office's duties encompass radiation safety, chemical, biological and rDNA safety, and hazardous waste management. The Director is responsible for program planning and development as well as maintaining regulatory compliance with applicable federal and state regulations and university policies. Candidates should have a Ph.D., or equivalent degree, in health physics, environmental health, chemistry or related field, and at least 5 years of experience, including administration, in an environmental health program or office. The Director reports to the Vice President for Research and Dean of the Graduate School through the Director of Research Services Administration. The position is available on 1 July 1988. The applicant should submit a résumé, including the names of at least three references, to: **Search Committee, Research Services Administration, Northwestern University, 633 Clark Street, Evanston, IL 60208.** *Northwestern University is an Equal Opportunity Employer.*

FACULTY POSITION BIOENGINEERING OF SENSORY MECHANISMS UNIVERSITY OF PENNSYLVANIA

The Department of Bioengineering at the University of Pennsylvania has an opening at the assistant professor level for a tenure-track position in the area of sensory mechanisms. A background suitable for participation in ongoing research programs and initiating new projects in areas of sensory signal transformations, coding, processing, and analysis including applications of computational neurosciences and neuroengineering in the visual or auditory systems is required. The Department is part of the School of Engineering and Applied Science and maintains academic programs at the bachelor's, master's and doctoral levels. Applicants must have a Ph.D. or equivalent degree in engineering or physics, and be qualified to teach both undergraduate and graduate engineering courses. Applicants should send a résumé, including names and telephone numbers of at least three references, to:

**Dr. Mitchell Litt, Chair
Department of Bioengineering
University of Pennsylvania
220 South 33rd Street
Philadelphia, PA 19104-6392**

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

POSITIONS OPEN

DIRECTOR, biology teaching laboratories. Lecture-ship. 1-year renewable, salary negotiable. Ph.D. or experienced M.S. Work with faculty, to coordinate undergraduate laboratories, develop new exercises, supervise teaching assistants and staff. Send letter describing teaching experience/interests, curriculum vitae, and names of three references by 15 July 1988 to: **Mrs. Roberta W. Ellington, Section of Biological Sciences, Northwestern University, Hogan Hall, 2153 Sheridan Road, Evanston, IL 60208.** An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN MAMMALIAN MOLECULAR BIOLOGY UNIVERSITY OF TEXAS HEALTH CENTER

The Department of Molecular Biology of the University of Texas Health Center at Tyler invites applications to fill several faculty positions in the area of mammalian gene regulation from investigators with promise of, or with a proven record of, productivity and extramural funding. Preference will be given to individuals with research interests in one of the following areas: (a) cost-transcriptional regulation of gene expression (b) regulation of gene(s) important for the synthesis of extracellular matrix components, or (c) to scientists applying the techniques of molecular biology to the study of lung tissues or lung diseases. Investigators will be expected to build strong, sponsored research programs on a full-time basis, with no teaching responsibility. Salary is completely funded by the University of Texas. Rank will be dependent on research experience and peer recognition. Please send curriculum vitae, a statement of research goals, and names of three references to: **Dr. Gokul C. Das, Department of Molecular Biology or Dr. Richard G. Painter, Department of Biochemistry, The University of Texas Health Center at Tyler, P.O. Box 2003, Tyler, TX 75710.** Affirmative Action/Equal Opportunity Employer.

TWO FACULTY POSITIONS MOLECULAR BIOLOGY/BIOCHEMISTRY

The Department of Biochemistry at Indiana University School of Medicine is seeking applicants for two full-time, tenure-track faculty positions at the assistant, associate, or full professor level. Applicants should have a Ph.D., M.D. or equivalent degree and postdoctoral experience in molecular biology/biochemistry. It is expected that the new faculty will develop independent research programs with external funding in areas of molecular biology such as: regulation of eukaryotic gene expression, DNA replication, DNA-protein interactions, protein structure-function, cellular and metabolic regulation. Space and start-up funds will be provided. Faculty are involved in medical and graduate programs. Applicants should submit their curriculum vitae, a description of research plans and the names of three references to: **Dr. William Bosron, Department of Biochemistry, Indiana University School of Medicine, Indianapolis, IN 46223.** Indiana University is an Equal Opportunity/Affirmative Action Educator, Employer and Contractor.

FRUIT BREEDER. Department of Horticulture, Rutgers-The State University of New Jersey, New Brunswick invites applications for position in genetic improvement of cultivated fruit species with primary emphasis on peaches. This is a tenure-track, 12-month appointment at the assistant or associate professor level.

Appointee is expected to continue a vigorous program in obtaining new peach varieties and develop research activities related to genetic manipulation of peach genotypes. The latter could be developed in collaboration with other professionals in NJAES and the newly formed Center for Agricultural Molecular Biology. Teaching would consist of developing a graduate course in the area of genetic manipulation of plants and advising graduate students.

The candidate should have a Ph.D. with a strong background in genetic manipulation of plant species. Postdoctoral and/or graduate experience in research using modern approaches in plant genetics is preferred.

Interested persons should send, by 30 August 1988, a formal letter of application, college transcripts, curriculum vitae, synopsis of most recent research activities, and names of references to: **Dr. Gojko Jelenkovic, P.O. Box 231, Blake Hall, New Brunswick, NJ 08903.** Telephone: 201-932-8976. Rutgers University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

HEAD, Department of Chemistry and Biochemistry, Utah State University. Utah State University seeks an outstanding leader for its teaching and research programs in the Department of Chemistry and Biochemistry. The Head of the Department is the chief administrative officer with major responsibilities in administrative, budgetary, and promotion decisions. In addition to administering the department, the head will be expected to conduct a vigorous, well-funded research program. Candidates should possess an established reputation in research and have academic teaching experience. Administrative experience or demonstrated leadership potential preferred. The head will hold the rank of Professor with tenure. Interested applicants should send a letter of interest, curriculum vitae, and names and addresses of three references by 30 October 1988 to: **Professor D. L. Comins, Chairman, Search Committee, Department of Chemistry and Biochemistry, Utah State University, Logan, UT 84322-0300.** Telephone: 801-750-1627. Inquiries and applications will be kept confidential. Applications will be accepted until the position is filled. *Utah State University is an Affirmative Action/Equal Opportunity and IRCA Employer.*

HEALTH POSITIONS UNITED STATES CONGRESS

Two or more demanding, full-time **ANALYTICAL POSITIONS** currently available with congressional research agency for public policy studies.

ADOLESCENT HEALTH—Applicants should be skilled in research methods, critical literature review, and writing. Applicants should have a Master's degree plus several years of experience or a Ph.D. Direct experience and training in adolescent health and/or development issues preferred. (Ref. Job #DD-1)

NEW DEVELOPMENTS IN NEUROSCIENCE—Recent Ph.D. in biological/life sciences (preferably neuroscience). Broad background and excellent command of written and spoken English required. Experience in science writing and/or science policy desired. (Ref. Job #1C-1).

All applicants should submit curriculum vitae, salary history, and three writing samples (technical and non-technical) to: **Denise DeSanctis, Personnel Specialist, Office of Technology Assessment, U.S. Congress, Washington, D.C. 20510-8025** by COB 5 July 1988. Reference Job number. *Equal Opportunity Employer.*

Harvard University. The Department of Psychology is searching for **JUNIOR APPOINTEES** (initially for a 5-year term), beginning 1 July 1989 in the area of developmental psychology. Candidates should hold the doctoral degree by the appointment date to be eligible for consideration. A special interest in emotional processes or infant perception would be desirable. In addition, competence in psychological measurement and statistics would be an advantage. Applications should include reprints, a current curriculum vitae, and applicants should ask at least three individuals familiar with their work to write directly to: **Brendan A. Maher, Chairman, Department of Psychology, Harvard University, 33 Kirkland Street, Cambridge, MA 02138.** Applications received after 15 October 1988 may not be considered. *Applications from women and minority groups are especially welcome.*

MICROBIOLOGY CHAIRPERSON. The Saint Louis University School of Medicine is seeking a midcareer M.D. or Ph.D. investigator to head an active, well-funded, moderately sized Department of Microbiology. Current departmental research is broadly based but contains a strong core of interest in membrane and organelle structure, function, and biogenesis. The successful candidate will be expected to bring with him/her an established, funded research program and a commitment to promoting the research of other investigators. Applications from individuals with expertise and national recognition in the molecular mechanisms in pathogenesis are particularly encouraged. Previous administrative experience is desirable but not required. Nominations, letters of inquiry and applications (including curriculum vitae and the names of three referees) should be sent to: **Dr. Arnold J. Kahn, Pediatric Research Institute, 3662 Park Avenue, St. Louis, MO 63110.** An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

MARINE LABORATORY DIRECTOR

Bigelow Laboratory for Ocean Sciences wishes to fill the position of Director of the Laboratory before 1 January 1990. Candidates should be Doctorate level marine scientists with strong records of research in oceanography.

Nominations and applications, with the names of three references, should be sent to: **Mr. Robert M. Kidd, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME 04575.** Telephone: 207-633-2173. Closing date for applications is 1 September 1988. *An Equal Opportunity Employer.*

NEUROBIOLOGISTS. Department of Anatomy and Neurobiology has immediately available two tenure-track positions at the assistant professor level. Candidates with experience in current cellular and molecular approaches to problems in neurobiology of development, reproduction, regeneration, aging, and in neuroendocrinology (especially control of secretory processes of pituitary cells) are preferred. Excellent opportunities exist for research collaboration with endowed Centers for Research in Aging and Cancer, and a Magnetic Resonance Imaging facility. Ph.D. degree and 2 years of postdoctoral research training required, as well as a strong commitment to research. Contribution to team-taught neuroanatomy or gross anatomy teaching and participation in department's graduate program is expected. Good start-up funding, space and competitive salaries are available. Send curriculum vitae, description of research accomplishments, summary of research plan and names and addresses of four references to: **Dr. M. B. Nikitovitch-Winer, Chair, Department of Anatomy, University of Kentucky Medical Center, Lexington, KY 40536-0084.** *Equal Opportunity/Affirmative Action Employer.*

NEUROENDOCRINOLOGY / NEUROPHARMACOLOGY: A postdoctoral research associate position is available to study the role of hypothalamic aminergic and peptidergic neurons in the regulation of pituitary hormone secretion. Interested candidates should send their curriculum vitae, and the names and addresses of three references to: **Dr. Kenneth Moore, Department of Pharmacology/Toxicology, Michigan State University, East Lansing (MSU), MI 48824.** MSU is an Affirmative Action/Equal Opportunity Institution.

NEUROSCIENCE RESEARCH ASSISTANT. Develop computerized data base on epilepsy; clinical research in epilepsy, brain stimulation and neuroendocrinology; and research, writing and editing of research reports and grant applications in Philadelphia hospital. Required are an M.D., Ph.D. or equivalent degree in medical science with neurology subspecialty; excellent medical research and writing skills; clinical research experience; and ability to interact with patients in a research context. Salary \$20,000; 40 hours per week. *Equal Opportunity Employer.* Reply with résumé to: **Philadelphia Job Bank, 444 North 3rd Street, Philadelphia, PA 19123, Attention: Job Order No. 4191832.**

Ph.D. MOLECULAR GENETICIST—The Albert Einstein Medical Center, Departments of Pediatrics and Pathology, seeks a Ph.D. molecular geneticist to establish a DNA Probe Laboratory, initially directed toward hematologic malignancies, certain solid tumors and the fragile X syndrome for both service and research purposes. Other doctorally directed contiguous laboratories include cytogenetics, molecular and cell biology, developmental biology and immunology. Salary and academic appointment at Temple University commensurate with experience. Please mail curriculum vitae and three references to: **Dr. Peter Mamunes, Chairman, Department of Pediatrics, or Dr. I. Daskal, Chairman, Department of Pathology, Albert Einstein Medical Center, York and Tabor Roads, Philadelphia, PA 19141.**

PLANT MOLECULAR BIOLOGY

One or two **POSTDOCTORAL POSITIONS** available July 1988 for mutational analysis of cereal genes in transgenic rice plants. A Ph.D. in plant molecular biology, biochemistry, genetics, or with experience in recombinant DNA technique or cereal protoplast regeneration preferred. Salary \$24,000 per year. Send résumé to: **Dr. Norimoto Murai, Department of Plant Pathology and Crop Physiology, Louisiana State University, Baton Rouge, LA 70803.** Telephone: 504-388-1380.

An Equal Opportunity Employer

COMPUTATIONAL DRUG DESIGN

Applications are invited from Ph.D. level computational chemists interested in joining exciting receptor-based drug design projects at our laboratories in La Jolla, California. We seek talented scientists experienced with modern computational and graphic techniques. Successful candidates must be willing to interact with colleagues in X-ray crystallography, organic synthesis, biochemistry, and molecular biology.

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Dr. Russell Bacquet



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Pharmaceuticals, Inc.

11025 North Torrey Pines Road
La Jolla, California 92037

MEDICAL AND SENIOR STAFF FELLOW

The Laboratory of Clinical Studies, National Institute on Alcohol Abuse and Alcoholism, Public Health Service invites applications for two Fellowship positions to study the patho-physiology, psychobiology and molecular biology of alcoholism and its complications. Unique opportunity to become an active member of a multidisciplinary research team working with a 10 bed unit and outpatient clinic. State-of-the-art equipment and experienced technical support available. These positions are that of a Medical and Senior Staff Fellow with a salary range of \$32,000.00 to \$49,000.00 per annum commensurate with qualifications and are located on the National Institutes of Health campus in Bethesda, MD. Interested candidates must be board certified or eligible internists, neurologists or psychiatrists, who are U.S. citizens or permanent residents. Position information and qualification requirements may be obtained by contacting: Markku Linnoila, M.D., Ph.D., Building 10, Room 3B-19, 9000 Rockville Pike, Bethesda, MD 20892, telephone number 301/496-9705. Submit Curriculum Vitae and names of three references to Dr. Linnoila. The positions are now available.

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GENETICIST

Smith College seeks a broadly based, doctoral level geneticist for a 3-year, possibly renewable, assistant professor, non-tenure-track appointment to begin January, 1989. Level of appointment may be negotiated commensurate with experience. Minority applicants are strongly encouraged to apply. Duties include teaching undergraduate genetics as well as participating in other departmental offerings, and maintaining an active research program in which undergraduates may participate. Smith College, an independent liberal arts college for women, provides excellent facilities for research and teaching, and for interactions with colleagues at four neighboring academic institutions. **Applicants should submit statements of teaching and research interests, curriculum vitae, and three letters of recommendation as soon as possible but no later than October 1, 1988 to V. Hayssen, Department of Biological Sciences, Smith College, Clark Science Center, Northampton, MA 01063.** Smith College is an EOE/AA Employer.



POSITIONS OPEN

PHYSICAL OCEANOGRAPHER NUMERICAL MODELER

The University of Delaware College of Marine Studies invites application for a 12-month, tenure-track faculty position in physical oceanography.

Applicants should have a Ph.D. in physical oceanography or a related field, with experience in numerical modeling of oceanic and atmospheric processes. The successful applicant will be encouraged to develop an independent research program which may include collaboration with other physical oceanographers involved in the College. The College has an active group of physical oceanographers involved in field and model studies, laboratory experimental work and historical data analysis.

Facilities available include IBM 3090 Computer running under VM/CMS and high-speed access to national super computer networks. Teaching at the graduate level will be required and the successful candidate will be expected to develop a funded research program involving graduate students.

It is anticipated that the appointment will be at the assistant or associate professor level. Applicants should send curriculum vitae, pertinent reprints, and the names of three references by 31 August 1988 to: **The Chairman of the Search Committee, Dr. Kent S. Price, Associate Dean, College of Marine Studies, University of Delaware, Lewes, DE 19958. Telephone: 302-645-4256.** The University of Delaware is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL

Position available immediately to study cell biology of normal and cataractous lenses. The candidate must have Ph.D. in cell biology or related field with expertise in electron microscopy. Send curriculum vitae and letters of references to: **Dr. M. Bagchi, Department of Anatomy/Cell Biology, School of Medicine, Wayne State University, Detroit, MI 48201.**

Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL ASSOCIATE position available to participate in studies of the molecular mechanisms of muscle contraction. Training or experience in biophysics, physiology, biology, or biochemistry will be advantageous in this position. Preference will be given to applicants with experience working with smooth, cardiac, and/or skeletal muscle preparations. Excellent research facilities and fringe benefits. Send curriculum vitae with names and telephone numbers of three references to: **Dr. Masataka Kawai, The University of Iowa, Department of Anatomy, Iowa City, IA 52242.** The University of Iowa is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW to work on the molecular biology of activation genes in Type I diabetes. Previous experience in immunology and recombinant DNA techniques required. Apply to: **George Eisenbarth, M.D., Ph.D., Chief Immunology Section, Research Division, Joslin Diabetes Center, One Joslin Place, Boston, MA 02215.** An Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP IN MOLECULAR MECHANISMS OF VISION

A postdoctoral position will be available this fall to participate in ongoing studies on molecular mechanisms in vertebrate vision. In particular, the experimentation will focus on the immunology and molecular biology of critical biochemical elements in the visual cycle which govern the ability to see in the dark. The most important of these elements is the recently discovered retinol isomerase which completes the visual cycle and provides the chromophore for rhodopsin. A background in biochemistry and/or molecular biology would be desirable. The position will be available as of September, 1988 but a later starting date is possible. Please send curriculum vitae and two references to:

Dr. Robert Rando
Department of Biological Chemistry and
Molecular Pharmacology
Harvard Medical School
250 Longwood Avenue
Boston, MA 02115

POSITIONS OPEN

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE POSITION in neuronal transplantation and regeneration studies involving the mammalian visual system with particular emphasis on photoreceptor cell rescue in dystrophic animal models. A 2-year position with an option for an additional year will be available during June to September 1988 for a candidate who has extensive training in retinal research with particular emphasis in neuroanatomical and immunohistochemical techniques at the light and electron microscopic levels. Starting date and salary negotiable. Send curriculum vitae and names of three references to: **Dr. James E. Turner, Department of Anatomy, Bowman Gray School of Medicine, Wake Forest University, 300 South Hawthorne Road, Winston-Salem, NC 27103.** Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION: Studies on the structure and function of vertebrate retinal rod photoreceptor disc and plasma membrane proteins using monoclonal antibodies in conjunction with biochemical, immunocytochemical and molecular biology techniques. Recent Ph.D. with some experience with proteins is preferred. Send curriculum vitae and three letters of reference to:

Dr. Robert S. Molday, Department of Biochemistry
University of British Columbia
Vancouver, B.C., Canada V6T 1W5
An Equal Opportunity Employer

THE UNIVERSITY OF CALGARY POSTDOCTORAL POSITION IN BIOLOGICAL SCIENCE

POSTDOCTORAL POSITION available immediately to study protein secretion and regulation of gene expression in *Bacillus subtilis*. Experience in protein biochemistry, molecular biology and/or genetics desirable. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. Applicants should send curriculum vitae and three letters of recommendation to: **Dr. S.-L. Wong, Department of Biological Sciences, The University of Calgary, Calgary, Alberta, T2N 1N4 Canada.**

POSTDOCTORAL POSITIONS EUKARYOTIC MOLECULAR BIOLOGY NORTHWESTERN UNIVERSITY

Positions available in two laboratories addressing problems in the control of mammalian cell growth and genetic expression. Competitive salary and fringe benefits provided.

Lester F. Lau: Structure, function, and expression of a set of newly identified growth factor inducible genes including potential transcription regulators [PNAS 84, 1182-86 (1987); PNAS 85, 1487-91 (1988)].

Richard C. Scarpulla: Characterization of *cis* and *trans* regulatory elements mediating hormonal and developmental control of respiratory cytochrome c genes [Mol. Cell. Biol. 8, 35-41 (1988); J. Biol. Chem. 263, 6791-96 (1988)].

Send curriculum vitae and three letters of recommendation to investigator of interest in: **The Department of Molecular Biology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.**

POSTDOCTORAL POSITIONS UNIVERSITY OF COLORADO

Postdoctoral positions to carry out training and research in areas of pharmacology, behavior, quantitative and molecular genetics are available at the University of Colorado, Boulder, or at the Medical School in Denver. Research is carried out at the molecular, cellular, behavioral, social or clinical level on actions of exogenous chemicals in biological systems especially with drugs of abuse and alcohol.

Stipends are standard NIH level (\$16,000 up) plus benefits. Applicants must be U.S. citizens or permanent residents. Send letter, curriculum vitae and three letters of recommendation to:

Richard A. Deitrich, Ph.D.
Department of Pharmacology
UCHSC
4200 East 9th Avenue, C236
Denver, CO 80262

The University of Colorado is an Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available approximately 1 August 1988 for research in molecular and cellular biology of growth control and oncogenic transformation in serum-free derived embryo cells [Science 236, 200 (1987)]. Applications accepted through 15 July 1988. Please send curriculum vitae with names of three references to: **Dr. David Barnes, Department of Biochemistry and Biophysics, Oregon State University, Corvallis, OR 97331.** OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973. OSU has a policy of being sensitive to the needs of dual-career couples.

POSTDOCTORAL POSITION available July 1988 for Ph.D./M.D. specializing in neuropharmacology-physiology. Experience required in cerebral dialysis and/or push-pull perfusion with background desired in chemical separation and analysis of catecholamines and other neurotransmitters. Send curriculum vitae and three letters of recommendation by 15 July 1988 to: **Dr. R. D. Myers, Department of Pharmacology, East Carolina University, Greenville, NC 27858.** Federal law requires proper documentation of identity and employability at the time of employment. It is requested this documentation be included with your application. Affirmative Action/Equal Employment Opportunity.

GLYCOPROTEIN/CARBOHYDRATE BIOCHEMIST

Postdoctoral position available immediately, for a Ph.D. trained in glycoprotein and/or carbohydrate biochemistry to study the role of glycoprotein oligosaccharides in membrane assembly. Must have experience in HPLC and column chromatography of proteins/peptides and carbohydrates. Salary range negotiable. Send curriculum vitae and names of three references to: **Dr. Steven Fliesler, Bethesda Eye Institute, St. Louis University School of Medicine, 3655 Vista Avenue, St. Louis, MO 63110.**

A **POSTDOCTORAL POSITION** is available to study the motions and distributions of lymphocyte surface molecules during immunological events. The position involves optical methods including fluorescence photobleaching recovery and time-resolved phosphorescence anisotropy in conjunction with functional studies. Salary to \$24,000 according to experience. Send résumé and names of two references by 1 August 1988 to: **Dr. George Barisas, Chemistry Department, Colorado State University, Ft. Collins, CO 80523.**

POSTDOCTORAL POSITION available 1 September 1988 for studies on the formation, stability, and functional capacity of retinal ganglion cell projections to non-optic and other ectopic sites in the brain of the frog during optic nerve regeneration. Experience in neuroanatomical techniques, electron microscopy and/or electrophysiology desired. Candidates must have Ph.D. degree and satisfy immigration status for PHS training grant support. Send resume and letters of recommendation to: **Dr. Frank Scalia, Department of Anatomy and Cell Biology, SUNY, Health Science Center at Brooklyn, 450 Clarkson Avenue, Box #5, Brooklyn, NY 11203.** The State University of New York is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available in the Department of Neurosciences, University of California, San Diego. The successful candidate will have training in psychobiology, behavioral neurosciences with strong interest in learning and memory, strengths in animal behavioral testing, statistics, and familiarity with IBM and MacIntosh based data collection and analysis systems. The chosen fellow will collaborate on projects related to animal models of brain damage and methods to induce recovery of function. Applications received on or before 31 July 1988, will be considered. Send curriculum vitae, names and addresses of three referees, and outline of research objectives to: **Dr. Fred Gage, Department of Neurosciences, M-024, University of California, San Diego, La Jolla, CA 92093.** The University of California is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION to study the molecular basis of herpes simplex and varicella zoster virus pathogenesis utilizing unique models of primary and recurrent infection. Applicant should be a recent Ph.D. with a strong background in molecular biology. Salary range: \$21,000 to \$25,000. Submit curriculum vitae and brief description of prior research to: **Dr. Lawrence Stanberry, Division of Infectious Diseases, Children's Hospital Research Foundation (CHRF), University of Cincinnati, Elland and Bethesda Avenues, Cincinnati, OH 45229.** CHRF is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION: Available immediately for cell and molecular biologist to participate in a comprehensive study examining DNA repair mechanisms and cellular recovery processes and their relationship to radiation resistance in cultured insect cells. Emphasis will be on isolation of genetic material associated with the pronounced radioresistance. Experience in modern molecular biology techniques desirable. Please submit curriculum vitae and names of three references to: **Dr. T. M. Koval, Department of Oncology, Mayo Clinic, Rochester, MN 55905.** An Equal Opportunity/Affirmative Action Institution.

POSTDOCTORAL POSITION—Available to conduct research on molecular aspects of baculovirus pathogenesis. Investigations focus on cloning, sequencing, mode of action, and expression of virus enhancing genes. Candidates should have a Ph.D. in the area of biological science; emphasis in molecular biology and/or virology preferred. A 2 or 3-year appointment is available. Starting September 1988. Submit curriculum vitae and names of three references to: **Dr. Robert R. Granados, Boyce Thompson Institute, Cornell University, Ithaca, NY 14853.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION: ECOLOGY

Ph.D. with expertise in computer programming, data management, and statistics to collaborate in analysis of spatial and temporal variation of bird populations. Experience with avian ecology or GIS desirable. Available 1 October 1988. Send letter, curriculum vitae, and telephone numbers of references immediately to: **Dr. James H. Brown, Department of Biology, University of New Mexico, Albuquerque, NM 87131.**

POSTDOCTORAL POSITIONS at the Monell Chemical Senses Center. Interdisciplinary programs in chemical communication with close interaction between chemists and biologists. Studies involve analysis of small molecules, peptides and proteins and their role in mammalian chemical communication. A strong background in protein biochemistry and/or organic analytical chemistry, and interest in working at the interface between chemistry and biology are required. Send curriculum vitae and three letters of reference to: **Professor Amos B. Smith, Monell Chemical Senses Center, 3500 Market Street, Philadelphia, PA 19104.** An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITIONS MOLECULAR AND CELL BIOLOGY

Tumor Cell Biology Department has several funded postdoctoral positions available for investigators interested in studying signal transduction by the CSF-1 receptor (*c-fms* proto-oncogene) and its oncogene-coded (*v-fms*) counterpart. Current topics of research include: identification of "activating" mutations in the *c-fms* and *v-fms* transduction into target cells of different lineages, and biochemistry of oncogene- and receptor-mediated signal transduction. Ongoing studies emphasize interdisciplinary molecular, cell biological, and biochemical approaches, with a focus on hematopoietic systems. Previous experience in molecular and cell biology and/or biochemistry is preferred, and general familiarity with oncogenes, growth factors, and their receptors would be desirable. Minimum stipend: \$22,000 per annum plus fringe benefits. Send curriculum vitae, brief statement of research interest, and names of three referees to: **Dr. Charles J. Sherr, Department of Tumor Cell Biology, St. Jude Children's Research Hospital, Memphis, TN 38104.** Equal Opportunity/Affirmative Action Employer.

SECTION HEAD Ph.D SCIENTIST MOLECULAR IMMUNOLOGY

The division of Immunopharmacology within the department of Experimental Therapeutics at Wyeth-Ayerst Research has an immediate opening for a senior level candidate to head the Molecular Immunology section.

Responsibilities will include directing and performing radioreceptor binding assays for IL 1 to elucidate structure activity relationships, integrating biochemical and immunological data to develop a better understanding of cytokine actions and developing strategies for exploring therapeutic potential of growth factor inhibitors/antagonists, in various rheumatological disorders. This position will be responsible for the day-to-day activities of a group, and will be expected to define attainable goals in drug discovery.

Candidates should possess a Ph.D. with 3-5 years of research experience in cytokine receptors, *in vitro* and/or *in vivo*. Excellent management, supervisory and communication skills are required as well as demonstrated achievement through publications in peer reviewed journals.

Wyeth-Ayerst offers an excellent salary and benefits package along with opportunities for career advancement. Our modern laboratory facilities are conveniently located in central New Jersey. Interested candidates should forward their curriculum vitae indicating salary history to:

Personnel Manager, Dept. JC



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Princeton, NJ 08543-8000

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POSTDOCTORAL RESEARCH ASSOCIATE

Sandoz Pharmaceuticals Corporation is responsible for products that improve the quality of life. Our developments are the result of research conducted by professionals who specialize in many different fields.

The Department of Lipid and Lipoprotein Metabolism at the Sandoz Research Institute, seeks an individual with a Ph.D. degree for a research project related to the enzymatic regulation of cholesterol biosynthesis. The successful candidate will be an energetic, aggressive scientist with a strong background in the purification and characterization of membrane bound enzymes, and classical biochemistry. Research opportunities will extend into the areas of immunology and molecular biology. This is a one year industry-based position which may be extended up to two years by mutual agreement. It offers the outstanding candidate the freedom to work and publish as part of an interdisciplinary team of chemists, biochemists, and molecular biologists, in an exciting, well-supported research environment.

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**The University
of
British Columbia**

**Department of Biochemistry
and
Department of Chemistry**

NSERC – UNIVERSITY RESEARCH FELLOW

The Departments of Biochemistry and Chemistry, along with the Biotechnology Laboratory, at The University of British Columbia plan to nominate an NSERC – University Research Fellow to begin July 1, 1989 and invites applications from qualified candidates. Preference will be given to candidates whose research interests lie in the applications of NMR spectroscopy to the study of protein structure and function. NSERC – University Research Fellows must be Canadian citizens or landed immigrants. These fellows carry out research, direction of graduate students and teaching comparable to starting assistant professors.

Applications consisting of a curriculum vitae, list of publications, summary of research interests, a detailed research proposal, and the names and addresses of at least three referees should be sent **before August 1, 1988** to: **Larry Weiler, Professor and Head, Department of Chemistry, The University of British Columbia, 2036 Main Mall, Vancouver, B.C. Canada V6T 1Y6.**

Sound business and aggressive research have fueled Abbott Laboratories' success as a \$4.4 billion health care leader. One area where we continue to achieve prominence year after year is our Pharmaceutical Products Division, where we currently seek the following professional:

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**THE GRADUATE HOSPITAL
RESEARCH PROGRAM**
Philadelphia, PA

**Hulda and George McKay
Research Fellowships**

The Graduate Hospital of Philadelphia, Pennsylvania announces a call for nominations for the Hulda and George McKay Research Fellowships. Fellows will be appointed for two-year terms beginning July 1, 1989. A third year may be awarded based on meritorious performance. The purpose of the Hulda and George McKay Fellowship is to provide young investigators who recently have completed their postdoctoral training the opportunity to continue research of interest to them and concomitantly of interest to The Graduate Hospital Research Program. Areas of interest include:

- Mucosal Defense Mechanisms
- Neuropharmacology
- Pulmonary Pathology
- Regulation of Connective Tissue Synthesis
- Tumor Immunology
- Vascular Smooth Muscle Regulation and Alterations in Hypertension

Letters of nomination together with the nominee's curriculum vitae may be submitted by September 30, 1988 to:

Robert F. Lovelace, Ph.D., *Director, Research Administration*, The Graduate Hospital, One Graduate Plaza, Philadelphia, PA 19146.

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UNIVERSITY OF HAMBURG

The position (Reference No. 1124/4) of
University Professor (C 4)
for Tropical Medicine I

of the **Faculty of Medicine**
is available beginning October 1, 1988.

Responsibilities:

According to the new structural concept of the Bernhard Nocht Institute for Tropical Medicine, Department of Health Hamburg, the occupant of this position will in future at the same time be Head of a new Division of Immunology and Molecular Biology. This Division shall conduct research in the area of immunology or molecular biology of tropical infectious diseases caused by parasites, bacteria or viruses.

It is planned to create two additional university professor C4 positions for Tropical Medicine II and III, leading two further divisions of the Bernhard Nocht Institute at the same time.

From these three C4 professors, the future Director of the Bernhard Nocht Institute may be selected after 5 years (beginning 1993 for periods of 6 years).

Teaching:

8 hours per week per semester; with corresponding reduction in case of patient care responsibilities.

Conditions of Employment: According to § 15 Hamburgisches Hochschulgesetz

Applicants may be M.D.s or Ph.D.s with immunological or molecular biological orientation.

The occupant of the chair must be capable of participating in and continuing with the on-going reorganization of the Bernhard Nocht Institute.

The University of Hamburg endeavors to increase the proportion of women among the scientific personnel and wishes to emphasize that qualified women are encouraged to apply.

Applications, including curriculum vitae, bibliography and list of teaching experiences, are requested to be submitted (with above Reference No.) as soon as possible, to the **President of the University of Hamburg, Verwaltung/personelreferat-334.7-Moorweidenstr. 18, D-2000 Hamburg 13, Federal Republic of Germany**

NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE, NIH STAFF FELLOWSHIP/SENIOR FELLOWSHIP IN MOLECULAR NEUROBIOLOGY

Applications are invited from scientists having a Ph.D. and/or M.D. and up to five years postdoctoral experience to join an NINCDS/NIH intramural research laboratory that is using molecular genetic approaches to study (1) glutamate and acetylcholine receptors and (2) transcriptional control mechanisms of astrocyte and neuron specific inducible proteins. For each of these projects, one position is open. Experience in relevant aspects of molecular biology, brain cell biology or neuropharmacology is desirable. Referral of qualified minority candidates is encouraged. The initial appointment is for two years with additional extensions of up to five years possible, for a total of seven years in the program. Initial salary range is \$24,000 to \$40,000 per annum depending upon experience and qualifications. Further appointment requirements may be obtained by calling Mr. Clifford Schein at (301) 496-6334. Please arrange to send curriculum vitae, a brief statement of research interests and three names of reference including address and telephone number to:

Dr. Mark R. Brann (Project 1) or Dr. Ernst Freese, Chief
Laboratory of Molecular Biology
National Institute of Neurological and
Communicative Disorders and Stroke
National Institutes of Health
Building 36, Room 5A05
9000 Rockville Pike
Bethesda, Maryland 20892

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DIRECTOR, OCEAN ENGINEERING DIVISION

The Office of Naval Research (ONR) is seeking an outstanding individual to serve in this Civil Service position in the Senior Executive Service. Salary range is \$64,700 to \$73,400, depending on qualifications. In addition to salary, career SES appointees are eligible to compete for performance awards and bonuses.

The Director, Ocean Engineering Division is responsible for providing leadership, coordination and direction for ONR's \$16M fundamental research programs in ocean technology, coastal sciences, research facilities and remote sensing. The goal of the Division is to understand the interactions of ocean processes with man-made structures, and sensors and systems. The Division Director is the scientific administrator of ONR R&D activity in the described fields with full responsibility for staffing his/her program, establishing overall priorities and procedures, and recommending change in program objectives and policies to the Director, Ocean Sciences Directorate. The Division Director serves as the principal consultant to the Navy on developing naval applications in ocean engineering and related fields.

Candidates should possess a Ph.D. or equivalent in engineering, oceanography or physics and have significant experience in ocean engineering or a related field. Considerable experience in the administration and management of research and its application to development is also required.

Interested persons should submit a Standard Form 171, Application for Federal Employment (available at Federal Job Information Centers or from the address below) and a resume including a list of publications, to:

OFFICE OF THE CHIEF OF NAVAL RESEARCH

Civilian Personnel Division, Code 01242P, Attn: Announcement 88-45 (S)
800 North Quincy Street, Arlington, VA 22217-5000

Applications will be accepted through 19 August 1988 and must be received by that date. Applicants are requested to complete the appropriate supplemental forms. For further information and supplement forms, please call (202) 696-4705.

U.S. CITIZENSHIP REQUIRED • AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

POSTDOCTORAL POSITIONS THROMBOSIS RESEARCH

Fully-funded positions available for Ph.D. or M.D. applicants for investigations concerning the initiation and regulation of blood coagulation. Studies will concentrate on the VII-Tissue Factor pathway and its major inhibitor, LACI [*JBC* 263: 6001 (1988)] and will involve protein purification and characterization; kinetics of protease/inhibitor interactions; production of monoclonal antibodies for clinical and histochemical studies; expression and characterization of mutant recombinant proteins; and the assessment of particular interventions in animal models of thrombosis. Salary would be very competitive and commensurate with the applicant's previous training and experience. *U.S. citizenship or permanent residency status required.* Send curriculum vitae and names of three references to: **George J. Broze, Jr., M.D., Hematology Division, Washington University School of Medicine, The Jewish Hospital, P.O. Box 14109, St. Louis, MO 63178.**

POSTDOCTORAL RESEARCH INSULIN RECEPTOR STRUCTURE/FUNCTION HOWARD HUGHES MEDICAL INSTITUTE—DALLAS

Two newly-funded positions are available immediately to join an ongoing multi-disciplinary analysis (molecular genetics, biochemistry, cell biology, biophysics) of the structure and function of the two major functional domains of the human insulin receptor. Both the extracellular ligand binding and the cytoplasmic protein-tyrosine kinase domains are now overexpressed as soluble proteins in sufficient quantity for detailed biochemical and structural analysis. Applicants should submit a current curriculum vitae and three letters of recommendation to: **Leland Ellis, Howard Hughes Medical Institute and Department of Biochemistry, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9050.**

POSTDOCTORAL RESEARCH ASSOCIATE position available for Ph.D. or M.D. to study the mechanisms and pharmacology of ischemic brain damage. Experience with in vivo electro-physiological recording is desirable. Salary will be commensurate with NIH postdoctoral levels. Send curriculum vitae and at least two reference names to: **Dr. J. Victor Nadler, Department of Pharmacology, Duke University Medical Center, Box 3813, Durham, NC 27710.** If not a U.S. citizen, please indicate visa status. *Duke University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE U.S. Department of Agriculture, Agricultural Research Service, Biological Control of Insects Research Laboratory, Columbia, Missouri **BIOCHEMIST/ENTOMOLOGIST.** An interdisciplinary position to develop monoclonal antibodies and ELISAs to monitor arthropod predation on corn earworm. Tasks include characterization and isolation of proteins specific to early and middle instar larvae, hybridoma production, antibody characterization and purification, and development of ELISAs. Experience in isoelectric focusing, gel electrophoresis, and liquid column chromatography desired. Salary commensurate with experience (\$27,716 to \$43,181). For information on the research assignment contact: **M. H. Greenstone, Telephone: 314-875-5361.** For information on application procedure contact: **Janie Carr, USDA, ARS, POB, Northern Section, MWA, Building 419, BARC-East, Beltsville, MD 20305. Telephone: 301-344-4569.** Applications in response to this advertisement should be marked **#8N026.** *ARS is an Equal Opportunity Employer. Women and minority candidates are encouraged to apply.*

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately to construct, isolate and analyse cDNA and genomic clones. Applicants should have a Ph.D. in biochemistry, molecular biology, or a related field, and experience with recombinant DNA techniques. Title and salary, over a wide range, commensurate with experience. Send curriculum vitae, statement of research experience, and names of three references to: **Box 102, SCIENCE.**



Director, Arnold Arboretum

Harvard University invites applications and nominations for the position of Director of the Arnold Arboretum. The Arboretum includes a very extensive and well-documented living collection of woody plants (primarily from North America and China), a herbarium, and a library. The facilities are used to support research and education in botany, horticulture, dendrology, and other fields related to the collections. The Director reports to the President of the University and is responsible for a staff of 65.

Candidates should have a proven record of leadership and managerial skills, with a demonstrated knowledge of the care and management of botanical collections. A Ph.D. and research interests in areas related to the Arboretum's collection are highly desirable.

Letters of nomination or application should be sent no later than July 15 to the Chair of the Search Committee, Dr. Albert Nichols, Director of Administrative Planning and Policy, Holyoke Center 912, Harvard University, Cambridge, MA 02138. Applicants should include a curriculum vitae and the names and addresses of at least three references.

An equal opportunity/affirmative action employer

HARVARD UNIVERSITY

Our Spirit of Teamwork Fosters A Winning Attitude.

American Cyanamid Company's Agricultural Research Division has a long-standing and highly successful commitment to the discovery and development of products to improve worldwide crop and livestock production. We are growing rapidly and currently have the following opportunity at our laboratory and experimental farm complex ideally located near Princeton, New Jersey.

Post-Doctoral Biochemist

The Biochemistry & Physiology Group, Animal Industry Discovery and Biotechnology Department, has a post-doctoral position available for a Biochemist. This individual will join a newly formed Immunology Team concerned with identifying and establishing immunological approaches to modulating growth and body composition. The applicant should have a strong background in protein chemistry, immunochemistry and cell biology. He or she will employ monoclonal antibodies and other immunological techniques to investigate the interactions and regulation of hormones and their receptors. Collaboration with other molecular and cellular biologists both in-house and outside the company will be encouraged. We provide an opportunity to explore basic research problems in an exciting, goal-oriented and academic-like environment. Appointment is initially for one year and renewable thereafter.

American Cyanamid offers a competitive compensation and benefits package. For prompt and confidential consideration, forward your resume to the Employment Office.



American Cyanamid Company
Agricultural Research Division
P.O. Box 400
Princeton, NJ 08540

An Equal Opportunity Employer M/F/H/V.

OPPORTUNITIES TO RESEARCH AND DEVELOP NEW, IMPROVED DIAGNOSTIC PRODUCTS

As a result of new product introductions, Fisher Diagnostics, a recognized leader in clinical controls, has several openings available for Scientists within its R&D and Technical Support groups.

SR. SCIENTIST/Technical Support-Requires Ph.D. Concentration in hemoglobin chemistry preferred. Two years product development experience in an industrial environment. Function is responsible for development and product improvement of blood gas controls.

SR. SCIENTIST/R&D Coagulation Group-Requires Ph.D. in Biochemistry (or related field) and four years industrial product development with special emphasis on protein chemistry and enzyme kinetics. A strong knowledge of coagulation biochemistry as well as hands-on experience with diverse instrumentation necessary.

SCIENTIST II/R&D Coagulation Group-Requires BS in Biological Science with 3-4 years clinical laboratory experience including proficiency in instrument operation and troubleshooting. Good working knowledge of biochemistry and enzymology highly desirable. Industrial experience a plus. Will prepare and evaluate new diagnostic reagents and controls in the area of blood coagulation.

Our laboratories are based in **ORANGEBURG, NEW YORK**, located on the west side of the Hudson River...within 30 minutes of New York City. Interested candidates should forward their resume which must include salary history and requirements, **INDICATING AREA OF EXPERTISE**, in strictest professional confidence, to: **Personnel Manager, Fisher Scientific Group, Inc., Instrumentation Laboratory Division, 526 Route 303, Orangeburg, New York 10962.** An equal opportunity employer m/f/h.

Fisher Scientific Company

Instrumentation Laboratory Division

Biopharmaceutical Scientist

Procter & Gamble is seeking an entry-level biopharmaceutical scientist at Miami Valley Laboratories in Cincinnati, Ohio. This individual should have Ph.D. or postdoctoral training in pharmacology, physical pharmacy, biophysical chemistry or biochemistry.

Research experience in pharmacokinetics and physical measurements in biological systems required. Additional experience in topical drug delivery, percutaneous absorption and dermatological formulation highly desired.

Excellent communication and interpersonal skills in an interdisciplinary team environment are also important requirements.

Applicants must be U.S. citizens or permanent residents and should send resume and publication list to:

Dr. T. J. Logan Manager
Biopharmaceutical Scientist Position
THE PROCTER & GAMBLE COMPANY
P.O. Box 398707
Cincinnati, Ohio 45239-8707

An Equal Opportunity Employer

Procter & Gamble

CAREER OPPORTUNITIES in Quality Assurance- Research Operations



Hoechst-Roussel Pharmaceuticals, Inc., fast growing subsidiary of Fortune 100 Hoechst Celanese has immediate opportunities for creative problem solvers to join its Quality Assurance Department/ Research Operations.

MICROBIOLOGIST

The innovative microbiologist selected will validate aseptic processes and sterilizers, solve process problems, and develop microbiological methods. Strong interpersonal/communications skills are required for interfacing with subordinates and other departments.

Qualifications include BS or advanced degree in Microbiology with 5+ years experience in industrial microbiology. Thorough knowledge of aseptic manufacturing process, sterilization/ GMP requirements and FDA guidelines is desirable.

MICROSCOPIST

Reporting to the Manager of Microbiology, the successful candidate will be involved in particulate matter testing and identification using microscopic, chemical and automated methods. A BS degree in Biology/Chemistry or related field, along with 2-4 years laboratory experience with exposure to microscopy and automated particle size instruments is required.

ANALYTICAL CHEMIST- PHARMACEUTICAL STABILITY

You will have responsibility for analysis, troubleshooting, and statistical evaluation of data relating to the stability of experimental and marketed drug products. BS or MS in Chemistry plus minimum of 5 years experience in analytical chemistry is required; ability to work independently solving qualitative and quantitative analytical problems through a knowledge of the theory and practice of chromatographic, spectroscopic, and classical techniques. Supervisory experience is desirable.

These positions at our modern corporate complex in a pleasant suburban setting provide a competitive salary with a comprehensive fully paid benefits package.

Please submit resume WITH salary history, to: Manager, Human Resources, Section 50, Hoechst Celanese Corporation, Route 202-206 North, Somerville, NJ 08876. An Affirmative Action Employer M/F/H/V.

Hoechst Celanese

Hoechst

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Hormonal regulation of arachidonic acid metabolism. Opportunity available immediately to study hormonal regulation of eicosanoid (especially prostacyclin) production by adipocytes, endothelial cells, 3T3-L1 cells and cultured renal cells and derangements in diabetes. Candidates should have experience in cell biology, HPLC, and RIA. Send letter describing interests, curriculum vitae, and three or more references to: **Dr. Lloyd Axelrod, Diabetes Unit, Massachusetts General Hospital, Boston, MA 02114.**

POSTDOCTORAL/RESEARCH ASSOCIATE position available 1 October 1988 to study cell growth control mechanisms in epidermis and muscle tissue in developing crustacean larvae. Experience in invertebrate endocrinology or larval development is desirable. The appointment is for 1 year with annual renewal. Send curriculum vitae and names of three references to: **Dr. John A. Freeman, Department of Biology, University of South Alabama, Mobile, AL 36688. Equal Opportunity Employer, M/H.**

POSTDOCTORAL/RESEARCH ASSOCIATE IN MOLECULAR BIOLOGY

The named position is available for September, 1988 or later to study muscle gene expression in *Drosophila*. We are studying promoter and splicing function in transgenic flies and in vitro cell-free systems. Applicants must have a Ph.D. and experience in recombinant DNA methods will be favored. Starting salary is competitive. Send curriculum vitae to: **Dr. Robert V. Storti, Department of Biochemistry, University of Illinois College of Medicine, 1853 West Polk Street, Room A-312 CMW, Chicago, IL 60612.**

POSTDOCTORAL RESEARCH POSITION—funded by an NIH training grant (*therefore only for American citizens*). Available immediately for studies on the molecular mechanisms regulating gap junction gene expression and regulating gap junction channel functions. Please send curriculum vitae and references to: **Dr. Lola Reid, Department of Molecular Pharmacology or to Dr. David Spray, Department of Neuroscience, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH POSITION available in Department of Physiology immediately to study cardiac metabolism and interaction with formed elements of the blood. Experience in analytical biochemistry and cardiovascular physiology desirable but not necessarily required. Send curriculum vitae and names of personal references to: **R. Bungler, M.D., Ph.D., c/o Civilian Personnel, F. Edward Hebert School of Medicine, USUHS, 4301 Jones Bridge Road, Bethesda, MD 20814-4799. Telephone: 202-295-3523.**



Agricultural Research Service
United States Department of Agriculture

The Agricultural Research Service is seeking an innovative **POSTDOCTORAL SCIENTIST** for a challenging position in cellular immunology research at the National Animal Disease Center, Ames, Iowa. As a member of a research team investigating the cellular immune responses of cattle to *Brucella abortus* infection the incumbent will investigate the interactions between bovine lymphocytes and *B. abortus*. Particular emphasis will be placed upon those responses which are associated with regulation of cell-mediated immune responses. T-cell cloning and monoclonal antibody production experience are required as is a recent Ph.D.

The position is a temporary appointment. Salary \$27,716 (GS-11). The National Animal Disease Center is a well-equipped major research facility located in central Iowa. For additional information, contact: **Dr. Peter Canning, USDA/ARS/NADC, P.O. Box 70, Ames, IA 50010. Telephone: 515-239-8313.** For application procedures contact: **Janie Carr, Staffing Specialist, BARC-W, Beltsville, MD 20705. Telephone: 301-344-4569.**

USDA is an Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH SCIENTIST

Postdoctoral research scientist position available starting September 1988 to study the role of eicosanoids in neurotransmitter actions in vertebrate neurons. Expertise in HPLC separation of arachidonate metabolites is required and collaboration with physiologists in our laboratories will be encouraged to examine the biochemical and biophysical mechanisms underlying ion channel modulation.

Interested persons should send curriculum vitae and the names of three references to:

**Drs. Steven Siegelbaum and Lorna Role
Department of Pharmacology
College of Physicians and Surgeons
Columbia University
630 West 168th Street
New York, NY 10032**

Columbia University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL TRAINING CELL-MATRIX BIOLOGY

Postdoctoral positions are available in the area of cell biology of cell-extracellular matrix interactions. Applicants should have a recent Ph.D. in cell biology or a related field. Projects include (i) effects of proteoglycans and non-enzymatic glycosylation on vascular cell-based membrane signaling as molecular models of atherosclerosis and diabetes, (ii) molecular mechanisms controlling matrix architecture and (iii) cell-matrix interactions in morphogenesis. Send curriculum vitae and names and addresses of references to: **Drs. David E. Birk and Peter D. Yurchenco, Department of Pathology, UMDNJ—Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854-5635. An Affirmative Action/Equal Opportunity Employer. M/F/H/V.**

READER (CONTINUING) IN THE SCHOOL OF BOTANY

Following the Review of the School of Botany and upon the initiative of the Professor-Elect, **Dr. J. Pickett-Heaps**, the School seeks to appoint a **SENIOR BOTANIST** to further strengthen the teaching and research effort in systematics, taxonomy and evolution of higher plants with special reference to Australian flora. Applicants must have experience in modern approaches to systematics and evolutionary botany combined with interests over the breadth of plant diversity. The applicant will be expected to provide substantial leadership in the teaching and research programs of the School. This is a continuing appointment to commence as soon as possible after 1 January 1989.

The salary will be \$50,103 per annum. Enquiries about the position should be directed to: **Dr. P. Attiwill, School of Botany, telephone: (03) 344 5066.**

Closing Date: 1 July 1988.
Position Number: 6060020.
Further printed information regarding details of application procedure and conditions of appointment is available from **Ms. J. Poulson on (03) 344 7546.**

Applications, in duplicate, including names and addresses of at least three referees and quoting the relevant position number should be addressed to: **The Director, Personnel Service, The University of Melbourne, Parkville, Victoria, 3052. Australia.**

An Equal Opportunity Employer.

CSIRO—AUSTRALIA RESEARCH LEADER—POSTHARVEST HORTICULTURE. CSIRO Division of Horticulture is seeking a scientist with a Ph.D. or equivalent degree with experience in postharvest research on horticultural crops to lead the Division's program in Sydney, Australia. The work is multidisciplinary and requires the integration of new technologies into commercial postharvest systems. Appointment is available for an indefinite period or on a contractual basis. Salary up to A\$59,567. Duty statement and selection criteria available from: **Mr. A. Murphy, Telephone: Australia (08)2749245, Telex: AA88000, facsimile: (08)2749247.** Applications to: **Chief, CSIRO Division of Horticulture, GPO Box 350, Adelaide, SA, Australia 5001** by 4 weeks from date of publication. CSIRO is an Equal Opportunity Employer.

POSITIONS OPEN

RESEARCH ASSOCIATE. Pulmonary immunology laboratory, stressing macrophage handling of mycobacteria in human cells. Prefer Ph.D. with cellular immunology and microbiology experience. Academic setting in Washington, D.C., area. Salary competitive. Send curriculum vitae and names of three references to: **Box 101, SCIENCE.**

RESEARCH ASSOCIATE position available to use molecular biology to study metabolic regulation of amino acid catabolism in eukaryotic systems. Experience with protein purification, enzymology, and molecular biology desirable. Salary dependent on qualifications. Send curriculum vitae and references to:

**Robert A. Harris, Ph.D.
Department of Biochemistry
Indiana University School of Medicine
635 Barnhill Drive
Indianapolis, IN 46223**

Affirmative Action/Equal Opportunity Employer

RESEARCH ENGINEER to work primarily on interfacing biosystems and microprocessor-based electronics. The candidate should have a B.S. degree and background in electrical engineering or computer science with academic training in the field of biology as well. Previous experience in light microscopy and microdissection is desirable. The position is available 1 August 1988. Applications will be accepted until 15 July 1988 or until the position is filled. Letters of application, résumé and names of three references should be sent to: **University of Alabama at Birmingham Employment Office, 900 South 19th Street, Birmingham, AL 35294. Affirmative Action/Equal Opportunity Employer.**

RESEARCH/LABORATORY COORDINATOR

Full-time administrative professional position beginning September, 1988, for an individual to collaborate on EM studies (50%) and manage a research laboratory (50%). Candidate must have a B.S. or higher degree in the biological sciences, have TEM and SEM expertise, be able to supervise hourly helpers, and be able to manage a research laboratory. Research is on the biology of vertebrate taste receptors. Salary level is \$16,000 to \$22,000, depending upon level of qualifications. Send résumé and list of references by 15 July 1988, to: **Dr. Stephen D. Roper, Chairman, Department of Anatomy and Neurobiology, Colorado State University, Fort Collins, CO 80523.**

CSU is an Equal Opportunity/Affirmative Action Employer



Agricultural Research Service
United States Department of Agriculture

U.S. Department of Agriculture, Agricultural Research Service. **RESEARCH MOLECULAR BIOLOGIST/BIOCHEMIST**, Plant Molecular Genetics Laboratory, Beltsville, Maryland. ARS has two positions available to identify and characterize genes involved in the resistance response of crop plants to pathogen invasion. *Must be U.S. citizen.* Salary is commensurate with experience; \$32,567 to \$38,727 per annum. Send applications (SF171) and transcripts to: **Rose Cunningham, USDA, ARS, Personnel Operations Branch, Building 003, Room 415, BARC-W, Beltsville, MD 20705 or telephone: 301-344-3954.** Applications in response to this advertisement should be marked **8E014** and received by 1 July 1988. An Equal Employment Opportunity Employer.

RESEARCH SCIENTIST: Research and develop chemical bait for cotton-flower-eating caterpillar. Salary: \$596 per week full-time. Required: Ph.D. in entomology plus 4 years of experience in position or as research scientist in academia. Send résumé to: **Philadelphia Job Bank, Order No. 3835747, 444 North 3rd Street, Philadelphia, PA 19123.**

SENIOR RESEARCH ASSOCIATE—Position available for work on toxic effects of cyanide and their antagonism, the effects on the cardiovascular and respiratory systems will be of particular interest. Competitive salary. Send curriculum vitae to: **Dr. Arthur S. Hume, Department of Pharmacology and Toxicology, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505. Equal Opportunity Employer, M/F/H/V.**

Immunology

MEDICAL PROJECT MANAGERS

Our client, a leading French pharmaceutical organisation with a strong orientation towards biotechnology, seeks two Medical Project Managers concerned with new product development in the immunosuppression and HIV virus therapeutic categories.

Reporting to the Director of Immunology, responsibility will be for clinical development from Phase I through to Phase III in France and internationally. It will be important to prepare registration documentation to F.D.A. or European standards.

We seek medically qualified candidates specialising in immunology with relevant clinical research experience and familiar with transnational regulatory requirements.

Please write, in confidence with full personal career and salary details, and mark your application reference S 45/2276 B to:

EGOR BIOMEDICAL

8, rue de Berri - 75008 PARIS - FRANCE

EGOR

PARIS BORDEAUX LYON NANTES STRASBOURG TOULOUSE
BELGIQUE DEUTSCHLAND ESPANA ITALIA PORTUGAL UNITED KINGDOM BRASIL CANADA

Pharmacologist/ Biochemist

Procter & Gamble has 2 entry-level Ph.D. openings in the analgesic and inflammation research program at Miami Valley Laboratories, Cincinnati, Ohio. Applicants should have a Ph.D. in pharmacology, physiology, or biochemistry with 0-2 years postdoctoral experience. Experience required in neuropharmacology or inflammation including an understanding of both the *in vitro* and *in vivo* techniques used to research the mechanism(s) involved in pain transmission or inflammation. Will be responsible for both preclinical and clinical analgesic and anti-inflammatory drug research.

We offer a stimulating environment for professional growth, a competitive employment package including paid relocation, Company-paid health, dental, and profit sharing benefits.

Applicants must be U.S. citizens or permanent residents. Send resume and publication list to:

Dr. T. J. Logan

Pharmacologist/Biochemist Position

THE PROCTER & GAMBLE COMPANY

P.O. Box 398707

Cincinnati, Ohio 45239-8707

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Procter & Gamble

CORTECH, INC.

Cortech, Inc. is a pharmaceutical development company working on a number of scientific projects including the use of proteases and protease inhibitors as human therapeutics, drug-receptor interaction modeling and immune system suppression and stimulation. To address these broad areas, we are currently recruiting individuals in several scientific specialties.

CELL BIOLOGIST

This position requires at least two years of post-doctoral experience in establishing, characterizing and maintaining diverse cell lines (malignant and non-malignant) in culture. Experience in sub-cellular fractionation, light and fluorescent microscopy, protein biochemistry and molecular biology techniques will be helpful.

MOLECULAR BIOLOGIST

This position requires at least two years of post-doctoral experience in both cDNA and "shotgun" cloning techniques, amplification strategies and expression systems. Previous experience in cloning and expressing proteases, cell specific antigens or cell surface receptors is desirable.

IMMUNOLOGIST

This position requires at least two years of post-doctoral experience in cell proliferation assays, polyclonal and monoclonal antibody production, immunoaffinity purification and ELISAs. Experience in protein chemistry, immunochemistry or cell biology is highly desirable.

The successful applicants for these positions must be able to work independently in a multi-disciplinary research group in addition to leading a project team. Cortech offers a competitive salary and benefits package including opportunity for stock options. Please send C.V. to Timothy C. Rodell, M.D., Cortech, Inc. 6840 No. Broadway Suite F, Denver, Colorado 80221.

CORTECH IS AN EQUAL OPPORTUNITY EMPLOYER.

Scientist Retrovirus Studies

Genentech, Inc., a leader in the field of biotechnology, is currently seeking an individual to participate in state-of-the-art research on endogenous and exogenous retroviruses of mammalian cell lines.

The successful candidate will have a Ph.D. and postdoctoral research in the molecular biology of retroviruses with experience in recombinant DNA 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: Joyce Goulden, Human Resources Department 1464, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

Genentech, Inc.
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POSITIONS OPEN

RESEARCH OPPORTUNITIES at the National Center for Toxicological Research (NCTR)—Opportunities for faculty and postgraduates to conduct collaborative research at NCTR, a Food and Drug Administration laboratory in central Arkansas. Research efforts focus on testing the assumption used in assessing risks posed by toxic chemicals emphasizing studies in biomarkers, modulators of toxicity, and extrapolation/risk assessment. *U.S. citizenship or PRA status required.* For more information contact: **ORAU Research Program at NCTR, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-3190.** Please indicate if interested in faculty and/or postgraduate program.

A **RESEARCH POSITION** in mouse early embryology is available in NIEHS-supported research. A highly motivated Ph.D. with a background in mutagenic response of mouse oocytes and zygotes is needed by 1 September 1988. The project requires the use of cytogenetic, biochemical, and egg-transfer techniques, oral presentations, and manuscript preparation. Send résumé to: **W. M. Generoso c/o University of Tennessee Biomedical Graduate School, Oak Ridge National Laboratory, P.O. Box 2009, Oak Ridge, TN 37831-8077.** An Equal Opportunity/Affirmative Action Employer.

STAFF SCIENTIST

Ph.D. in tumor cell biology or pathology with experience in human solid tumors (cultures, lines, cell separation, lymphoid outgrowth) needed for cancer research company in Memphis, Tennessee. Two to 3 years of postdoctoral experience required, and ability to work closely with people in a clinical R/D setting.

Send curriculum vitae and salary requirement to:

**Personnel Department
Biotherapeutics Inc.
P.O. Box 1676
Franklin, TN 37065-1676**

The University of Alabama at Birmingham—Applications are invited for a **TENURE-TRACK POSITION** in the Departments of Pathology and Medicine. Candidates must have an M.D. or Ph.D. Degree, experience in immunocytometry, and an established research program in lymphocyte biology. Academic rank and salary are commensurate to the candidate's qualifications. The successful candidate will be expected to direct a service laboratory in immunocytometry, develop an investigative program, and participate in the Departmental teaching programs. Applicants should send curriculum vitae and names of references to: **Dr. Max D. Cooper, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294.** The University of Alabama at Birmingham is an Affirmative Action/Equal Opportunity Employer. Applications from women and members of minority groups are encouraged. Deadline for submission of applications: 1 September 1988.

THEORETICAL NEUROBIOLOGY

The Neurosciences Institute (NSI) invites applications for positions as **INSTITUTE FELLOWS** in Theoretical Neurobiology. The NSI supports an inhouse research program dedicated to developing experimentally testable theoretical models of neural systems. Current models include simulations of pharmacological effects on neuronal networks, the design of network automata, and analysis of visual systems. Advanced supercomputer facilities are available.

Institute Fellows are appointed for 2 years with the possibility of renewal, and receive stipends that depend on qualifications and experience. Applicants should be at the postdoctoral or assistant professor level, and must have a background in experimental or theoretical neuroscience or related fields.

The NSI is an independent organization located on the campus of The Rockefeller University in New York City. The NSI serves as the home of the Neurosciences Research Program and is an international center of study and research for distinguished visiting neuroscientists. Fellows have opportunities to use the Institute's extensive facilities and to interact with visiting scientists.

Applicants should send a short statement of research interests, curriculum vitae, and the names of three references to: **Dr. W. Einar Gall, Research Director, The Neurosciences Institute, 1230 York Avenue, New York, NY 10021.**

POSITIONS OPEN

TROPICAL RAINFOREST ECOLOGISTS

The Centre for Rainforest Studies of The School for Field Studies seeks broadly trained scientists who excel at university teaching, group leadership, and field research in ecology, animal behavior, natural resource management, or cultural anthropology. Duties: undergraduate education (field and classroom) and development of field research programs with student participation. Ph.D. and relevant rainforest experience are required. Two permanent appointments can begin as early as September 1988.

The Centre is located in the Australian tropics of northern Queensland. Send applications, in duplicate, to: **Dr. Mark Noble, Centre for Rainforest Studies, SFS, Millaa Millaa, Queensland 4886, Australia.** An Equal Opportunity Employer.

TUMOR BIOLOGY

The Department of Pathology, Henry Ford Hospital invites applications for **DIRECTOR** of the Tumor Biology Laboratory. The major focus of the laboratory is tumor invasion and metastasis, both at the clinical and basic science level. Individuals with molecular and tumor biology experience are encouraged to apply. Send curriculum vitae and summary of experience and career objectives to:

**John D. Crissman, M.D.
Department of Pathology
2799 West Grand Boulevard
Detroit, MI 48202**

**The Erna and Jakob Michael Visiting
Professorships 1989 to 1990
The Joseph Meyerhoff Visiting
Professorships 1989 to 1990
The Rosie and Max Varon Visiting
Professorships 1989 to 1990**

The Weizmann Institute of Science, Rehovot, Israel offers a limited number of **VISITING PROFESSORSHIPS** in the natural and exact sciences.

The Visiting Professorships are intended for candidates already holding the rank of full professor or equivalent and will be for a duration of 2 months to 1 year.

Deadline for submittance of completed applications is: 30 November 1988.

For further information or application forms, please contact: **The Academic Secretary, The Weizmann Institute of Science, Rehovot 76100, Israel. (Telex-972-8-381300; facsimile: 972-8-466966; Bitnet—RSMARJOR @ WEIZMANN).**

AWARDS

RESEARCH AWARDS

The International Life Sciences Institute Research Foundation (ILSI Research Foundation) announces that two awards for basic research projects in toxicology and nutrition, each of \$100,000 over 3 years, will be made in 1989. The purpose of the awards is to encourage innovative, young investigators in basic biomedical sciences to apply modern knowledge and techniques to basic problems related to comparative toxicology or specific nutritional effects on growth and development. The closing date for applications is 15 October 1988. For further information, write: **ILSI Research Foundation, 1126 16th Street, NW, Suite 300, Washington, DC 20036.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available immediately for molecular virologist/biologist to develop and use sensitive and specific nucleic acid probes to detect viruses in embryonic cells. Salary about \$29,000 Canadian. Send curriculum vitae and references to:

**Dr. W. C. D. Hare
Animal Diseases Research Institute
Box 11300, Station "H"
Nepean, Ontario K2H 8P9
Canada**

FELLOWSHIPS

POSTDOCTORAL POSITION

Project to investigate gene regulation of proteins involved in initiation of DNA replication. Involves immuno-affinity purification of DNA polymerases and cell cycle dependent regulatory proteins, molecular cloning, hybridization in situ, preparation of monoclonal antibodies, immuno-cytochemistry and flow cytometry. Begin summer or fall 1988. Contact: **Dr. Robert Bamba-ra, Box 607, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642.**

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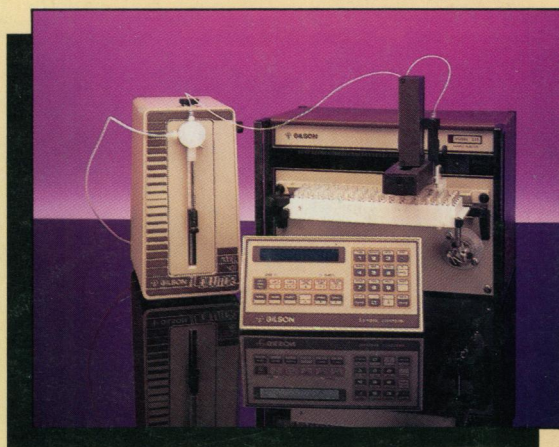
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