

thesis than review, explores the population dynamics of transposable elements.

In fact, the majority of these papers go well beyond being mere catalogs of what is known. The quality of writing is uniformly high, and each chapter follows a clear outline, most beginning with a good account of the history and the biology of the mobile element under discussion before taking up the molecular mechanisms of transposition. Considerable cross-referencing and a good index make the volume easy to use.

The main weakness of the book is the lack of a detailed introductory chapter. Some discussion of general distinctions between prokaryotic and eukaryotic elements would have been useful, and an introduction would have been the perfect place to point out the existence of conjugative mobile elements described in Murphy's chapter or to mention Hartl's warning concerning attempts to classify mobile elements in a few simple classes.

Who will find this book useful? The depth and breadth of papers make it a virtual necessity for every practicing molecular biologist, and it is almost ideal for graduate students trying to come to grips with this most fundamental aspect of cellular biology. As a bacterial geneticist I will probably find the chapters on prokaryotic systems and the chapter on genetic engineering (which includes a delightful section on "how to choose a transposon for your experiment") most directly useful, but the chapters on eukaryotic systems have proven the perfect antidote to my general intellectual laziness concerning important things I ought to know about. Three chapters deserve particular mention: Engel's chapter on *Drosophila* P-elements for its clarity, Federoff's chapter on maize elements for its sense of excitement at unraveling a wonderful puzzle, and Ajioka and Hartl's chapter on population dynamics for its thoughtful treatment of a topic that is touched on in virtually every other section of the book.

BARRY G. HALL
Department of Biology,
University of Rochester,
Rochester, NY 14627

Reprints of Books Previously Reviewed

Predation. Direct and Indirect Impacts on Aquatic Communities. W. Charles Kerfoot and Andrew Sih, Eds. University Press of New England, Hanover, NH, 1989. Paper, \$28. Reviewed 238, 93 (1987).

Tilings and Patterns. An Introduction. Branko Grünbaum and G. C. Shepard. Freeman, New York, 1989. Paper, \$26.95. Reprint of chapters 1-7, 1987 ed., reviewed 236, 996 (1987).

Books Received

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

Carnivore Behavior, Ecology, and Evolution. John L. Gittleman, Ed. Comstock (Cornell University Press), Ithaca, NY, 1989. xvi, 620 pp., illus. \$65; paper, \$25.

Cell Dynamics. M. Tazawa, Ed. Springer-Verlag, New York, 1989. 2 vols. Vol. 1, Cytoplasmic Streaming, Cell Movement—Contraction and Migration, Cell and Organelle Division, Phototaxis of Cell and Cell Organelle. viii, 193 pp., illus. \$99. Vol. 2, Molecular Aspects of Cell Motility, Cytoskeleton in Cellular Structure and Activity. viii, 157 pp., illus. \$89. *Protoplasma*, supplements 1 and 2.

Computational Aspects of Survey Data Processing. L. C. R. J. Willenborg. Centrum voor Wiskunde en Informatica, Amsterdam, 1988. viii, 154 pp., illus. Paper, Dfl. 24.20. CWI Tract 54.

Computer Presentation of Data in Science. A Do-It-Yourself Guide, Based on the Apple Macintosh, for Authors and Illustrators in the Sciences. Doig Simmonds and Linda Reynolds. Kluwer, Norwell, MA, 1988. xiv, 178 pp., illus. \$49.50.

Conceptual Issues in Environmental Archaeology. John L. Bintliff, Donald A. Davidson, and Eric G. Grant, Eds. Edinburgh University Press, Edinburgh, 1989 (U.S. distributor, Columbia University Press). x, 320 pp., illus. \$60. Based on a symposium, Oxford, U.K., Feb. 1985.

Criminal Behavior and the Justice System. Psychological Perspectives. Hermann Wegener, Friedrich Lösel, and Jochen Haisch, Eds. Springer-Verlag, New York, 1989. xx, 455 pp., illus. \$99. Research in Criminology. Based on a conference, Braunschweig, F.R.G.

Current Paleoethnobotany. Analytical Methods and Cultural Interpretations of Archaeological Plant Remains. Christine A. Hastorf and Virginia S. Popper, Eds. University of Chicago Press, Chicago, 1989. xii, 236 pp., illus. \$24.95; paper, \$9.95. Prehistoric Archeology and Ecology. Based on a symposium, 1985.

Dictionary of Astronomical Names. Adrian Room. Routledge (Routledge, Chapman and Hall), New York, 1989. vi, 282 pp. \$27.50. Reprint, 1988 ed.

Dictionary of the Environment. Michael Allaby. 3rd ed. New York, University Press, New York, 1989 (distributor, Columbia University Press, New York). vi, 432 pp. \$70.

Infinite Crossed Products. Donald S. Passman. Academic Press, San Diego, CA, 1989. xii, 468 pp. \$84.50. Pure and Applied Mathematics, vol. 135.

Information Technology and the Human Services. Bryan Glastonbury, Walter LaMendola, and Stuart Toole, Eds. Wiley, New York, 1988. xiv, 432 pp., illus. \$16.95. From a convention, Birmingham, U.K., 1987.

Inorganic Crystal Structures. B. G. Hyde and Sten Andersson. Wiley-Interscience, New York, 1989. xviii, 430 pp., illus., + plates. \$65.

Introduction to Applied Numerical Analysis. Richard W. Hamming. Hemisphere, New York, 1989. xii, 331 pp., illus. \$29.95. Reprint, 1971 ed.

Introduction to Flight. John D. Anderson, Jr. 3rd ed. McGraw-Hill, New York, 1989. xx, 616 pp., illus. \$46.95. McGraw-Hill Series in Aeronautical and Aerospace Engineering.

Progress in Catecholamine Research. Liss, New York, 1989. 3 vols. Part A, Basic Aspects and Peripheral Mechanisms. Annica Dahlström, R. H. Belmaker, and Merton Sandler, Eds. xxxvi, 613 pp., illus. \$175. Part B, Central Aspects. Merton Sandler, Annica Dahlström, and R. H. Belmaker, Eds. xxxvi, 592 pp., illus. \$175. Part C, Clinical Aspects. R. H. Belmaker, Merton Sandler, and Annica Dahlström, Eds. xxxiv, 506 pp., illus. \$165. Neurology and Neurobiology, vol. 42. From a symposium, Jerusalem, Israel, June 1987.

Seepage, Drainage, and Flow Nets. Harry R. Cedergren. 3rd ed. Wiley-Interscience, New York, 1988. xx, 465 pp., illus. \$52.95.

Self-Assembling Architecture. Joseph E. Varner, Ed. Liss, New York, 1988. xii, 276 pp., illus. \$65. From a symposium, St. Paul, MN, June 1987.

Semiconductor Physics. An Introduction. Karlheinz Seeger. 4th ed. Springer-Verlag, New York, 1989. xiv, 480 pp., illus. Paper, \$45. Springer Series in Solid-State Sciences, vol. 40.

What Is an Animal? Tim Ingold, Ed. Unwin Hyman, Winchester, MA, 1988. xviii, 189 pp., illus. \$39.95. One World Archaeology, vol. 1. Based on a congress, Southampton, U.K., Sept. 1986.

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Products & Materials

Neurophysiological Magnetic Stimulator

The D190 generates a high-intensity magnetic field pulse that can, for example, stimulate the human cerebral cortex for the recording of motor-evoked potentials. Because the ratio of surface skin current to deep nerve stimulus current is reduced compared to the ratio resulting from attaching electrodes to the scalp, the D190 is not painful for the subject. The D190 operates noninvasively by rapidly changing the magnetic field produced by its output coil. Medical Systems. Circle 515.

Detector for Liquid Chromatography

The Spectra 200 is a programmable ultraviolet-visible light absorbance detector. The user can program the microprocessor-controlled detector for wavelength changes at timed intervals, spectral scanning, gradient baseline correction, and automatic peak detection, and programs can be saved. Data are stored internally and can be reanalyzed under different assumptions. The eight-line supertwist display offers menus. Spectra-Physics Autolab Division. Circle 516.

Real-Time Color Image Analysis

The Videometric 150 image analyzer can distinguish 16,000,000 colors in an image in real time, making image enhancement usually unnecessary before analysis. Applications include the analysis and quantification of cell morphology, autoradiography, microcirculation, fluorescence analysis with single or multiple probes, and geological sample quantitation. The system corrects for uneven illumination. The Videometric 150 can measure point counts, line lengths, perimeters, areas, centroids, shape factor, and major and minor axes. It can be connected to any video source in RS-330 or RS-170

format and can accept monochrome, National Television Standard Code, or RGB input. A macro language is included for automating applications. The Videometric 150 comes with a frame buffer, a mouse, and a high-resolution RGB 12-inch color video monitor. To operate, it requires an IBM AT-compatible computer and an input source. From \$19,500. American Innovation. Circle 510.

Molecular Modeling Software

DNA/RNA BUILDER is a mouse-operated software program for molecular modeling and graphics. It can create both Dreiding and ball-and-stick models of double- and single-stranded DNA and RNA. Data are entered as a character string of G's, C's, A's, and T's, and the program accepts as many as 50 bases or 2000 atoms. The program can produce either color or monochrome output that can be pasted into word processing or paint programs. DNA/RNA BUILDER operates on Macintosh Plus, SE, and II computers; no special hardware or graphics adapter boards are needed. \$199. Atlantic Software. Circle 511.

Automated Capillary Electrophoresis

The P/ACE System 2000 is an automated high-performance capillary electrophoresis (HPCE) system. In this technique, electrophoretic separations take place in a small capillary tube, which reduces thermal gradients, convective turbulence, and sample diffusion. The P/ACE system houses each capillary in a temperature-controlled cartridge; its buffer and sample vials are sealed to prevent evaporation. Detection occurs on-column, to prevent peak broadening due to transporting the solute to an off-column detector. The system's operating software is based on Windows. Beckman Instruments. Circle 514.

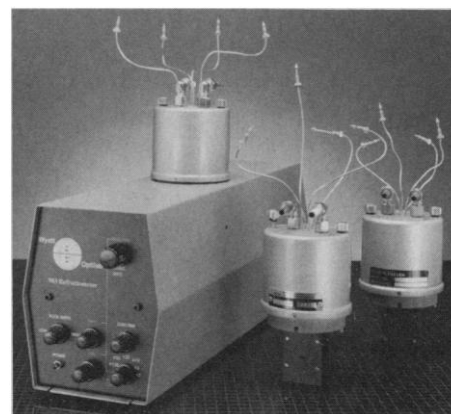
Oligonucleotide Purification Cartridges

Poly-Pak cartridges are designed for purifying synthetic oligonucleotides. The cartridges contain a purified polystyrene-divinylbenzene copolymer matrix. Because the ammonium hydroxide deprotection solution does not need to be evaporated and the wash volumes totals less than 15 ml, each cartridge can purify as much as 30 absorbance units at 260 nm in less than 15 min. The product is eluted in four drops of

aqueous acetonitrile, minimizing evaporation time. Procedures are available for purifying modified and labeled oligonucleotides as well. Glen Research. Circle 512.

Interferometric Refractometer

The model 903 is a refractive index detector for high-performance liquid chromatography. In-line, it has a sensitivity of 10^{-7} refractive index units full scale. Off-line, the 903 can determine the refractive index increment at the laser wavelengths essential for light-scattering determinations of absolute molecular weights and sizes. Unlike conven-



tional beam-deflection refractive index detectors, the 903 converts the phase angle difference between waves passing through the reference cells and waves through the sample cells into a rotation angle of a plane-polarized beam of light; this results in small refractive index differences being converted into large signals. Model 903 is insensitive to pressure and can operate at temperatures as high as 80°C. Wyatt Technology. Circle 513.

Literature

The brochure *Lasers* describes a line of ion, solid-state, dye, and ultrafast laser systems for scientific laboratories. Coherent Laser Products Division. Circle 526.

The 1989 *Product Catalog* features antiserum, test kits, immunoglobulin G fractions, and fluorescent and enzyme conjugates. Atlantic Antibodies, INCSTAR. Circle 527.

Chromatogram is a newsletter that covers high-performance liquid chromatography applications and techniques. Beckman Instruments. Circle 535.

Catalog 1989/1990 features custom DNA synthesis, DNA polymers, RNA polymers, modified DNA, adaptors, enzymes, primers, and linkers. Midland Certified Reagent. Circle 539.

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.

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Washington, DC 20005

POSITIONS WANTED

Biochemist/Cell Biologist—Ph.D. Experience: tissue culture, protein purification, HPLC/FPLC, PPAGE, PIEF, immunoblot, light and electron microscopy, animal models of human cecal/hepatic disease, immunostaining, isoenzyme analyses, lymphocyte purification, EM facility management, supervision of laboratory personnel, teaching undergraduate/postgraduate biochemistry/immunology. Seeks teaching/research position. Box 98, **SCIENCE**.

Biochemist/Cell Biologist, Ph.D. Flow cytometry, cell culture, intermediary metabolism, and enzymology experience. Pulmonary biochemistry background. Good publication and funding record. Experience in teaching undergraduate, graduate, and medical students. Seeks long-term position in academia or industry in Pacific Northwest. Box 99, **SCIENCE**.

POSITIONS WANTED

Cellular Immunologist, Ph.D. Ten years of experience in immunoregulation, animal models and genetics of autoimmune disease. Seeks challenging position in academia or industry, New Jersey/Pennsylvania. Experienced in research, teaching, grant and publication preparation. Box 100, **SCIENCE**.

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

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

M.B.B.S., Ph.D. Experienced in neuropathology of poliovirus simian nervous system, potency/field usage of viral vaccines. Enzymes radio-immunoassays hepatitis viruses/AIDS in hyperendemic regions. Seeks visiting/staff position. Box 102, **SCIENCE**.

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

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

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

Pharmacokinetic, M.A., Ph.D., M.D., 3 years of post-doctoral research, seven publications, experienced in drug delivery/testing in animals, animal surgery, working knowledge in TLC, HPLC, GC-mass spectrometry protein characterization (including sequencing) desires industrial position; will relocate and travel. Box 103, **SCIENCE**.

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

POSITIONS OPEN

ACADEMIC HEMATOLOGIST—The University of Vermont. Full-time faculty position in the Department of Medicine in conjunction with the Vermont Specialized Center of Research in Thrombosis. Candidates should have documented research performance in hemostasis and thrombosis and/or thrombolysis. Most likely, the successful candidate will be a B.E./B.C. physician in an appropriate specialty of medicine or an exceptionally qualified basic scientist. The application must provide evidence of continuing research, support, and maintenance of an independent research program. Academic rank and salary will be consistent with the applicant's qualifications. Please direct inquiries with curriculum vitae and names and addresses of three references to: **Richard Branda, M.D., Director, Hematology/Oncology, 32 North Prospect Street, Burlington, VT 05401.** UVM is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply. Applications will be accepted until the position is filled.

POSITIONS OPEN

ANALYTICAL CHEMISTRY MANAGER. Supervise chemistry staff and work in full-service laboratory with GC, GC-MS, AA's, and various other equipment. Experience with QA-QC, environmental regulations preferred. Consulting with parent corporation and other clients in Florida. Full-time, company benefits. Salary to \$45,000. Ph.D. or M.S. in chemistry. Résumé and references to: **Environmental Quality Laboratory, Inc., 1009 Tamiami Trail, Port Charlotte, FL 33953.**

ASSISTANT DIRECTOR, ACADEMIC AFFAIRS, College of Agriculture and Life Sciences; 12-month appointment with academic rank of associate or full professor; minimum of 5 years of teaching, research, and academic advising experience; previous administrative experience desirable; preference will be given to candidates with a background in life sciences. Duties include working with other members of the administrative team, student recruitment, interaction with student organizations, and other assignments appropriate to the academic office of a major college in a land-grant institution. Nominations and applications should be sent to: **Search Committee for Assistant Director—AAS, Box 7615, North Carolina State University, Raleigh, NC 27695-7615.**

Applications should include a complete curriculum vitae and employment history, a statement not to exceed one page describing the applicant's administrative philosophy, and the names, addresses, and telephone numbers of three persons who may be contacted by the search committee to evaluate the candidate. Proper documentation of identity and employability will be required before the hiring process can be finalized. Closing date for all applications is 15 September 1989. *North Carolina State University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR DEPARTMENT OF PHYSIOLOGY QUEEN'S UNIVERSITY

The Department of Physiology, Queen's University, is seeking an individual with research accomplishments and interests in the molecular biology of nerve regeneration to be appointed as an assistant professor. Priority will be given to an applicant with experience in immunocytochemical and in situ hybridization techniques. The successful applicant will be expected to acquire salary and research support through applications to the Medical Research Council or other agencies. *Candidates of both sexes are equally encouraged to apply.* Applicants should submit curriculum vitae, a brief statement of their research interests and objectives, selected reprints, and the names of three referees from whom a confidential assessment of research and teaching abilities may be obtained to: **Dr. M. A. Bisby, Department of Physiology, Queen's University, Kingston, Ontario, Canada K7L 3N6.**

Applications will be accepted until 31 August 1989.

ASSISTANT PROFESSOR DEPARTMENT OF PHYSIOLOGY QUEEN'S UNIVERSITY

The Department of Physiology, Queen's University, wishes to recruit an assistant professor who will conduct an independent, externally funded research program and contribute to the teaching duties of the Department. While preference may be given to applicants working in the cardiovascular area, those expert in endocrine, gastrointestinal, respiratory, or renal physiology are also encouraged to apply. This is a funded special appointment for up to a 5-year term, but the successful candidate is expected to apply to appropriate agencies for scholarship support. *Candidates of both sexes are equally encouraged to apply.* In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. Applicants should submit curriculum vitae, a brief statement of their research interests and objectives, selected reprints, and the names of three referees from whom a confidential assessment of research and teaching abilities may be obtained to: **Dr. M. A. Bisby, Department of Physiology, Queen's University, Kingston, Ontario, Canada K7L 3N6.**

Applications will be accepted until 15 September 1989.

POSITIONS OPEN

ASSISTANT PROFESSOR—The Department of Anatomy is seeking applications for a tenure-track assistant professor position with teaching in either gross anatomy or histology/neuroscience. A strong research program is essential. Research area is open, although preference will be given to candidates in cellular/molecular biology or neurobiology. Ph.D., M.D./Ph.D. or equivalent degrees, at least 2 years of postdoctoral research, and a funded or fundable research program are required. Submit curriculum vitae and arrange for three letters of recommendation to be sent by 1 November 1989 to: **Dr. Joseph T. Weber, Department of Anatomy, Tulane Medical School, 1430 Tulane Avenue, New Orleans, LA 70112.** Tulane is an Equal Opportunity/Affirmative Action Employer. Applications from qualified women and minorities are encouraged.

ASSISTANT PROFESSOR DEPARTMENT OF PHYSIOLOGY QUEEN'S UNIVERSITY

The Department of Physiology, Queen's University, wishes to recruit an assistant professor in cell physiology who will conduct an independent, externally funded research program and contribute to the teaching duties of the Department. While the excellence of the candidate will be the most important factor, some preference may be given to those working in areas that complement existing strengths in cardiovascular, respiratory, endocrine, and neurophysiology. Appointment is conditional upon acquisition of scholarship support from an appropriate agency. *Candidates of both sexes are equally encouraged to apply. In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.* Applicants should submit curriculum vitae, a brief statement of their research interests and objectives, selected reprints, and the names of three referees from whom a confidential assessment of research and teaching abilities may be obtained to: **Dr. M. A. Bisby, Department of Physiology, Queen's University, Kingston, Ontario, Canada K7L 3N6.**

Applications will be accepted until 15 September 1989.

ASSISTANT PROFESSOR, MICROBIOLOGY. The Department of Microbiology and Immunology, University of North Dakota School of Medicine, invites applications for a tenure-track position at the level of assistant professor. Candidates should have a Ph.D. and postdoctoral experience. The appointee is expected to develop a competitive research program, participate in the teaching of medical and general microbiology, and develop a course in his/her specialty. Although research involving a molecular approach to microbial pathogenesis, microbial biochemistry/physiology, or environmental microbiology is preferred, other research areas will be considered. Review of applications will begin 15 September 1989. Applicants are to provide a letter of application, curriculum vitae, a statement of research with representative publications, and the names and telephone numbers of three references to: **Dr. James J. Kelleher, Chairman, Department of Microbiology and Immunology, School of Medicine, University of North Dakota, Grand Forks, ND 58202.**

UND is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR OF ANATOMY AND CELL BIOLOGY

The Department of Anatomy and Cell Biology at Wayne State University invites applications for a tenure-track position at the assistant/associate professor level. The department is seeking an individual whose research will complement the interests of the present faculty. The two major areas of research are developmental neurosciences and vision research. Applications are invited from candidates utilizing genetic, molecular, or cellular methodologies. The successful candidate will be expected to participate actively in the teaching program and to establish a funded, independent research program. Excellent start-up funds and laboratory space are available. Intra- and interdepartmental collaboration is fostered by a core vision grant to the department and a neurosciences program. Applicants should have a Ph.D. or an M.D. degree and several years of postdoctoral training. Please submit a covering letter with curriculum vitae and the names of three references to: **Dr. Harry Maisel, Chairman, Department of Anatomy and Cell Biology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201.**

Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR PHYSIOLOGY AND BIOPHYSICS

Applications are being accepted for a tenure-track position at the assistant professor level. Responsibilities will include participation in team teaching medical and undergraduate physiology, graduate education, and establishment of an extramurally funded research program. Applicants should have the M.D. or Ph.D. degree and postdoctoral experience. We encourage candidates whose research interest is in the neurosciences, but will consider creative work in other contemporary areas of physiological research. Review of applications will begin 1 October 1989 and continue until the position is filled. Curriculum vitae, a brief description of current and future research interests, and names of three or more references should be sent to: **Dr. Rex Stith, Department of Physiology and Biophysics, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190.**

An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

ASSISTANT PROFESSOR VISUAL CORTICAL NEUROPHYSIOLOGY

Applications are invited for a tenure-track position in the Department of Neuroscience at the University of Florida College of Medicine in Gainesville. Applicants should have an M.D. or Ph.D. and postdoctoral experience. Evidence of an active, independent research program in the awake behaving primate would be particularly welcome. Anticipated start date will be 1 January 1990. Please send curriculum vitae, statement of research interests, and three letters of reference before 31 July 1989 to: **Christiana M. Leonard, Chair, Visual Neuroscience Search Committee, Department of Neuroscience, Box J-244, J. Hillis Miller Health Center, Gainesville, FL 32610-0244.** An Equal Opportunity/Affirmative Action Employer.

HARVARD UNIVERSITY

Department of Earth and Planetary Sciences invites applications for **TWO ASSISTANT PROFESSOR POSITIONS** in seismology. We hope to build on our strength in the studies of earth structure, earthquake processes, and geodynamics. We expect that full benefit from the data recorded by the global, regional, and temporarily deployed digital seismograph networks will involve advanced methods of waveform analysis. Therefore, we are primarily interested in candidates with substantial theoretical abilities and experience in modeling wave propagation in laterally heterogeneous media.

Applicants should send a statement of research interests, résumé, and names of at least three references to: **Professor Adam M. Dziewonski, Chairman, Search Committee, Department of Earth and Planetary Sciences, Harvard University, 20 Oxford Street, Cambridge, MA 02138.**

ASSISTANT RESEARCH MICROBIOLOGIST

A process-oriented microbial ecologist is sought for a non-tenure-track, grant-funded research position to investigate microbial transformations of detrital lignocelluloses in aquatic ecosystems. Ph.D. in ecology and postdoctoral experience required. Candidate will have experience in the preparation and use of radiolabeled lignocelluloses in geochemical and trophodynamic studies and in simulation modeling of detritus dynamics. Send curriculum vitae and three letters of recommendation by 31 August 1989 to: **R. E. Hodson, Department of Microbiology, University of Georgia, Athens, GA 30602.** The University of Georgia is an Equal Opportunity/Affirmative Action Institution.

CARDIAC MEMBRANE STRUCTURE AND FUNCTION. NIH-funded postdoctoral training positions available 1 July 1989 for up to 3 years in research training in cardiac physiology, pharmacology, biochemistry, and biophysics at NIH stipend levels. Minimum requirements: Ph.D. or M.D. degree. *Qualified minority candidates are encouraged to apply.* For further information, contact: **Arnold M. Katz, M.D., Cardiology Division, University of Connecticut Health Center, Farmington, CT 06032.**

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POSITIONS OPEN

ASSISTANT PROFESSOR MOLECULAR BIOLOGY

Well-trained molecular biologist to join active research laboratory investigating the regulation by certain cytokines and growth factors of gene expression in cells of the immune system. Knowledge of gene cloning, sequencing, vector construction, site-directed mutagenesis, SI nucleus mapping, nuclear binding (footprinting, etc.) and other molecular techniques necessary. Tenure-track position available to the successful candidate. Send curriculum vitae, research experience, and names of three references to:



**Institute Director
Roswell Park Memorial Institute
Elm and Carlton Streets
Buffalo, NY 14263**

RPMI is an Affirmative Action Employer.

DIVISION OF NUTRITION AND ENDOCRINOLOGY

ASSISTANT OR ASSOCIATE RESEARCH SCIENTIST (B.S./M.S.) to carry out studies concerned with the role of hormones in breast cancer and the biological action of a new antiestrogen for breast cancer treatment. The position requires a knowledge of serum hormone and receptor assays, and specifically, expertise in radioimmunoassay.

This appointment is well-suited to an individual seeking either a career in clinical laboratory endocrinology or basic endocrine research at a modern, well-equipped research facility located in a northern suburb of New York City. Please submit curriculum vitae to:

**Dr. David P. Rose, Division Chief
American Health Foundation
Division of Nutrition and Endocrinology
1 Dana Road
Valhalla, NY 10595**

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BIOCHEMISTRY/MOLECULAR BIOLOGY MEHARRY MEDICAL COLLEGE

FACULTY POSITIONS are expected to be available in 1990 in the Department of Biochemistry at the level of assistant or associate professor for well-trained or experienced candidates in the following areas: (i) molecular biology of eukaryotic systems, (ii) membrane biochemistry or molecular biology of signal transduction, and (iii) regulatory aspects of cellular and/or metabolic biochemistry. Successful applicants will be expected to develop and/or maintain a funded research program of high quality, to participate in the graduate and professional (medical, dental, and allied health) school teaching programs of the Department, and to interact with institutional programs in neuroscience and cell/molecular biology. Applicants should send curriculum vitae, names of four individuals who may be contacted for reference, and a summary of potential research projects to: **Ifeanyi J. Arinze, Ph.D., Chairman, Department of Biochemistry, Meharry Medical College, Nashville, TN 37208.** Meharry Medical College is an Equal Opportunity/Affirmative Action Employer.

DIRECTOR, MICROSCOPY FACILITY, assistant or associate research biologist level (DOE). Duties include supervising staff, training students, and assisting in research. Requires familiarity with latest techniques of light and electron microscopy. Appointment will be for 1 year with the possibility of reappointment on an annual basis in accordance with applicable personnel policies and availability of funding. Funding for one-half position is to be generated by the applicant. Requires Ph.D. in biological field and 1 to 2 years of experience. Submit curriculum vitae and names of three references to: **Dr. Leslie Wilson, Chairman, Department of Biological Sciences, University of California, Santa Barbara, CA 93106,** by 1 September 1989. *Proof of U.S. citizenship or eligibility for U.S. employment will be required prior to employment.* An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

DEPUTY DIRECTOR GENERAL DIRECTOR OF RESEARCH

A Central American-based Agricultural Research Center actively involved in experimental station and on farm research for various tropical fruits and vegetables such as bananas and plantains, winter squash, raspberries, onions, lima beans, asparagus, mangos, cacao, etc. is looking for:

A **DEPUTY DIRECTOR GENERAL** to plan, direct, supervise, and evaluate the administrative/technical operations of the institution, supervise/oversee the appropriate use of fiscal, financial, and human resources; assist in the preparation of the Annual Plan of Work and Budget.

A **DIRECTOR OF RESEARCH** to plan, develop, and supervise programs and projects for research; supervise the operational units to ensure proper development of plan of work, research activities, communications, and technical services.

Candidates must have a Ph.D. or master's in one of the agricultural sciences; minimum of 5 years of experience in agricultural research and research administration; be fluent in both English and Spanish.

Interested candidates should send résumé, references, and salary history to: **C. H. Smith, Arthur Young, 3000 K Street, NW, Washington, DC 20007** (no calls please).

DIRECTOR OF ANATOMIC PATHOLOGY—University of California School of Medicine at San Francisco is seeking a full-time academic pathologist at the associate or full professor tenure-level for the UCSF Moffitt-Long Hospital. Candidate expected to share in service and teaching; subspecialty pathology interest desirable. The option exists to be Director of Surgical Pathology. Anatomic Pathology Board certification and California license are required. Send curriculum vitae to: **Surgical Pathology Search Committee, Department of Pathology, University of California, San Francisco, CA 94143-0506**. UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities encouraged to apply.

ECOTOXICOLOGIST

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

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

Exxon Biomedical Sciences, Inc.
CN 2350, Mettlers Road
East Millstone, NJ 08875-2350
Equal Opportunity Employer M/F/H/V

EUKARYOTIC MOLECULAR BIOLOGIST

Assistant professor, tenure-track position at Kenyon College. Candidates should have a Ph.D., active research program that will involve undergraduates, and evidence of excellence in teaching. Consideration will be given to all types of eukaryotic research utilizing tools of molecular genetics and/or molecular immunology irrespective of the eukaryotic organism of study. Teaching duties include molecular biology and introductory courses. The college provides support for start-up costs. Interested individuals should submit curriculum vitae, graduate and undergraduate transcripts, three letters of reference, and a description of teaching and research interests by 1 November 1989 to: **Dr. Dorothy Jegla, Biology Department, Kenyon College, Gambier, OH 43022**.

An Equal Opportunity Employer.

O pportunities for BS/MS in Leukocyte, Biology and Cartilage Metabolism

The Institute for Arthritis and Autoimmunity (IAA) is engaged in a major expansion of its staff. IAA is the newest of four major research groups located at the newly-formed Miles Research Center in West Haven, CT near the Yale University Campus. The Center functions as a major research resource of Bayer AG of West Germany and its subsidiary, Miles Inc.

IAA is seeking applicants with a BS or MS to participate in research programs devoted to the study and treatment of inflammatory diseases. Specific areas of our research interest are described below:

■ Leukocyte Biology Group

We are seeking an individual who will conduct studies concerned with the physiology, biochemistry and molecular biology of mammalian and human leukocytes. This individual should possess an MS with 3 years or a BS degree with 5 or more years of laboratory experience in either immunology, biochemistry, or cell biology. Experience in cell culture, protein purification and characterization by various electrophoretic techniques, as well as enzymology is imperative. Additional experience in the isolation of cells from blood and exudate, immunological, molecular biological, and biochemical characterization of effector cells would be useful.

■ Cartilage Metabolism Group

Position available immediately to study the involvement of metalloproteases in cartilage metabolism with special regard to osteoarthritis. Applicants should possess a BS and/or MS degree and 2-3 years of laboratory experience in recombinant DNA and/or protein biochemistry. A strong background in screening cDNA libraries, DNA sequencing, northern, southern and western blotting, transfection, and/or protein purification, enzyme assays, and tissue culture is desirable.

■ Histology Group

IAA is seeking a BS or MS with 5 or more years of experience in histology. This individual will be responsible for establishing and operating a histology laboratory. Experience with either frozen or hard tissue sectioning is required.

The positions offer attractive compensation commensurate with qualifications, generous benefits, and an excellent opportunity for personal growth and professional satisfaction. Resumes should be forwarded to: **Department ACE, Miles Research Center, 400 Morgan Lane, West Haven, CT 06516**.



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**Research
Center**

Project Leader Natural Products Chemistry

Pfizer is recognized as a worldwide leader in the discovery and development of novel pharmaceuticals. We currently have an exceptional opportunity available for an experienced PhD Chemist to join the Natural Products Discovery and Screening Department as a project leader in natural products chemistry. Located at our expanding Central Research facilities in Groton, Connecticut, you will be responsible for coordinating the activities of a group of scientists engaged in the isolation and structure determination of natural products expressing biological activity in a variety of therapeutic areas. The position requires strong communication and interpersonal skills in addition to technical competence in contemporary structure elucidation methods and separation techniques.

Pfizer offers an excellent salary and comprehensive benefits package as well as the opportunity to pursue a stimulating career in an atmosphere created for the encouragement of interdisciplinary cooperation and professional achievement.

For consideration, please submit your resume to: Charles P. Norris, Supervisor Employee Resources, Pfizer Inc., Central Research Laboratories, Eastern Point Road, Groton, Connecticut 06340. An equal opportunity employer.



Postdoctoral Training Toxicology and Carcinogenesis

Positions available for study in various aspects of cancer research and toxicology through the Departments of Biochemistry, Chemistry, Medicine, Pharmacology, and Pathology. Areas of investigation include synthetic chemistry related to toxic chemicals, mechanistic bio-organic chemistry, chemistry of heavy metal antidotes, DNA-carcinogen physical interactions, enzymology of animal and human cytochromes P-450 and chromatin proteins, the basis of metal carcinogenesis, chromatin function, hepatocarcinogenesis, eicosanoids, regulation of glutathione metabolism, and NMR and mass spectrometry. Salaries are negotiable.

Faculty

Ian A. Blair
Robert C. Briggs
Raymond F. Burk
Peter Gettins
F. Peter Guengerich

Thomas M. Harris
Mark M. Jones
R. Stephen Lloyd
Lawrence J. Marnett

Applicants should submit curriculum vitae and three letters of recommendation to Dr. F. P. Guengerich, Director, Center in Molecular Toxicology, Vanderbilt University, School of Medicine, Nashville, TN 37232.

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PRODUCT DEVELOPMENT SPECIALIST

Amgen, an innovative leader in the development of human pharmaceuticals through applied recombinant DNA technology, has an immediate opportunity in our Therapeutic Group for a Product Development Specialist. Responsibilities will include assisting in logistics planning and management of various aspects of G-CSF development, including clinical studies, research, preclinical investigation, manufacturing, supply and registration.

Candidates for this position must have 3 to 4 years' experience in the pharmaceutical or health care industry, preferably in clinical studies monitoring or study coordination. Previous experience in the management of clinical studies is desirable but not essential.

Amgen offers a stimulating and challenging environment on the leading edge of pharmaceutical development as well as an excellent compensation package. If you have the necessary qualifications and would like to be a part of a rapidly growing company, please send a resume, in confidence, to:

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- MATHEMATICS

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

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

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

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Applications are invited for a chair in

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at the Organic Chemistry Laboratory of the ETH
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The post requires participation in teaching chemistry at the undergraduate level. In research the new professor is expected to apply crystallographic methods to the solution of problems of structure and reactivity involving low and high molecular weight compounds, including those of biological relevance, and to interact with other research groups.

Candidates will have an advanced university degree, internationally recognized contributions to one of the above mentioned fields and a proven ability to conduct high quality research. Enthusiasm to teach at all university levels and willingness to cooperate with colleagues within and outside the university are indispensable.

Applications with curriculum vitae and list of publications (no publications) should be submitted before **September 15, 1989**, to the President of ETH Zurich, Prof. Dr. H. Bühlmann, ETH-Zentrum, CH-8092 Zurich.

POSITIONS OPEN

FACULTY IN BIOTECHNOLOGY

Applications are invited for tenure-track faculty in the Department of Biology, Indiana University-Purdue University at Indianapolis. Applicants for the positions should have a Ph.D. degree, postdoctoral training, and experience in state-of-the-art mammalian molecular genetics or protein biochemistry; a history of grant support is highly desirable. Successful candidates will be expected to establish cooperative educational initiatives with Indianapolis industry; develop an active, externally funded research program; and contribute to the continued development of the M.S. and Ph.D. programs in biotechnology. The position will require a substantial teaching commitment. Individuals with a record of outstanding scientific achievement may be appointed to the rank of associate professor. The review of applications will begin 1 September 1989 and continue until the positions are filled. Applicants should send their curriculum vitae, a statement of their research interests, reprints of recent publications, and four letters of recommendation to: **Dr. Charles Schauf, Professor and Chairman, Department of Biology, Purdue University School of Science, 1125 East 38th Street, Indianapolis, IN 46205.** *Indiana University is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are particularly encouraged to apply.*

FACULTY POSITION

Director, Core Facility in Protein Chemistry. The University of Texas Health Science Center, San Antonio, invites applications for a faculty-level position to direct a Core Facility for protein isolation. Candidates will be expected to have training and expertise in protein chemistry and the operation of state-of-the-art equipment for protein microsequencing, peptide synthesis, and amino acid analysis. Equipment available in this core include an ABI 477A pulsed liquid phase protein microsequencer, an ABI 431 peptide synthesizer, a Micro-VAX 2000-based Waters 860 chromatography data analysis system, Waters pico-tag amino acid analysis system, and numerous other HPLC systems. The successful candidate will have opportunities to develop an independent program of research. Submit curriculum vitae and brief description of research interests to: **Dr. Gregory R. Mundy, Professor and Head, Division of Endocrinology and Metabolism, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7877.** *The University of Texas Health Science Center is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER

FACULTY POSITION in biochemistry and molecular biology. The Department of Biochemistry is seeking a talented individual for a tenured position as professor available in fall 1989. Applicants must have a proven record of accomplishment in research in the genetics and molecular biology of organelle biogenesis. Applicants should be interested in teaching medical and graduate students in selected areas of biochemistry, genetics, and molecular biology. In addition, applicants should be willing to assume responsibilities in graduate recruitment and administration. Applicants should submit curriculum vitae, brief summary of research accomplishments, and three letters of reference by 15 August 1989 to: **Faculty Search Committee, Department of Biochemistry, University of Texas Southwestern Medical Center, Dallas, TX 75235-9038.** *An Equal Opportunity Employer.*

HEAD, DEPARTMENT OF BIOCHEMISTRY. Oklahoma State University invites applications and nominations for the position of Head, Department of Biochemistry. Candidates should have a distinguished record in research and teaching. Applicants should send curriculum vitae including information about administrative experience, names and addresses of five references, and a letter describing the candidate's strengths for the position. *Minorities and women are encouraged to apply.* Nominations, applications, and requests for additional information should be sent to: **Margaret Essenberg, Chair, Search and Screen Committee, Oklahoma State University, Stillwater, OK 74078-0454.** Telephone: 405-744-6189. Review of applications will begin 15 September 1989.

POSITIONS OPEN

FACULTY POSITION IN ATMOSPHERIC CHEMISTRY

Applications are invited for an open-level, tenure-track atmospheric chemistry position. Position is joint between Department of Soil and Environmental Sciences (67% teaching) and Statewide Air Pollution Research Center (33% research). Appointee is expected to develop an independent research program related to the formation and fates of airborne constituents and to teach undergraduate and graduate courses in the science of polluted air. Candidates for appointment with tenure must have clearly demonstrated strengths in research and teaching. Potential candidates are requested to submit curriculum vitae, a statement of teaching/research interests, any supporting documentation, and names, addresses, and telephone numbers of at least three references to: **L. J. Lund, Chairman, Department of Soil and Environmental Sciences, University of California, Riverside, CA 92521.** Applications will be accepted until 1 September 1989. *UC is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN CELL BIOLOGY. Tenure-track assistant/associate professor position available June 1990 for applicants with a cell or molecular approach to mammalian biology. Research interests in the department include cell-cell communication, molecular endocrinology, developmental reproductive biology, or cellular neurobiology. Teaching responsibility in cell biology/histology. Send curriculum vitae and three letters of reference to: **Reid L. Norman, Cell Biology and Anatomy, Texas Tech University Health Sciences Center, Lubbock, TX 79430.** *TTUHSC is an Equal Opportunity/Affirmative Action Employer.*

INFECTIOUS DISEASES/ MOLECULAR BIOLOGIST TENURE-TRACK FACULTY POSITION

The Department of Pathobiological Sciences is seeking an individual with training in molecular aspects of infectious disease research, preferably bacterial diseases. Salary and rank commensurate with training and experience. Send curriculum vitae and names of at least three references to: **Dr. R. D. Schultz, Professor and Chairman, Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison, 1015 Linden Drive West, Madison, WI 53706.** Telephone: 608-263-9888. *Equal Opportunity/Affirmative Action Employer.*

MARINE MINERALS COORDINATOR

Full-time permanent position. Starting salary approximately \$2200 to \$2500 per month plus generous fringe: available 1 October 1989. Location is Portland, Oregon. Graduate degree and marine minerals experience required. Minimum of 4 years of progressively responsible experience in acquisition, evaluation, interpretation, and management of marine technical and/or economic data.

The successful candidate will provide marine mineral resource input to a multidisciplinary offshore state planning effort for the Oregon coast and offshore area.

Duties include management of the department's marine minerals program, negotiating and administering contracts for offshore studies, planning and conducting meetings and symposia, writing and presenting clear and concise reports and publications, participating in the geologic aspects of coastal land-use planning, and offshore resource planning. Also includes effective communication with a diverse public, providing the public service role for the Department on offshore issues and serving on offshore planning committees. Close coordination is required with the public, local government and federal, state, university, and industry counterparts.

If interested, send résumé and three references (names and telephone numbers) from present and previous supervisors. Also request an application packet from:

**Oregon Department of Geology and
Mineral Industries
1400 S.W. Fifth Avenue, Room 910
Portland, OR 97201
Telephone: 503-229-5580**

Deadline for receipt of completed application packet is 1 September 1989. *An Equal Opportunity Employer.*

POSITIONS OPEN

HEALTH SCIENTIST

The Environmental Criteria Assessment Office (ECAO) of the Environmental Protection Agency (EPA) is seeking candidates for a health scientist position, GS 12-13 (\$34,580 to \$53,460 per year, based on qualifications), located at Research Triangle Park, North Carolina. The principal duties include development of health hazard assessments of air pollutants and research to develop improved methods to perform such assessments. *Only U.S. citizens are eligible.* The essential qualifications include an advanced degree in toxicology or a closely related biological discipline such as pharmacology, physiology, biochemistry or immunology (equivalent experience may be substituted); a minimum of 1 year of professional experience as a principal investigator in toxicology or health risk assessment research; publications and presentations at national scientific meetings on toxicology or health risk assessment; and ability to perform health hazard assessments. Expertise in inhalation toxicology is desirable, but not required. Please submit SF-171 and supporting documentation by 31 July 1989 to: **Dr. Lester Grant c/o Martha Strobel, EPA MD-29, Research Triangle Park, NC 27711.** Further information call: **Martha Strobel 919-541-4518.** *EPA is an Equal Opportunity/Affirmative Action Employer.*

MATHEMATICAL GENETICIST. A tenure-track assistant professor-level position is available for a Ph.D. mathematical geneticist to join the faculty of the Department of Psychiatry, University of Utah Medical Center. The Department of Psychiatry has ongoing molecular genetic linkage studies of schizophrenia, manic-depression, and Tourettes, in collaboration with the Howard Hughes Medical Institute at Salt Lake City. Applicants should have research expertise in genetic linkage analysis and statistics. Salt Lake City is an urbane and cultured environment (Utah Symphony, Ballet West) surrounded by high mountains and life-threatening ski slopes. Contact: **William F. Byerley, Associate Professor, Department of Psychiatry, 50 North Medical Drive, Salt Lake City, UT 84132.** *The University of Utah is an Equal Opportunity/Affirmative Action Employer.* Deadline: 30 September 1989. Applications will be accepted after the deadline if qualified person has not been identified.

MEDICINAL CHEMISTRY FACULTY POSITION BIOLOGICAL NMR SPECTROSCOPY

The Department of Medicinal Chemistry, The Ohio State University, invites applications for a tenure-track assistant professor position beginning as soon as possible. Candidates should have a Ph.D. in medicinal chemistry, chemistry, or biochemistry, and the desire to develop a strong graduate research program in the application of NMR spectroscopy to molecular biology and drug design. Teaching will be at both the undergraduate and graduate levels. Applicants should send curriculum vitae, a proposed research program, and arrange to have three letters of recommendation sent to: **Professor Donald T. Witiak, Chairman of the Faculty Search Committee, Department of Medicinal Chemistry, College of Pharmacy, The Ohio State University, Columbus, OH 43210.** The review of the candidates will begin 1 September 1989. *The Ohio State University is an Equal Opportunity Educator and Employer and specifically invites and encourages application from women and minorities.*

PENN STATE. MOLECULAR ANTHROPOLOGICAL GENETICIST. The Department of Anthropology seeks a human molecular geneticist for its Anthropological Genetics Laboratory. This tenure-track position, at the assistant to junior associate professor level, to apply genetic methods to the basis, origins, and evolution of human biological variation. Exceptional living conditions are accompanied by excellent resources. Department has tradition of leadership in biological anthropology. Send curriculum vitae and names of three references to: **Kenneth M. Weiss, Head, Department of Anthropology, Penn State University, Box S, 409 Carpenter Building, University Park, PA 16802.** Telephone: 814-865-2509. Apply by 15 September 1989; search will remain open until candidate has been found. *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*



Natural Sciences and Engineering
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NSERC INTERNATIONAL FELLOWSHIPS 1989-90

The Natural Sciences and Engineering Research Council of Canada (NSERC) has recently initiated a program of International Fellowships to provide foreign doctoral graduates with the opportunity to further their research training and experience. These awards are tenable in Canadian universities.

Eligibility: Applicants must have earned a doctoral degree in science or engineering from a recognized foreign university within the last five years. Equivalent research experience may also be acceptable. Candidates must not be Canadian citizens nor permanent residents of Canada.

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

Stipend: Fellowships have an annual value of \$28,000 plus a travel allowance.

Application Procedures: Applications must be submitted directly to the university department in which it is proposed to hold an award. Candidates must not apply to more than one university.

Date of Submission: The deadline for receipt of applications by the proposed host university is December 1, 1989.

For further information, contact the:

International Fellowships Office
Natural Sciences and Engineering Research Council
200 Kent Street
Ottawa, Ontario
CANADA
K1A 1H5
Telephone: (613) 992-9169

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Research Scientist Thrombosis

Due to continued growth in our thrombosis programs, we are seeking a Principal Investigator with a Ph.D in Pharmacology, Physiology, Biochemistry or related area. Experience in any of the following areas would be desirable: platelet physiology, animal models of thrombosis, biochemistry of thrombosis. The Research Scientist will play a key role as a member of a multidisciplinary group with expertise in pharmacological, biochemical and molecular biological aspects of thrombosis and thrombolysis.

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CANCER PREVENTION FELLOWSHIP PROGRAM

The **Division of Cancer Prevention and Control (DCPC)** is accepting applications for the Cancer Prevention Fellowship Program (CPFP). The purpose of this program is to attract individuals from a multiplicity of health science disciplines into the field of cancer prevention and control. The program provides for: Participation in the DCPC Cancer Prevention and Control Academic Course; Working at NCI directly with individual preceptors on cancer prevention and control projects; Brief assignments in cancer prevention and control programs at cancer centers, State Health Departments or other institutions. Funding permitting, ten Fellows will be accepted for up to three years of training, beginning July 1, 1990. Benefits include selected relocation and travel expenses, paid federal holidays, and participatory health insurance.

ELIGIBILITY

1. M.D. or D.O. from a U.S., territorial, or Canadian Medical School. Foreign medical graduates must have current ECFMG/FMGEMS certification and one year residency in a training program approved by the Accreditation Council for Graduate Medical Education.
- OR
2. Ph.D., Dr. P.H. or other doctoral degree in a related discipline (epidemiology, biostatistics, biomedical, nutritional, public health or behavioral sciences). Foreign education must be comparable to that received in accredited U.S., territorial, or Canadian institutions.
3. U.S. citizenship or resident alien eligible for citizenship within four years.

For details and application packet send a **POSTCARD** with your name and home address to:

Douglas L. Weed, M.D., Ph.D.
Cancer Prevention Fellowship Program
Division of Cancer Prevention and Control
National Cancer Institute
Executive Plaza South, T-41
Bethesda, MD 20892

Further inquiries: Mrs. Barbara Redding,
(301) 496-8640 or 496-8641.

DEADLINE FOR RECEIPT OF APPLICATIONS: SEPTEMBER 8, 1989.



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POSITIONS OPEN

MOLECULAR BIOLOGIST. The Urology Research Laboratory of UMDNJ-New Jersey Medical School seeks applicants for a postdoctoral/research associate position available immediately to characterize cloned retinoid-responsive genes in neuroblastoma cells. Candidates must have a Ph.D. and several years of documented experience in eukaryotic expression vectors, DNA cloning/sequencing. Background in biochemistry, cell/molecular biology desirable. Salary commensurate with experience. Please send curriculum vitae and three letters of recommendation to: **Alan K. Hall, Ph.D., Director, Urology Research Laboratory, University of Medicine and Dentistry of New Jersey-New Jersey Medical School, 185 South Orange Avenue, Newark, NJ 07103-2757.** The UMDNJ is an Affirmative Action/Equal Employment Opportunity Employer M/F/H/V.

MOLECULAR IMMUNOLOGIST

Candidates are sought at the assistant or associate professor level, tenured or tenure-track, to undertake research using molecular approaches to immunology. Candidates are expected to establish a vigorous research program and participate in graduate student education. The closing date for receipt of inquiries is 1 August 1989. Please send curriculum vitae and names of three references to: **Search Committee, Department of Pathology and Laboratory Medicine, 709 Woodruff Memorial Building, Emory University School of Medicine, Atlanta, GA 30322.** Emory University is an Equal Opportunity/Affirmative Action Employer.

NEUROCHEMISTRY SPECIALIST—Research teams seek candidates with an M.D., Ph.D. in chemistry or equivalent and strong backgrounds in neuroscience and demonstrated expertise in measurement of neurochemical and drugs in brain and biological fluids from animals and man. Expertise in HPLC, RIA, chromatographic techniques and the measurement of plasma levels of tacrine and physostigmine required. Send résumé to: **V. Haroutunian, Ph.D., Director, Basic and Laboratory Sciences, Department of Psychiatry, Box 1239, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574.** An Equal Opportunity Employer.

NEUROTRAUMA RESEARCH LABORATORY DIRECTOR SOUGHT

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

POSTDOCTORAL FELLOWSHIP—Postdoctoral fellowship available immediately for an individual to undertake research with a project investigating the structure and regulation of human glutamate dehydrogenase and its involvement in neurodegenerative disorders. Potential candidates require a strong background in the field of protein purification and biochemistry and/or gene cloning. Salary on the scale of \$20,000 to \$25,000 per annum plus benefits commensurate with qualifications. Location: New York City. Applications, including curriculum vitae, should be sent to: **Dr. Andrew Plaitakis, Neurology Department, Box 1137, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574.** Telephone: 212-241-7310. An Equal Opportunity Employer.

POSITIONS OPEN

NUTRITION POSITIONS

Rutgers-The State University of New Jersey, invites applications for two tenure-track positions in the newly formed Department of Nutritional Sciences. Position 1, Assistant professor level, requires earned Ph.D./R.D. or M.D. and expertise in clinical nutrition. Position 2, associate/full professor level, requires earned doctorate and expertise in psychosocial aspects of nutrition, e.g., psychosocial determinants of eating or nutritional implications of diet on human behavior and development. Responsibilities for both positions include establishing and maintaining nationally recognized research programs in areas of expertise, teaching, and other university service. Deadline for both positions is 15 July 1989 or until suitable candidates are found. Send curriculum vitae, three letters of recommendation, transcripts, and a statement of research and teaching interests to: **Dr. Adria R. Sherman, Department of Nutritional Sciences, 123 Davison Hall, Cook College/Douglass Campus, Rutgers University, New Brunswick, NJ 08903.** An Affirmative Action/Equal Opportunity Employer.

PHYSICAL SCIENCES EDITOR

To publish journals in physical and applied sciences. Requires advanced degree, some publishing and/or related experience in an industry environment. Résumé plus salary requirements to: **Personnel, Elsevier Science Publishing Company, 655 Avenue of the Americas, New York, NY 10010.** Equal Opportunity Employer.

POSTDOCTORAL FELLOW for research on intracellular regulation and characterization of kidney transport systems using membrane vesicles, cultured cells, photoaffinity labels, and other biochemical techniques. Previous experience in renal physiology or membrane biochemistry, and interest in cell physiology would be useful. Available summer/fall of 1989. Send curriculum vitae and names of two references to: **Dr. Stephen A. Kempson, Department of Physiology and Biophysics, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46223.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP POSITION

Postdoctoral Fellowship position available in the Department of Surgery, UMDNJ-Robert Wood Johnson Medical School. Individual will work on focused project involving in vitro models of ductal carcinoma invasion and mechanisms of breast tumor metastasis. Applicant should have biochemistry and/or molecular biology experience. Initial appointment for 2 years with competitive salary and benefits. Respond immediately with curriculum vitae, statement of experience and interests, and names and telephone numbers of three references to: **Dr. Fredrika M. Robertson, Director, Surgical Immunology Laboratory, Department of Surgery, University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School, 1 Robert Wood Johnson Place, CN 19, New Brunswick, NJ 08903-0019.** The UMDNJ is an Affirmative Action/Equal Employment Opportunity Employer. M/F/H/V.

POSTDOCTORAL POSITION available to study motile behavior of lung macrophages and their role in lung's host defense and bacterial clearance. Research will be directed at molecular events involved in cell motility. Experimental approach will include time-lapse video microscopy coupled with computer modeling to study motile properties. Candidate should have Ph.D. or M.D. and experience in cell biology. Send curriculum vitae to: **Ronald P. Daniele, M.D., 807 East Gates Building, Hospital of The University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104-4283.** Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately to study developmentally regulated penicillin-binding proteins in *Bacillus subtilis*. Experience in molecular biology desired. Send curriculum vitae and names of three references to: **Dr. C. Buchanan, Department of Biological Sciences, Southern Methodist University, Dallas, TX 75275.** Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION. Available immediately to study B cell development and Ig gene expression in autoimmune prone mice. Experience in cellular and molecular immunology desirable. Send curriculum vitae and arrange to have four letters of reference sent to: **Dr. Judy Teale, Department of Microbiology, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7758.** The UTHSCSA is an Affirmative Action/Equal Opportunity Employer.

UNIVERSITY OF MARYLAND LABORATORY FOR PLASMA RESEARCH

A **POSTDOCTORAL POSITION** in the experimental plasma physics group is expected to be available in November 1989, subject to funding, for work on fusion confinement experiments. Knowledge of magnetic fusion concepts and relevant diagnostics is desired. For more information contact: **Drs. A. W. DeSilva or G. C. Goldenbaum, Laboratory for Plasma Research, University of Maryland, College Park, MD 20742-3511.** Telephone: 301-454-3516.

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

POSTDOCTORAL POSITION: We have a position available immediately to work in the field of the applications of clinical NMR spectroscopy to the study of patients with liver metastases arising from colorectal carcinoma. This study involves the application of an integrated MRI/multinuclear MRS (1-H, 19-F, and 31-P) approach to monitor patients receiving chemotherapy based on the continuous infusion of 5-FU through an implanted pump. The applicant is expected to interact with an interdisciplinary team of clinicians and basic scientists. Facilities include two 1.5-T whole body MR scanners and access to a variety of high-resolution NMR spectrometers. A Ph.D. in NMR spectroscopy or MR imaging is preferred. Please apply to: **Dr. R. E. Lenkinski, Department of Radiology, Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104.** The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer. Qualified female and minority candidates are encouraged to apply.

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

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

An Equal Opportunity/Affirmative Action Employer.

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

POSTDOCTORAL POSITION, MOLECULAR BIOLOGIST available to study the virulence properties of *Entamoeba histolytica*. Projects will involve cloning a unique surface antigen of pathogenic strains and virulence-related proteinases. Applicants should have experience with standard molecular biology techniques. Familiarity with DNA sequencing and eukaryotic genetics desirable. Send curriculum vitae with names and addresses of three references to: **Dr. S. L. Reed, Division of Infectious Diseases, H-811F, UCSD Medical Center, 225 West Dickinson Street, San Diego, CA 92103.**

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CHAIRMAN DEPARTMENT OF PHARMACOLOGY

CORNELL UNIVERSITY MEDICAL COLLEGE

CORNELL UNIVERSITY invites applications from qualified candidates for the position of Chairman of the Department of Pharmacology at CORNELL UNIVERSITY MEDICAL COLLEGE in New York City. The Chairman of Pharmacology will head an active department with research strength in Biochemical, Physiological and Clinical Pharmacology. In addition to research, the department is responsible for teaching of Pharmacology to medical and graduate students. Candidates must have a Ph.D or M.D. Degree, must be recognized for excellence in biomedical research and scientific leadership and have extensive experience in teaching at a medical school.

Applicants should submit a current C.V. which includes a list of publications to:
Erich E. Windhager, M.D. Chairman
Search Committee Department of Physiology



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

BIOCHEMIST Clinical Chemistry Assay Development/Support

Joining our Technical Product Development Group, the selected candidate will be responsible for technical troubleshooting and product and process development for our clinical chemistry product line. The position requires the ability to quickly evaluate and resolve technical problems relating to the manufacturing, development, testing and field performance of diagnostic tests. Excellent interpersonal skills are required as well as an M.S. and three years experience or Ph.D. in Biochemistry, Physiological Chemistry, or Life Sciences. Postdoctoral and supervisory experience are desired. **Job #9RT.**

Located in an attractive suburban area approximately 30 miles north of Chicago, Abbott Laboratories provides a competitive compensation and benefits package including profit sharing. For consideration, please send your resume with salary history to: **Keith Allen, Corporate Placement, Abbott Laboratories, 1 Abbott Park Road, Abbott Park, IL 60064.** (To facilitate handling your resume, please indicate Job # on your cover letter or resume.)
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Meeting Bound?

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

BIOCHEMIST/ IMMUNOCHEMIST Cardiovascular/Endocrinology

We currently seek scientists to function as project managers for the development of Diagnostic Assays for physiological analytes. The preferred candidates will possess a Ph.D. in Biochemistry or Clinical Chemistry; postdoctoral or industrial experience is preferred. Research background should include protein biochemistry, immunochemistry, ligand binding assays, and immunoassay techniques. Familiarity with endocrinology and/or cardiovascular research is desirable. **Job #93Y.**

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POSITIONS OPEN

POSTDOCTORAL POSITION IN FETAL PHYSIOLOGY/ENDOCRINOLOGY

Available January 1990, position supported by USPHS-NIH Training Grant. Various aspects of fetal endocrine and cardiovascular regulation are under investigation. These include: development of the hypothalamic-pituitary-adrenal axis, the hormonal and neuroendocrine regulation of the onset of labor, biochemical basis of fetal cardiovascular-endocrine interactions and responses to long-term hypoxia, and placental ion transport. Studies involve both in vitro and in vivo approaches.

Applicants should have a strong background in endocrinology, physiology, cell biology, or biochemistry. Send curriculum vitae and the names of three references to: **Dr. Lawrence D. Longo, Division of Perinatal Biology, Department of Physiology, School of Medicine, Loma Linda University, Loma Linda, CA 92350.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITION MOLECULAR BASIS OF BACTERIAL PATHOGENESIS

A postdoctoral position is available to work on the molecular basis of the interaction of *Legionella pneumophila* with human phagocytic cells. *L. pneumophila* enters macrophages and survives by inhibition of phagosome-lysosome fusion. The organism then replicates intracellularly and destroys the host cell. Research will focus on the regulation of *Legionella* genes during macrophage infection and the molecular basis for intracellular survival and growth. Applicants must have prior training in bacterial genetics. Salary will be commensurate with experience. Please send curriculum vitae and arrange for three letters of reference to be sent to: **Dr. Howard A. Shuman, Department of Microbiology, College of Physicians & Surgeons, Columbia University, 701 West 168th Street, New York, NY 10032.**

Columbia University is an Equal Opportunity/Affirmative Action Employer.

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

POSTDOCTORAL/RESEARCH ASSOCIATE

Position available to study the effects and the mechanisms of actions of neuropeptides and hormones using cell models. Background in cell biology, pharmacology or biochemistry desirable. Please send curriculum vitae, a brief statement of research interest and the names of three references to: **Dr. Kazuhiko Tatemoto, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA 94305.**

POSTDOCTORAL RESEARCH ASSOCIATE positions available to study regulation of gene expression as applied to macrophage differentiation and maturation. Research focuses on the role of lymphokines and eicosanoids in macrophage activation. Molecular biology experience is desirable. Send curriculum vitae and statement of research interests to: **Dr. Kent Erickson, Department of Human Anatomy, University of California, School of Medicine, Davis, CA 95616.**

POSTDOCTORAL RESEARCH ASSOCIATE positions available for recent Ph.D. to work on several aspects of protein kinase C system: (i) cardiac contractile proteins and functional consequence of phosphorylation of troponin subunits, (ii) regulation of leukemia and neuronal cell growth and differentiation, and (iii) development of activators and inhibitors of protein kinase C for biochemical, biophysical and preclinical pharmacology studies. Send application and curriculum vitae to: **Dr. J. F. Kuo, Department of Pharmacology, Emory University School of Medicine, Atlanta, GA 30322.**

Emory University is an Equal Opportunity Employer.

POSITIONS OPEN

TWO POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS are immediately available for: Position 1 studying synthesis of mRNA and protein in winter cereals undergoing adaptation to low non-freezing temperature; the preferred applicant should have expertise with mRNA purification, in vitro translation and/or cDNA cloning. Position 2 studying changes in cell membrane receptors and metabolism during development and response to environmental stimuli by a variety of biochemical techniques including flow cytometry detection of tagged probes; this applicant should have expertise in cell and molecular biology/immunology using fluorescent tagged probes. Flow cytometry experience desirable. Starting salary is \$24,000 per year. Annual appointment possible for 3-year period. Candidates who have recently obtained a relevant Ph.D. degree are encouraged to send curriculum vitae and names of three references to: **Dr. David Hilderbrand, Head, Chemistry Department, South Dakota State University, Brookings, SD 57007.** Application deadline: 15 August 1989 or until filled. *SDSU is an Equal Opportunity Employer.*

PROFESSOR PHARMACOGNOSY. The University of Connecticut is seeking applications for an anticipated tenure-track position, available 1 September 1989 for a pharmacognosist (natural products chemist) to be appointed at the rank of associate or full professor. Preference will be given to individuals possessing the qualifications for and a willingness to assume responsibility as head of the section of Medicinal Chemistry and Pharmacognosy. Applicants should have a Ph.D. in pharmacognosy, organic chemistry or a cognate science, a demonstrated commitment to graduate and undergraduate education, and an established program of research. An undergraduate degree in pharmacy is desirable, but not essential. Curriculum vitae, including graduate transcript, list of publications, summary of research support and interest, and three letters of recommendation should be mailed directly to: **Professor J. M. Edwards, Section of Medicinal Chemistry and Pharmacognosy, School of Pharmacy, U-92, University of Connecticut, 372 Fairfield Road, Storrs, CT 06269-2092.** *The University of Connecticut is an Affirmative Action/Equal Opportunity Employer M/F.* (Search #9A284).

QUANTITATIVE ECOLOGIST ASSISTANT PROFESSOR UNIVERSITY OF WASHINGTON

The Center for Quantitative Science in Forestry, Fisheries and Wildlife and the School of Fisheries invite applications for a tenure-track, 9-month teaching and research appointment, beginning on or after 1 October 1989. The applicant should be experienced in mathematical modeling of ecological and natural resource processes. The ideal candidate might have a Master's degree in a biological subject and an earned doctorate in a mathematical subject, or vice versa.

Teaching will be three courses per year, primarily to graduate students in Fisheries and the Biomathematics Program in Quantitative Ecology and Resource Management. The person selected will also supervise graduate student research, but will have broad latitude in developing a research program.

Please send a letter stating academic interests, along with curriculum vitae, reprints of recent papers (up to three), and names, addresses, and telephone numbers of four references, by 15 August 1989 to:

**Stephen B. Mathews, Chairman of Search Committee
Center for Quantitative Science
University of Washington, HR-20
Seattle, WA 98195**

Telephone: 206-543-4458 or 206-543-1191

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

RESEARCH SCIENTIST: Position for a Ph.D. in chemistry/crystallography to investigate the electronic characteristics of reactants, products, and intermediates in biotin-mediated reactions. Candidate must have strong background in experimental charge-density analysis by x-ray diffraction, including familiarity with various multipolar expansion models and anharmonic thermal motion models, and experience in low temperature x-ray diffraction. Salary: \$24,000 to \$27,000 per year. Send résumé to: **Dr. George DeTitta, Medical Foundation of Buffalo, 73 High Street, Buffalo, NY 14203.**

POSITIONS OPEN

PROJECT LEADER/SCIENTIST POSITION. The Forestry Sciences Laboratory in Delaware, Ohio, will announce shortly a vacancy for a permanent, full-time Project Leader/Scientist to lead a unit conducting research on the application of biotechnology to forest insect and disease research and management. Applicants with a strong background in biochemistry/molecular biology are invited to apply for the position, which will be at the GM-14/15 level.

Persons wishing to apply for the position should send their name and address to: **Ms. Carol Cowles, USDA-Forest Service, 359 Main Road, Delaware, OH 43015.** When the position is formally announced, a copy of the announcement will be sent to you. For information and assistance in applying, please contact: **Ms. Cowles, at the above address or by telephone at 614-369-4476.**

RESEARCH MANAGER

The Regional Primate Research Center of the University of Washington seeks a research manager to administer and participate in biomedical research projects centered at its Primate Field Station in Medical Lake, Washington. The Research Manager will work with research investigators at the University of Washington, the NIH and biotechnology firms to plan and develop protocols, budgets and agreements for projects of mutual interest; will supervise the research, and will participate in the publication of findings. A doctoral degree in the biological, veterinary, or medical sciences with a minimum of 5 years of independent research and 2 years of supervisory experience in immunology, virology, biotechnology, or a related area required. Previous experience with biomedical research in private industry desirable. Experience with nonhuman primate models desirable, but not essential. Salary to \$55,056 depending on experience. Please send curriculum vitae and names of three references by 28 July 1989 to:

**Dr. Darrell Williams, Assistant Director
Regional Primate Research Center
Primate Field Station
Medical Lake, WA 99022**

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

GEORGETOWN UNIVERSITY HOSPITAL WASHINGTON, D.C. RESEARCH POSITION DIRECTOR OF PEDIATRIC CRITICAL CARE RESEARCH PROGRAM

To lead bench and clinical research of immune mediators and their role in critical illness in children. Must have minimum of 5 years of experience in research in the field of immune mediators and cytokines. Must be Board-eligible/Board-certified in Pediatric Critical Care. Candidate must have expertise in laboratory animal research, in techniques in cellular immunology including cytotoxicity assays and cytokine assays, and in the design and control of clinical research. Salary commensurate with qualifications. Send curriculum vitae, reprints, and names of references to: **Owen Rennert, M.D., Professor and Chairman, Department of Pediatrics, Georgetown University Children's Medical Center, 3800 Reservoir Road, N.W., Washington, DC 20007.**

RESEARCH SCIENTIST POSITION OTTAWA REGIONAL CANCER CENTRE

The Ottawa Regional Cancer Centre has an extensive cancer research program encompassing aspects of the cancer problem from bench to bedside. These include molecular biology, cell and animal models, physics, and clinical trials. The position available is for a biophysicist to work in the area of cellular and animal biology. Cross appointments at two universities are possible and a strong graduate student program provides a stimulating research and academic environment.

The candidate should have a Ph.D. degree or equivalent, experience in working with cells in culture, animal systems, and a wide range of standard laboratory equipment and techniques. Assets are: Experience in molecular biology, good written and verbal communication skills, publications and successful grantsmanship, degree in physics. Please send résumé to: **Dr. G. P. Raaphorst, Head of Medical Physics, Ottawa Regional Cancer Centre, 190 Melrose Avenue, Ottawa, Ontario, Canada K1C 4K7.**

NATIONAL INSTITUTES OF HEALTH

MEDICAL STAFF FELLOWSHIP

The National Institute on Aging is seeking Medical Staff Fellows to develop independent research programs in vascular cell biology and diseases related to aging. Studies will utilize cellular and molecular biology and have application to changes in blood vessels in aging and disease. The initial appointment is for a starting salary range of \$28,000 to \$52,825 depending on background and experience. Candidates must have a M.D. degree or its equivalent and be a U.S. citizen or permanent resident. Send curriculum vitae and statement of research interests to:

Dr. George R. Martin
Scientific Director, NIA
Gerontology Research Center
4940 Eastern Avenue
Baltimore, Maryland 21224



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The Biogen story starts with our strategic focus on **human therapeutics**. From AIDS and anti-inflammation to selected cancer markets, we continue to enjoy a leadership position in the field of biotechnology. Among our latest breakthroughs is Receptin™, an AIDS therapy now in human clinical trials. Our West German affiliate is marketing gamma interferon for the treatment of rheumatoid arthritis. In fact, gamma interferon is the fourth marketed drug that Biogen has played a major role in developing. With 11 years in the industry, Biogen continues to display the **maturity and innovation** needed to reach its ultimate goal of becoming a **fully-integrated pharmaceutical company**.

Protein Chemist

As a member of our Process Development department, your responsibilities will include designing new processes for protein purification; developing large-scale purifications of pharmaceutical-grade proteins; investigating formulations; and conducting process validation.

A Ph.D. with emphasis in Protein Purification, Protein Chemistry, or Physical Chemistry of Protein is required. Post-Doctoral or industry experience is preferred, especially in the practical aspects of protein purification, refolding or characterization.

The outstanding Biogen benefits package includes fully-paid life, medical, dental and disability insurance. A 401k savings plan with a company-matching provision along with company-paid pension. 100 percent tuition reimbursement for as many as 4 courses a year. And 10 weeks' paid maternity leave. Plus a lot of little things that really add up - like our credit union, on-site aerobics and relocation assistance.

To apply for this immediate opening, send your resume to Biogen, Inc., Ref. SPC77, 14 Cambridge Center, Cambridge, MA 02142. Biogen is an Equal Opportunity Employer.

BIOGEN

BIOLOGICAL OCEANOGRAPHY/ REMOTE SENSING

Faculty Position

The Institute of Marine Science, University of Alaska Fairbanks is seeking an outstanding scientist for a tenure track position in teaching and research in the area of biological oceanography with specialization in remote sensing techniques. The position will be filled at the Assistant Professor level or above depending on background and experience. The successful applicant will be expected to develop a vigorous research program in biological oceanography oriented toward polar waters based on remote sensing methods, as well as participate in teaching and guidance of graduate students. The University of Alaska Fairbanks is developing a major remote sensing facility that will offer new opportunities in the area of research. The Institute of Marine Science has a faculty of 24 with a graduate enrollment of 40-50 students. The faculty are involved in a variety of research programs emphasizing Arctic and high latitude seas.

Applicants should send a summary of research interests with a curriculum vitae and the names, addresses, and phone numbers of three references to:

C. Peter McRoy
Chair, Remote Sensing Search Committee
c/o Director's Office
Institute of Marine Science
University of Alaska Fairbanks
Fairbanks, AK 99776-1080

Closing date for applications is 31 July 1989. Applications of finalists may be subject to public disclosure. Persons hired must comply with the new employment provisions of the Federal Immigration Reporting Act. The University of Alaska is an Equal Opportunity/Affirmative Action Employer and educational institution.

Positions in Applied Biotechnology

Pfizer, a U.S. based multinational pharmaceutical company, is seeking qualified scientists to expand a recently established Applied Biotechnology research group at its Central Research facility in Groton, Connecticut. We are looking for individuals with strong credentials in the areas of immunology and cellular receptors. You should have the desire and ability to develop novel assay technology and should be capable of applying this technology to the discovery of new therapeutic agents.

Your qualifications should include a PhD degree and at least two years postdoctoral training. Experience in one or more of the following areas, monoclonal antibodies, immunological detection techniques, pharmacology, molecular biology, or natural product screening is also desirable. You will be expected to establish and maintain collaborations with specific project teams in a number of therapeutic areas throughout our discovery research operations including sites in Europe and Japan.

There are also positions available at the BS or MS level. These individuals should have one to three years of experience in at least one of the above areas.

Pfizer offers a stimulating scientific research environment, a competitive compensation and benefits package along with relocation assistance to this southeastern Connecticut shoreline community. Please send a resume, a description of your research experience, and names of three references to: Jerry K. Larson, PhD, Assistant Director, Employee Resources, Research Personnel, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.



POSITIONS OPEN

RESEARCH ASSOCIATE, Ph.D.—Molecular biology and biochemistry to study regulation of aminopeptidase expression in vitro and in vivo, as well as upon aging and/or transformation. Available immediately. Please send résumé, list of experience, and three letters of reference to: **Dr. Allen Taylor, Director, Laboratory for Nutrition and Cataract Research, Human Nutrition Research Center on Aging at Tufts University, 711 Washington Street, Boston, MA 02111. Affirmative Action/Equal Opportunity Employer.**

MARIE CURIE RESEARCH INSTITUTE STAFF POSITIONS IN CELL AND MOLECULAR BIOLOGY

Independent staff positions are available for scientists with at least 2 years of postdoctoral experience. Research interests can be within a broad range of topics including cell and molecular biology of development, differentiation, and/or oncogenesis. These posts are core-funded, and the laboratories well-resourced and equipped for contemporary molecular and/or cellular techniques. Successful candidates will be expected to develop their own research group. Send curriculum vitae plus a short statement of research interests to: **G. Currie (or telephone him on (0)883 722306) at the Marie Curie Research Institute, The Chart, Oxted, Surrey, RH8 0TL, U.K.**

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

STATISTICIAN—Insurance company has an outstanding opportunity in the Corporate Research Division. Seeking an individual to develop and implement quantitative analysis projects in areas such as risk selection and experimental design. Training at the Master's or Ph.D. level. 2 to 5 years of experience in applied statistics or operations research, and strong technical and communications skills are required. Position offers challenging assignments in a highly professional environment, a competitive salary, and comprehensive benefits. To apply, please contact: **Margaret MacKay, The Travelers Companies, Corporate Research Division—6PB, One Tower Square, Hartford, CT 06183-7200. Telephone: 203-277-0259.**

Rutgers University: The Camden chemistry faculty anticipates the appointment of a **SYNTHETIC ORGANIC CHEMIST** with a commitment to teaching and the potential for significant research accomplishment for 1 July 1990 to fill a vacancy created by retirement. Further information can be obtained from: **S. A. Katz, Rutgers University, Camden, NJ 08102. Rutgers University is an Equal Opportunity/Affirmative Action Employer.**

VASCULAR CELL BIOPHYSICS

Applications are invited for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level in the Department of Biophysics. Candidates must have a Ph.D. in an appropriate discipline and at least 2 years of postdoctoral experience. The individual will be expected to establish a vigorous and independent research program in some aspect of vascular smooth muscle or endothelial cell biophysics/physiology which will complement existing programs in membrane transport, cell structure and mechanics, microvascular control and microcirculatory hemodynamics. Curriculum vitae, statement of research interests and names of three references should be sent to:

**Dr. Paul La Celle, Chairman
Department of Biophysics
University of Rochester
Rochester, NY 14642**

An Equal Opportunity Employer M/F.

POSITIONS OPEN

SCIENTIST to join the research faculty of the Department of Anesthesiology at Duke University. Applicant must have minimum of 7 years of research experience, 3 years in anesthesiology. Applicant must be skilled in cardiovascular biochemistry, biophysics, computers, and statistics. Ph.D. degree in biochemistry/pharmacology preferred. Appointment and salary will be at Associate in the Department of Anesthesiology level. *Duke is an Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae and if not U.S. citizen, please indicate visa status. Reply: **Box 101, SCIENCE.**

AWARDS

AMERICAN EPILEPSY SOCIETY AWARDS PROGRAM

The American Epilepsy Society announces a new annual Awards Program designed to encourage and reward clinical and basic science investigators whose research contributes importantly to understanding and conquering childhood-onset epilepsy.

Category 1 Awards: Two Annual Awards of \$150,000 each will be made to senior individuals who have a distinguished history of research achievements and professional excellence related to pediatric aspects of epilepsy. One award will go to a clinical investigator and the other to a basic scientist.

Category 2 Awards: Three Annual Awards of \$50,000 each will be made to individuals whose research holds promise of leading to important advances in the understanding, diagnosis and treatment of childhood-onset seizures and epilepsy. At least one award in this category will go to a clinical investigator.

Candidates for the American Epilepsy Society Awards are nominated by their peers. The American Epilepsy Society has the sole responsibility for selection of recipients. Nomination forms are available from the American Epilepsy Society. Deadline for completed nominations is 1 October 1989. Awards will be announced at the annual meeting of the American Epilepsy Society in Boston, 2 to 7 December 1989.

Contact: **The American Epilepsy Society Awards Program, AES Executive Office, 179 Allyn Street, Suite 304, Hartford, CT 06103-1488. Telephone: 203-246-6566.**

The American Epilepsy Society Awards Program has been made possible by funds generously provided by the Milken Family Medical Foundation.

TRAINING PROGRAM

UNIVERSITY OF VIRGINIA DEVELOPMENTAL BIOLOGY TRAINING PROGRAM

Funding is available to support qualified individuals for pre- and postdoctoral training in developmental biology. This program emphasizes training in modern, interdisciplinary approaches to the study of developmental processes.

**Paul Adler, Morphogenesis
Gary Balian, Cellular Matrix
Ann Beyer, Differentiation
Robert Bloodgood, Differentiation
Claire Cronmiller, Sex Determination
Doug Desimone, Cell Interactions
Peter Dierks, Differentiation
Charles Emerson, Lineage Determination
Marilyn Fisher, Neural Development
Robert Grainger, Tissue Induction
John Herr, Gametogenesis
Irwin Konigsberg, Differentiation
Charles Little, Cell Interactions
Sally Moody, Embryogenesis
Oscar Miller, Cytogenetics
Lionel Rebhun, Mitotic Regulation
Oswald Steward, Neural Development
Jeremy Tuttle, Neural Development
Mike Wormington, Embryogenesis
Theodore Wright, Developmental Genetics**

For more information, contact: **Dr. Charles Emerson, Director, Developmental Biology Training Program, Department of Biology, University of Virginia, Charlottesville, VA 22901, or telephone 804-924-7067.**

*UVA is an Equal Opportunity/
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POSITIONS OPEN

TENURED OR TENURE-TRACK FACULTY POSITIONS

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2. Molecular immunology
3. Tumor biology/oncogenes
4. Macromolecular structure/x-ray crystallography/NMR
5. Cellular physiology/signal transduction

There is particular interest in candidates using contemporary methodologies, e.g., transgenic animals. Applicants must have a Ph.D. or M.D. degree with demonstrated research productivity. A strong motivation toward creative research and ability to attract independent funding is essential. Faculty rank and salary are negotiable. Applicants must submit curriculum vitae, summary of research interests and names of three references to: **Dr. Michael P. Czech, Director, or Dr. John L. Sullivan, Search Committee Chairman, Program in Molecular Medicine, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 01655.**

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