

sively on Japanese observations. Though Mogi includes chapters on the physical basis, methods, and strategy of earthquake prediction, coverage of these topics is neither systematic nor complete. Although few seismologists reading this book can fail to be offended by at least one cutting omission or idiosyncratic interpretation, the work has a clear value in a developing field where no consensus has yet emerged. It should be of interest to all specialists wishing to learn about Japanese seismology and that country's progress in the field of earthquake prediction.

WAYNE THATCHER
U.S. Geological Survey,
Menlo Park, CA 94025

Heavy-Ion Collisions

Frontiers in Nuclear Dynamics. R. A. BROGLIA and C. H. DASSO, Eds. Plenum, New York, 1985. xii, 402 pp., illus. \$69.50. Ettore Majorana International Science Series, Physical Sciences, vol. 25. From a symposium, Erice, Sicily, July 1984.

A major theme of modern nuclear research is the study of nuclear matter under extremes of temperature, density, and spin. These studies bear on the nature of the fundamental strong interaction, on the physics of quantal many-body systems, and on the properties of neutron stars and supernovae. Much recent progress can be attributed to experiments that make use of accelerated beams of large nuclei. In contrast to the gentler interactions associated with "light ions," collisions with a "heavy ion" projectile can severely stress a target nucleus. Analysis of the debris, in combination with models of the collision process, offers an otherwise unattainable glimpse of the nuclear material. *Frontiers in Nuclear Dynamics* surveys the diverse and evolving field of heavy-ion physics through a set of lecture notes prepared for an international school.

The large nuclear fragments emerging from a heavy-ion collision can be spinning rapidly, often enough to cause dramatic changes in their internal structure. The study of such "high spin" states through the energies and angular distributions of the many photons emitted during their de-excitation has been very fruitful, and numerous connections to nuclear structure under more prosaic circumstances have been made as a result of such studies. Lectures by D. Schwalm *et al.* and by F. Stephens summarize what can be learned with large arrays of photon detectors that surround the collision, with much welcome detail on design and data analysis. The story is one in which

steady improvements in instrumentation are constantly refining the physics, and the next generation of experiments should significantly advance our understanding of how nuclei respond to rotation.

The nature of the collision process itself can be more elusive. Lectures by A. Winther and W. von Oertzen review grazing collisions, from which the nuclei emerge relatively intact. These interactions are understood in terms of the quantal properties of the target and projectile and a semiclassical analysis of their relative motion. However, more central collisions require consideration of the dynamical properties of the nuclear material, as is discussed in lectures by C. Ngô and G. Bertsch. Bertsch presents the formalism and results of the time-dependent mean-field method appropriate to low-energy collisions, as well as a very promising approach to intermediate energies, simulation of the Uehling-Uhlenbeck equation.

Measurement of the nuclear equation of state and the detection of new phases of nuclear matter, two of the field's holy grails, are discussed in D. Scott's lectures. Prerequisites are the attainment of approximate equilibrium in the small systems (less than about 100 nucleons) occurring in the collision and a demonstrated sensitivity of experimental observables to the equation of state. Though there is some circumstantial evidence that the former takes place, the jury is certainly not in yet, and the complexity of the latter makes firm statements about it difficult. However, there has been progress in these matters since Scott's lectures, and there is now considerable optimism about ultimately deducing an equation of state from the data.

Heavy-ion collisions at ultrarelativistic energies are perhaps foremost among the "frontiers" that will be explored in the coming years. This regime offers the possibility of "melting" the nucleons and creating a novel plasma of quarks and gluons. The present book is deficient only in not containing an exposition of this subject of a quality commensurate with its other coverage.

The 11 lecturers, all experts in their fields, have generally taken their pedagogy seriously. The resultant material exemplifies the diversity of heavy-ion phenomena and the arsenal of experimental and theoretical tools used to understand them. The lectures will serve well either to introduce a graduate student to the field or to provide more experienced scientists with useful reviews.

STEVEN E. KOONIN
Division of Physics, Mathematics,
and Astronomy,
California Institute of Technology,
Pasadena, CA 91125

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(Continued on page 411)

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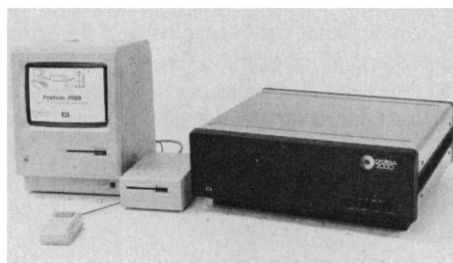
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Model 8620 is a bench-top analyzer for quantitative analysis of any elements above atomic number 12. It features dual source capability to cover more elements and automatic stabilization to enhance its reliability. It offers a choice of detectors. Up to six elements may be analyzed for simultaneously. The multifunctional, alphanumeric keyboard offers menu and help commands and the instrument has an integral 40-column printer. SELFCAL software is provided for calibration of the analyzer. Asoma Instruments. Circle 601.

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Literature

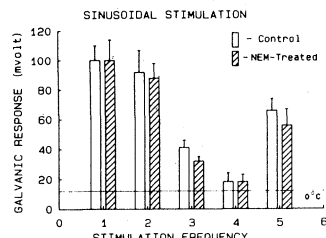
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ACADEMIC PLASTIC SURGEON at the University of Michigan Medical Center with emphasis in burn treatment, hand and pediatric plastic surgery. Position is at the instructor level and will initially be available for 12 months, from 1 July 1986 through 30 June 1987. Position includes opportunities for laboratory research in burn and wound healing, as well as all aspects of pediatric surgery. Candidates should have satisfactorily completed a residency program in plastic surgery, be eligible for Board-certification, have demonstrated potential as an academic surgeon, have expertise and prior experience in burn treatment, hand and pediatric plastic surgery, and have research interest and prior related research experience. Send curriculum vitae and three letters of recommendation to: **Louis C. Argenta, M.D., Interim Head, Section of Plastic Surgery, Department of Surgery, University of Michigan Hospitals, 2218 A. Alfred Taubman Health Care Center, Box 0340, 1500 East Medical Center Drive, Ann Arbor, Michigan 48109.** *The University of Michigan is a nondiscriminatory, Affirmative Action Employer.* PCN 267.

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ASSOCIATE RESEARCH PHYSICIST. Department of Physics. To participate in the Fermilab E665 experiment in Batavia, Illinois, which will study muon scattering with the new Tevatron muon beam with emphasis on exclusive processes. Our particular responsibility is to construct a ring imaging Cerenkov counter for this experiment. Candidates must have a minimum of 2 years of experience in data analysis of high-energy physics and knowledge of deep inelastic lepton scattering. One year of experience with polarized targets is also required as is a Ph.D. or equivalent degree in physics. Full-time position with annual salary of \$27,820. Interested applicants should send their résumés to: **Professor V. W. Hughes, Yale University, Department of Physics, 356 JWG, 260 Whitney Avenue, New Haven, CT 06520.** *Yale University is an Equal Opportunity Affirmative Action Employer.*

ASSOCIATE PROFESSOR Biochemistry and Molecular Biology

A tenure-stream position as associate professor is available as of 1 July 1986. The position will be a joint appointment in the Departments of Biochemistry and Medical Genetics, Faculty of Medicine, University of Toronto. The candidate should have a Ph.D. degree in biochemistry or related science. The applicant should have a minimum of 7 years of postdoctoral experience and an established research record in the biochemistry and molecular biology of eukaryotic development. Salary will be commensurate with qualifications and experience in the range for an associate professor and will be university budget funds. *The university encourages both men and women to apply for this position. In accordance with Canadian immigration requirements, this advertisement is directed in the first instance to Canadian citizens and landed immigrants.* Please send curriculum vitae and names of at least three referees to: **Dr. H. Schachter, Chairman, Department of Biochemistry, University of Toronto, Toronto, Ontario, Canada M5S 1A8.** The closing date for applications will be 30 May 1985.

Applications are currently being accepted for a position at the level of **ASSOCIATE PROFESSOR** or **PROFESSOR** in the Department of Experimental Therapeutics and Grace Cancer Drug Center at Roswell Park Memorial Institute. Candidates will be expected to establish and lead a research program focused on the identification of new target sites for chemotherapeutic intervention based on recent developments in the molecular biology of tumor cells. Research and demonstrated leadership experience in biochemical pharmacology and/or molecular biology with a strong interest in cancer therapy is required. Inquiries should be addressed to: **Dr. E. Mihich, Roswell Park Memorial Institute, Buffalo, NY 14263.** *Equal Opportunity Employer.*

POSITIONS OPEN

NMR Facility at Madison. ASSISTANT/ASSOCIATE SCIENTIST. Research position available immediately. Emphasis on computer methods for acquiring, processing, and interpreting biological NMR data in terms of structure and function. Nationally funded facility: staff of four Ph.D. scientists; five superconducting spectrometers; computer graphics workstations; broad-based core and collaborative research projects on NMR instrumentation, protein chemistry, enzymology, metabolic NMR and MRI. Qualifications include a Ph.D. degree, extensive computer programming experience, and a record of scientific productivity in fields of NMR, molecular dynamics, or molecular graphics. Salary from \$20,000 to \$38,000, depending on rank and experience. Send curriculum vitae, publications, statement of research interests, and three letters of recommendation to: **John L. Markley, Director NMRFAM, Department of Biochemistry, University of Wisconsin-Madison, 420 Henry Mall, Madison, WI 53706.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR. The Department of Anatomy and Cellular Biology at Harvard Medical School invites applications for a junior position with a start date in 1986 or 1987. Applicants should have active research programs in the general area of cell, molecular, and/or developmental biology and be prepared to teach gross anatomy. Send curriculum vitae, bibliography, and three or four references to: **Dr. Elizabeth D. Hay, Chairperson, Department of Anatomy and Cellular Biology, Harvard Medical School, 25 Shattuck Street, Boston, MA 02114.** *Harvard University is an Equal Opportunity Employer.*

Applications are invited for full-time, tenure-track position at the ASSISTANT PROFESSOR level in the Department of Anatomy, College of Medicine, University of South Florida. Applicants should have a Ph.D. or M.D. degree and a minimum of 2 years of postdoctoral research experience. The successful candidate will be expected to pursue a vigorous research program capable of attracting extramural funding and to participate in the teaching of gross anatomy to freshmen medical students. Experience in the latter is required. Send curriculum vitae, statement of research interests, and the names of three references by 13 June 1986 to: **J. Rhodin, M.D., Ph.D., Chairman, Department of Anatomy, College of Medicine, University of South Florida, 12901 North 30 Street, Tampa, FL 33612.** *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR—Molecular Immunology or Molecular Aspects of Development. This is an anticipated tenure-track position carrying a teaching load commensurate with major research efforts. Good start-up funds for equipment are available. Candidate should have at least 2 years of postdoctoral experience. The successful candidate will be encouraged to interact with a newly formed Neuroscience Center on campus, but the candidate need not necessarily have direct interests in neuroscience. A 1 September 1986 or 1 January 1987 starting date is anticipated. Candidate should send curriculum vitae, a brief statement of research plans, and three letters of recommendation to: **Dr. Harvey H. Feder, Biology Search Committee, Department of Zoology and Physiology, Rutgers University, Newark, New Jersey 07102.** *Rutgers University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR PHARMACEUTICAL CHEMISTRY

Tenure-track position starting 1 January 1987. Ph.D. is required, preferably with postdoctoral experience. A professional degree in pharmacy desirable, but not essential. Applicant is expected to teach undergraduate and graduate courses in medicinal chemistry and to develop an active research program in an area of pharmaceutical chemistry, such as QSAR drug analysis, metabolism, toxicology, and drug-receptor mechanisms. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.* Send curriculum vitae, a list of three referees, and a letter outlining future research interests to: **Dean John H. McNeill, Faculty of Pharmaceutical Sciences, The University of British Columbia, 2194 Health Sciences Mall, Vancouver, British Columbia V6T 1W5, Canada.** Deadline for Applications: 31 May 1986.

Senior Clinical Research Associate

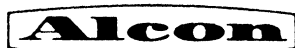
Contact Lens Care Products

Alcon Laboratories is a multi-national pharmaceutical company and a recognized industry leader in ophthalmic research. As a result of our continued growth, we are currently seeking an achievement-oriented Senior Clinical Research Associate. You will be working with clinical investigators to initiate and implement clinical studies for contact lens care products with responsibilities including the preparation of clinical protocols, clinical monitoring summaries and FDA submissions.

Minimum qualifications include a Ph.D. in a Biomedical Science with 2 years post-doctoral biomedical experience in either clinical or laboratory research or MS with 5 years clinical research experience. Excellent interpersonal skills and highly developed technical writing abilities are also necessary.

This position offers an excellent opportunity for professional recognition and growth. We offer a competitive salary plus comprehensive benefits including company paid life/medical/dental insurance and an excellent profit sharing trust plan. If our opportunity sounds like the kind of professional challenge you have been looking for, send your detailed resume with salary history, in strict confidence, to:

Sherry Rightmer, Employment Supervisor



Alcon Laboratories, Inc.
P.O. Box 6600
Fort Worth, Texas 76115

Equal Opportunity Employer, M/F/V/H

Assistant Director Scale-up of Mammalian Cell Culture

The Department of Cell Biology is looking for an outstanding scientist to head a new group concerned with developing large-scale mammalian cell culture techniques. This group will apply state-of-the-art systems to the scale-up of processes for new biopharmaceutical products under development at SK&F, such as tissue plasminogen activator (TPA), as well as undertaking innovative research designed to improve upon this emerging technology.

The successful candidate will:

- develop state-of-the-art systems for cultivating mammalian cells at a pilot plant scale of operation.
- be responsible for the provision of supplies of mammalian cell products to research programs and development projects.
- continue development of pilot plant capabilities in mammalian cell cultures.

Candidates are required to have:

- a Ph.D. in Biochemical Engineering or Cell Biology.
- three to six years postdoctoral experience in academia or industry.
- course work and research experience in cell biology or related subjects.
- experience of tissue culture techniques, suspension culture, microcarrier systems and/or immobilized cell reactors.
- a sound publication record and a strong reputation in subjects related to cell culture.
- knowledge of the hydrodynamic and physical-chemical factors important to the scale-up of fermentors for growing mammalian cells.

Smith Kline & French Laboratories, located in suburban Philadelphia, offers an excellent benefits and compensation program including an attractive relocation package. For confidential consideration, send your C.V. and names of three references to A. Francesco, Manager, Human Resources, SmithKline Beckman Corporation, 1596 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

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POSITIONS OPEN

ASSISTANT PROFESSOR OF ENTOMOLOGY. Tenure-track (9-month) position, 60 percent extension/teaching and 40 percent research. Extension responsibility in pesticide applicator training program. Research emphasis on some aspect of pesticide use strategy (for example, resistance management) with application to urban or agricultural pest management teaching at graduate or undergraduate level. Ph.D. and at least 2 years of experience in applied pesticide research and/or pesticide applicator training. Salary commensurate with qualifications and experience. Send résumé and at least three letters of recommendation to: **Dr. John Edman, Search Committee Chairman, Department of Entomology, University of Massachusetts, Amherst, MA 01003.** Deadline 19 May 1986. *An Affirmative Action/Equal Opportunity Employer.*

INFORMATION SYSTEMS

ASSISTANT PROFESSOR OF SYSTEMS SCIENCE. Tenure-line position in the graduate teaching and research activities of the Systems Science Institute of the University of Louisville. The successful candidate must have: (i) a doctorate in an appropriate field; (ii) a strong background and interests in **information systems**, including computer usage, information science, communication systems, and societal implications; and (iii) demonstrated promise of research competence in related areas.

The successful candidate will be expected to teach two graduate courses per semester, to direct graduate student research projects, and to carry the normal share of college and university committee work. He/she should also be capable of carrying on publishable research projects in appropriate areas which would ultimately qualify him/her for a tenured position.

Applications, with curriculum vitae and a list of three references, must be received by 20 May 1986. Submit to:

**Professor John A. Dillon, Jr.,
Systems Science Institute
University of Louisville
Louisville, Kentucky 40292**

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

ASSISTANT RESEARCH PROFESSOR CARDIO-THORACIC SURGERY

Applicants are invited for an assistant research professorship (nontenured track) available commencing 1 August 1986. Applicant should have postdoctoral experience in some area of cardiovascular research. Level of salary commensurate with education and experience and is guaranteed for at least 3 years. The applicant will be expected to participate in on-going research, but will be allowed opportunity to develop independent programs and grant support. Applicant should submit a letter of application, curriculum vitae, and names of three individuals to serve as references.

Reply to: **Edward P. Todd, M.D., Ph.D., Professor and Chairman, Division of Cardiovascular and Thoracic Surgery, University of Kentucky, Lexington, KY 40536-0084.**

The University is a Nondiscriminatory, Affirmative Action Employer.

BACTERIOLOGY AND ANATOMY. The Ohio College of Podiatric Medicine invites applications for two faculty positions in (i) microbiology-medical bacteriology and (ii) histology/embryology, gross anatomy. These are full-time, career positions at the assistant professor rank. Applicants must demonstrate the abilities to teach in a medical school setting and to develop an independent research program. Candidates must have a Ph.D., D.P.M., and/or M.D. degree, or the equivalent. Submit letter of interest, curriculum vitae, and three references to:

**Cecelia A. Wylie
Ohio College of Podiatric Medicine
10515 Carnegie Avenue
Cleveland, Ohio 44106
Equal Opportunity Employer**

BIOCHEMIST—Ph.D.—With at least 3 years of experience with HPLC, protein sequencing, and synthetic peptides for a research project on tumor derived growth factors. Send curriculum vitae and three letters of reference to: **Dr. Giovanni Rovera, The Wistar Institute, 36th and Spruce Streets, Philadelphia, PA 19104.** *Equal Opportunity Employer.*

POSITIONS OPEN

BIOCHEMIST—Research in molecular biology and biochemistry to study the deficiency of lysosomal enzymes in neutrophils of beige (Chediak-Higashi) mice. Minimum requirements: Ph.D. in biochemistry, including 3 years of experience in protein biochemistry and cell biology; at least 1 year of experience with the beige mutants; and familiarity with Western-Blotting and radioimmunoassays. Forty hours per week (8:30 a.m. to 5:00 p.m.). Salary: \$22,999 per year. Send résumé to: **New York State Job Service, 584 Delaware Avenue, Buffalo, NY 14020.** DOT code: 041. 061. 026. Job Order Number: 0101271. *Equal Opportunity Employer.*

BIO-ORGANIC CHEMIST

A professional chemist with a strong background in both organic chemistry and biochemistry is needed to develop innovative products, based on natural and synthetic polymers, for the biotechnology market. Several years of practical experience in new product development involving organic or polymer chemistry is appropriate for professional who has been involved in development and is now ready to assume primary responsibility for a product area. Solid educational background required. Contact:

**Personnel Manager
Marine Colloids Division, FMC Corporation
P.O. Box 308
Rockland, ME 04841**

An Equal Opportunity/Affirmative Action Employer

CANCER CENTER SCIENTIST

The Hipple Cancer Research Center, an internationally-established biomedical research matrix of human tumor cloning, molecular biology, and cellular engineering, has immediate career opportunities for cancer center scientists. Qualified candidates will possess Ph.D. and/or M.D. degree(s) with 3 years of postdoctoral experience in contemporary cancer research (for example, tumor cell biology, experimental hematology, molecular biology, or cellular engineering). The cancer center currently has major programs addressing capillary cloning of human tumors, human tumor markers, and hematopoietic hormone purification.

The cancer center offers an innovative, entrepreneurial research environment and maintains close academic affiliations locally, as well as nationally, through its Scientific Advisory Board (**Dr. Harry Eagle, Chairman**).

Successful candidates will have excellent compensation and benefits, opportunities to interact on a variety of scientific, clinical and academic levels, and the prerogative to develop their own research team in concert with the cancer center's mission. For prompt, confidential consideration, send curriculum vitae, salary history, a summary of research interests, and three references to the cancer center director. For further information, please telephone:

**Dr. Martin J. Murphy, Jr., Director
Hipple Cancer Research Center
4100 South Kettering Boulevard
Dayton, Ohio 45439-2092
Telephone: 513-293-8508**

CHAIRMAN DEPARTMENT OF MICROBIOLOGY LOYOLA UNIVERSITY— STRITCH SCHOOL OF MEDICINE

The Stritch School of Medicine, Loyola University of Chicago, invites applications and nominations for the position of chairman of the Department of Microbiology. The candidate should possess a Ph.D. or equivalent degree in microbiology, have an established and active research program, have a commitment to medical and graduate education, and have had previous administrative experience. Currently, the faculty of the department are pursuing research in: molecular biology; cellular immunology; prokaryotic and eukaryotic genetics; virology; immunochimistry; microbial physiology; pathogenic mechanisms; and mycology. Applicants should send their curriculum vitae and the names of three references by 15 July 1986 to: **Dr. John X. Thomas, Jr., Chairman, Search Committee for Microbiology, Stritch School of Medicine, Loyola University of Chicago, 2160 South First Avenue, Maywood, IL 60153.** *Loyola University of Chicago, Stritch School of Medicine is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CELL BIOLOGY—IMMUNOLOGY

Applications invited for a tenure-track faculty position at the assistant professor level at the University of Pittsburgh. The position is offered jointly by the Pittsburgh Cancer Institute and the Department of Dermatology. Applicants should have a Ph.D. and two or more years of postdoctoral training. Candidates are sought with research interests and experience in cell culture techniques, immunology, and cell biology. The successful applicant will be expected to develop a vigorous research program related to cutaneous and immunology oncology, to participate in teaching graduate students, and to be active in the intellectual life of the Cancer Institute and the Department of Dermatology. Applicants should send complete curriculum vitae, brief description of previous research and teaching interests, a bibliography, and the names of at least two references to: **Ronald B. Herberman, M.D., Director, Pittsburgh Cancer Institute, 230 Lothrop Street, Pittsburgh, PA 15213.**

CELL PHYSIOLOGIST/PHYSIOLOGIST, Ph.D. preferred. Temporary, 1-year position starts 15 September 1986 to teach cell physiology, introductory biology, and human anatomy/physiology on small liberal arts campus. Send résumé, transcripts, and three letters of reference by 5 May to: **Dr. Van D. Gooch, Division of Science/Mathematics, University of Minnesota, Morris, MN 56267.** *University of Minnesota, Morris, is an Equal Opportunity Employer and specifically invites and encourages applications from women and minorities.*

Curator of Computers, Information, and Society National Museum of American History SMITHSONIAN INSTITUTION

The National Museum of American History, Smithsonian Institution, is looking for a curator of computers, information, and society. The position is to be located in the Department of the History of Science and Technology and will have a salary range of from \$31,619 to \$52,262 per annum, depending on qualifications and experience.

Responsibilities will include the development and maintenance of a museum collection in this field; involvement in the planning and production of a major exhibition to be entitled "The Information Revolution"; and scholarly research and publication exploring the impact of the computer and electronic information systems within a broad social and historical context.

The Smithsonian Institution is an Equal Opportunity Employer. Application should be made directly to: **The Smithsonian Office of Personnel Administration, Washington, DC 20560, Attention: MPA 86-185-T.** Individuals interested in obtaining further information, may contact the chairman of the search committee: **Tom D. Crouch, Curator, Engineering and Industry, National Museum of American History, Smithsonian Institution, Washington, DC 20560.**

DIRECTOR, CLINICAL ATHEROSCLEROSIS RESEARCH PROGRAM

We are seeking candidates for the position of director of Clinical Atherosclerosis Research Division who have experience in either basic research, epidemiology, and/or lipid metabolism in addition to having a background and experience in clinical cardiovascular disease. Candidates must hold an M.D. degree and be recognized authorities in the field with a track record of contributions and funding. The director will participate in a multidisciplinary approach to the early detection and prevention of atherosclerosis vascular changes. Salary commensurate with qualifications. Please send a statement of research interests and a complete curriculum vitae to **Box 60, SCIENCE.**

LIPID METABOLISM/MOLECULAR GENETICS

A basic Cardiovascular Research Center with a multidisciplinary approach is seeking a scientist in the field of lipid metabolism and/or molecular genetics. The candidate must be a recognized authority in the field, hold a Ph.D., and/or M.D. degree, and have a track record of contributions and funding. The candidate will participate in a multidisciplinary approach to the early detection and prevention of atherosclerosis vascular changes. Salary commensurate with qualifications. Please send a statement of research interests and complete curriculum vitae to: **Box 61, SCIENCE.**

PHARMACEUTICAL PRODUCT DEVELOPMENT SCIENTIST

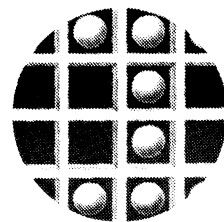
Cetus Corporation is seeking a creative goal oriented individual with experience in the development and evaluation of drug delivery systems. The selected candidate will be challenged to design, develop and validate parenteral (sustained release) delivery systems for biologically active proteins/peptides.

Applicants must have a Ph.D. in Pharmacy/Biological Sciences and at least 3 years of related experience with demonstrated expertise in delivery systems and chemical modification of proteins to enhance bioavailability.

This position is a unique opportunity to work with other highly skilled scientists and engineers in the development of therapeutics for cancer and infectious disease.

Please send your resume in confidence to:

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Emeryville, CA 94608
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INVITRON

ELECTRONIC/COMPUTER ENGINEER

A unique career opportunity exists for an innovated individual as an Electronic/Computer Engineer. This person would be responsible for developing laboratory and research grade systems into leading technological commercial equipment.

The successful candidate will have training in electrical or computer engineering, 3-5 years of experience in hardware/software design and competency in medium voltage power supply design. Technical writing skills and structured programming capabilities in Pascal, Assembler and/or C are a plus. Good communication and management skills and desire to meet challenge and diversity of a start-up situation.

Competitive salary and equity participation offered. Qualified candidates should submit a detailed resume, including any program descriptions, inventions, patents and/or publications that demonstrate development capability. Address attn: **Nancy Kaplan, Invitron Corporation, 8000 Maryland Ave., Suite 860, Clayton, MO 63105.**

**The Dow Chemical Company's Biotechnology —
Central Research Laboratories in Midland, Michigan,
are seeking a**

DEVELOPMENT SCIENTIST

SPECIALIZING IN PARENTERAL DRUGS FOR

CANCER THERAPY

for start-up and operation of a clinical cGMP miniplant for the synthesis of biotech-based anticancer therapeutics. Must also have the ability to perform independent research in one or more of the following areas: protein isolation, biological assay, protein chemistry, immunology or pharmacology/toxicology.

The successful candidate will have an advanced degree in pharmacy, biochemistry, microbiology, cell biology, or similar disciplines; and 4-8 years of experience in a pilot plant or manufacturing situation involving the development of parenteral drugs, biologicals or nutritional.

The Dow Chemical Company offers a stimulating environment and a competitive salary and benefits package.

Send resume to:
**Technical Recruiting,
Department D
P.O. Box 1655,
Midland, Michigan 48641-1655.**



The Dow Chemical Company is an equal opportunity employer.

JUNIOR FACULTY

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY is seeking applicants for a tenure-track, assistant professor position in human language and speech or reasoning and knowledge representation. The opening is part of an initiative to foster computational approaches to the cognitive and brain sciences. The candidate must have a strong mathematical or formal background and demonstrate expertise in devising computational algorithms applicable to understanding information processing by the mammalian brain. The subject of the candidate's research can pertain to the perception or production of language and speech, hearing, conceptual organization and inference, semantic memory, modeling of human expertise, knowledge acquisition, or related topics. Candidates should be prepared to teach graduate and undergraduate subjects and to develop funded research programs. Depending on the interests and training of the candidate, the appointment will be either in the Department of Electrical Engineering and Computer Science, Linguistics and Philosophy, or Psychology, and may be joint with the Artificial Intelligence Laboratory or the Research Laboratory of Electronics.

Applicants should send their resume, reprints and the names of three references by June 1, 1986 to Professor W. Richards, E10-120, Massachusetts Institute of Technology, 79 Amherst Street, Cambridge, MA 02139. MIT is an Equal Opportunity Employer. Qualified women and minorities are encouraged to apply.

MIT

POSITIONS OPEN

CHAIRMAN, DEPARTMENT OF PEDIATRICS—Yale University School of Medicine and Yale-New Haven Hospital invite applications and nominations for the position of chairman and chief of the Department of Pediatrics. Candidate must be qualified for faculty appointment at the rank of professor and must be a recognized leader in the field with proven ability as a scholar, clinician, teacher, and administrator. Appointment is to be effective July 1987. It is suggested that applications be submitted by 30 June 1986. *Qualified women and minority group members are encouraged to apply.* Curriculum vitae and bibliography should be sent to the chairman of the search committee: **Dr. Lawrence S. Cohen, Department of Internal Medicine, Yale University School of Medicine, 333 Cedar Street, P.O. Box 3333, New Haven, Connecticut 06510. An Equal Opportunity/Affirmative Action Employer.**

CHAIRPERSON, DEPARTMENT OF VETERINARY ANATOMY, The Ohio State University, College of Veterinary Medicine, invites nominations and applications for the position of chair for the Department of Veterinary Anatomy. A doctoral degree is required. Active participation in research and supervision of graduate students will be expected of the successful applicant. Applicants must demonstrate an established record in research, teaching, and leadership. Salary is negotiable and commensurate with qualifications and experience. The closing date is 9 May 1986, or thereafter until a suitable candidate is found. Nominations and applications should be accompanied by curriculum vitae and the names and addresses of three references we may contact. Contact: **Veterinary Anatomy Search Committee, College of Veterinary Medicine, 1900 Coffey Road, Columbus, OH 43210-1092. The Ohio State University is an Equal Opportunity/Affirmative Action Employer.**

UNIVERSITY OF MARYLAND DIRECTOR INSTITUTE FOR ADVANCED COMPUTER STUDIES

The University of Maryland Institute for Advanced Computer Studies (UMIACS) was established in 1985 by Governor Hughes to serve the entire university system as a center for research activities in computing. Current fields of interest include parallel computation, artificial intelligence, software engineering, and computer systems. UMIACS has ready access to the vast scientific, industrial, and governmental communities in the metropolitan Washington, D.C., area.

A permanent director is now being sought for UMIACS. The director will have an unusual opportunity to guide the formation, growth (30 positions within 3 years), and operation of this new institute, and should be a person with exceptional research and administrative abilities.

Applicants should send a complete certified curriculum vitae, and names of four references to: **Dr. Alex Dragt, Division of Mathematical and Physical Sciences and Engineering, University of Maryland, College Park, MD 20742.** For full consideration, applications should be received by 1 June 1986.

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

JET PROPULSION LABORATORY/ NASA VISITING SENIOR SCIENTIST INFRARED AND RADIO ASTRONOMY

The Jet Propulsion Laboratory is seeking a **senior scientist** to lead and organize the NASA Infrared Astronomy program of astronomical research and technology which includes theoretical astrophysics, laboratory astrophysics, and the development of advanced instruments, as well as the oversight of ground-based rocket, balloon, aircraft, and spacecraft observations. The visiting senior scientist is expected to provide scientific leadership in defining and implementing the Shuttle Infrared Telescope Facility (SIRTF), and other efforts such as the supporting research and technology, data analysis, sounding rockets, balloon and aircraft programs for the branch. The incumbent will be the principal authority on policy for the conduct of NASA's IR research program, and a principal advocate therefore. Deadline for application is 15 May 1986. Please send curriculum vitae, bibliography, and three letters of reference to: **Dr. Harry Ashkenas, Jet Propulsion Laboratory, 180-900, Department T60, 4800 Oak Grove Drive, Pasadena, CA 91109. An Equal Opportunity Employer, M/F.**

POSITIONS OPEN

DIRECTOR OF LABORATORY ANIMAL RESOURCES

The University of Louisville invites applications for a new position of director of Laboratory Animal Resources. The creation of this position reflects the growing desire for quality research at our institution. The director will assume responsibility for the entire institutional animal care and use program and will have an academic appointment in the School of Medicine, reporting to the vice-president for hospital affairs. In addition, the director will be responsible for establishing a new academic program of comparative medicine and will have major input into the design of a new animal facility. Candidates must possess the D.V.M. degree and be eligible for, or Board-certified by, the American College of Laboratory Animal Medicine. Preference will be given to candidates with training in laboratory animal science, experience in personnel supervision and administration, a demonstrated ability to conduct research, and an M.A. or Ph.D. degree in a related field. Academic rank and salary will be commensurate with qualifications and experience. To apply, please send your résumé, a letter of introduction, and the names of three references to: **Frederick N. Miller, Ph.D., Search Committee Chairman, Department of Physiology and Biophysics, University of Louisville School of Medicine, Louisville, KY 40292; telephone: 502-588-7573.** Applications should be submitted before 15 June 1986. *The University of Louisville is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR OF PATHOLOGY

International Research and Development Corporation (IRDC) has a challenging opportunity available as director of our Pathology Division. You will be responsible for managing the scientific and technical operations of over 70 people in the Histopathology, Necropsy, Histology, and Clinical Pathology Departments.

Candidates should have considerable experience in toxicologic pathology, be Board-certified, and have some management experience. We offer a full-range benefits program, relocation expenses, and an open starting salary.

IRDC is one of the foremost contract research laboratories specializing in animal safety evaluation studies for the pharmaceutical, chemical, agricultural, and consumer industries. We are located near Kalamazoo, Michigan, midway between Detroit and Chicago, in an area affording a broad range of urban or rural lifestyles with excellent cultural and recreational opportunities.

Please submit résumés to:

**Dr. Edwin I. Goldenthal,
Vice President and Director of Research
International Research and
Development Corporation
500 North Main Street
Mattawan, Michigan 49071**

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

ELECTRON MICROSCOPY (EM) TECHNICIAN position available in cell biology. B.S. with experience in EM and light microscopy using immunocytochemistry required. Biochemical experience including gel electrophoresis, enzyme purification, and enzyme assays preferred. To start April/May 1986. Send résumé and references to: **Dr. S. A. Ernst, Department of Anatomy, University of Michigan Medical Center, M4734 Medical Science II, Box 032, Ann Arbor, MI 48109. A nondiscriminatory/Affirmative Action Employer.**

FACULTY POSITION IN MOLECULAR GENETICS. The Oklahoma Agricultural Experiment Station is seeking an experienced scientist with proven research qualifications in one or more areas of genetic engineering including gene transfer, gene expression, and protein engineering. Responsibilities will include development of high-quality research programs in genetic engineering relevant to, and cooperative with, ongoing biotechnology programs at Oklahoma State University. Rank, salary, and department of residence are flexible and commensurate with qualifications. Evidence of innovative research capabilities and ability to attract extramural research support are critical. Start-up funds are available. Letters of application and curriculum vitae should be sent to: **Dr. R. R. Johnson, Associate Director, 139 Ag Hall, Oklahoma State University, Stillwater, OK 74078-0500. OSU is an Equal Opportunity/Affirmative Action Employer.**



ANALYTICAL PROTEIN BIOCHEMIST

International Minerals & Chemical Corporation, a Fortune 200 company, and a leader in the development of agricultural products and animal health pharmaceuticals, has a challenging opportunity for an Analytical Biochemist with experience in the characterization, identification and separation of proteins by liquid chromatography, electrophoresis and automated analyses. The successful candidate will have a Ph.D. in biochemistry or a related field with at least two years post-doctoral experience in analytical protein biochemistry and in bench-scale production of modified proteins. Knowledge of spectroscopic analyses of proteins is desirable as is a working knowledge of computers. Strong verbal and written communication skills are essential.

As a member of the Bioanalytical Research Section at our Corporate Research & Development Center in Terre Haute, Indiana, this individual will join a dynamic research group that is solving problems related to biotechnology, drug delivery, and new product development.

Salary will be commensurate with experience and includes a complete fringe benefit package. Please submit resume and transcript in confidence to:

**M. G. Ray
International Minerals & Chemical Corporation
P.O. Box 207
Terre Haute, IN 47808**

An equal opportunity/affirmative action employer

CHEMISTS

Sigma Chemical Company, a world producer and distributor of biochemicals and diagnostic reagents is seeking highly motivated PhD level Biochemists/Clinical Chemists with minimum 2 years of post doctoral/industrial experience.

Senior Chemist (Clinical Chemistry)—Involvement includes the development of diagnostic reagents to measure analytes of clinical significance in body fluids using manual and automated assay procedures.

Senior Chemist (Endocrinology/Immunodiagnosics)—Will be responsible for development of nonradioactive hormonal assay procedures (nonRIA).

Excellent opportunity for chemists with a desire to eventually assume supervisory responsibilities. Full company paid benefits package. Send resume in confidence to:

**Personnel Director
SIGMA CHEMICAL COMPANY
P.O. Box 14508
St. Louis, MO 63178**

Equal Opportunity Employer, M/F

Postdoctoral Scientist Cell Biologist

The Department of Cell Biology at Smith Kline & French Laboratories, located in suburban Upper Merion, Pennsylvania, is seeking an outstanding individual to join a multidisciplinary research effort investigating the pathogenesis of colon carcinoma. The successful candidate will use a combination of immunocytochemical and molecular genetic techniques to study the proliferation and differentiation of human colon tissue in primary culture.

Applicants should have:

- expertise in the application of immunoelectron microscopy and immunocytochemistry to the study of cellular differentiation. Familiarity with basic molecular genetic techniques is desirable but not essential.
- expertise in tissue culture methodology.
- a Ph.D. in Cell Biology or Immunology.
- 0 - 3 years postdoctoral experience.
- a growing publication record.
- clear and concise communication skills.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your CV and the names of three references to: Walter B. Flagg, Senior Employment Consultant, SmithKline Beckman Corporation, 1564 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

SK&F
A SmithKline Beckman Company

PHYSIOLOGIST

Postdoctoral opening available for 2 years in the Low-Field Group, Francis Bitter National Magnet Laboratory, Massachusetts Institute of Technology. Unique opportunity to participate in Biomagnetism, particularly in the use of magnetoencephalogram (MEG). Studies (NIH) will be made of the normal human brain, and of epileptic patients. Experience necessary in electrophysiology and/or electro-magnetism. Ph.D. in bioengineering or related field is required. Salary \$20,000 p/y.

Send curriculum vitae, and three letters of reference to: Dr. David Cohen, c/o Personnel Office, M.I.T., 77 Massachusetts Avenue, Cambridge, MA 02139, attn: job no. R86-930.

An equal opportunity/
affirmative action
employer.

MIT



NATIONAL UNIVERSITY OF SINGAPORE DEPARTMENT OF BOTANY

Applications are invited for teaching appointments in the Department of Botany.

Candidates should have a Ph.D. degree and who are trained in one or more of the following areas in *plant sciences*: molecular biology, biotechnology, recombinant DNA-technology, gene transfer systems, pathology, biochemistry, taxonomy (especially tropical flora), morphogenesis, genetics, and cytogenetics.

Preference will be given to candidates with both teaching and research experience.

Gross annual emoluments range as follows:

Lecturer	\$S28,300-58,680
Senior Lecturer	\$S53,160-94,090
(US\$1 = S\$2.16 approximately)	

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered.

Leave, medical and provident fund benefits are provided. Depending on the type of contract offered, other benefits may include: a settling-in allowance of S\$1,000 (single) or S\$2,000 (married), subsidized housing at nominal rentals ranging from S\$100 to S\$216 p.m., education allowance for up to three children, subject to a maximum of S\$10,000 per annum per child, passage assistance and baggage allowance for the transportation of personal effects to Singapore. Staff members may undertake consultation work, subject to the approval of the University, and retain consultation fees up to a maximum of 60% of their gross annual emoluments in a calendar year.

Application forms and further information on terms and conditions of service may be obtained from:

The Director
Personnel Department
National University of Singapore
Kent Ridge
Singapore 0511

Mr Peter Lim
Director, North America Office
National University of Singapore
780 Third Avenue, Suite 2403
New York, N.Y. 10017, U.S.A.
Tel: (212) 751-0331



NATIONAL UNIVERSITY OF SINGAPORE DEPARTMENT OF ZOOLOGY

Applications are invited for teaching appointments in the Department of Zoology.

Candidates should have a Ph.D. degree and who are trained in one or more of the following areas:

Developmental Biology, particularly molecular aspects involving aquatic animals
Marine Microbiology/Fish Pathology
Molecular Genetics of Protozoa

Gross annual emoluments range as follows:

Lecturer	\$S28,300-58,680
Senior Lecturer	\$S53,160-94,090
Associate Professor	\$S82,430-113,530
(US\$1 = S\$2.15 approximately)	

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered.

Leave, medical and provident fund benefits are provided. Depending on the type of contract offered, other benefits may include: a settling-in allowance of S\$1,000 (single) or S\$2,000 (married), subsidized housing at nominal rentals ranging from S\$100 to S\$216 p.m., education allowance for up to three children, subject to a maximum of S\$10,000 per annum per child, passage assistance and baggage allowance for the transportation of personal effects to Singapore. Staff members may undertake consultation work, subject to the approval of the University, and retain consultation fees up to a maximum of 60% of their gross annual emoluments in a calendar year.

Application forms and further information on terms and conditions of service may be obtained from:

The Director
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National University of Singapore
Kent Ridge
Singapore 0511

Mr Peter Lim
Director, North America Office
National University of Singapore
780 Third Avenue, Suite 2403
New York, N.Y. 10017, U.S.A.
Tel: (212) 751-0331

POSITIONS OPEN

DIRECTOR OF PEDIATRIC PATHOLOGY

Applications are invited from pathologists with previous medical school teaching experience for the position of director of pediatric pathology in the Department of Pathology at the College of Physicians and Surgeons, Columbia University. The appointment will carry a senior academic rank, depending on the candidate's previous experience. Requirements include diagnostic experience, demonstrated administrative and teaching ability, and experience in the training of house officers and fellows. A substantial record of publications is essential and applicants with research experience will be given a preference. Send curriculum vitae and names of at least three referees to: **John J. Fenoglio, Jr., M.D., Department of Pathology, 630 West 168 Street, New York, NY 10032. Columbia University is an Equal Opportunity Employer.**

The Department of Biology seeks to fill a **TEMPORARY POSITION**, beginning September 1986. Rank and salary are negotiable. This opening is for a sabbatical leave replacement and the term will be limited to 1 year. Primary teaching responsibilities will be in the areas of **GENETICS** and **CELL/MOLECULAR BIOLOGY**. The College of St. Thomas is a coeducational, Catholic liberal arts college committed to the total development of the individual student. The successful applicant will have a Ph.D., or substantial progress toward the degree, and a strong commitment to teaching at the undergraduate level. Send letter of application, curriculum vitae, and three letters of reference directly to: **Mrs. Kathy Fell, Box 4208, College of St. Thomas, 2115 Summit Avenue, St. Paul, MN 55105**. All materials must be received by 2 May 1986. *An Equal Opportunity/Affirmative Action Employer.*

FIELD DIRECTORS—ENVIRONMENTAL STUDIES

The School for Field Studies (SFS), an independent, non-profit institution, has expanded successful summer programs to full semesters (five courses per semester). SFS seeks accomplished scientists to help develop, administer, and teach undergraduate programs in Kenya (wildlife management) and the Caribbean (marine biology) starting August, and Ecuador (tropical forest resources) and Australia (biogeography and diversity) starting December. Postdoctoral teaching and administrative experience required. Residence onsite 9 months; in Cambridge, Massachusetts, 3 months. Travel and housing allowance, plus salary commensurate with experience. Contact: **Programming, SFS, 196 Broadway, Cambridge, MA 02139; telephone: 617-497-9000**.

INSTRUCTOR—ASSISTANT PROFESSOR

Junior Faculty Position in the Department of Pathology, Division of Immunogenetics. Ph.D. with 2 years of postdoctoral experience trained in immunogenetics and expertise in molecular immunology mechanisms should apply. Salary and rank will be determined by applicant's qualifications. Position available immediately. Send résumé to: **Dr. John J. Fenoglio, Jr., Department of Pathology, College of Physicians and Surgeons of Columbia University, 630 West 168 Street, New York, NY 10032. An Equal Opportunity/Affirmative Action Employer.**

NEUROBIOLOGY TENURE-TRACK POSITION

The Department of Biology, University of Iowa, invites applications for an anticipated tenure-track faculty position, rank and salary negotiable. Any neurobiologist whose research interest is in an area of cellular, molecular, or developmental neurobiology may apply. Preference will be given to persons whose talents complement those of current faculty and whose interests will facilitate interaction among existing research programs. Postdoctoral experience is required. In addition to establishing a strong research program, the successful applicant will be expected to participate in undergraduate and graduate teaching. Applications will be considered as they are received until the position is filled. Send curriculum vitae, brief description of research goals, relevant publications and arrange to have three letters of recommendation sent to: **Dr. C.-F. Wu, Search Committee, Department of Biology, University of Iowa, Iowa City, IA 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

FACULTY POSITIONS DEPARTMENT OF ANATOMY AND CELL BIOLOGY

The Department of Anatomy and Cell Biology at the Medical University of South Carolina seeks to fill several positions between now and July 1987. Candidates are welcome at all levels: instructor, assistant professor, tenured-associate professor, and full professor. The department's goals are to establish clusters of expertise in neurobiology, molecular cell biology, and membrane biology. Of particular interest are applicants who might project future involvement in marine biomedical research and/or those who will profit from the availability of sophisticated equipment for electron microscopy, modern optical microscopy (fluorescence, polarization, differential interference-contrast, video), and computer-assisted image processing/analysis/enhancement. Candidates with teaching skills in gross anatomy, neuroanatomy, histology, embryology, or cell biology will receive special consideration. Interested individuals should send current curriculum vitae, a history of recent grant support, and have three letters of recommendation forwarded to:

**Dr. R. DiBona, Ph.D., Chairman
Department of Anatomy and Cell Biology
Medical University of South Carolina
171 Ashley Avenue
Charleston, SC 29425**

JET PROPULSION LABORATORY/ NASA VISITING SENIOR SCIENTIST LAND PROCESSES RESEARCH

The Jet Propulsion Laboratory invites application to the Visiting Senior Scientist Program in the area of Land Processes Research. The position requires a Ph.D. in a terrestrial research discipline (for example ecology, zoology, geology, hydrology) a strong interest in land processes research and global scale phenomena; experience as a research manager or director; a demonstrated ability to work with other scientists and to synthesize advisory information; strong communications skills, and a productive research and publication record. Qualifications that would also be desirable are extensive research experience in one or more of the above discipline areas; familiarity with the recent planning for an international global change program; knowledge of NASA's remote sensing research programs; and prior experience directing U.S. government research programs. The successful applicant will be responsible for coordinating NASA's advanced planning for land processes research. This work will include convening discipline-related planning workshops, synthesizing recommendations from scientists and managers; developing an implementation plan; and preparing a written document describing the program plan. Related work will include participation in planning a new management strategy for NASA aircraft remote-sensing activities; and coordinating cooperative relationships between NASA and other government land processes research programs and between NASA and international land processes research programs. The advance planning manager will be expected to be strongly interactive with the terrestrial ecosystems, geology, and hydrology program managers in order to support specific planning exercises related to long-term research foci and field experiments. Frequent travel and residence near NASA headquarters (the Washington, DC, area) will be required. Deadline for application is 15 May 1986. Please send curriculum vitae, bibliography, and three letters of reference to: **Dr. Harry Ashkenas, Jet Propulsion Laboratory, 180-900, Department T60, 4800 Oak Grove Drive, Pasadena, CA 91109. An Equal Opportunity Employer, M/F.**

NEUROBIOLOGIST. Interested in human neuronal degenerative diseases, with a particular interest in amyotrophic lateral sclerosis and immune mechanisms of central nervous system degenerative disease. The Department of Neurology at the Brigham and Women's Hospital (BWH) and the Harvard Medical School invites applications for an anticipated faculty position at the assistant/associate professor level. Candidate should hold a Ph.D. in neurobiology, have a minimum of 3 to 5 years of postdoctoral experience, with demonstrated research productivity. Send curriculum vitae to: **Dr. H. Weiner, Center for Neurologic Diseases, BSRB 12, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115. BWH and Harvard Medical School are Equal Opportunity/Affirmative Action Employers.**

POSITIONS OPEN

MATHEMATICAL GEOSCIENTIST WRIGHT STATE UNIVERSITY

The Department of Geological Sciences invites applications for a tenure-track position at the level of **assistant or associate professor** from individuals with primary expertise within the broad field of quantitative geology. The individual should have a strong mathematical and computer background and an interest in the application of numerical modeling to geophysical and/or geohydrological problems. The individual should also anticipate the development of courses dealing with the application of mathematics and mathematical modeling to geoscience problems. The applicant's specific field of research interest is open; however, he or she would be welcome to participate in current research programs. The position will be available September 1986 and will be filled as soon as possible after that date. Candidates are expected to have completed all requirements for the Ph.D. at the time of initial employment.

The department currently has 12 full-time faculty and strong M.S. program in geology, with concentration on exploration geophysics and applied geohydrology. Departmental computer facilities, analytical instrumentation, and field equipment to support research are outstanding. The new position is funded by an academic challenge grant that recognizes the excellence of our graduate program.

Send résumé and three letters of reference to: **Dr. Byron Kulander, Chairman, Search Committee, Department of Geological Sciences, 260 Brehm Laboratory, Wright State University, Dayton, Ohio 45435.**

Closing date for applications is 7 May 1986. *Wright State University is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGY OF PROTOZOAN PARASITES. Tenure-track faculty position available immediately in the Department of Pathology, New York University (NYU) School of Medicine. Applicants should have postdoctoral experience in molecular/genetic techniques, cell biology, and the demonstrated potential to develop an independent research career. Funds are available to help the appointee establish competitive programs. To apply send curriculum vitae, recent publications, and three letters of recommendation to: **Dr. Victor Nussenzweig, Department of Pathology, NYU Medical Center, 550 First Avenue, New York, NY 10016.**

MOLECULAR BIOLOGIST

The Department of Medicine, Harvard Medical School and Brigham and Women's Hospital is seeking an individual with skills in molecular genetics, specifically in the areas of immunogenetics, recombinant DNA, and monoclonal antibody methodologies. Candidates must have a Ph.D. and at least 2 years of postdoctoral research experience. The appointee will join an established research laboratory and be expected to conduct independent, as well as collaborative studies with senior staff members. Please submit curriculum vitae, names and addresses of three references, and copies of abstracts and published articles to: **Dr. James E. Pennington, Department of Medicine, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115.**

Brigham and Women's Hospital and Harvard Medical School are Equal Opportunity/Affirmative Action Employers.

NEUROSCIENTIST DEPARTMENT OF NEUROSURGERY State University of New York (SUNY) HEALTH SCIENCE CENTER AT SYRACUSE

The Department of Neurosurgery in the SUNY Health Science Center at Syracuse is seeking a neuroscientist to fill a tenure-track position as director of its laboratory. The director's responsibilities include conducting a basic science training program for residents in neurosurgery. Candidates should be able to demonstrate that they can develop an independent research program and successfully compete for external grant support. The level of the appointment will be commensurate with the candidate's qualifications and experience. Send curriculum vitae, a description of research interests, current grant support, and names of three references to: **Dr. R. B. King, Chairman, Department of Neurosurgery, SUNY Health Science Center at Syracuse, 750 East Adams Street, Syracuse, NY 13210. Deadline for application: 15 May 1986.**

An Affirmative Action/Equal Opportunity Employer.

**University of Basel,
Faculty of Science**

**PROFESSORSHIP IN
ORGANIC CHEMISTRY**

Applications are invited from candidates working in the field of organic synthesis (synthetic methods).

The candidate is expected to teach basic aspects of organic chemistry and to participate in post-graduate education.

Applications containing a curriculum vitae, a list of publications, reprints of a few selected key articles, a short summary of the past and planned research activities and a statement on teaching experience should be submitted before June 15, 1986 to the Dean of the Faculty of Science, Address:

**Dekanat der Philosophisch-
Naturwissenschaftlichen
Fakultät der Universität Basel
Klingelbergstrasse 70
CH-4056 Basel (Switzerland)**

**HEAD
DEPARTMENT OF MICROBIOLOGY
AND BIOCHEMISTRY
SEARCH EXTENDED**

The Department of Microbiology and Biochemistry, College of Agriculture, University of Wyoming, invites applications for the position of department head at either the associate or full professor level. The department consists of 17 faculty members who are engaged in a wide variety of basic and applied research projects. The Department has B.S., M.S., and Ph.D. degree programs in microbiology and biochemistry. Equipment and facilities include an extensive micro protein isolation and characterization facility with peptide synthesizer, equipment for extensive biophysical characterization, monoclonal antibody production and gene cloning capabilities. In addition to recently constructed microbiology laboratories (48,000 sq. ft.), construction of a new biochemistry research/teaching facility of 45,000 sq. ft. will be completed in 1986. Collaborative research interactions are encouraged and supported by the College and University as well as the on-campus facilities of the ARS Arthropod Borne Animal Disease Laboratory and the Wyoming Game and Fish Research Laboratory. The University is developing a biotechnology program within which the Department of Microbiology and Biochemistry will be the major participant. We seek an individual with an established record of leadership in research and teaching in microbiology and/or biochemistry. In addition to the administrative responsibilities of this position, the maintenance of an active research program will be expected. Send letters of nomination or application to *Dr. Leroy Maki, Search Committee Chairman, Department of Microbiology and Biochemistry, PO Box 3354, University of Wyoming, Laramie, WY 82071*. Applicants should include a detailed curriculum vitae including research interests and three references. Laramie is located between the Snowy and Laramie Mountain Ranges with abundant outdoor recreation opportunities. The University of Wyoming is an Equal Opportunity Employer.

Junior Faculty

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY is seeking outstanding applicants for a tenure-track, assistant professor position in the area of the planning and control of biological movement. The opening is part of an interdepartmental, interdisciplinary initiative to foster computational approaches to the brain sciences. The candidates must have a strong background in the mathematical and physical sciences and/or engineering. Research experience is required in computational modeling combined with experimentation or psychophysics. Candidates should be prepared to teach graduate and undergraduate subjects and to develop funded research programs. Depending on the interests and training of the candidate, the appointment will be either in the Department of Mechanical Engineering or Psychology, and may be joint with the Artificial Intelligence Laboratory or Whitaker College.

Applicants should send their resume, reprints and the names of three references by June 1, 1986 to Professor W. Richards, E10-120, MIT, 79 Amherst Street, Cambridge, MA 02139. MIT is an Equal Opportunity Employer. Qualified women and members of minority groups are encouraged to apply.

MIT

**Postdoctoral Scientist
Experimental Pathology**

The Department of Experimental Pathology at Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking a postdoctoral scientist to engage in a collaborative research investigation of the responses of vascular smooth muscle in rat model systems of arterial injury. The successful candidate will be encouraged to interact with scientists in other departments at SK&F and in the scientific community at large, to publish work in leading scientific journals, and to present research findings at scientific meetings. Our postdoctorals are normally of two years duration.

The successful candidate will:

- characterize the pathogenesis of dopaminergically mediated arterial injury.
- evaluate the functional, pharmacologic and phenotypic characteristics of medial smooth muscle undergoing regeneration and repair.

Candidates are required to have:

- a Ph.D. in Experimental Pathology or Pharmacology.
- 0-3 years postdoctoral research experience.
- proven research ability and pertinent research experience in areas related to vascular pathology.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your resume and names of three references to: *Walter B. Flagg, Senior Employment Consultant, SmithKline Beckman Corporation, 1572 Spring Garden Street, Philadelphia, PA 19101*. We are an Equal Opportunity Employer, M/F/H/V.

SK&F
A SmithKline Beckman Company

POSITIONS OPEN

MOLECULAR BIOLOGISTS AND MOLECULAR GENETICISTS

The Medical University of South Carolina has established a Center in Cardiovascular Molecular and Structural Biology. This center will be integrated with a strong and well-supported program in cardiovascular research. The center will include eight components:

- Molecular biology and genetics
- Protein and nucleotide sequencing and synthesis
- X-ray crystallography and high field (2D) NMR
- Molecular and macromolecular modeling computer graphics
- Medicinal chemistry/organic synthesis
- Organoanalytical chemistry/mass spectrometry
- Cell and molecular pharmacology and experimental therapeutics
- Experimental and clinical adult and pediatric cardiology

The latter four are in place and the protein and nucleotide sequencing/synthesis component is being established.

The center's next priority is establishment of the molecular biology/genetics component. Up to ten new laboratories, including centralized cell culture and hybridoma facilities, will be dedicated to this component. Positions are now available for six molecular biologists at the assistant professor to professor level. At least one of these will be a senior scientist capable of providing leadership for the molecular biology/genetics component. This individual must have an outstanding record of innovation and productivity in any area of modern molecular biology/genetics.

Send letters of nomination and applications to: Drs. Thomas E. Gaffney, Paul R. Gillette and James F. Spann, Co-Chairman, Steering Committee for the Center in Cardiovascular Molecular and Structural Biology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425. Applications should include a statement of research interests and curriculum vitae. *The Medical University is an Equal Opportunity/Affirmative Action Employer, M/F.*

JET PROPULSION LABORATORY/ NASA VISITING SENIOR SCIENTIST OCEANIC PROCESSES

The Jet Propulsion Laboratory is seeking a Ph.D. (or the equivalent) with training and experience in biological oceanography specializing in phytoplankton or a closely related field to provide staff expertise for the chief of the Oceanic Processes Branch in the Earth Science and Applications Division of the NASA Office of Space Sciences and Applications. Advice will be sought regarding the scientific, technological, and funding aspects of the NASA program related to the use of satellite ocean color and temperature measurements to understand the productivity and the associated physical/biological dynamics of the ocean. Duties include service as the program scientist for planned new ocean color instruments designed to provide a global measure of phytoplankton biomass and suspended material, as well as liaison with National Science Foundation (NSF), Office of Naval Research (ONR) and National Oceanic and Atmospheric Administration (NOAA) as required in the development and implementation of the U.S. component of large-scale programs, such as the Global Ocean Flux Study to which planned ocean color instruments will make fundamental contributions. A minimum of 3 years of experience in an area such as ocean productivity or phytoplankton dynamics are required; good written, oral, and presentation skills are essential; knowledge of remote sensing is desirable. Deadline for application is 15 May 1986. Please send curriculum vitae, bibliography, and three letters of reference to: Dr. Harry Ashkenas, Jet Propulsion Laboratory, 180-900, Department T60, 4800 Oak Grove Drive, Pasadena, CA 91109. *An Equal Opportunity Employer, M/F.*

POSTDOCTORAL FELLOW: BIOSTATISTICS. Research on dose- and time-response models for toxicity data incorporating chemical distribution, disposition, and mechanisms of action. Strengths in survival analysis, parametric/nonparametric statistics, and FORTRAN programming required. Excellent opportunity to collaborate with outstanding interdisciplinary team on basic/applied research in toxicology/epidemiology. For more information, write to: Coordinator of Training, Chemical Industry Institute of Toxicology, P.O. Box 12137, Research Triangle Park, NC 27709.

POSITIONS OPEN

NEUROBIOLOGY FACULTY

Openings (two) for tenure-track Assistant/Associate Professors in the Department of Anatomy and Program in Neuronal Growth and Development, Colorado State University. Candidates should have an active research program with priority given to cellular/molecular approaches. Priority also given to investigators who emphasize structure-function correlations, using modern anatomical methodologies (for example immunocytochemistry, EM, image analysis, and so forth). Teaching responsibilities in neurobiology, gross anatomy and/or ultrastructure. Send curriculum vitae and names of references to Dr. Stephen D. Roper, Chairman, Department of Anatomy, Colorado State University, Fort Collins, CO 80523. Deadline May 30, 1986. *Colorado State University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION open to study epithelial transport in ocular tissues and other epithelia. Experience in electrophysiology (intracellular microelectrode technique, patch clamp) and/or membrane vesicles or membrane fragments for the study of ion transport. Great possibility of a career in eye research. Candidate must be prepared to spend two summer months at the MDIBL Laboratory in Maine, working in this field. Salary commensurate with experience following NIH postdoctoral fellow scale. Send curriculum vitae with cover letter and two references to: Dr. J. A. Zadunaisky, Department of Physiology and Biophysics, 550 First Avenue, New York University (NYU) Medical Center, New York, NY 10016. *NYU is an Equal Opportunity Employer.*

POSTDOCTORAL Emory University

One position in cardiac excitability and one in the electrophysiology of fertilization. Facilities include a tissue culture laboratory, sea tanks, patch-clamp and whole-cell recording setups, and computer support. Requirements: a Ph.D., training in membrane biophysics, and a 2-year commitment beginning September 1986. Send curriculum vitae and a letter expressing specific interest in one or the other position to: Louis J. DeFelice, Anatomy and Cell Biology, Emory University, Atlanta, GA 30322. *Emory University is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN NEUROSCIENCE available immediately to study the synaptic and topographic organization of afferents to the cerebellum in neurological mutant mice. Work involves electron microscopy, immunohistochemistry, and neuroanatomical tracing. Send curriculum vitae to: Dr. L. M. Eisenman, Department of Anatomy, Jefferson Medical College, Philadelphia, PA 19107. *An Equal Opportunity/Affirmative Action Employer.*

TOXICOLOGY Assistant Professor/Associate Professor Department of Pharmaceutical Sciences Wayne State University

The Faculty of Pharmacy, Department of Pharmaceutical Sciences, Wayne State University, invites applications for a faculty position as assistant professor/associate professor. The faculty appointment will be in the College of Pharmacy and Allied Health Professions. A major responsibility of the appointee will be to conduct research in the university's Institute of Chemical Toxicology. Candidates must possess a Ph.D. degree and have completed at least 1 year of postdoctoral or equivalent experience in toxicology. Areas of research emphasis within the institute include: chemical disposition and toxicokinetics, development, validation and application of biochemical markers of human exposure, toxicity of vehicle emission constituents, and development of analytical methodology for detection and monitoring of toxic chemicals. Established record of research productivity or evidence of potential for development required. Interested candidates should send their letter of application, curriculum vitae, and list of references to:

Dr. Martin Barr, Dean
College of Pharmacy and Allied Health Professions
Wayne State University
Detroit, MI 48202

*Wayne State University is an Affirmative Action
Equal Opportunity Employer*

POSITIONS OPEN

THE AUSTRALIAN NATIONAL UNIVERSITY invites applications from suitably qualified men and women for appointment to the following position: **POSTDOCTORAL FELLOW/RESEARCH FELLOW/SENIOR RESEARCH FELLOW IN FIBRE OPTICS, DEPARTMENT OF APPLIED MATHEMATICS, RESEARCH SCHOOL OF PHYSICAL SCIENCES.** Up to two appointments will be made to the Optics Group (head: Professor A. W. Snyder, FAA) within the Department of Applied Mathematics. This group is concerned with theoretical problems of light propagation through optical fibres and optical fibre devices. Appointees will be required to undertake full-time research on various projects of interest to Australian Optical Fibre Research Pty. Ltd., a company headed by Dr. S. C. Rashleigh in Canberra, which is a rapidly expanding centre of research in fibre optic sensor systems. The company is part of the Wormald International group and has the financial backing of the Australian Industrial Research and Development Incentives Board. Appointments will be for 12 months in the first instance, with the possibility of reappointment for further periods. Closing date: 30 June 1986. Reference: PS.19.3.1. Senior research fellow \$38,042 to \$45,376 per annum; research fellow \$27,233 to \$35,777 per annum; postdoctoral fellow grade 1 (at a fixed point) \$23,473 to \$26,889 per annum. Externally funded appointments are at all times subject to the provision of appropriate funding by the granting body. Grants towards travel, assistance with housing, superannuation. Maternity leave is available. The university reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants should quote the reference number when submitting applications to: R. V. Dubs Registrar, GPO Box 4, Canberra, ACT, 2601, Australia. *The University is an Equal Opportunity Employer.*

THE AUSTRALIAN NATIONAL UNIVERSITY invites applications from suitably qualified men and women for appointment to the following positions: **POSTDOCTORAL FELLOW/RESEARCH FELLOW/SENIOR RESEARCH FELLOW (TWO POSTS), DEPARTMENT OF BIOGEOGRAPHY AND GEOMORPHOLOGY, RESEARCH SCHOOL OF PACIFIC STUDIES.** One appointment is in the field of plant ecology, with preference for a person with both mathematical and field interests, including the impact of human activities on vegetation. Another appointment is for a dating scientist with suitable research experience in dating upper quaternary sediments and other materials, either by the accelerator-based radiocarbon technique, or by thermoluminescence and/or electron spin resonance methods. The department relies heavily on dating and wishes to contribute to research in one or the other technique. Persons interested in either post should seek further information from the head of the department, Professor D. Walker (062) 49 2235. Closing date: 16 May 1986. Reference: PA.19.3.4. Salary will be in accordance with qualifications and experience within the range: postdoctoral fellow grade 1 (at a fixed point) \$23,473 to \$26,889 per annum; research fellow \$27,233 to \$35,777 per annum; senior research fellow \$38,042 to \$45,376 per annum; Grants towards travel, assistance with housing, superannuation. Maternity leave is available. The university reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants should quote the reference number when submitting applications to: R. V. Dubs, Registrar, GPO Box 4, Canberra, ACT, 2601 Australia. *The University is an Equal Opportunity Employer.*

POSTDOCTORAL FELLOW Research Associate Position

Available July 1986 in an active research group with a program project in atherogenesis. Research will involve a study of the regulation of transport of lipoproteins across endothelial monolayers grown in cell culture. Candidate should have experience in cell culture and a good background in biochemistry and cell biology. This is a funded position with salary range \$16,000 to \$22,000, depending on experience. Later starting date also possible. Send curriculum vitae and names of three references to: Dr. Alan Fogelman, University of California, Los Angeles (UCLA) School of Medicine, Division of Cardiology, 47-123 CHS, Los Angeles, CA 90024.

Toxicologist

International Technology Corporation, a leader in the environmental management field, is expanding its Health Risk Assessment business.

We are recruiting a Toxicologist to provide internal/external consultation including conducting health risk assessments.

Requires a PhD in Toxicology with 5+ years post-doctorate experience. Board certification and computer literacy are needed. Risk assessment experience desired. Position is based in Knoxville, TN and involves 20% travel.

We offer a salary commensurate with qualifications as well as an attractive benefits program. Forward resume and salary history, in confidence to: **International Technology Corporation, Human Resources Division (TOX), 312 Directors Drive, Knoxville, TN 37923.** EOE M/F.

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Research and Science Opportunities

The Jet Propulsion Laboratory (JPL) Visiting Senior Scientist Program has been established to enlist University Space Scientists, current in their disciplines, to assist the NASA Office of Space Science and Applications in the planning and performance of its science program responsibilities.

Appointees will be full-benefit basis JPL employees assigned to NASA Headquarters in Washington, D.C. for the purpose of assisting NASA in planning and coordinating current and future Space Science Programs; they are expected to return to their home institutions following their assignment at NASA Headquarters.

Candidates will be considered on the basis of their technical and scientific expertise and accomplishments as they apply to their particular research disciplines and on their demonstrated potential for leadership. Applicants must be U.S. Citizens or Permanent Residents.

One year appointments, renewable for a second year, are envisioned to allow ample opportunity for effective interactions between NASA and the scientific community and for the appointees to become spokesmen for that community within the NASA organization. Currently, we have the following opportunities available:

Visible and Ultraviolet Astronomy
Infrared and Radio Astronomy
Solar and Heliospheric Physics
Land Processes Research
Oceanic Processes

Life Sciences Flight Programs
Space Medicine
Space Station Life Sciences
Plant Physiology
Microgravity Sciences and Applications

For further information, please contact: Dr. Harry Ashkenas, Jet Propulsion Laboratory, 180-900, Dept. T60, 4800 Oak Grove Drive, Pasadena, California 91109, (818) 354-8251.

JPL

Jet Propulsion Laboratory
California Institute of Technology

An Equal Opportunity Employer M/F

BIOTECHNOLOGY RESEARCH AND DEVELOPMENT

Position in West Germany

Joh. A. Benckiser G.m.b.H. of Ludwigshafen has **TWO** positions for Molecular Biologists, Biochemists or Geneticists with several years of postdoctoral experience who seek challenging assignments co-ordinating its research and development programs both in-house and with its contractors.

Benckiser is a multinational organization with 3,500 employees and annual sales of 1.2 billion Deutsche Marks. Its product line includes organic acids, consumer and industrial cleaning agents, and personal care products.

These positions will be with the Organic Acids Division in Ludwigshafen, West Germany, whose major product is citric acid produced by microbial fermentation. The successful candidates will take part both in process improvement and new product development. These are positions with unusual personal and institutional advancement opportunities. Preference in one of the positions will be for a candidate with experience with fungal systems. Ability to communicate in German or French in addition to English is desirable.

Interested individuals should send their Resumes with addresses of references and salary requirements to:

BENCKISER INCORPORATED
189 Wells Avenue
Newton Centre, Massachusetts 02159

BENCKISER

RESEARCH ASSOCIATE PHARMACOLOGY

An industry leader in advanced biotechnology, **Amgen** develops products for significant applications, including human therapeutics and diagnostics, and animal health care. We have immediate openings in our Pharmacology Division for **Research Associates** to conduct basic and applied in vivo studies in the following areas: growth factors, drug delivery systems and pharmacokinetics, immunology, and resistance to infection.

Background must include B.S. or preferably M.S., and 1-2 years experience in physiology or endocrinology. Knowledge of computers and statistics is helpful. Experience in surgical techniques, drug administration, and use of physiological and biochemical monitoring instrumentation is desirable.

Amgen offers a competitive compensation and benefits package, and is located in Ventura County, northwest of Los Angeles.

Qualified candidates should direct resumes to: **AMGEN, Recruitment-Department 8, 1900 Oak Terrace Lane, Thousand Oaks, CA 91320**

AMGen

Equal Opportunity Employer

POSITIONS OPEN

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE POSITION. Areas of research involve the molecular and cellular biology of calcium binding proteins, with emphasis on calmodulin and S100 proteins in brain and cultured cell systems. Preference will be given to applicants with a background in molecular biology. Send curriculum vitae and names of three references to:

Dr. Linda J. Van Eldik
717 Light Hall
Howard Hughes Medical Institute
Vanderbilt University
Nashville, TN 37232

POSTDOCTORAL POSITIONS available in Department of Biochemistry, Microbiology and Immunology, Pharmacology, and Physiology. Applicants must have a Ph.D. or M.D. degree. Positions available during 1986 to 1987. Send applications to appropriate department head: **University of Arizona, Arizona Health Sciences Center, Tucson Arizona 85724. An Equal Opportunity/Affirmative Action title IX/section 504 Employer.**

POSTDOCTORAL POSITION IN MITOCHONDRIAL MOLECULAR BIOLOGY. Position available immediately to study the initiation of protein synthesis in animal mitochondria. Specific projects involve the isolation of the initiation factors and the use of recombinant DNA methods and in vitro RNA synthesis to investigate mRNA features important for initiation complex formation. *The University of North Carolina at Chapel Hill is an Equal Opportunity/Affirmative Action Employer.* Interested persons should send curriculum vitae and two letters of reference to: **Dr. L. L. Spremulli, Department of Chemistry, University of North Carolina, 17-21 Venable Hall 045A, Chapel Hill, NC 27514.**

POSTDOCTORAL OR PERMANENT SENIOR STAFF INSECT RESEARCH

The Insect Biology Department of Zeecon Corporation is seeking scientists with expertise in the following areas to work within an interdisciplinary research team studying insect neuropeptide systems:

- (i) Enzymology of the posttranslational processing of proteins to active neuropeptides.
- (ii) Animal virology and genetic engineering of insect viruses.

Our research laboratories are located in Palo Alto, California, in close proximity to Stanford University. We conduct our research in an open, academic-like environment which strongly encourages publication and interaction with other scientists throughout the world. We developed and marketed the world's first hormonal insecticide, an analog of lipid-like juvenile hormone.

To apply send curriculum vitae and three references to: **Employee Relations, Zeecon Corporation, 975 California Avenue, Palo Alto, CA 94304. Zeecon is an Equal Employment Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE position will be available July 1986 for the study of immunodeficiency states created by malnutrition. A Ph.D. in immunology is preferred, although productive nutritionists or biochemists will be considered. Starting salary will be \$15,000 to \$17,500, depending on experience. Send letter of interest, curriculum vitae, and three letters of reference to: **Dr. Pam Fraker, Department of Biochemistry, Michigan State University, East Lansing, Michigan 48824. Michigan State University is an Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSISTANT OR ASSOCIATE PROFESSOR—with 2 to 3 years of postdoctoral experience to collaborate with M.D. investigator in research concerning regulation of myocardial blood flow. Interest in and experience with receptor biochemistry as it relates to the coronary circulation is desirable. Must be able to do independent research and be eligible for appointment as assistant or associate professor (research) or medicine level in the Brown University Program in Medicine. For additional details, contact: **Henry Gewirtz, M.D., Division of Cardiology, Rhode Island Hospital, Providence, RI, 02902. Rhode Island Hospital is an Equal Opportunity Employer.** Applications must be received by 31 May 1986.

POSITIONS OPEN

POSTDOCTORAL POSITION (BIOCHEMIST, EUKARYOTIC CELL BIOLOGIST) to study the energetic regulation of mRNA synthesis, overall protein synthesis, and immunoglobulin secretion in T-cell hybrids at very slow growth rates. Cell biology, biochemical, and genetic approaches are being considered. Recent Ph.D. in molecular biology, biochemistry, or related field required. Experience in eukaryotic gene cloning, DNA, RNA, HPLC, and mammalian cell culture techniques desired. One to two years, dependent on funding and evaluation of performance. Salary negotiable. Send curriculum vitae, copies of publications, and letters of recommendation to: **Dr. Michael C. Flickinger, Institute for Advanced Studies in Biological Process Technology, 240 Gortner Laboratories, 1479 Gortner Avenue, University of Minnesota, St. Paul, MN 55108, by 31 May 1986. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

POSTDOCTORAL POSITION available immediately for a recent Ph.D. to study the structure-function relationships of the nicotinic acetylcholine receptor. Experience in peptide and protein chemistry, NMR, immunotoxins, monoclonal antibodies, or somatic cell genetics is preferred. Send résumé and three references to: **Dr. Edward Hawrot, Department of Pharmacology, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.**

POSTDOCTORAL POSITION. Available immediately to study B lymphocyte differentiation and the development of the immune repertoire. Experience in cellular immunology and molecular biology desirable. Send curriculum vitae and names of three references to: **Dr. Judy Teale, Department of Microbiology, University of Texas Health Science Center (UTHSCSA), 7703 Floyd Curl Drive, San Antonio, Texas 78284. The UTHSCSA is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE position available to investigate the actions of excitatory amino acid transmitters in the hippocampal slice. Experience with electrophysiological techniques is required. Salary will be commensurate with experience. Send curriculum vitae and at least two reference names to: **Dr. J. Victor Nadler, Department of Pharmacology, Duke University Medical Center, Box 3813, Durham, NC 27710.**

POSTDOCTORAL RESEARCH ASSOCIATE Hormonal Regulation of Arachidonic Acid Metabolism

Opportunity available immediately as part of a multidisciplinary collaboration in endocrinology, cell biology, arachidonic acid metabolism, and lipid chemistry to study regulation of eicosanoid (especially prostacyclin) production by the isolated adipocyte and related cells (for example 3T3-L1 cells) and derangements in diabetes. Adipocytes produce prostacyclin by two separate mechanisms. Production is exquisitely sensitive to hormones including insulin, glucocorticoids, catecholamines, and vasoactive peptides. Candidates should have experience in cell biology, HPLC, and RIA. Send letter describing interests, curriculum vitae, and three or more references to: **Dr. Lloyd Axelrod, Diabetes Unit, Massachusetts General Hospital, Boston, MA 02114.**

POSTDOCTORAL RESEARCH POSITIONS available immediately and in June-July to participate in ongoing studies to produce and evaluate monoclonal antibodies to prostate and bladder carcinomas and mesotheliomas. Applicants should have a Ph.D. or equivalent degree in immunology, biochemistry, or molecular biology, with experience in hybridoma production, protein purification, radiolabeling and a familiarity with RIA, ELISA, Western blots, and cytotoxicity assays. Experience in flow cytometry, radioimmunologic imaging, and nude mouse-human tumor models also desirable. Salary will be \$18,000 to \$20,000 per annum, depending on experience, plus fringe benefits. Send curriculum vitae, description of relevant experience, and three letters of reference to: **Dr. George L. Wright, Jr., Department of Microbiology and Immunology, Eastern Virginia Medical School, P.O. Box 1980, 700 Olney Road, Norfolk, VA 23501. A Nondiscriminatory, Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS are available to study the molecular mechanisms leading to viral-induced alterations in expression of histocompatibility antigens and to clone and study lymphocyte differentiation and minor histocompatibility genes. Candidates should have a Ph.D. or equivalent in the biological sciences: experience with recombinant DNA technology is required; although extensive experience is not necessary. Successful applicants can expect an excellent salary, fringe benefits, and a strong intellectual environment in which to carry out their studies. Interested persons should forward curriculum vitae and three letters of reference to: **Dr. Daniel Meruelo, Department of Pathology, New York University Medical Center, 550 First Avenue, New York, NY 10016. New York University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION—CELL BIOLOGY. Postdoctoral research position available to study cellular and biochemical events involved in retinal proliferative diseases. Knowledge of inflammation, growth factors, cell culture, and protein biochemistry desirable. Minimum commitment of 2 years required. Salary negotiable. Available immediately. Send curriculum vitae and names of three references to: **Joe Robertson, M.D., Department of Ophthalmology, Oregon Health Sciences University, 3181 SW Sam Jackson Park Road, Portland, OR 97201.**

POSTDOCTORAL RESEARCH ASSOCIATE POSITION

Available immediately to participate in active research program studying sex hormone regulation of the mucosal immune system in the female reproductive tract. Research focuses on the cellular and biochemical basis for control of antibody transport, development of immune protection, and lymphocyte traffic during the reproductive cycle, at implantation and during pregnancy. Seek highly motivated person with background in biochemistry, endocrinology, or immunology. Salary range \$16,000 to \$18,000. Please send curriculum vitae, statement of interest, and names of three references to: **Dr. Charles Wira, Department of Physiology, Dartmouth Medical School, Hanover, NH 03756. An Equal Opportunity/Affirmative Action Employer.**

PROFESSOR OF ENVIRONMENTAL EPIDEMIOLOGY AND DIRECTOR OF THE CENTER FOR ENVIRONMENTAL EPIDEMIOLOGY

The University of Pittsburgh Graduate School of Public Health is recruiting for a tenure professor/associate professor of epidemiology to head its Program in Environmental Epidemiology, currently focused in an Environmental Protection Agency (EPA) funded Center of Environmental Epidemiology which operates out of the office of the dean.

The individual should have a successful track record of research and teaching in environmental epidemiology. Salary is commensurate with qualifications. *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.*

Interested applicants should send résumé before 30 June 1986 to: **Dr. C. S. Giam, Chairman, Environmental Epidemiologist Search Committee, University of Pittsburgh, A710 Crabtree Hall, GSPH-IEHS, Pittsburgh, PA 15261.**

PROGRAM MANAGER NATIONAL RESEARCH COUNCIL

The National Research Council (NRC) is a nonprofit, private institution established to provide independent advice to the nation on critical scientific and technical questions. The NRC currently has a need for a program manager for a research grants program in mosquito vector field studies and development of rapid epidemiologic techniques in the Third World. This position requires a Ph.D. or equivalent in health-related science, demonstrated research and administrative capability, familiarity with research on mosquito-borne diseases, and epidemiology and developing country experience. French or Spanish capability is desirable. Position is available 1 June 1986. Please reply by 2 May to: **Dr. Michael P. Greene, NRC Board on Science and Technology for International Development, Position Number 220.151, 2101 Constitution Avenue, NW, Washington, DC 20418. An Equal Opportunity Employer.**

CELL/MOLECULAR BIOLOGIST

The Upjohn Company is actively seeking an associate with a strong background in molecular biology to join the ongoing basic research effort in the Atherosclerosis and Thrombosis Research Division located in Kalamazoo, Michigan. Qualified candidates will have broad experience in molecular biology and a strong desire to apply molecular techniques to study fundamental questions in vascular cell biology.

Applicants must have a BS or MS in biotechnology, biochemistry, biology or related discipline. Experience in modern molecular biological techniques and good oral and written skills are required. Experience in cell culture and protein biochemistry is highly desirable.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a rich mix of cultural, educational and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for career growth, a competitive salary, commensurate with experience, a comprehensive benefits program and relocation assistance.

For confidential consideration, please call from outside of Michigan toll free 1/800/253-8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent to you immediately. Please refer to ad number 1752-A when calling.

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Research Associate Anti-Fungals

The Squibb Institute for Medical Research is recognized internationally as an innovative research and development organization. Due to our continued growth, we currently have an exceptional opportunity available for an individual to join our basic research efforts in our anti-fungal program.

Primary responsibilities of this position will be constructing recombinant DNA yeast strains as well as analyzing the biochemistry and physiology of these strains.

Qualified applicants must have a BS/MS Biochemistry, Molecular Biology or equivalent and a minimum of one year directly related research experience. Your experience must include recombinant DNA techniques for yeast and enzymology and/or microbial physiology.

In addition to an excellent salary and comprehensive benefits package, we offer the opportunity for exceptional scientists to pursue stimulating careers. This position is based at our corporate headquarters, a pleasant semi-rural setting in Princeton, New Jersey, and is convenient to both Philadelphia and New York City.

In confidential consideration, please submit your curriculum vitae to **The Squibb Institute for Medical Research, Human Resources Department #312, P.O. Box 4000, Princeton, New Jersey 08543-4000.** An Equal Opportunity Employer.



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Cardiovascular Research Scientist

Join our broad, multi-disciplinary research effort toward novel cardioactive drugs.

Wyeth Laboratories, one of the world's most respected pharmaceutical companies, is firmly committed to extensive research in pharmacologic treatment of cardiac arrhythmias and ischemic heart disease. Join the top-caliber cardiovascular team we're building at our corporate R&D facility in suburban Philadelphia.

Your investigations in cardiac electrophysiology, development of chronic arrhythmia models, infarct-sizing and/or experimental coronary thrombosis will be directed at the development of novel cardioactive agents. We look to you to assist in the training of other researchers, to stay abreast of current trends through meeting attendance and to promote innovation by publishing scientific findings.

Thorough knowledge of the above investigational areas must be coupled with a PhD in Pharmacology or a closely related area and some allied post-doctoral experience.

Your expertise should be in large animal models of arrhythmias and cardiac ischemia; in novel drug treatments of

arrhythmia or salvage of ischemic myocardium; and/or in cellular microelectrode techniques and whole animal experimentation. All experience must be backed by a strong record of prior and current publications.

Explore the advantages of research at Wyeth from excellent salary and benefits to the distinctive environment of our 20-acre Corporate campus at Radnor on Philadelphia's Main Line. Direct your CV and salary requirements to: **Position #WD5084GP Wyeth Laboratories, Inc., P.O. Box 8299, Philadelphia, PA 19101.**

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Wyeth Laboratories, Inc.



TM

POSITIONS OPEN

PROFESSOR AND CHAIRPERSON, Food Science Department, Rutgers, The State University of New Jersey, New Brunswick, NJ. Rank, salary, and tenure commensurate with qualifications. Available on or after 1 July 1986.

The department is recognized as one of the top five food science departments in the United States, has 18 faculty members, and an annual budget of about \$2 million.

Major Responsibility: Providing overall administration and leadership in the research, instruction, extension, and international programs of the department.

Qualifications: Ph.D. and established reputation in food science; administrative experiences desirable. Must have the recognition and respect of the food industry and a commitment to research, teaching, extension, and international activities.

Application: Deadline is 16 June 1986 or until position is filled. Send curriculum vitae and three references to: **Kan-ichi Hayakawa, Search Committee Chair, Food Science Department, Cook College, Rutgers University, P.O. Box 231, New Brunswick, NJ 08903. Telephone: 201-932-9864 (for inquiry).**

Rutgers University is an Equal Opportunity/Affirmative Action Employer.

PULMONARY ELECTRON MICROSCOPIST

Position available for M.D. or Ph.D. as **research assistant professor**. Require anatomist or pathologist trained in both TEM and SEM. Three years' appointment in Department of Medicine for research on cell biology of the lungs as part of active experimental group. Position available immediately. Salary commensurate with experience. *Affirmative Action/Equal Opportunity Employer, M/F.* Send biographical sketch and bibliography, statement of research interest, and the names of three references to: **Mr. Richard W. McQuillan, Cardiovascular-Pulmonary Division, Department of Medicine, Hospital of the University of Pennsylvania, 874 Maloney Building, 3600 Spruce Street, Philadelphia, PA 19104-4283.**

RESEARCH ASSOCIATE: Immunoparasitology. Available 1 July 1986.

Ph.D. or M.D. with appropriate research experience. Research involves cellular immunology and macrophage biology of leishmaniasis in the context of a vaccine development program.

Send curriculum vitae and three letters of reference to:

**Dr. David J. Wyler
Division of Geographic Medicine
Tufts University School of Medicine
136 Harrison Avenue
Boston, MA 02111**

Tufts University is an Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE

Research associate, Ph.D. or M.D. molecular biologist/geneticist experienced in recombinant DNA technology to be involved in the production and enhancement of modified HLA class II genes and to study the control of expression of natural and modified HLA class I and II genes by antisense mechanisms. Experience with eukaryotic cells is preferred. Submit curriculum vitae and three letters of reference by 1 May to: **D. Ness, Stanford University, Number 45094-S, 800 Welch Road, Stanford, CA 94304. An Equal Opportunity Employer through Affirmative Action.**

RESEARCH ASSOCIATE/INSTRUCTOR position available July 1986 from funded grant to study the structure and mechanism of an FAD-dependent NADH oxidase isolated from the heme- and cytochrome-deficient streptococci. Postdoctoral experience in protein chemistry and/or enzyme mechanisms desirable; both static and stopped-flow spectroscopic techniques will be involved. Salary commensurate with qualifications and experience. Send curriculum vitae, list of publications, and names of three references to: **Dr. Al Claiborne, Department of Biochemistry, Wake Forest University Medical Center, 300 South Hawthorne Road, Winston-Salem, NC 27103. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

PROTEIN/NUCLEIC ACID CHEMIST HOWARD HUGHES MEDICAL INSTITUTE THORN RESEARCH BUILDING BOSTON, MASSACHUSETTS

The Howard Hughes Medical Institute in Boston is seeking a qualified individual to design, operate, and supervise a modern biopolymers laboratory. This facility will provide solutions to specific synthetic and degradative problems involving protein sequencing and peptide/nucleic acid synthesis. Ideal candidates will be individuals with a Ph.D. or equivalent who are experienced with gas phase protein sequencing, as well as automated nucleotide and peptide synthesizers. Emphasis will be given to those who have a demonstrated strong background in sequencing proteins.

This position, which is immediately available, represents an important service role with ample opportunity for growth. The successful candidate must be able to interact productively with a variety of colleagues on a problem-solving basis. Interested individuals should submit curriculum vitae, a brief letter summarizing their qualifications, and the names of at least three references to: **Dr. Philip Leder, Senior Investigator, Howard Hughes Medical Institute, Department of Genetics, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115.**

RESEARCH ASSOCIATE/ MOLECULAR BIOLOGIST

Application of recombinant DNA technology to products of human retroviral (HTLV-I and HTLV-III) genes. Send curriculum vitae and three references to: **Edgar G. Engleman, M.D., Department of Pathology—L235, Stanford University School of Medicine, Stanford, CA 94305. Stanford is an Equal Opportunity Employer through Affirmative Action.**

RESEARCH CHEMIST (inorganic). Conduct experimentation and research in heteropolyanions chemistry. Compile results and compose manuscripts for publication in scientific journals. Lecture at conferences, supervise junior associates. Prior research experience in heteropolyanion chemistry, air-sensitive compounds, electron spin resonance, and nuclear magnetic resonance spectroscopy required. Ph.D. in chemistry required. One year of experience as research fellow in heteropolyanions chemistry required; 40 hours per week; 9 a.m. to 5 p.m. Monday thru Friday; \$19,988 per year. Send résumé to: **Department of Employment Services, 500 C Street, NW Washington, DC 20001, Room 323. Job Order Number 4014.**

RESEARCH DIRECTOR MIAMI CHILDREN'S HOSPITAL RESEARCH INSTITUTE

Applications are invited for the position of director of the newly created Miami Children's Hospital Research Institute. The institute will be broadly focused, but with an emphasis on nutrition. The institute is seeking an individual with academic distinction and a proven record of administrative abilities to be involved with all aspects of the development of the institute. Please send résumé to: **Stanley B. Smith, M.D., Chairman of the Research Institute Search Committee, Miami Children's Hospital, 6125 SW 31 Street, Miami, Florida 33155. Equal Opportunity Employer.**

RESEARCH SCIENTIST. To join Cardiology Division to carry out studies on a 5-year funded program project grant related to ion fluxes across membranes and their control by drugs and interventions that modify the membrane bilayer. Starting position at **assistant professor** level for individuals with Ph.D. and/or M.D. degree and relevant postdoctoral experience. Write: **Dr. Arnold M. Katz, Cardiology Division, University of Connecticut, Farmington, CT 06032. An Affirmative Action/Equal Opportunity Employer, M/W/H.**

RESEARCH SCIENTIST. To conduct research in flow, acoustics, high-voltage, and pulse power systems associated with gas lasers. Requirements: Ph.D. in physics or aeronautical engineering; 6 years of postdoctoral experience in gas and excimer lasers; demonstrated background in fluid dynamics. San Diego job site. Salary: \$50,000 per year. Send this ad and your résumé to: **Job Number AT-3326 P.O. Box 865, Sacramento, CA 95804, not later than 5 May 1986.**

POSITIONS OPEN

RESEARCH FELLOW

Candidates with Ph.D. in biological or physical science or D.D.S. with training in a dental specialty. Opportunity for research in craniofacial growth, neurobiology, embryology, jaw kinetics, speech, force systems in orthodontic appliances, and bone and connective tissue response to stress. Starting 1 July 1986. Stipends starting at \$15,996, dependent on date of Ph.D. Funds for tuition, travel, and supplies.

Send curriculum vitae, three reference letters, and career objectives to: **Dr. Sam Weinstein, Department of Orthodontics, University of Connecticut Health Center, Farmington, CT 06032, by 15 May 1986.**

ECOGEN inc.

An expanding biotechnology company located in the Philadelphia area and specializing in microbial pesticide development and biological control has immediate openings for **RESEARCH SCIENTISTS** (Ph.D. required) in the following areas:

Molecular Genetics: Expertise in DNA cloning and sequencing, as well as site-specific mutagenesis techniques.

Biochemistry and Microbial Physiology: Training required in microbial genetics and physiology (bacterial or fungal). Experience in immunology and protein chemistry also desirable.

Research Assistants: (B.S. or M.S. required) with training in above areas and in the area of insect physiology are also desired.

Send résumé and names and addresses of three references to: **Dr. Bruce C. Carlton, Vice President, Research and Development, Ecogen Inc., 2005 Cabot Boulevard West, Langhorne, PA 19047-1810.**

RESEARCH SCIENTIST THEORETICAL NUCLEAR PHYSICS

The research scientist will undertake original research in theoretical nuclear physics relating to the physics of the collisions of relativistic heavy ions. In addition to interacting with nuclear and particle theorists, the candidate will play a key role in providing theoretical expertise and guidance to the experimental program in relativistic heavy ion physics. It is expected that the candidate will pursue frontier theoretical research, present pedagogical seminars, perform relevant calculations, interact extensively with colleagues, and participate fully in the intellectual activities of the laboratory and the department involved.

In addition to outstanding ability and accomplishments in theoretical physics, the candidate must have recognized expertise and 4 years of experience in the field of relativistic heavy ion collisions. Salary: \$31,200 per year.

Applicants should submit their curriculum vitae, three letters of reference, and a publication list to: **Division of Employment Security, Charles F. Hurley Building, Government Center, Boston, MA 02114, refer to case number 6476.**

An Equal Opportunity/Affirmative Action Employer.

RESEARCH TECHNICIAN POSITION available for Atlanta University Center Scanning Electron Microscopy Research Laboratory. Salary: \$20,500. Send curriculum vitae to: **Dr. Betty Ruth Jones, Department of Biology, Morehouse College, Atlanta, Georgia 30314. An Affirmative Action/Equal Opportunity Employer.**

SENIOR RESEARCH ASSOCIATE

Protein biochemist holding Ph.D. degree and at least 2 years of postdoctoral training to be an active participant in well-developed but innovative study of biologically relevant protein-lipid interactions. Problem area deals primarily with separation, isolation and characterization of unique human liver secretory proteins having a variety of biological functions. Co-workers consist of an interactive group already of critical size for productivity. Candidates should have appropriate biochemistry, cell biology, and possibly applied immunochemistry experience. Submit complete résumé and names of three references to: **G.I. Research Unit, Cleveland Clinic Foundation Research Institute, 9500 Euclid Avenue, Cleveland, 0410-44106. An Equal Opportunity Employer.**

RESEARCH BIOCHEMISTS

THE LILLY RESEARCH LABORATORIES, a division of Eli Lilly and Company, is seeking applicants for two Senior Scientist positions in the Biochemistry Research Division

PROTEIN BIOCHEMIST

Applicants must have a doctoral degree and preferably have post-doctoral experience in protein biochemistry, protein purification, and knowledge of analytical protein separation techniques. The Senior Scientist will join a multidisciplinary team working on the production, isolation and characterization of proteins.

ENZYMOLOGIST/BIOCHEMIST

Applicants must have a doctoral degree and post-doctoral experience in enzymology or protein biochemistry. The Senior Scientist will join a group working on the isolation and characterization of specific enzymes, and undertake research related to hormone receptor function.

Qualified candidates should send their curriculum vitae to:



John W. Crooks
Manager, College Relations (RBC)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, IN 46285

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NEW LAB SERVICE DEPT.
1515 BROADWAY
NEW YORK, N.Y. 10036**

POSITIONS OPEN

SENIOR CANCER RESEARCH SCIENTIST

Applications are invited for this post to work on the role of tissue specific factors in metastasis and invasion in a new Biotechnology Research Center (Melo Laboratory) in Rockville, Maryland. Must have Ph.D. in membrane biochemistry and at least 3 years of postdoctoral research experience in cell migration and invasion; RP-HPLC purification of extracellular matrix components; growth factor receptor modulation, and control of growth and development. Salary commensurate with experience. Send curriculum vitae to: **Personnel Department, Melo Laboratories, Inc., 6715 Electronic Drive, Springfield, VA 22151. Attention: 2420.** Deadline for applications is 2 May 1986.

SENIOR SCIENTIST

The W. ALTON JONES CELL SCIENCE CENTER, Lake Placid, New York, is seeking innovative and experienced molecular biologist to direct independent research in the field of molecular and cellular biology.

We are seeking dedicated and talented scientific professionals with interest in cell biology and growth factors. The successful candidate will have a doctorate in molecular and cellular biology with at least 3 years of postdoctoral experience. Candidates must have the ability to supervise others. Liberal benefits. Salary will be commensurate with experience.

Applicants are requested to submit curriculum vitae with list of publications and three letters of academic references by 15 May 1986 to:

**Personnel Manager
W. ALTON JONES CELL SCIENCE CENTER
10 Old Barn Road
Lake Placid, New York 12946**

Please refer to Job Order SA-606

An Affirmative Action/Equal Opportunity Employer

BIOLOGY DEPARTMENT SUPERVISOR OF ENVIRONMENTAL HEALTH PROGRAM

Indiana University of Pennsylvania (IUP) invites applications for a tenure-track assistant professor to supervise the Environmental Health Program, effective fall 1986. Dr. P.H., or Ph.D. with appropriate background is required. Successful candidate should be committed to quality teaching and research. Primary responsibilities will be to direct an environmental health program which emphasizes a strong basic science background, develop a course in epidemiology, advise majors within the program, prepare and coordinate application for accreditation of program; would also be expected to teach courses in area of expertise. *Minority applicants are encouraged to apply.* Submit résumé, undergraduate and graduate transcripts, and three letters of recommendation to: **Dr. J. G. Humphreys, Search Committee Chair, Biology Department, IUP, Indiana, PA 15705.** Application deadline is 2 May 1986. Salary range is \$20,905 to \$24,200. IUP is an Affirmative Action/Equal Opportunity Employer.

BIOLOGY DEPARTMENT

The Biology Department at Indiana University of Pennsylvania (IUP) is seeking applicants for **TWO temporary positions** in biology for fall 1986. Any specialization in field biology will be considered. Commitment to quality teaching and research is essential. Duties will primarily include undergraduate teaching in a field-oriented general biology course for nonmajors. Consideration will be given to research and publications in biology, college-level teaching experience, and involvement in nonmajors biology program.

Position 1: Ph.D. preferred; teaching duties will be primarily at the branch campuses.

Position 2: Ph.D. preferred; teaching duties will be primarily at the Indiana campus.

Minority candidates are strongly encouraged to apply. Please indicate the position for which you are applying. Send letter, curriculum vitae, transcripts, statements of research and teaching interests, and three letters of recommendation by 2 May 1986 to:

**Dr. Anthony J. Nastase
Search Committee
Biology Department
Indiana University of Pennsylvania
Indiana, PA 15705**

IUP is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

SCIENTIST/RECOVERY PROCESS DEVELOPMENT. Genentech, Inc., a leader in the field of biotechnology has an opening for a scientist to provide both technical leadership and active participation with co-workers engaged in research and development for the purification and characterization of proteins. The successful candidate will have a Ph.D. in biochemistry or chemical engineering and 2 to 5 years of experience in either academics or industry.

Genentech offers an excellent compensation and benefits package, coupled with the opportunity to make a significant contribution to our organization. Please send résumé to: **Human Resources Department Number 4264, Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, CA 94080. An Equal Opportunity Employer.**

JET PROPULSION LABORATORY/ NASA VISITING SENIOR SCIENTIST VISIBLE AND ULTRAVIOLET ASTRONOMY

The Jet Propulsion Laboratory is seeking a senior scientist to develop and coordinate NASA visible and ultraviolet astronomical research and technology efforts including theoretical astrophysics, laboratory, astrophysics, development of advanced instruments; and ground-based rocket, balloon, aircraft, and spacecraft observations. Duties include scientific assistance in planning and administering the Supporting Research and Technology (SR&T), Data Analysis (DA), Sounding Rockets, Balloon, and Aircraft Programs for the branch. This activity includes evaluation of proposals, arrangement of reviews by peers of the proposers outside NASA headquarters, and recommendation of funding and monitoring of grants. Deadline for application is 15 May 1986. Please send curriculum vitae, bibliography, and three letters of reference to: **Dr. Harry Ashkenas, Jet Propulsion Laboratory 180-900, Department T60, 4800 Oak Grove Drive, Pasadena, CA 91109. An Equal Opportunity Employer, M/F.**

VISITING SCIENTIST

Visiting scientist position available starting May 1986 for 2 years to study the hormonal control of differentiation of teratoma cell lines at the cellular and molecular levels. Work will involve protein purification and DNA recombinant technologies. The position requires experience in molecular biology or protein biochemistry. Postdoctoral candidates with a Ph.D. should send curriculum vitae and three names of references, statement outlining research interest, and career goals to:

**Lorraine L. G. Tyler
Personnel Manager
W. ALTON JONES CELL SCIENCE CENTER
10 Old Barn Road
Lake Placid, New York 12946**

Please refer to Job Order SE-605

An Affirmative Action/Equal Opportunity Employer

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP RESEARCH INSTITUTE OF SCRIPPS CLINIC

Opportunity to participate in the molecular elucidation of the cellular immune response. Must have demonstrated training, achievement, and basic experience in immunology or molecular genetics. Major topics open to qualified fellows include molecular cloning of T helper cell effector genes, the products of which control immunologically significant responses of cells of the monocyte lineage and other effector cells, dissection of the structural basis of the biological function of these lymphokines and cell-surface regulatory molecules by site-directed mutagenesis, control of transcription of these T helper effector genes, or analysis of the molecular basis of effector diversity of cloned T helper cells. Applicants must be U.S. citizens or permanent residents qualified for NIH training grant support or with alternative fellowship support. If interested, forward curriculum vitae, references, and statement of interests to: **Thomas Edgington, M.D., Department of Immunology, Research Institute of Scripps Clinic, La Jolla, California 92037. An Equal Opportunity/Affirmative Action Employer.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS IN CARDIAC CELL ELECTROPHYSIOLOGY. Two traineeships (2 to 3 years), beginning September 1986, to study (i) gap junction single channel function between heart cells, and (ii) differentiation of ionic channels in isolated cardiac cells using patch electrode voltage clamp techniques. Support and excellent facilities available through an active interdepartmental program project grant. Requirements: Ph.D. in physiology, membrane biophysics, or similar discipline. Send résumé and names of three professional references to: **Dr. R. L. DeHaan, Anatomy and Cell Biology, Emory University, Atlanta, GA 30322. Emory University is an Equal Opportunity/Affirmative Action Employer.**

GRADUATE FELLOWSHIP

A Graduate Fellowship (an \$8500-per-year stipend and a tuition waiver) is available for qualified applicants beginning September 1986. Graduate study leading to Ph.D. degree in pathology in areas such as molecular biology, experimental cardiovascular pathology, tumor biology, pulmonary pathology, neurobiology, as well as the clinical laboratory sciences. For further information, write to: **Joseph Wiener, M.D., Chairman, Department of Pathology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201.**

POSTDOCTORAL FELLOWSHIP

Position available immediately for research in renal physiology and biochemistry. Studies focus on regulation of renal glutamine metabolism and the interactions between mitochondrial anion transport and enzyme flux in altered acid-base conditions. Effects of H^+ and Ca^{2+} studied in isolated tubules, mitochondria, and cultured cells. Experience in biochemical techniques required, knowledge of fluorometry and cell culture techniques desirable. Contact: **Dr. Anton C. Schoolwerth, Division of Nephrology, Medical College of Virginia, Box 160, MCV Station, Richmond, VA 23298.**

A POSTDOCTORAL POSITION is currently available in the area of extracellular matrix, supported by an NIH institutional training grant. Potential areas of research include molecular biology of collagens and proteoglycans, developmental biology of limb formation, structure/function relationships of matrix macromolecules, and regulation of matrix expression. Applicants may choose among ten participating faculty. Contact: **Dr. Marvin L. Tanzer, University of Connecticut Health Center, Farmington, CT 06032.**

An Affirmative Action/Equal Opportunity Employer, M/W/H.

TRAINING PROGRAM

POSTDOCTORAL TRAINING FELLOWSHIP IN IMMUNOLOGY AND TRAUMA

National Institutes of Health training grant for M.D.'s. An interdisciplinary program in the study of immunopathology mechanisms for fibrosis and scarring in response to trauma. Research involves training in immunology, cell biology, and pathophysiology at the Shriners Burns Hospital, Massachusetts General Hospital. Please send curriculum vitae to:

**Dr. H. Paul Ehrlich
Shriners Burns Institute
51 Blossom Street
Boston, Massachusetts 02114**

TRAINING OPPORTUNITY Immediate Opening

Postdoctoral position supported through NIH training grant stipend available immediately for qualified M.D., or Ph.D. with a primary interest in transplantation immunobiology (islet cells) and autoimmune endocrine diseases, with an emphasis on diabetes.

Multidisciplinary research training is available in the Departments of Medicine, Immunobiology, and Surgery. Contact: **Daniel H. Mintz, M.D., Program Director, University of Miami School of Medicine, Division of Endocrinology (R-134), P.O. Box 016960, Miami, FL 33101; telephone: 305-547-6657, for further information. Curriculum vitae and three letters of recommendation are required.**

Groundwater Hydrologist

The Energy and Environmental Systems Division of Argonne National Laboratory, a large research and development center near Chicago, has an immediate opening for a Groundwater Hydrologist to analyze and predict contaminant transport from waste disposal sites.

Considerable knowledge and skills are required in:

- Groundwater flow and contaminant transport processes
- General geological and hydrological processes
- Use and development of numerical models
- Application of site-specific data to model inputs
- Written and verbal communications

Experience in field characterization studies, containment system performance assessment, and groundwater restoration methods is desirable. Knowledge of applicable laws and regulations as well as demonstrated ability to work with a

multidisciplinary team of scientists and engineers are desirable. The levels of knowledge and skills required will typically have been acquired through advanced formal education and several years of relevant experience.

This position offers a variety of challenges in assessing groundwater contamination at specific sites plus opportunities to develop new initiatives in hazardous and radioactive waste management. Argonne offers state-of-the-art computing and support facilities.

We offer a competitive salary, based on experience, a comprehensive benefits package including five weeks vacation, and a highly professional and innovative environment.

Send resume to:

Rosalie L. Bottino
Box D-GEO-203-55
Argonne National Laboratory
9700 South Cass Avenue
Argonne, IL 60439



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United States Department of Agriculture

Postdoctoral Research Associates

The Agricultural Research Service as the principal scientific research agency of USDA, conducts research to produce more and better food and fiber; to control insect pests and weeds safely; to get food to consumers in better condition; to improve human nutrition; to help protect soil, water, and air, and to find new uses for agricultural commodities. Much of the work is on the cutting edge of each discipline—biotechnology (including molecular biology, genetic engineering, and membrane research), application of theories of artificial intelligence to computer technology, and innovative approaches to pest control through insect neurochemistry and the use of pheromones.

ARS is currently recruiting for 100 postdoctoral positions throughout the country. Opportunities exist in the following research areas:

- Genetics
- Biochemistry
- Chemistry
- Microbiology
- Animal Science
- Veterinary Science
- Physiology
- Entomology
- Plant Physiology
- Plant Pathology
- Agronomy
- Soil Science



Successful candidates will be hired under excepted appointments up to 2 years in duration. Salary for these GS-11/12 positions (\$26,381 to \$31,619) will be based on qualifications and experience. Candidates must be U.S. citizens.

For information on positions available and application procedures, write to:

N.L. BAKES
Personnel Division (S)
USDA/ARS
Building 003, BARC-W
Beltsville, MD 20705

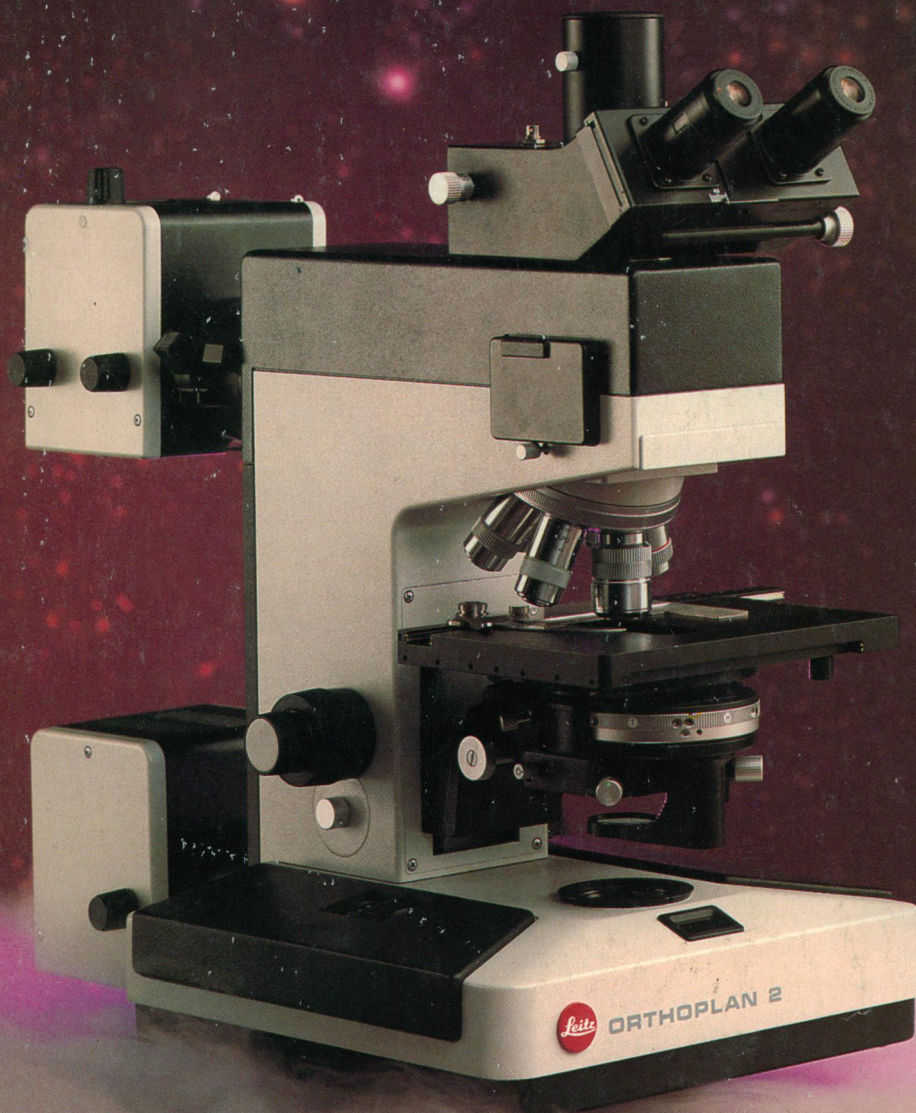
ARS is an Equal Opportunity Employer. Women and Minorities are Encouraged to Apply.

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