

diction. It is a delightful and highly personal account of the dynamic interactions of some of the most famous persons in meteorology and climatology, as well as of some of the first computers devoted to the problems of atmospheric modeling.

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High-Energy Physics

Quarks, Gluons and Lattices. MICHAEL CREUTZ. Cambridge University Press, New York, 1984. vi, 169 pp., illus. \$34.50. Cambridge Monographs on Mathematical Physics.

Quarks, Gluons and Lattices is a brief, clear introduction to lattice gauge theory and its applications to quantum chromodynamics, the field theory of interacting quarks and gluons.

The book begins with a discussion of the connection between statistical mechanics and field theory and goes on to introduce Euclidean scalar, fermion, and gauge fields. It then turns to the construction of lattice degrees of freedom, lattice actions, and various techniques of extracting the mathematical and physical content of such theories. Strong coupling and weak coupling expansions, mean field theory, duality, renormalization group transformations, and computer simulation methods, some of which were pioneered by the author, are considered in turn. These topics are illustrated through examples drawn from the recent literature. The computer simulation and numerical evidence for the crucial features of the theory, such as confinement in the continuum limit, are critically and sensibly discussed.

Since a considerable array of topics is essential to a balanced presentation of lattice gauge theory, a short work such as this is forced into compromises. The reader will find sketches of some arguments rather than full presentations and discussions. The references, however, are quite complete, and in all probability they will have to be consulted from time to time. The book does not discuss some actively developing topics, including the lattice topological charge, the lattice Dirac equation, chiral symmetry, species doubling, and the axial anomaly. These are important topics that are not completely understood at this time.

In summary, this timely monograph could serve as a solid centerpiece in a course on lattice gauge theory. If it were

supplemented with additional material covering recent developments, such as the Monte Carlo renormalization group and fermion computer simulations, a very profitable graduate-level course would result. Since lattice gauge theory and its attendant mathematical and numerical methods, such as large-scale computer simulations, are expected to play an important role in high-energy and statistical physics in the coming years, such an enterprise should be well worth the effort devoted to it.

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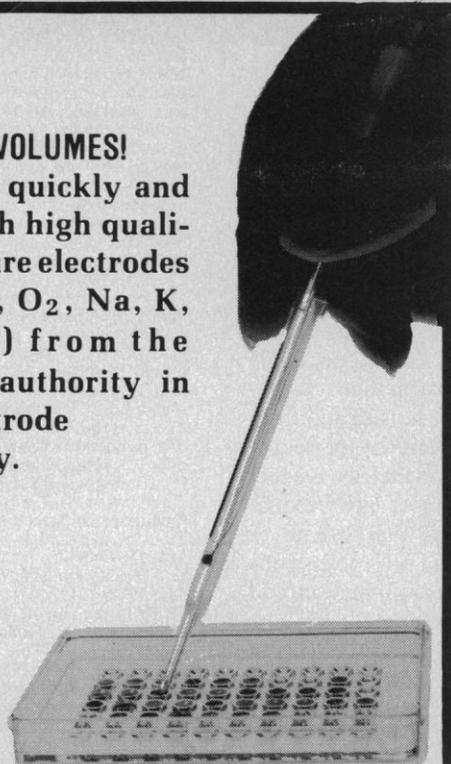
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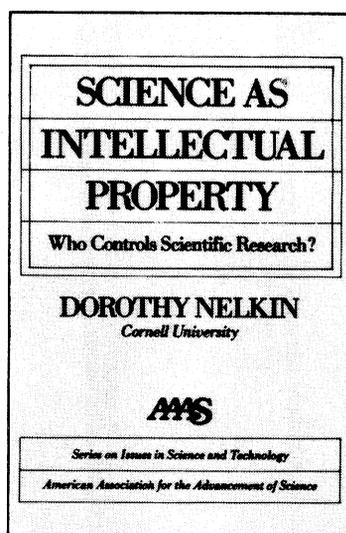
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About the author: Associated with Cornell University since 1963, Dorothy Nelkin is now Professor in the Program on Science, Technology, and Society and in the Department of Sociology.

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(Continued from page 686)

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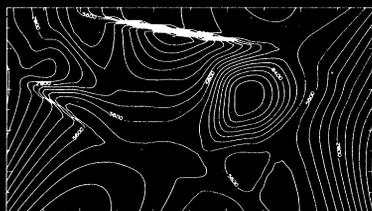
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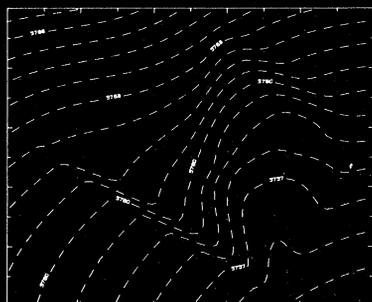
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Volcanoes of the Earth. Fred M. Bullard. 2nd ed. University of Texas Press, Austin, 1984. x, 629 pp., illus., + plates. \$35.

Vortex Methods in Two-Dimensional Fluid Dynamics. C. Marchioro and M. Pulvirenti. Springer-Verlag, New York, 1984. iv, 137 pp. Paper, \$7. Lecture Notes in Physics, vol. 203.

Water Analysis. Vol. 2, Inorganic Species. Part 2. Roger A. Minear and Lawrence H. Keith, Eds. Academic Press, New York, 1984. xii, 405 pp., illus. \$65.

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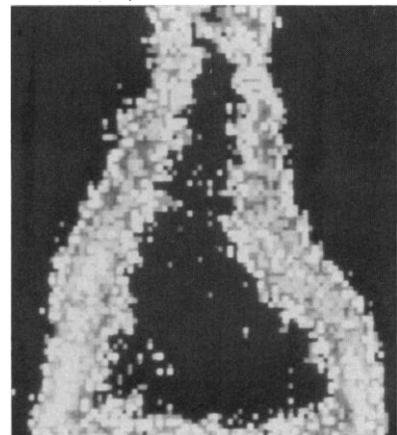
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POSITIONS WANTED

Biochemist, Ph.D., 12 years of research experience. Expertise in protein sequencing and purification. Knows immunochemical and modern analytical techniques. Seeks senior position in academia, hospital, industry, government. Box 244, SCIENCE. X

Biochemist, M.S. 1980. Experimental design and assay debugging are my specialties. Also, RIA, enzyme assays, protein purification, tissue culture, microbiology, and organic synthesis. Industrial position preferred. Box 254, SCIENCE. X

Biopsychologist, Ph.D. 1983. Seeking postdoctoral or long-term position in academic, governmental, or industrial setting. Experienced in ethology, electrophysiology, iontophoretic injections of HRP, histology. Strong background in statistical analysis and computer skills. Considerable teaching experience (statistics, motivation, human development, learning). Box 249, SCIENCE. X

Cell Biologist, Ph.D., seeks an assistant professor position in Anatomy, Pathology, or Cell Biology Department within the next year. Excellent publications in cell motility, phagocytosis, inflammation, diabetes: islet structure-function, insulin secretion, quantitative ELISA's, and RIA's. Ivy League postdoctorate. Teaching, supervisory, and workshop organization experience. Broad background in research techniques includes: hands-on experience in light microscopy, biochemistry, immunology, electron microscopy, and computer programming. Box 263, SCIENCE. X

Organic Chemist, Ph.D. 1978/**Biochemist, M.S.** 1975. Multidisciplinary experience. Three years of industrial food research. Problem-solving related to texture and ingredient improvement. Extensive experience in synthesis, mechanisms and structure identification of antihypertensive and antiepileptic compounds. Protein purification. Enthusiastic, industrious, effective communicator. Will relocate. Immediately available. Box 262, SCIENCE. X

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Cell Physiologist, Ph.D., postdoctoral research. Experienced in cell culture, pharmacology, electrophysiology, hybridoma production. Seeks permanent position as technician or teacher. Box 261, SCIENCE. 11/9, 16

Microbiologist, Ph.D., industrial experience. Background in anaerobic microbiology, fermentation optimization, bacterial strain development, and microbial ecology. Seeks challenging industrial research position. Box 247, SCIENCE. X

M.D. seeks position in **Pharmaceutical Industry**, regional medical director. English-Spanish, interpersonal skill. Marketing orientation management and medical director experience. Available January 1985. Please contact: W. J. Sablich, M.D., 8361 N.W. 24th Court, Sunrise, Florida 33322. X

Plant Biologist, Ph.D. 1983, M.Sc. 1972. Experience in electrophoretic analysis of cereal storage proteins. Gene bank experience in collecting and conservation of crop genetic resources. Research experience in landrace population genetics. Many publications. Seeks employment anywhere. Available January 1985. Box 260, SCIENCE. X

Plant Physiologist/Biochemist, Ph.D. 1983 (United States). Six years of research experience. Four years in enzyme purification and kinetics, 2 years in plant tissue culture. Familiar with major biochemical techniques. Two years of teaching experience in plant physiology. Seeks a postdoctoral or teaching position. Box 248, SCIENCE. X

Research Technician with broad experience in immunology, molecular biology, hybridization techniques, and cellular biology offers assistance in American research laboratory (preferably). Reply to: Jeroen Knops, Institute for Immunology and Genetics, German Cancer Research Center, Im Neuenheimer Feld 280, D-6900 Heidelberg, Federal Republic of Germany. X

Toxicologist/Pharmacologist—Metabolism Ph.D. Experienced with in vitro and in vivo studies using HPLC, GC-MS, radiolabel and fluorescent detection of metabolites. 3 Arnold Drive, Verona, Pa. 15147. X

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ASSISTANT PROFESSOR, OHIO UNIVERSITY. The Program in Anatomy, Development, and Neurobiology seeks to fill a tenure-track position with an individual who has a strong research orientation. Research area is open but individuals will be preferred whose research program complements the existing strengths of the section in functional morphology, muscle biology, neurobiology, and development. Teaching duties will include participation in the gross anatomy course for medical and/or physical therapy students and in one course in the Department of Zoological and Biomedical Sciences. A Ph.D. degree and postdoctoral experience are required; prior teaching experience in gross anatomy or vertebrate morphology is required. Salary and start-up funds are competitive; campus location is attractive. This will be a joint appointment in the Department of Zoological and Biomedical Sciences, College of Arts and Sciences, and in the Department of Basic Sciences, College of Osteopathic Medicine. Starting date is 1 July 1985. Send curriculum vitae, a statement of research and teaching interests, and the names of three references before 31 January 1985 to: **Dr. E. H. Peterson, Chairperson, Anatomist Search Committee, Departments of Zoology and Basic Sciences, Ohio University, Irving Hall, Athens, Ohio 45701. Ohio University is an Affirmative Action/Equal Opportunity Employer.**

The Department of Biology, University of Dallas, invites applications for an **ASSISTANT PROFESSOR**, tenure-track position beginning fall 1985. Ph.D. is required, with emphasis in cell biology or microbiology, proven teaching and research ability, and a strong commitment to undergraduate education and to the liberal arts. Duties include teaching cell biology and microbiology, participating in a team-taught biology course, and maintaining an active research program. The Biology Department will be housed in new teaching and research facilities beginning spring semester 1985. Applicants should submit curriculum vitae and names of three references by 15 December to: **Dr. Frank Doe, Department of Biology, University of Dallas, Irving, Texas 75061.**

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POSITIONS OPEN

Mental Retardation Research Center, University of California, Los Angeles (UCLA). Applications are invited for a university funded **ASSISTANT PROFESSORSHIP**. Candidates should have research interests in developmental neurobiology of the central nervous system with emphasis on molecular biology, pharmacology, or immunohistochemistry. Submit curriculum vitae and three references by 1 December 1984 to: **Developmental Biology Committee, c/o Director, MRRC, 760 Westwood Plaza, Los Angeles, Calif. 90024. UCLA is an Equal Opportunity/Affirmative Action Employer.**

The Department of Microbiology, Louisiana State University (LSU), Baton Rouge, as part of a vigorous expansion program, invites applications for four tenure-track positions at the **ASSISTANT PROFESSOR** level. Candidates must have postdoctoral experience, strong credentials in microbiology and/or molecular biology/genetics and a commitment to establish a research program of excellence in one of the following areas: (i) gene expression or genome organization in microorganisms, (ii) molecular biology/genetics with applications in biotechnology, (iii) molecular biology/genetics as related to agricultural microbiology, and (iv) molecular immunology. All candidates should be experienced in recombinant DNA techniques. Send curriculum vitae, a description of future research plans, and a list of three references to: **Dr. M. D. Socolofsky, Chairman, Department of Microbiology, 508 Life Sciences Building, Louisiana State University, Baton Rouge, La. 70803.** All searches will continue until suitable candidates are found. *LSU is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR IN ANALYTICAL CHEMISTRY AT IOWA STATE UNIVERSITY

Applications are invited for this position which will become available in summer 1985. All research areas in analytical chemistry will receive consideration. Candidates with outstanding potential for, and commitment to, excellence in both research and teaching are sought to join a faculty with a strong tradition of research in analytical chemistry. Applicants should submit curriculum vitae, transcripts, a documented summary of past accomplishments, and an explicit statement of research plans and teaching objectives to: **Professor D. K. Hoffman, Chairman, Chemistry Department, Iowa State University, Ames, Iowa 50011.** Applicants also should arrange for at least three letters of recommendation to be sent. Evaluation of applications will begin in December 1984. *Women and minority applicants are encouraged to apply. Iowa State is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF MOLECULAR BIOLOGY AND BIOCHEMISTRY

Applications are invited for a tenure-track position from candidates with a minimum of 2 years of postdoctoral research experience in the area of gene regulation. Research excellence will be the prime consideration, but we are particularly interested in the use of gene transfer approaches in eukaryotes. Teaching responsibilities will include an undergraduate course and participation in an active Ph.D. training program. This is the first of at least two new appointments in the newly formed department. Please forward an application, including curriculum vitae, three references, and a detailed research plan, to: **Search Committee, Molecular Biology and Biochemistry Department, Wesleyan University, Middletown, Conn. 06457. Wesleyan University is an Equal Opportunity/Affirmative Action Employer. We encourage applications from minority candidates and women.**

ASSISTANT PROFESSOR MOLECULAR BIOLOGIST

Seek tenure-track assistant professor. Will develop an independently funded research program involving recombinant DNA technology addressing questions of fundamental importance to biology. Research will complement existing research programs. Direct graduate students and teach undergraduates/graduates. Requires Ph.D. Postdoctoral experience desired. Evaluation of candidates will commence on 15 December. (Applications will be accepted until the position is filled.) Send résumé and statement of research interest, and have three letters of recommendation sent to: **Dr. R. H. Meints, Search Committee, Molecular Biology, School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, Nebraska 68588-0118. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

The Department of Neurosciences, University of California, San Diego, is seeking qualified applicants for a tenure-track position at the **ASSISTANT AND ASSOCIATE PROFESSOR** level. Neurobiologist expert in brain tissue transplantation, regeneration, or related areas of CNS degenerative disease including Alzheimer's disease, to work in collaboration with well-funded, experienced, broad-based group concerned with this disorder. The successful candidate is expected to participate in graduate teaching and postdoctoral training. Ph.D. or M.D. required. Salary and benefits are competitive; salary and rank commensurate with experience. All applications received by 11 January 1985 will be considered. Send curriculum vitae, bibliography, and names and complete mailing addresses of five references to: (BU/FTE) **Dr. Robert Terry, Department of Neurosciences (M024), University of California, San Diego, La Jolla, Calif. 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

The Department of Neurosciences, University of California, San Diego, is seeking qualified applicants for a tenure-track position at the **ASSISTANT AND ASSOCIATE PROFESSOR** level. Salary and benefits are competitive; salary and rank commensurate with experience. Experienced neurochemist and molecular biologist to develop investigations of molecular mechanisms underlying Alzheimer's disease; to work in collaboration with well-funded, broad-based, experienced group concerned with this disorder. The successful applicant is expected to participate in graduate teaching and postdoctoral training. Ph.D. or M.D. required. All applications received by 11 January 1985 will be considered. Send curriculum vitae, bibliography, and names and complete mailing addresses of five references to: (FTE Number 2) **Dr. Robert Terry, Department of Neurosciences (M-024), University of California, San Diego, La Jolla, Calif. 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

The Department of Neurosciences, University of California, San Diego, is seeking qualified applicants for a tenure-track position at the **ASSISTANT AND ASSOCIATE PROFESSOR** level, who are expert in neurofibrous protein with background in cell biology and protein chemistry, with emphasis on abnormal fibrous protein, to work in collaboration with a well-funded group concerned with Alzheimer's disease. The successful candidate is expected to participate in graduate teaching and postdoctoral training. Ph.D. or M.D. required. Salary and benefits are competitive; salary and rank will be commensurate with experience. All applications received by 11 January 1985 will be considered. Send curriculum vitae, bibliography, and names and complete mailing addresses of five references to: (FTE Number 1) **Dr. Robert Terry, University of California, San Diego, Department of Neurosciences (M024), La Jolla, Calif. 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

The Department of Biochemistry, Duke University Medical Center, invites applications for the position of **ASSISTANT PROFESSOR**. This is a tenure-track position. The person will be expected to establish a strong independent research program and to teach at the graduate level. The field of interest is open, although some preference may be given to candidates interested in the molecular aspects of cell biology. Send résumé, summary of research interest, and names of three references by 15 December 1984 to: **Robert L. Hill, Department of Biochemistry, Duke University Medical Center, Durham, North Carolina 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

The Department of Neurosciences, University of California, San Diego, is seeking qualified applicants for an **ASSISTANT AND ASSOCIATE RESEARCH NEUROSCIENTIST** position. Candidates must have a Ph.D. degree, research background, and experience as a neurochemist. Successful applicant will be expected to analyze human brain tissue and fluids for catecholamines, amino acids and neuropeptide transmitters and metabolites relevant to Alzheimer's disease. Must be skilled with HPLC radioisotope enzyme assays, RIA, and related procedures. Salary and benefits are competitive. Salary and rank commensurate with experience. All applications received by 11 January 1985 will be considered. Send curriculum vitae, bibliography, and names and complete mailing addresses of five references to: (ARA Number 1) **Dr. Robert Terry, Department of Neurosciences (M024), University of California, San Diego, La Jolla, Calif. 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

CLARKSON UNIVERSITY DEPARTMENT OF BIOLOGY

Announces the **BAYARD D. AND VIRGINIA C. CLARKSON CHAIR**

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The Clarkson University Department of Biology invites applications and nominations for this newly endowed Chair and for a second faculty position.

Clarkson has well-established PhD programs in Chemistry, Physics, Mathematics and Engineering, and a young undergraduate program in Biology. The Bayard D. and Virginia C. Clarkson Professor will be expected to play a leading role in developing Biology's contribution to an interdisciplinary graduate program in Chemical and Physical Biology, culminating in the offering of a PhD degree in Biology. The candidate may be considered for the position of Chairperson of the Biology Department, if desired. A new research facility will be occupied early in 1985. Several additional appointments will be made during the next few years in addition to the positions advertised here.

The candidate for the Clarkson Chair must be a distinguished research scientist. The candidate for the second position for which the rank is open must be capable of developing or maintaining a vigorous, quality research program. The research areas are open although preference will be given to Biochemistry, Cell Biology, Microbiology, Biophysics, Mathematical Biology, Bioengineering and other areas which could interface with existing programs in Chemistry, Physics, Mathematics and Engineering. Excellence in teaching is essential.

Please send CV and the names of at least three references to

**Department of Biology Search Committee
Clarkson University
Potsdam, New York 13676**

to arrive not later than January 15, 1985. Please specify which position is sought. Equal Opportunity Employer.

MARINE BIOLOGIST/ ECOLOGIST

Five Colleges, Inc. an educational consortium comprised of Amherst, Hampshire, Mount Holyoke and Smith Colleges and the University of Massachusetts, seeks a broadly trained, experienced marine scientist with emphasis in marine biology/ecology, for a full-time administrative and teaching position. Administrative duties include serving as chairperson of the Five Colleges Coastal and Marine Sciences Committee and as coordinator of the various coastal and marine sciences programs of this consortium. Teaching duties include offering an introductory level marine biology or ecology course and more advanced specialty courses on a rotating basis among the 5 institutions. Teaching load will be 2 or 3 courses per year; research facilities are available. The in-residence institution will be Smith College with a 3-year initial appointment at the Assistant or Associate Professor rank. Applicants should send a curriculum vitae with list of publications, brief statement of administrative, teaching, and research experience and interests, and names of 4 potential references to: **Dr. C. John Burk, Dept. of Biological Sciences, Smith College, Northampton, MA 01063. An Equal Opportunity Employer.**

Postdoctoral Scientist Cardiovascular Biological Research

American Cyanamid's Medical Research Division, located at Lederle Laboratories in Pearl River, New York, has an immediate opening for a Postdoctoral Scientist to work in the area of Cardiovascular Biological Research.

A Ph.D. in Pharmacology, Physiology or a related discipline is required. Training in assessment of cardiac function in laboratory animals is preferred. Current areas of research in the department include the influence of obesity upon cardiac function, the mechanism(s) of heart failure during rapid weight reduction in the obese state, hemodynamic actions of novel antihypertensive drugs (PAF and PG's), and myocardial adaptations of the adrenergic nervous system in various models of heart disease.

Independent research and publishing in scientific journals are encouraged.

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Please send curriculum vitae or resume to Mrs. Nancy Levine, Professional Employment Coordinator,



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POSITIONS OPEN

ASSISTANT PROFESSOR, ANATOMY. Purdue University; tenure-track; research and teaching. Must possess Ph.D.; preference to those also having D.V.M. or M.D. Send résumé and references to: **Dr. E. Hinsman, School of Veterinary Medicine, West Lafayette, Ind. 47907**, by 15 January 1985.

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ASSISTANT PROFESSOR MEDICINE (IN RESIDENCE SERIES)

The Department of Medicine, University of California, San Francisco, has created a new faculty position at the assistant professor (in residence) level. The major effort of this position is to be devoted to research in thrombosis, atherosclerosis, and hemostasis and to clinical medicine and hematology. Research interest in the production of procoagulants by endothelial and vascular smooth muscle cells is desired to complement integrated study of atherosclerosis by a large group. Clinical responsibilities include hematology consulting, attending in inpatient hematology and internal medicine, outpatient hematology clinic, and training students, housestaff, and fellows.

Requirements: Board-certification in hematology.

Applicants should send curriculum vitae to:

Stephen H. Embury, M.D.
Building 100, Room 263
San Francisco General Hospital
San Francisco, California 94110

The University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

ASSISTANT PROFESSOR—MEMBRANE BIOLOGY. Tenure-track positions are available for scientists working in membrane biology. The successful applicant is likely to be experienced in voltage clamp measurements of channels in natural membranes, isolated by gigaohm seals in the patch clamp technique, or of channels reconstituted into artificial bilayers. He/she will have a broad interest in the functional role of channels and membranes in a variety of cells and tissues. Please send curriculum vitae, including the names of three senior investigators willing to evaluate your work, and a short (one- to two-page) description of your research goals for the next few years, to:

Robert Eisenberg
Bard Professor and Chairman
Department of Physiology
Rush Medical College
1750 West Harrison Street
Chicago, Illinois 60612

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ASSISTANT PROFESSOR OF PHARMACOLOGY AND TOXICOLOGY

Tenure-track appointment available 1 March 1985. Candidate must possess Ph.D. with area of expertise in cardiovascular pharmacology and/or toxicology. Previous experience in a postdoctoral appointment required. Must demonstrate ability to carry out an independent and extramurally fundable research project, preferably in cardiac pharmacology. Candidate must demonstrate potential and interest in the teaching of medical and graduate students. Submit curriculum vitae and two references to:

Dr. Lowell Greenbaum
Professor and Chairman
Department of Pharmacology and Toxicology
The Medical College of Georgia
Augusta, Ga. 30912

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ASSISTANT PROFESSOR. Tenure-track position. Ph.D. is required with specialization in **TOXICOLOGY**; preferred research interests are in aquatic systems either at the molecular, cellular, or organismal level. Postdoctoral or industrial experience is desirable. Duties include participating in undergraduate molecular biology courses, teaching graduate toxicology courses, establishing a research program, and supervising M.S. thesis research. Facilities include a well-equipped lake station and an animal care facility (under construction). Send curriculum vitae with listing of graduate courses taken, a statement of research and teaching interests, and three letters of recommendation by 15 January 1985 to: **Dr. D. Wartzok, Chair, Department of Biological Sciences, Indiana University-Purdue University at Fort Wayne, Fort Wayne, Ind. 46805.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

The Department of Biochemistry, University of Wisconsin-Madison, invites applications for a position of **ASSISTANT PROFESSOR** in the area of **PLANT MOLECULAR BIOLOGY**. Candidates should have a strong background in molecular biology, biochemistry and plant sciences and will be expected to establish an independent research program. Other duties will include formal teaching and the supervision of graduate students. Salary will be on a 12-month basis at a level that is commensurate with qualifications and experience and compatible with the salary structure of the University of Wisconsin system. *Women and minority candidates are especially encouraged to apply.* Send detailed curriculum vitae and a two-page statement of research interests to: **H. F. DeLuca, Chairman, Department of Biochemistry, University of Wisconsin-Madison, Madison, Wis. 53706**, before 31 December 1984. Have three letters of recommendation sent to the same address. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

THE UNIVERSITY OF TEXAS AT ARLINGTON (UTA)

UTA has an enrollment of 23,000 and is located between Dallas and Fort Worth. The 23-member Department of Biology invites applications for two tenure-track positions at the **ASSISTANT PROFESSOR** level. Candidates must demonstrate a strong research background in **QUANTITATIVE BIOLOGY** and be interested in teaching and supervision of research at the undergraduate and graduate levels. The two positions are:

Physiology—Ph.D. with research interests in lower vertebrates or invertebrates. Teaching duties include non-majors anatomy and physiology.

Experimental Ecology—Ph.D. with research interests in behavioral or community ecology.

Submit letters of application, curriculum vitae, and the names, addresses, and telephone numbers of four references by 10 January 1985 to:

Chairman, Department of Biology
The University of Texas at Arlington
Arlington, Texas 76019

An Equal Opportunity/Affirmative Action Employer

The Department of Neurosciences, University of California, San Diego, is seeking qualified applicants for an **ASSISTANT RESEARCH NEUROSCIENTIST** to serve as a post-residency fellow in Alzheimer's disease and dementia-related research activity, and diagnostic and quantitative histopathology. The successful candidate (Board-eligible or -certified in neuropathology) will be afforded an opportunity for experience in neuropathologic diagnosis and individual laboratory research experience. Salary: \$29,600. Send curriculum vitae/bibliography and letters of reference by 11 January 1985 to: **Robert D. Terry, M.D., University of California, San Diego, Department of Neurosciences (M-024), La Jolla, Calif. 92093.** *The University of California is an Affirmative Action/Equal Opportunity Employer. Minority and women candidates are encouraged to apply.*

ASSISTANT RESEARCH SCIENTIST—NUTRITION. The Clinical Nutrition Research Unit of the Medical College of Georgia is seeking a Ph.D. in one of the basic biomedical sciences to help expand the Micronutrients Laboratory and develop collaborative investigations. Duties include methods development and training of technical staff. The candidate needs a strong background in biochemistry and good written and oral communication skills. Please send curriculum vitae with names of three references to: **G. Franklin Carl, Ph.D., Director, Nutrition Laboratory, Medical College of Georgia, BD-101, Augusta, Ga. 30912.**

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J2182

ASSOCIATE CHIEF OF STAFF FOR RESEARCH

The Long Beach Veterans Administration Center invites applications and nominations of a proven scholar and experienced administrator to fill this position. Applicants must be eligible for tenure-level faculty appointment at the University of California, Irvine, California College of Medicine, in an appropriate department. Applications and nominations should be submitted by 1 December 1984 to: **Thomas L. Nelson, M.D., Chair of the Search Committee, Associate Dean, California College of Medicine, University of California, Irvine, Irvine, Calif. 92717.** *The Veterans Administration is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

BEHAVIORAL BIOLOGIST: Tenure-track (assistant professor) position for vertebrate or invertebrate biologist with research area in behavioral biology available fall 1985. Participation in core courses, development of upper-level undergraduate and graduate courses in areas of speciality consistent with departmental goals, and strong research program expected. Ph.D. in the discipline required and field orientation preferred. Salary competitive. Letter of application, résumé, transcripts, and three letters of recommendation must be received no later than 30 December 1984 by:

Dr. Roger H. Trumbore, Chairman
Department of Biology

University of North Carolina at Charlotte (UNCC)
Charlotte, N.C. 28223

UNCC is an Equal Opportunity/Affirmative Action Employer.

BIOCHEMIST—Immediate opening for research biochemist to participate in the development of research programs in neuroendocrinology, including short- and long-term goal setting, budget preparation, and research protocol design. Assists in selection of technical and professional research personnel. Orients, trains, assigns work, and evaluates performance of staff. Using peptide neuroendocrinology knowledge and experience, develops research hypotheses and designs experiments to test same. Interprets data and may write computer programs to assist in data analysis. Prepares and writes grant proposals. Position requires a Ph.D. in biochemistry with specific training in peptide neuroendocrinology with a minimum of 1 year of postdoctoral endocrine research experience. Three to 5 years of experience in all aspects of protein separation techniques, neuro-peptide receptor isolation, hybridoma/monoclonal antibody technology, development of radioimmunoassays, neuronal cell cultures and computer technology; to include experience in both the development and supervision of a neuroendocrine research laboratory. Hours: 8:30 a.m. to 5 p.m. Salary: \$30,000. Send résumé to: **T. Salabert, Department of Employment Security, 130 West Exchange Street, Providence, R.I. 02903 (ID Number 610175).**

BIOLOGY. Tenure-track position, assistant professor level, beginning September 1985. Principal teaching responsibilities in developmental biology. Other areas of teaching include microbiology and general biology. Ph.D. required and recent postdoctoral experience in some aspect of gene expression desirable. Send curriculum vitae, three letters of recommendation, and graduate and undergraduate transcripts to: **Dr. Richard Sherwin, Chairman, Department of Biology, Emory & Henry College, Emory, Va. 24327**, by 11 January 1985. *Equal Opportunity Employer.*

BIOLOGISTS—Two tenure-track assistant professors are anticipated for fall 1985. Ph.D. with postdoctoral experience, a vigorous research program, as well as commitment to general biology and undergraduate education. One position in **FRESHWATER AQUATIC ECOLOGY**, one in **EUKARYOTE CELL BIOLOGY**, both with additional expertise in one or more of the following: vertebrate biology, ichthyology, cell physiology, or plant molecular biology. Both candidates are expected to teach in team-taught general biology, advanced undergraduate and graduate courses, supervise student research, and seek extramural funding. Send curriculum vitae, names of three references, and a summary of research interests to: **Dr. Russell V. Brown, Department of Biology, Virginia Commonwealth University (VCU), 816 Park Avenue, Richmond, Va. 23284**, no later than 9 December 1984. *VCU is an Equal Opportunity/Affirmative Action Employer.*

BIOMEDICAL INVESTIGATOR POSITIONS—Medical Research Institute affiliated with a large academically oriented medical center hospital in suburban Philadelphia, Pennsylvania, is seeking new or established Ph.D. or M.D. researchers for staff or postdoctoral fellowship positions. Well equipped laboratories and excellent ancillary support services including use of new animal care facility will be provided. Areas of research emphasis include cardiovascular diseases and atherosclerosis, carbohydrate and hepatic lipid metabolism, diabetes mellitus, aging, and hematology-oncology. Pleasant working environment in an attractive setting. Competitive salary and fringe benefits and medical school appointments are available. Applicants must have a track record of journal publications based on peer-reviewed manuscripts of their own research. Send résumé, including history of grant support, to: **Box 259, SCIENCE.** *Equal Opportunity Employer.*

**NEW FISHERIES-RELATED
POSITIONS AT LOUISIANA
STATE UNIVERSITY'S CENTER
FOR WETLAND RESOURCES**

Anticipated upper level faculty positions to be filled in the Coastal Ecology and Fisheries Institute from the following disciplines:

- 1) Population Dynamics
 - 2) Statistics (catch and effort data)
 - 3) Fisheries Biology and Life History
 - 4) Seafood Microbiology (processing and packaging)
 - 5) Fisheries Product Marketing
- Ph.D. Required

Send resume, names of three confidential references and indication of availability date to Dr. Jack R. Van Lopik, Dean, Center for Wetland Resources, LSU, Baton Rouge, LA 70803-7500. Phone: 504-388-1558 or 6710. Applications will be accepted until positions are filled.

Louisiana State University is an Equal Opportunity Employer.

**SR. RESEARCH
SCIENTIST**

**Polymer Synthesis &
Characterization
San Francisco Bay Area**

Bio-Rad Laboratories is currently seeking a Senior Research Chemist to conduct a research program leading to synthesis and characterization of novel organo-polymeric chromatographic matrices. The ideal candidate will possess a Ph.D. or equivalent experience in the synthesis of organic polymers by emulsion and suspension techniques. The ability to interact with scientists from a broad spectrum of research disciplines is required. Familiarity with instrumental methods for the characterization of beaded polymers is preferred.

Bio-Rad Laboratories is a demonstrated leader in the rapidly advancing field of separations technology. The Research Products Division is located in the San Francisco Bay Area with convenient access to professional leaders in both academic and industrial sectors, as well as ample cultural and recreational opportunities.

Please send resume and names of three references to BIO-RAD LABORATORIES, Human Resources #180, 2200 Wright Ave., Richmond, CA 94804. An equal opportunity employer.

BIO-RAD Bio-Rad Laboratories

**ASSOCIATE DIRECTOR
OF PUBLIC PROGRAMS
Natural History Museum
of Los Angeles County**

Applications are solicited for a new position which will oversee activities concerned with exhibitions, public education, public awareness of research and collections, public relations and marketing in a major national museum. The qualified applicant should possess leadership ability, creativity, familiarity with natural history and history, the ability to function effectively within municipal and private administrative systems, effective communication and management skills, and a commitment to community service.

The associate director of public programs is a key element of the organizational structure of the Natural History Museum. The person selected to fill this position will report to the director, and will define and shape the role of the public programs/education function for many years to come.

A high level of understanding of the Museum's scholarly research is essential and continuing interaction with the curatorial staff will be required; hence, an advanced degree in the natural sciences is necessary. Additionally, experience in the following is desirable: exhibits and related special events, public education, administration and budget management, volunteer programs, advertising and communications, public relations and community affairs, and retail operations.

Salary negotiable and commensurate with experience. *Equal Opportunity Employer.* Send resume, letter of application, and names of three references to:

(APPLICATION DEADLINE: 21 December 1984)

**Dr. John Harris
Division of Earth Sciences
Natural History Museum
900 Exposition Boulevard
Los Angeles, California 90007
Telephone: 213-744-3321**

**DIRECTOR
CARCINOGEN ASSESSMENT GROUP**

Senior Executive Service

The U.S. Environmental Protection Agency (EPA) is seeking a director, Carcinogen Assessment Group. The director plans and coordinates comprehensive technical programs related to the development of carcinogenic risk assessment guidelines; advises Agency operating programs on the risks associated with chemicals that are suspected or known to cause cancer in human or animal tissues; directs the programs and staff of the group. Serves as an advocate for proper use of cancer data analysis and risk assessments information in Agency decisions on standards, guidelines, and regulations.

Applicants must meet Federal Office of Personnel Management X-118 Qualification Requirements in either the general biological sciences, general health sciences, or general physical sciences and must possess substantial professional experience demonstrating the ability to perform in a senior executive position. Additionally, to be rated qualified for the position, applicants must have the following **MANDATORY FACTORS**: (i) technical experience in the field of carcinogenicity; (ii) management experience (planning, organization, direction, coordination and control) of projects in the environmental health field involving the accomplishment of tasks through the efforts of in-house staff and/or contracts; (iii) experience working in health related environmental programs whose outputs have public policy implications; and (iv) demonstrated ability to communicate effectively, both orally and in writing, regarding complex issues and problems. The following **DESIRABLE FACTORS** will be used to rate successful applicants: (i) postgraduate degree in one of the following disciplines: life or health sciences, or physical sciences; (ii) experience or training in bioassay or epidemiological aspects of carcinogenicity—general research in carcinogenesis or epidemiology is equivalent; and (iii) demonstrated recognition in the environmental or health field as evidenced by membership in professional organizations, serving on environmental concern committees and/or authorship of papers dealing with these concerns.

Location: Washington, D.C.

Salary range: \$59,223 to \$64,008 plus civil service benefits.

Telephone inquiries: **Edna Morse at 202-382-3328.**

Application submissions: please submit a completed SF-171, available at Federal Job Information Centers and Federal agency personnel offices, *postmarked by 7 December 1984*, to: **Edna Morse (PM-224), Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460.** A summary describing specifically how your background and experience relate to all factors will be appreciated.

An Equal Opportunity Employer



**Northeastern Ohio
Universities
COLLEGE OF MEDICINE**

**VICE PROVOST AND
EXECUTIVE ASSOCIATE DEAN**

Northeastern Ohio Universities College of Medicine invites applications and nominations for the position of Vice Provost and Executive Associate Dean. The executive associate dean will be responsible for the Academic Affairs Office of the college, including the administration of an established undergraduate medical student curriculum. Other areas reporting to the Office of Academic Affairs are the Office of Medical Education, the Area Health Education Center, and Continuing Education. Of particular importance is the responsibility of the executive associate dean to assist 17 associated hospitals in the further development and strengthening of their residency programs.

The Northeastern Ohio Universities College of Medicine, in consortium with The University of Akron, Kent State University, and Youngstown State University, offers a 6-year combined B.S./M.D. degree program. Clinical education takes place in hospitals in Akron, Canton, Youngstown, and surrounding areas.

The College enjoys strong support from the state of Ohio, and a capital expansion project on the basic medical sciences campus is about to begin.

Requirements include the M.D. degree, qualifications for a senior faculty appointment, experience in medical school administration, and interest in and ability to work with basic medical scientists, clinicians, and hospital personnel.

Send curriculum vitae with list of references by 15 December 1984 to: **Office of the Provost and Dean, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio 44272.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

BIOCHEMIST—Pharmaceutical division of large corporation seeking Ph.D. level with experience in modification, purification, and characterization of monoclonal antibodies. Working knowledge of chromatographic, electrophoretic, and immunochemical techniques a must and experience in cell culture desirable.

Relocation to suburban Philadelphia area. An Equal Opportunity Employer. Write to: **Box 264, SCIENCE.**

BOTANIST—The Biology Department of Hobart and William Smith Colleges, an undergraduate institution located on Seneca Lake in upstate New York, is searching for a botanist to fill a tenure-track position at the assistant professor level, effective 1 July 1985. Teaching responsibilities in the department include botany, an advanced course in quantitative ecology, and introductory biostatistics, as well as participation in the Colleges' general curriculum. A research program must be considered that is amenable to the participation of junior and senior biology majors. Applicants should send a complete résumé and three letters of recommendation by 14 December 1984 to: **Dr. Valerie M. Kish, Department of Biology, Hobart and William Smith Colleges, Geneva, New York 14456.**

CHAIRPERSON, DEPARTMENT OF ANATOMY. Loyola University of Chicago, Stritch School of Medicine, invites applications from distinguished anatomists for the position of chairperson of the Department of Anatomy. Applicants must have a record of accomplishment in research with a history of extramural funding, and experience in medical and graduate education and administration. Applications, including curriculum vitae, bibliography, and the names of three references, should be sent by 1 January 1985 to: **Dr. James P. Filkins, Chairman of Anatomy Search Committee, Department of Physiology, Loyola University, Stritch School of Medicine, 2160 South First Avenue, Maywood, Illinois 60153.**

Loyola University of Chicago is an Equal Opportunity/Affirmative Action Employer.

COASTAL PHYSICAL OCEANOGRAPHER—The College of Marine Studies invites applications for a tenure-track position in physical oceanography. Applicants should have a background in coastal or estuarine physical oceanography, with experience in observational work at sea. The successful applicant will have the opportunity to develop an independent oceanographic research program which may include carrying out physical oceanographic research within existing interdisciplinary research programs in Delaware Bay or the adjacent continental shelf. Facilities available include the 120-foot coastal research vessel *Cape Henlopen*. Teaching at the graduate level will be required, and the successful candidate will be expected to develop a funded research program involving graduate students. It is anticipated that the appointment will be at the assistant professor level, but applications from more senior persons are welcome. Applicants should send curriculum vitae, pertinent reprints, and the names of three references to the chairman of the search committee: **Dr. Richard Garvine, Oceanography Program, College of Marine Studies, UNIVERSITY OF DELAWARE, Newark, Del. 19716. Telephone: 302-451-2169.** The closing date for applications is 30 November 1984. The University of Delaware is an Equal Opportunity/Affirmative Action Employer.

COORDINATOR, OFFICE OF RESEARCH

The Louisiana State University (LSU) School of Medicine is now accepting applications for a coordinator for the Office of Research. Applicants should have qualifications for a faculty appointment in one of the medical school departments. Full knowledge of the grant process at the national level is mandatory and the applicant should have competed successfully in obtaining this type of grant.

Duties of the position include the administration of the Office of Research. The coordinator secures and distributes to the faculty current information concerning sponsor agencies and puts faculty in touch with potential sponsors at the national, state, and local level. The office provides advice on grant proposals during various stages of preparation and evaluates the format/content before submission. This office fosters research collaboration among faculty and sponsors research forums. Send curriculum vitae and three names and addresses of references by 1 January 1985 to: **Dr. John R. Ruby, Associate Dean for Faculty Affairs, LSU School of Medicine, 1542 Tulane Avenue, New Orleans, La. 70112.**

The Louisiana State University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

UNIVERSITY OF TORONTO CHAIRMAN—DEPARTMENT OF ANATOMY

The University of Toronto seeks a chairman of the Department of Anatomy. The successful candidate must qualify for the rank of professor and hold an M.D. or Ph.D. degree. The candidate will have a solid scientific reputation and preferably will also have successful academic administrative experience. The department has a tradition of excellence in teaching which it expects to maintain. Applications and nominations should be forwarded to: **Dr. F. H. Lowy, Dean, Faculty of Medicine, University of Toronto, Toronto, Ontario Canada M5S 1A8,** as soon as possible. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.*

CHEMICAL ENGINEERING, WEST VIRGINIA UNIVERSITY. We are seeking faculty candidates for a tenure-track faculty position for the 1984-1985 academic year. We are especially interested in candidates with research interests in biochemical separations. We will also consider applicants from closely related fields such as applied microbiology or biochemistry if they are capable of participating in our undergraduate and graduate instructional programs. The candidates must have an earned Ph.D. Candidates should have a strong commitment to research, scholarly and professional activity, as well as undergraduate and graduate education. While we prefer to make the appointment at the assistant professor level, we will consider exceptionally well-qualified candidates at a higher rank. Please send a résumé and a list of at least three references or nominations by 1 March 1985 to: **Dr. Joseph D. Henry, Jr., Professor and Chairman, Department of Chemical Engineering, P.O. Box 6101, West Virginia University, Morgantown, West Virginia 26506-6101.** West Virginia University is an Equal Opportunity Employer.

From time to time, positions are available in the Department of Anesthesiology, Yale University School of Medicine, at the **CLINICAL AND RESEARCH FACULTY** level. Interested individuals should apply to:

Paul G. Barash, M.D.
Chairman, Department of Anesthesiology
Yale University School of Medicine
333 Cedar Street
New Haven, Connecticut 06510

Please respond by 1 January 1985.

Equal Opportunity/Affirmative Action Employer. Qualified women, minority group members, and handicapped individuals are encouraged to apply.

DEAN OF SCIENCE AND MATHEMATICS California Polytechnic State University San Luis Obispo, California

Position available 1 July 1985. Closing date: 15 January 1985. Information and application instructions may be obtained from: **Dr. Tomlinson Fort, Jr., Provost, California Polytechnic State University, San Luis Obispo, Calif. 93407.**

Affirmative Action/Equal Opportunity/
Title IX Employer

DEAN Ogden College of Science, Technology and Health Western Kentucky University

Ogden College of Science, Technology and Health, largest of five colleges on the university campus, invites applications for the position of dean, to assume office summer 1985. The college offers associate, baccalaureate, and master's programs from 11 departments—Agriculture, Allied Health, Biology, Chemistry, Geography and Geology, Health and Safety, Industrial and Engineering Technology, Mathematics, Computer Science, Nursing, and Physics and Astronomy—and has over 200 faculty members. The dean is the chief academic officer of the college and reports to the vice president for academic affairs.

Candidates should have an earned doctorate in one of the disciplines represented in the college and qualify for appointment at the rank of full professor, with a record of strong teaching, significant scholarship, and demonstrated administrative leadership. Applicants should submit cover letter, curriculum vitae, and a list of at least three references by 31 December 1984 to: **Office of Academic Affairs, Dean's Search, Western Kentucky University, Bowling Green, Ky. 42101.** Applications from minorities and women encouraged. An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

Ball State University Muncie, Indiana

CHAIR, DEPARTMENT OF BIOLOGY

The Department of Biology at Ball State University invites nominations and applications for the position of chairperson, effective 1 September 1985. The department, consisting of 26 faculty members, seeks a chairperson committed to the mission of undergraduate/graduate teaching, research, and service in diverse areas of biology and science education. The candidate should possess an earned doctorate within the broad discipline of biology, have an outstanding record of teaching and research accomplishments and have demonstrated administrative ability. Applications should include curriculum vitae, statement of educational philosophy and professional goals, and four letters of recommendation. Applications will be accepted by: **Professor Carl E. Warnes, c/o Dean, College of Sciences and Humanities, Ball State University, Muncie, Indiana 47306.** Position open until filled but will begin selection from applications postmarked by 15 January 1985.

Ball State University practices Equal Opportunity in Education and Employment.

DUKE UNIVERSITY



invites applications and nominations for the post of DEAN OF ARTS AND SCIENCES AND TRINITY COLLEGE

The dean directs the undergraduate programs in Arts and Sciences, is responsible for faculty appointments and budget for the departments, and administers a variety of special programs. The dean reports directly to the provost and holds a faculty appointment.

Applicants should possess qualities of intellectual leadership and have administrative experience in higher education.

Nominations should be submitted prior to 23 November 1984, to:

Search Committee
Dean of Arts and Sciences and Trinity College
Room 212 Allen Building
Duke University
Durham, North Carolina 27706
Richard E. Searles, Chairman

Duke University is an Equal Opportunity/Affirmative Action Employer.

DIRECTOR, MUSEUM OF NATURAL HISTORY/EVOLUTIONARY BIOLOGIST UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

The Department of Ecology, Ethology, and Evolution, University of Illinois at Urbana-Champaign, invites applications for this full-time, tenure-track position. The appointee will divide his/her time and efforts equally between developing the Museum of Natural History as a research and educational facility, and participating in research and the graduate programs in evolutionary biology. Evolutionary biologists working with any organisms, living or fossil, in such areas as animal behavior, population biology, development, molecular systematics, morphology, vertebrate paleontology, paleoecology, and so forth, are encouraged to apply. The appointment will be at the level of assistant or associate professor; salary will be commensurate with qualifications. Applicants must have the Ph.D. degree, experience in museum work, and demonstrated research ability in evolutionary biology. Applicants at the assistant professor level should have significant experience beyond completion of the doctorate. The starting date is 21 August 1985. To assure full consideration, application materials must be received by 15 January 1985. Applicants should forward a letter of application, full curriculum vitae, and request that three letters of recommendation be sent to:

**Dr. T. H. Frazzetta, Chair
Search Committee for Museum Directorship
515 Morrill Hall
505 South Goodwin Avenue
Urbana, Ill. 61801**

Telephone: 217-333-4199, or 333-7801

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

POSITIONS OPEN

CRANIOFACIAL BIOLOGY

Fully supported position available at the assistant professor level for individual with research experience in mammalian craniofacial growth and development, physiology of mastication, comparative craniofacial functional morphology, or related area. Teaching responsibilities include lectures and seminars in craniofacial biology to orthodontic and dental students, but are limited to allow major commitment to development of a research program. Opportunities for collaboration with an unusually large group of faculty with similar interests. Ph.D. and some teaching experience required. Send curriculum vitae and three letters of reference to: **Dr. Richard J. Smith, Chairman, Department of Orthodontics, Washington University School of Dental Medicine, 4559 Scott Avenue, St. Louis, Missouri 63110.** Applications must be received by 1 January. This is an extension of our previously announced deadline for this position. *An Equal Opportunity/Affirmative Action Employer.*

DETECTOR DEVELOPMENT PHYSICIST needed to oversee engineers in designing multi-particle detector array for use in experimental physics. Will also oversee assembly and checkout of device with beam from superconducting cyclotron and assist nuclear physics experimenters in using the device. Will perform similar duties in relation to the development and use of a very large superconducting magnetic spectrograph and develop detectors for smaller magnetic spectrograph configured for use with high energy heavy ion beams. Hours of work: 8 a.m. to 5 p.m. Salary: \$27,300 per year. Ph.D. in physics plus 1 year of experience in the design, development, and construction of heavy ion experimental nuclear physics detectors is required. Send résumés to: **7310 Woodward Avenue, Room 415, Detroit, Mich. 48202, Reference Number 39884.** Employer-paid ad.

DEVELOPMENTAL/CELLULAR BIOLOGY

Tenure-track faculty position in biology starting fall 1985. The department is searching for an assistant or associate professor to interact with our dynamic, expanding research faculty. Applicants should have had at least 2 years of postdoctoral experience, with research experience and interests in biochemical/cellular/molecular aspects of development. The biological system employed is unrestricted and can be microbial, plant, or animal. The successful candidate is expected to maintain a vigorous research program, supervise graduate students, and teach in area of expertise. Applicants should submit curriculum vitae, a research summary, representative reprints, and three letters of reference to: **Dr. Henry R. Henney, Chair, Developmental Search Committee, Biology Department, University of Houston, Houston, Texas 77004.** Deadline: 15 January 1985. *An Equal Opportunity Employer.*

Senior psychiatrist sought to fill tenured, full-time position at the associate professor or professor level in the Department of Psychiatry, University of Michigan, as **DIRECTOR, SCHIZOPHRENIA DISORDERS PROGRAM.** Duties include development and leadership of the patient care, basic and clinical research, and training efforts of the program. Board-certification in psychiatry is required. Demonstrated experience and skills in research are essential. Appointment rank depends on qualifications and experience. Please send curriculum vitae and names/addresses of three references to: **Robert O. Friedel, M.D., Professor and Chairman, Department of Psychiatry, University of Michigan, 1405 East Ann Street, Ann Arbor, Michigan 48109.** *The University of Michigan is an Affirmative Action Employer.*

ECOLOGISTS: State University of New York (SUNY), Stony Brook. We solicit excellent applications in any area of ecology for two tenure-track junior positions, to start in August 1985. Particularly desirable specialties include: plant ecology; terrestrial community ecology; physiological ecology; and theoretical ecology if complemented by empirical expertise. Successful candidates will teach undergraduate and graduate courses. They must maintain research programs and have teaching expertise that is compatible with that of the other faculty and that actively involves graduate students. Send curriculum vitae, a description of research plans and areas of teaching expertise, selected reprints, and have three letters of reference sent to: **Ecology Search, Department of Ecology and Evolution, SUNY, Stony Brook, N.Y. 11794.** Deadline is December 1984. *SUNY, Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer.* AK Number 232-84.

Molecular Biologist

The New Technology Research Division of Du Pont has an exciting opportunity for a Research Scientist to join the Gene Expression Group of our Molecular Biology section. Our research focuses on the development of novel immunoglobulin molecules for the evaluation and treatment of cancer.

The successful candidate will join a team of scientists working on the construction and expression of these novel immunoglobulins. Requirements for this position include a Ph.D. in Molecular Biology, Biochemistry or a related discipline with 0-3 years of post-doctoral training and demonstrated ability in recombinant DNA Technology. Experience in eucaryotic or procaryotic gene expression is preferred. The ability to work in a goal oriented team environment is essential.

At our new Biomedical Research Laboratory, located at our suburban Boston facility, you will enjoy a state-of-the-art scientific environment. Salary will be fully commensurate with background and liberal Du Pont benefits include relocation.

For confidential consideration, please send curriculum vitae with list of references to: Ms. Erin Moore, Du Pont/NEN Products, 549 Albany Street, Boston MA 02118. An equal opportunity employer.



Investigative Dermatology Research Scientist



An equal opportunity employer

The Central Research Division of Pfizer is seeking a RESEARCH SCIENTIST to join a multidisciplinary team of scientists exploring drug/skin interactions in order to develop innovative topical products. This position in our Investigative Dermatology Group involves biological research both within the group as well as with scientists in other groups such as Pharmacology and Pharmaceutical Research.

We require an individual with a Ph.D. in Biochemistry or Biological Sciences and experience in Investigative Dermatology. We are particularly interested in persons who have a background and/or interest in the biochemistry and immunology of the skin. The person we seek must have excellent interaction skills and a strong commitment to scientific collaboration with peers in other disciplines.

This position provides excellent opportunities for professional recognition and career growth. We offer a competitive compensation/benefit package and opportunity to live in an attractive shoreline environment.

Please send resume in confidence to: **Dr. Jerry K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.**

POSITIONS OPEN

DIRECTOR OF PEDIATRIC RESEARCH INSTITUTE

Cardinal Glennon Memorial Hospital for Children and Saint Louis University School of Medicine invite nominations and applications for the position of director of the Pediatric Research Institute. The Institute is supported by a substantial commitment of private funds and is housed in a 24,000-square-foot modern building which is well-furnished with basic major laboratory equipment. The director is the chief administrative officer of the Institute with responsibilities both to the Hospital and the School of Medicine. Candidates should have an M.D. or Ph.D. degree, a strong record of achievement in research, a commitment to continue an active research program, administrative experience, and qualifications for a full professorship in the School of Medicine with a primary or secondary appointment in the Department of Pediatrics/Adolescent Medicine. Nominations and applications should be received prior to 1 March 1985 by: **The Search Committee for the Director of the Pediatric Research Institute, Office of the Dean, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, Mo. 63104. St. Louis University is an Equal Opportunity Employer.**

ECOLOGISTS/ECOSYSTEM SCIENTISTS

The Institute of Ecosystem Studies of The New York Botanical Garden seeks three staff members beginning after 1 January 1985. Persons interested in collaborative, multidisciplinary research should apply. Applicants should have a Ph.D. in any area of ecology or ecosystem science; postdoctoral experience desirable. Rank and salary will be commensurate with experience and training. Send statement of research interests, curriculum vitae, and names of three references by 1 December 1984 to: **Gene E. Likens, Director, Institute of Ecosystem Studies, Mary Flagler Cary Arboretum, Box AB, Millbrook, New York 12545.**

An Equal Opportunity Employer

ELECTRON MICROSCOPE FACILITY COORDINATOR. Direct operation of electron microscope laboratory with SEM and TEM instruments. Provide research support, consultation, and instruction for biologists, geologists, and chemists. Heavy involvement with research faculty and graduate student users. Degree in an experimental scientific discipline and at least 4 years of experience in an EM facility. Send résumé and names of references by 1 December 1984 to: **Dean, Natural Sciences, University of California, Santa Cruz, Calif. 95064.**

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

FACULTY POSITIONS AVAILABLE

The Department of Cell Biology and Anatomy, Oregon Health Sciences University, School of Medicine, invites applications for assistant professor, tenure-track positions. Applicants should have at least 2 years of postdoctoral training and excellent research potential in modern molecular, genetic, and/or immunological approaches to study of cell regulation and function. The successful candidate will be expected to participate in the teaching of cell/molecular biology, histology, gross anatomy, or neuroscience. Interested candidates should forward their curriculum vitae, reprints, statements of research objectives, and the names of three references to: **Search Committee, Department of Cell Biology and Anatomy, Oregon Health Sciences University, School of Medicine, Portland, Oregon 97201.**

The Oregon Health Sciences University is an Affirmative Action/Equal Opportunity Employer.

INSTRUCTOR/RESEARCH FELLOW

The Schizophrenia Research Program of the Southern Illinois University (SIU) School of Medicine has an opening for an academically oriented psychiatrist who has completed at least 3 years of approved residency. Work will include clinical care of research patients and participation in clinical, psychopharmacological, electrophysiological, neurophysiological and neurochemical research. The appointee will have an opportunity to learn and apply research methods in these areas and would be able to design and implement one or more research projects under supervision. Send inquiries with curriculum vitae to: **Man Mohan Singh, M.D., Professor of Psychiatry, SIU School of Medicine, P.O. Box 3926, Springfield, Illinois 62708.** Closing date is 1 December 1984 or until filled. *SIU is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS

The Department of Physiology and Cellular Biophysics invites applications and nominations for **three new tenure-track FACULTY POSITIONS.** Appointments will be made at a faculty rank commensurate with experience. Candidates must have M.D. and/or Ph.D. degree, and proven abilities as laboratory investigators, scholars, and teachers. The department intends to expand its research activities in the areas of cell and molecular biology and cellular immunology, especially as these disciplines pertain to the structure and function of membranes and receptors of leukocytes and endothelial cells, and to the biochemistry of locally acting hormones. Candidates whose interests are congruent with these goals will be given preference. Applicants should send a letter including statement of research and teaching interests, curriculum vitae, and the names, addresses, and telephone numbers of at least three references to:

**Samuel C. Silverstein, M.D., Chairman
Department of Physiology and Cellular Biophysics
Columbia University
630 West 168 Street
New York, N.Y. 10032**

Columbia University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN

CELLULAR AND MOLECULAR BIOLOGY

As part of a continuing program of growth and development, the Boston College Biology Department plans to fill two additional tenure-track positions for September 1985. We seek candidates with active research interests in the molecular aspects of cellular and developmental biology. We hope to fill one position with a neurobiologist and, in addition, invite applications from individuals whose research involves the application of recombinant DNA technology to biological questions. However, strong applicants in all areas are encouraged to apply.

We offer a competitive salary and start-up funds. The department has an active M.S. and Ph.D. program and candidates are expected to have a commitment to teaching at both the graduate and undergraduate levels.

Applications, including three letters of reference solicited by the candidate, should be submitted by 1 January 1985 to:

**Chairman, Biology Search Committee
Biology Department
Higgins Hall
Boston College
Chestnut Hill, Mass. 02167**

An Equal Opportunity/Affirmative Action Employer



GENERAL PHARMACOLOGIST/ PHYSIOLOGIST

Nova Pharmaceutical Corporation, a newly formed company dedicated to the discovery of novel therapeutic entities using the most current techniques, has an immediate opening for a general pharmacologist/physiologist with at least 2 years of postdoctoral training. The ideal candidate would be familiar with organ bath and in vivo techniques. The ability to initiate and conduct, or to direct, goal-oriented research within a team framework, and a proven publication record, are essential. Pharmaceutical industry experience is preferred.

Nova occupies new facilities at the Francis Scott Key Medical Center in Baltimore, and has strong intra-campus links with The Johns Hopkins University, NIDA, and NIA. Nova has a full complement of chemical, biochemical, and pharmacological support personnel.

Nova offers competitive salaries and an excellent benefits package. For further information, please submit a current résumé with salary requirements to:

**Lydia Cumor
Administrative Assistant
Nova Pharmaceutical Corporation
5210 Eastern Avenue
Baltimore, Md. 21224-2788**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

University of North Carolina at Chapel Hill (UNC-CH). The Department of Chemistry invites applications for **THREE TENURE-TRACK FACULTY POSITIONS**, one of senior, one of junior, and one of open rank. One appointment will be in polymer or polymer-related chemistry. For the remaining two appointments, we seek outstanding individuals in any areas of chemistry but with particular emphasis on bioanalytical, bioinorganic, bioorganic and biophysical chemistry, catalysis, electrochemistry, intelligent instrumentation, NMR spectroscopy, organic synthesis, picosecond spectroscopy and solid-state chemistry. Established scientists should submit a letter of application and appropriate supporting material (no deadlines, senior applications will be continuously reviewed). Applicants for the junior position(s) should send curriculum vitae, a statement of research plans and arrange for submission of three letters of recommendation; review of such applications will begin 15 December 1985. Address correspondence to: **M. Brookhart, Chairman of the Search Committee, Department of Chemistry, University of North Carolina, Chapel Hill, N.C. 27514.** *We welcome applications from qualified women and minority candidates. UNC-CH is an Equal Opportunity/Affirmative Action Employer.*

The Department of Anatomy of Wright State University (WSU) School of Medicine and College of Science and Engineering has **TWO FACULTY POSITIONS** available at the **assistant professor level.** Applicants should have a Ph.D., M.D., or equivalent degree with postdoctoral experience. The applicant must have a record of an active research program in cellular or molecular biology. Preference will be given to those applicants whose research activities include the areas of membranes, neurotransmitters, and receptor sites and who can also demonstrate an interest in the utilization of magnetic resonance (MR) techniques for their respective research programs. Primary teaching responsibility will be in gross anatomy or histology in the School of Medicine. Salary will be commensurate with experience and WSU standards. Applicants should submit their curriculum vitae, a statement of research interests, and the names of three references to: **Dr. Larry Ream, Chairman, Search Committee, Department of Anatomy, Wright State University, Dayton, Ohio 45435.** Applications must be received by 1 February 1985 to be considered. *Wright State University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS IN PHARMACOLOGY, TOXICOLOGY, OR PHARMACOKINETICS. The Department of Pharmacodynamics, College of Pharmacy, Health Sciences Center, University of Illinois at Chicago, seeks qualified candidates to fill two tenure-track faculty positions at the assistant professor level. The applicant should preferentially possess a B.S. degree in pharmacy and a Ph.D. degree with evidence of scholarly ability in either pharmacology, pharmacokinetics and/or toxicology. Postdoctoral experience is desirable. Teaching and research capability should be evident in the credentials of applicants. Salary is commensurate with experience and is competitive. Responsibilities will include teaching undergraduate, graduate, and professional students. The candidate will be expected to carry on an active research program and attract extramural funding. Applicants should submit curriculum vitae, research interests, and the names of three professional references to: **Donald P. Waller, Ph.D., Chairman, Search Committee, Department of Pharmacodynamics, College of Pharmacy, Health Sciences Center, University of Illinois at Chicago, P.O. Box 6998, Chicago, Ill. 60680.** Applications must be postmarked on or before 2 January 1985. *The University of Illinois at Chicago is an Affirmative Action/Equal Opportunity Employer.*

IMMUNOLOGIST

The newly developed Division of Immunology of the James N. Gamble Institute of Medical Research invites applications for positions as assistant, associate, or full member. Successful candidates will be expected to have a vigorous, independent research program of high quality in microbial immunology or a related area. The institute is prepared to make a strong commitment to research support and equipment. Facilities are excellent. Teaching opportunities are available at the University of Cincinnati College of Medicine. Submit curriculum vitae, summary of research goals, and names of three references to: **Ann B. Bjornson, Ph.D., Member and Director, Division of Immunology, James N. Gamble Institute of Medical Research, 2141 Auburn Avenue, Cincinnati, Ohio 45219.** *Equal Opportunity Employer.*

Professor and Head, Department of Anatomy

The University of Calgary invites applications and nominations for the position of Head of the Department of Anatomy in the Faculty of Medicine, where the medical curriculum is of the integrated variety.

The successful candidate will have a Ph.D. and/or M.D. (or equivalent) and will be an outstanding anatomist with proven administrative leadership, extensive research experience and the ability to attract research funding. At The University of Calgary opportunities are available for research support from the Alberta Heritage Foundation for Medical Research.

All qualified individuals are encouraged to apply but preference will be given to Canadian citizens and permanent residents.

Applications and nominations should be forwarded by December 31, 1984 to:



Dr. M. Watanabe, Dean
Faculty of Medicine
The University of Calgary
3330 Hospital Drive N.W.
Calgary, Alberta T2N 4N1

NATIONAL OPTICAL ASTRONOMY OBSERVATORIES, DIRECTOR OF PROGRAM MANAGEMENT—

The National Optical Astronomy Observatories solicits applications for the newly established position of Director of Program Management to be located in the NOAO office in Tucson, Arizona. The successful applicant will report to the Director NOAO and will be responsible for implementing and subsequently operating a program management function within the national optical observatories. The position will also carry responsibility for provision of associated support services to the program of research, development, and community support conducted by NOAO. Candidates must have at least five years of intensive experience in working closely with scientists in the management of research-support facilities. In addition, experience working with federal funding agencies in a research and development environment is required.

Qualifications and attributes include a graduate degree in a physical science, or engineering, or an equivalent combination of training and experience. This is a new position with key responsibilities in a major national program operating observatories in Arizona, New Mexico, and Chile. Qualified individuals who feel attracted to the opportunity inherent in this position and who feel their ability and drive are matched to the challenges are invited to forward supporting materials including names of at least three references to: Judy Ruffino, Personnel Manager, NOAO, P.O. Box 26732, Tucson, AZ 85726. Closing date for applications: December 15, 1984. An EEO/AA Employer.

Synthetic Organic Chemists—Peptide

The Peptide Chemistry Department of SmithKline Beckman Corp., a leader in peptide synthesis for more than a decade, is seeking Synthetic Organic Chemists to augment a multi-disciplinary staff involved in synthetic peptide and protein chemistry. Individuals are being sought for the positions described below.

Senior Development Chemists

We are seeking goal oriented individuals with a broad knowledge of synthetic organic chemistry and an interest in the development of optimal chemical and purification processes for the production of synthetic peptides. The selected candidates will be challenged to investigate novel approaches that will include enzymatic procedures as well as novel synthetic chemical routes. The responsibilities of the selected candidates will be the development of novel methods for peptide synthesis and purification applicable to large scale processes, development of in-process analytical techniques, and production of gram quantities of synthetic peptides for investigational use in man and animals.

Senior Research Chemists

We are seeking PhD's who are well trained synthetic organic chemists with postdoctoral experience in peptide chemistry. A strong orientation toward medicinal chemistry is essential. Successful candidates will participate in multidisciplinary efforts to discover novel peptide or peptide-related drugs for medical uses.

Postdoctoral Scientist

We are seeking a postdoctoral scientist with an interest in peptide synthesis, immunochemistry and development of new synthetic techniques. Postdoctoral appointments are for one year, renewable for a second year upon mutual agreement of the candidate and the program advisor.

The successful applicants will have:

- PhD in synthetic organic chemistry
- One to five years' postdoctoral experience
- Significant experience in the synthesis and purification of biological molecules
- Proven research ability evidenced by a superior publication record
- Excellent communication skills
- Experience in peptide chemistry
- An enthusiastic desire to work and succeed in scientific endeavors

The Peptide Chemistry Department, located in Palo Alto, thirty miles south of San Francisco, offers an excellent salary, benefits, and relocation policy. Please send your resume and publication list in confidence to A.L. Gross, SMITHKLINE BECKMAN CORPORATION, 1050 Page Mill Road, Palo Alto, CA 94304. We are an equal opportunity employer, m/f/h/v.

SmithKline Beckman

CORPORATION

POSITIONS OPEN

FACULTY POSITION AVAILABLE— PHARMACOLOGY

Applications are invited from individuals with an earned degree and expertise in neuropharmacology and/or psychopharmacology. The successful candidate will participate in teaching at the graduate and undergraduate level, direct dissertations and theses of graduate students, and conduct independent and collaborative research. Salary and academic rank associated with this 12-month, tenure-track position will be commensurate with experience and qualifications. Interested individuals should submit a letter of application, a complete résumé, and the names of four references to:

Dr. William M. Bourn, Head
Division of Pharmacology and Toxicology
School of Pharmacy
Northeast Louisiana University
Monroe, La. 71209

Northeast Louisiana University is an Equal Opportunity Employer. Applications are encouraged from women and members of minority groups.

TWO FACULTY POSITIONS with joint appointments in the Institute of Gerontology and the health services administration program of the School of Public Health (the Department of Medical Care Organization or the Department of Hospital Administration). Duties include active involvement and leadership in gerontology/long-term care and teaching in health care policy and evaluation, specifically related to long-term care of the elderly. A distinguished record or promise of achievement in relevant empirical research; demonstrated capability for scientific endeavors and scholarly publications; teaching experience; and an earned doctorate in a relevant field are required. Rank will be commensurate with the candidates' qualifications and experience. The departments and the Institute are multidisciplinary units engaged in graduate level training (M.H.S.A., M.P.H., Ph.D., Dr.P.H.) and research in the organization, administration, financing, and regulation of health care for the elderly; major emphasis in faculty evaluation is placed on research productivity and excellence in teaching. These positions are available 1 July 1985. Send a statement of interest and curriculum vitae to: **Marie L. F. Ashcraft, Chair, Search Committee, M3174, School of Public Health, The University of Michigan, Ann Arbor, Mich. 48109.** A nondiscriminatory, Affirmative Action Employer.

University of Arizona FACULTY POSITION Groundwater Hydrologist

The University of Arizona, College of Engineering, Department of Hydrology and Water Resources, invites applications for a tenure-track faculty position at the assistant or associate professor level in groundwater hydrology. Applicants should have a strong background in hydrogeology, groundwater hydraulics, contaminant transport, and groundwater modeling. The position will involve teaching graduate and undergraduate classes and developing a strong research program in one or more of the above areas. Interested persons should send an up-to-date résumé and the names of at least three references to:

Dr. Shlomo P. Neuman
Department of Hydrology and Water Resources
University of Arizona
Tucson, Arizona 85721

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

MEDICAL DIRECTOR—LABORATORY OF CYTOGENETICS

This is a tenure-accruing position at a rank and salary commensurate with experience in the Department of Pathology, University of Florida, College of Medicine, to begin 1 April 1985. The candidate must hold an M.D. degree and be licensed, or be eligible to apply for a license in the state of Florida. The candidate will be responsible for the medical direction of the Laboratory of Cytogenetics in the Department of Pathology. This will involve hospital service activities as well as the development of independent research and teaching programs. Preference will be given to a candidate with interest in molecular genetics or related areas.

Deadline for recruiting is 1 March 1983 and interested candidates should contact: **Raul C. Braylan, M.D., Department of Pathology, Box J-275, University of Florida, College of Medicine, Gainesville, Florida 32610.**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ICHTHYOLOGY SCIENTIFIC ASSISTANT

The Department of Ichthyology of The American Museum of Natural History has an opening for a scientific assistant to participate in its research programs and activities. Responsibilities will include data collection, identification of fish specimens, and preparation of research material. He/she also will assist in the management, preparation and maintenance of the department's collection of preserved fish, skeletons, and facilities. Related duties also will be assigned. Qualified candidates must have a B.A./B.S. degree in the natural sciences, with a background in ichthyology, and must have experience with scientific collections and equipment. In addition, the individual must have manual dexterity and be detail-oriented. Starting salary is \$16,037 per annum. Benefits include 4 weeks vacation, major medical/dental, and tuition assistance. For consideration, please send your résumé to: **Jerome Williams, Personnel Department, The American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024.** An Equal Opportunity/Affirmative Action Employer, M/F/H.

IMMUNOLOGIST for research on processing of histocompatibility antigens and elucidation of epitopes. Initially a nontenure-track position, level negotiable. Postdoctoral experience in cellular immunology required, protein chemistry desirable. Opportunities for teaching, graduate student training. Contact: **Dr. Bernard Amos, Immunology, Box 3010, Duke Medical Center, Durham, N.C. 27710.** An Equal Opportunity Employer.

INVERTEBRATE ZOOLOGIST. Ph.D., preferably with postdoctoral experience. A tenure-track opening at Swarthmore College beginning September 1985. We seek a candidate with broad experience in invertebrate biology, including field work. Teaching duties include an invertebrate biology course, participation in our team-taught introductory biology course and other courses in fields related to the candidate's interests. Rank: assistant professor. Send curriculum vitae, statement of teaching and research interests, three letters of reference, and transcripts by 31 December 1984 to: **Dr. John B. Jenkins, Professor and Chairman, Department of Biology, Swarthmore College, Swarthmore, Pa. 19081.**

Women and minorities are encouraged to apply.

**VANDERBILT UNIVERSITY
HOWARD HUGHES MEDICAL INSTITUTE**
Junior and senior level postdoctoral research associate positions are available immediately for studies on the roles of **PROTEIN PHOSPHORYLATION** in (i) the mechanism of **INSULIN** action on the enzyme system glycogen synthase and (ii) **CALMODULIN**-dependent regulation of several **NEURAL** proteins. Studies will involve the purification and characterization of phosphoproteins, HPLC peptide mapping and sequence analysis of phosphorylation sites, and assessment of physiological roles in intact tissues and cells. Send résumé to: **Dr. T. R. Soderling, Howard Hughes Medical Institute, Vanderbilt University, Nashville, Tenn. 37232.** Equal Opportunity/Affirmative Action Employer.

Possible Position—LAKE ACIDIFICATION PROJECT RESEARCH COORDINATOR

The successful candidate will coordinate multidisciplinary and multiinstitutional research on an experimental lake acidification project in Maine. Tasks will also include proposal preparation, report writing, quality assurance, supervision of personnel, and representation of the University of Maine at meetings. About half of the responsibility will be independent research. Candidates should be in excellent physical health for field work, and have a Ph.D. in a natural science, with strong training or experience in inorganic chemistry. Good communication and organizational skills are essential. Publications are important, particularly in interdisciplinary areas.

This is a full-time, nontenure-track position with a negotiable title and salary. Pending funding, a January 1985 starting date is anticipated for the 3-year appointment, with a review after 1 year. Curriculum vitae, examples of writing (publications, reports), and names of three references should be sent by 23 November 1984 to:

Professor Stephen A. Norton
College of Arts and Sciences
105 Stevens Hall
University of Maine at Orono
Orono, Maine 04469

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

POSITIONS OPEN

MASS SPECTROMETER SPECIALIST

Mass spectrometrist to operate and maintain VG 7070 EQ mass spectrometer/11-250 Data System. Candidate with Ph.D. and experience in HRMS, GC/MS, FAB, DCI, NICI, PICI, MS/MS, and capillary column GC will be given preference. Send résumé, three letters of reference, and salary requirements to: **Dr. Joseph D. Rosen, Department of Food Science, Cook College, Rutgers University, New Brunswick, N.J. 08903.** An Affirmative Action/Equal Opportunity Employer.

MICROBIOLOGIST, Cleveland State University. Assistant professor (tenure-track) position for broadly trained microbiologist whose research is concerned with basic problems in a bacterial or viral system. Candidates must have at least 1 year of postdoctoral experience and must show evidence of continued research productivity. Teaching duties will include introductory microbiology for biology majors and health-related pre-professionals, and a graduate course in microbiology. The department offers the M.S. and Ph.D. degrees. Send current curriculum vitae, reprints of recent publications, a statement of research goals, and arrange to have three letters of recommendation forwarded directly to: **Dr. Randall Gee, Chairperson of Microbiology Search Committee, Department of Biology, Cleveland State University, 1983 East 24 Street, Cleveland, Ohio 44115.** An Equal Opportunity Employer, M/F/H.

MICROBIOLOGY—GENETICS. Assistant professor of biology beginning September 1985. Tenure-track position. Ph.D. preferred, A.B.D. considered. Principal responsibilities include teaching microbiology, genetics, introductory biology, supervising undergraduate research, and advising students. Prior teaching experience desirable. Teaching load: 12 to 13 hours per semester. Submit curriculum vitae, official transcripts, and letters from at least three references to: **Dr. L. N. Stauffer, Chairman, Department of Biology, Drury College, Springfield, Mo. 65802.** Materials due no later than 1 January 1985. An Equal Opportunity Employer.

MOLECULAR BIOLOGIST

The Hope College Biology Department has a tenure-track position for a molecular biologist beginning August 1985. Appointment is expected to be at the assistant professor level. Applicants must have a strong interest in undergraduate liberal arts education. The successful candidate will teach in the general introductory course, an introductory microbiology course, and an appropriate upper level course. In addition, he/she will be expected to seek extramural funding to support an active research program which will involve undergraduate students. Preference will be given to candidates with postdoctoral experience.

Hope College is a distinguished Christian liberal arts college with an enrollment of approximately 2500 and a faculty of more than 140. The College is affiliated with the Reformed Church in America. Hope has maintained a strong tradition in science that involves both teaching and research. Each year a number of students present papers at state or national meetings and co-author publications.

Qualified applicants should arrange to have curriculum vitae, transcripts, a statement of teaching competencies, an outline of proposed research, and three letters of recommendation forwarded as soon as possible to:

Dr. Paul Van Faasen, Chairman
Department of Biology
Hope College
Holland, Mich. 49423

Deadline for applications will be 15 January 1985.
Hope College is an Equal Opportunity Employer.

MOLECULAR BIOLOGY RESEARCH ASSOCIATE with the Mineral Metabolism Research Unit, National Animal Disease Center, U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Ames, Iowa. Temporary federal appointment—one year, may be extended. Candidate will work on cloning of cDNA's corresponding to 1,25-dihydroxyvitamin D-regulated messenger RNA's. Position requires experience in molecular biology/recombinant DNA techniques and skill in preparation and characterization of cDNA. Salary: GS-11, \$25,489. For applications: **Diana Gamble, USDA-ARS-B88, Personnel Operations Branch, Building 003, Room 318H, BARC-West, Beltsville, Maryland 20705.** Telephone: 301-344-4567. *Candidates must be U.S. citizens. An Equal Opportunity Employer.*



Ph.D. Senior Staff Scientist
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For example, as an integral member of our close-knit R&D team, you'll have the opportunity to work directly with Dr. David B. Pall, the world's leading authority in the design and development of sophisticated filtration systems. Superior scientists love working with him. Those who are more successful soon take over areas of our R&D and work substantially independently. You'll also discover unparalleled support and appreciation for your efforts and contributions to our future. Our steady growth has created opportunities for professionals to join us now. Your background must include the Ph.D. in an engineering discipline, Materials Science or Chemistry with knowledge of air filtration techniques in order to build upon our filtration and membrane technology in the development of new products. Several years' hands-on experience in industrial research at the bench level are required.

This exciting career opportunity provides high visibility combined with an unusually attractive company-paid benefits program and an excellent starting salary. To apply, send your resume in strict confidence to:

Personnel Director



Pall Corporation

30 Sea Cliff Avenue, Glen Cove
Long Island, New York 11542
equal opportunity employer m/f

"fine filtration"

PROGRAM MANAGER FOR RESEARCH IN VISION AND AUDITION

The Air Force Office of Scientific Research, Air Force Systems Command, located at Bolling Air Force Base, Washington, DC, invites applications from U.S. citizens qualified to manage an established program of fundamental research in vision and a developing program in auditory information processing. The successful applicant is responsible for identifying significant research trends and opportunities, planning the overall program, and managing grants and contracts with universities and industry. This is an exciting opportunity for a creative scientist to shape dynamic research programs and explore new areas. The ability to communicate effectively with leading scientists and senior Government officials is crucial. In addition to a particular research specialty, a broad interest in sensory function, perception and cognition is desirable. A PhD or equivalent is desired, along with a solid record of research and publications. The position is career civil service GM-13 (\$36,327-\$47,226 per year) or GM-14 (\$42,928-\$55,807 per year) depending on qualifications. No prior Government service is required. Send Office of Personnel Management Standard Form 171, "Personal Qualifications Statement," and/or resume and list of publications to:

**Civilian Personnel Office
1776 ABW/DPCS
ATTN: Mrs. Hittinger
Andrews AFB, MD 20331**

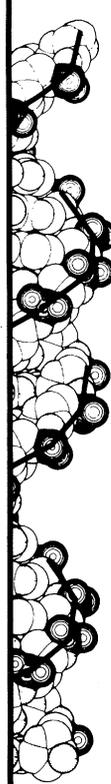
Include Announcement #700-84 on your application. Applications must be received by November 26, 1984.

For further information, contact Dr. R. K. Dismukes, Director of Life Sciences, AFOSR, (202) 767-4278 or AUTOVON 297-4278.

AN EQUAL OPPORTUNITY EMPLOYER.

Principal Investigators

Biotechnology



Repligen Corporation, a rapidly growing biotechnology company involved in the development of a variety of innovative peptide and protein products by both recombinant DNA and conventional biochemical techniques, is seeking two Ph.D. level researchers with exceptional records of achievement. These individuals, in cooperation with senior R&D and marketing management, will help plan technical programs designed to result in important commercial products. They will be responsible for successful execution of these programs through contributions at the bench level and in the management of other project team professionals.

At least five years of post-doctoral experience and expertise in either protein chemistry or molecular biology are required.

Repligen offers a competitive salary, excellent benefits, and equity participation. Submit resume and references to **Personnel Manager, Repligen Corporation, 101 Binney St., Cambridge, MA 02142**. An equal opportunity employer.

RepliGen

HABITAT RESTORATION SCIENTIST

B.S./B.A. in botanical or ecological sciences plus 5-10 years additional training and/or experience in the field of habitat restoration. At least 2-3 years of this training/experience must be in a position that was directly involved in practical, applied habitat restoration of a large scale, preferably for an energy related project. Must have had more than technical input to the program, and a demonstrated publication record including senior authorship. Training in disciplines such as sensing in the broadest sense, biostatistics, modelling, radiation biology, ecology, and experience with wildlife, especially endangered species desired. Will implement habitat restoration plan at Elk Hills, Kern County, California, design and conduct R&D programs, assist with botanical and ecological support. Will assist supervisor in developing new programs and provide both oral and written communications with sponsors. Will synthesize literature and research data into professionally acceptable topical reports and articles in referred, scientific journals.

Previous applicants will be reconsidered, and need not reapply.

Qualified candidates send resume to:



EG&G Energy Measurements, Inc.
Attn: Personnel
P.O. Box 98
Goleta, California 93116

U.S. Citizenship Required
An Equal Opportunity Employer

POSITIONS OPEN

MOLECULAR BIOLOGIST. The Department of Microbiology of Southern Illinois University is seeking a senior faculty member with a distinguished record of research and scholarship. The successful applicant will be expected to maintain a vigorous, funded research program in the molecular biology/biochemistry of a prokaryotic or lower eukaryotic system. Individuals with strong records of accomplishment in all areas of molecular biology are encouraged to apply, but special consideration will be given to the areas of gene expression and manipulation, and the molecular biology of symbiotic or commercially important microorganisms. The department is committed to a continuing program of excellence in both research and teaching and some participation in both programs is expected. Qualifications include an earned doctorate, a record of continuing extramural support and sufficient academic/research experience to support a tenured appointment at the level of **PROFESSOR**. Individuals should submit curriculum vitae, a statement of research interests, and the names of five references to: **Dr. Michael Madigan, Search Committee, Department of Microbiology, Southern Illinois University, Carbondale, Illinois 62901.** Application deadline is 31 December 1984. *Southern Illinois University is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR AND CELLULAR BIOLOGIST

Tenure-track position at the assistant/associate professor level for an individual with postdoctoral experience in molecular and animal cellular biology available 1 September 1985. Strong interest in teaching at the undergraduate and early postgraduate levels. Responsibilities include teaching molecular and cellular biology, and modern molecular biotechnology to support our programs. The candidate will be expected to have an active, fundable research program in which undergraduate and graduate students may become involved. Salary is negotiable. Send curriculum vitae, reprints, statement of research goals, and three letters of recommendation to: **Molecular Biologist Search Committee, c/o Mayerlyn Miller, Director of Personnel and Affirmative Action, State University of New York, Plattsburgh, N.Y. 12901.** Deadline: 15 December 1984. *We are an Equal Opportunity/Affirmative Action Employer.*

PHYSICAL CHEMISTRY. The University of Akron, Department of Chemistry, invites applications for a new tenure-track faculty position to begin September 1985. Applications at all levels will be accepted. Preference will be given to those with research interests in theoretical chemistry and/or spectroscopy, but outstanding candidates in other areas are encouraged to apply. We seek a person who has enthusiasm for research and teaching in a Ph.D. granting department, and who will develop or has already developed an active research program. Applicants should send a résumé, an outline of research plans, and the names and addresses of three references to: **Professor G. E. Wilson, Head, Department of Chemistry, The University of Akron, Akron, Ohio 44325.** Consideration of applicants will begin 26 November 1984, and will continue until a suitable candidate is found. *The University of Akron is an Equal Education and Employment Institution.*

THE UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF OCEANOGRAPHY PHYSICAL OCEANOGRAPHY

Applications are invited for a tenure-track position at the beginning assistant professor level (subject to budgetary approval) in the Department of Oceanography with effect from 1 July 1985. Of primary interest is a person having training and experience in an area of physical oceanography that enhances the research and teaching activities of the department, especially in numerical modelling of oceanographic processes. Applications submitted by qualified persons in other areas of physical oceanography will also be considered.

Candidates should have a Ph.D. qualification and relevant postdoctoral experience and will be required to teach in Combined Honours B.Sc., M.Sc., and Ph.D. programs.

In accordance with Canadian immigration regulations, priority will be given to Canadian citizens and permanent residents of Canada. Closing date for applications is 30 November 1984. Send curriculum vitae and names and addresses of three referees to:

**Dr. S. E. Calvert, Head
Department of Oceanography
University of British Columbia
6270 University Boulevard
Vancouver, British Columbia, Canada V6T 1W5**

POSITIONS OPEN

NEUROCHEMIST/MOLECULAR NEUROBIOLOGIST

Applications are invited for a **NEUROCHEMIST** or **MOLECULAR NEUROBIOLOGIST** to be associated with the Neuroscience Research Group and Department of Medical Biochemistry in the Faculty of Medicine, The University of Calgary. The level of appointment and salary will be commensurate with experience and qualifications. The position will be funded following successful competition for a scholarship from the Alberta Heritage Foundation for Medical Research. The candidate would also be eligible to apply to A.H.F.M.R. for an establishment grant to cover the cost of setting up a new laboratory with major and minor equipment plus operating funds for an initial period. A scholar is expected to devote approximately 75 percent of time to research; the remaining 25 percent to activity related to the research field including teaching with approval of the department head or chairman. Applicants require an M.D. and/or Ph.D. and research training at the postdoctoral level. The successful candidate will be expected to establish and conduct an original independent research program with special emphasis on molecular approaches to neurochemistry.

All qualified individuals are encouraged to apply but preference will be given to Canadian citizens and permanent residents. A letter of application, curriculum vitae, statement of research interests, and names of three referees should be sent on or before 15 December 1984 to:

**Dr. Sheldon H. Roth
Chairman, Search Committee
The University of Calgary, Faculty of Medicine,
Department of Pharmacology and Therapeutics
3330 Hospital Drive, NW
Calgary, Alberta, Canada T2N 4N1**

NEUROETHOLOGY/BEHAVIOR

The Department of Biology, **PRINCETON UNIVERSITY**, invites applications for a faculty position in the general area of **MECHANISMS OF BEHAVIOR**. The successful applicant will join the Evolution, Ecology, and Behavior Group, which consists of James Gould, John Hoogland, Henry Horn, Robert Lisk, Robert May, Daniel Rubenstein, and John Terborgh. The appointment will probably be made at the level of assistant professor, but applications from outstanding senior-level candidates will be seriously considered. Candidates should send curriculum vitae, publications list, statement of research plans, and names and addresses of three referees to: **Professor Edward C. Cox, Department of Biology, Princeton University, Princeton, N.J. 08544.** *Princeton University is an Affirmative Action/Equal Opportunity Employer.*

PEDIATRIC CYTOGENETICIST—We are seeking a well-qualified pediatric geneticist for a faculty position in the Department of Pediatrics of the University of Illinois at Chicago. The position is full-time and tenure-track. Required qualifications include M.D. degree and completion of residency training in pediatrics, Board-certification in pediatrics and in clinical genetics, and preferably certification in cytogenetics. The position will involve teaching and patient care, and will include responsibility for supervision of the Cytogenetics Laboratory. There is ample opportunity for research. Contact:

**George R. Honig, M.D., Ph.D.
Professor and Head
Department of Pediatrics
University of Illinois
College of Medicine
840 South Wood Street
Chicago, Ill. 60612**

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

POSTDOCTORAL—DEVELOPMENTAL BIOLOGY

Applications are invited for a postdoctoral position to study the effects of ecdysterone on cytodifferentiation and cell cycles in the reproductive system of an insect. Techniques include monoclonal antibody production, organ culture, immunocytochemistry at light and electron microscopic levels, and cytometry. Training in particular techniques can be provided as necessary. Send curriculum vitae and three letters of reference to: **Dr. George M. Happ, Department of Zoology, University of Vermont, Burlington, Vermont 05405.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MOLECULAR NEUROBIOLOGIST

The Department of Psychiatry of the Southern Illinois University (SIU) School of Medicine is seeking a basic scientist for the currently available position of visiting/research assistant professor. The department wishes to expand its current research program into the field of molecular neurobiology, and seeks an individual with a Ph.D. in molecular biology or closely related field, with at least 2 years of postdoctoral research experience in molecular neurobiology. Excellent research facilities and environment available, and may include cross-appointment with the Department of Medical Microbiology and Immunology, if appropriate. Please send curriculum vitae, bibliography, and short statement of research plans to:

**Dr. Robert E. Becker, Chairman
Department of Psychiatry
SIU School of Medicine
P.O. Box 3926
Springfield, Ill. 62708**

Closing date is 30 November 1984. *SIU is an Affirmative Action/Equal Opportunity Employer.*

The Cotton Physiology Research Unit, Agricultural Research Service (ARS), U.S. Department of Agriculture (USDA), Knoxville, Tennessee, is accepting applications from qualified **PLANT PHYSIOLOGIST/GENETICIST**, GS-11/12. The incumbent conducts basic research on the molecular genetics and biology of maternal inheritance in cotton and closely related species. Knowledge of biochemistry, molecular biology, and skill in the techniques of endonuclease analysis of DNA are required. Ph.D. or equivalent experience. Enter on duty by 7 January 1985. Must be U.S. citizen. Salary at the GS-11/12 level based on qualifications. For further information telephone: **301-344-1508**. Mail Personal Qualifications Statement (SF-171) (no résumés) to: **USDA, ARS, Building 417, BARC-EAST, Beltsville, Maryland 20705.** Refer to Announcement number RA-4-008 when inquiring about vacancy. Completed applications must be received by 30 November 1984. *USDA is an Affirmative Action/Equal Opportunity Employer.*

POPULATION DYNAMICIST. Tenure-track faculty position. Ph.D. in population dynamics or allied fields. Formal training in quantitative disciplines. Teaching under and graduate level. Research fish stocks of North Pacific. Send letter of application, résumé, transcripts, reprints, and names, addresses, and telephone numbers of three references to: **University of Alaska-Juneau, Office of Personnel, 11120 Glacier Highway, Juneau, Alaska 99801,** by 1 January 1985. *An Equal Opportunity/Affirmative Action Employer and Educational Institution.*

POSTDOCTORAL FELLOW—An opening exists with a group focusing on protein-chemistry and protein-lipid interactions. Structure-function relationships will be investigated from the perspective of biological relevance. Applicants should have a Ph.D. or equivalent training and be familiar with methods for protein separation, isolation, and characterization. Some experience with standard immunology techniques would be preferred. Submit complete résumé and names of three references to: **Dr. R. T. Holzbach, G.I. Research Unit, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44106.** *An Equal Opportunity Employer.*

POSTDOCTORAL FELLOW. Position available immediately. Research on structure-function of connective tissue in heart muscle. Methods include microscopy on light and EM levels, immunolocalization techniques, and muscle dynamics. Expertise in muscle or one or more of these techniques preferred. *Must be citizen of U.S. or have filed papers for citizenship.* Appointment for 2 years. Send curriculum vitae and three references to: **Dr. Thomas F. Robinson, Cardiovascular Research Laboratories, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461.**

POSTDOCTORAL POSITION—Available 1 June 1985 or earlier. Individual would teach in anatomy laboratories. Remaining time free for research in well-equipped cell biology laboratories. Starting salary is \$19,500. Send curriculum vitae and names of three references by 1 January 1985 to:

**Gary E. Wise, Ph.D.
Chairman, Department of Anatomy
Texas College of Osteopathic Medicine
Camp Bowie at Montgomery
Fort Worth, Texas 76107-2690**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

POSTDOCTORAL FELLOW to synthesize and label organo-medical compounds with radioisotopes; will work with nuclear medicine research team. Must be citizen, or permanent or soon-to-be resident. Salary: \$20,000. Send résumé to: **D. M. Wieland, 3047 Phoenix Laboratory, University of Michigan, Ann Arbor, Mich. 48109.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL OPENINGS DEPARTMENT OF MOLECULAR BIOLOGY PRINCETON UNIVERSITY

Several postdoctoral positions are now available in the areas of molecular biology, genetics and cancer biology. Applicants should send curriculum vitae, references, and a brief description of research interests to: **The Postdoctoral Program, c/o L. Cole, Department of Molecular Biology, Princeton University, Princeton, N.J. 08544.**

Princeton University is an Equal Opportunity/Affirmative Action Employer, M/F.

POSTDOCTORAL POSITION(S) available to study the effects of ethanol ingestion on the acyl CoA desaturases. A Ph.D. degree and a strong background in the isolation, purification, and antibody preparation of membrane bound proteins are required. Submit complete résumé and three letters of reference by 15 December 1984 to: **Dr. R. C. Reitz, Department of Biochemistry, University of Nevada, Reno, Nev. 89557.** Search will be extended if suitable candidate is not found. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available January 1985 for studies of spontaneous animal cancer in vitro. Research will involve techniques in protein biochemistry and immunocytochemistry and the use of clonogenic assays and monoclonal antibodies. Experience in cell culture and biochemistry preferred. Send résumé and names of three references to: **Dr. L. G. Wolfe, Department of Pathology and Parasitology, Auburn University, Auburn, Ala. 36849.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION

Research associate (postdoctoral), at Oregon State University, Cooperative Institute for Marine Resources Studies (CIMRS). Expertise in physiological and chemical ecology with interest in interactions of hydrothermal vent fauna with the unique biogeochemical properties of their environment. Familiarity with state-of-the-art analytical techniques (GC, GC/MS, HPLC) highly desirable. One year, renewable for a second year subject to approval. Send curriculum vitae and the names and addresses of three references by 30 November 1984 to: **Director, CIMRS, Hatfield Marine Science Center, Newport, Oregon 97365.** *Oregon State University, an Affirmative Action/Equal Opportunity Employer, complies with Section 503 of the Rehabilitation Act of 1973.*

POSTDOCTORAL POSITION available to study glycoprotein biosynthesis or ribosomal RNA transcription in the human malarial parasite, *Plasmodium falciparum*. Studies will utilize biochemical and recombinant DNA technology.

Applicants should have some experience in biochemical and molecular biological techniques. Salary commensurate with experience.

Send curriculum vitae outlining research experience and names of three references to: **Dr. A. C. Vezza, Department of Microbiology, University of Alabama Medical Center, Birmingham, Ala. 35294.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN FETAL AND NEONATAL BIOLOGY

Fields of investigation include the physiology, biochemistry, and pharmacology of the cardiovascular, respiratory, renal, endocrine, and central nervous systems. Emphasis is on both experimental and theoretical (mathematical modeling) studies in fetal and neonatal development. The fellowship commences 1 January 1985, and is available for 2 years to U.S. citizens. Please send curriculum vitae and bibliography to: **Dr. Lawrence D. Longo, Division of Perinatal Biology, School of Medicine, Loma Linda University, Loma Linda, Calif. 92350.**

POSITIONS OPEN

POSTDOCTORAL POSITION available to join active group studying ion, water, and non-electrolyte transport in biological membranes. Studies include dynamic and steady-state fluorescence, stopped-flow kinetics and NMR. Candidate with background in biophysics/biochemistry preferred. Send curriculum vitae to: **Dr. H. E. Ives and Dr. A. S. Verkman, 1065 Health Sciences East Tower, University of California, San Francisco, Calif. 94143.** *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

A **POSTDOCTORAL POSITION** available immediately to study the regulation of angiotensin-catecholamine interactions in the brain at the cellular level. Experience in HPLC, cell culture, neurochemical, and other biochemical techniques is desirable. Send résumé and names of three references to: **Dr. Mohan K. Raizada, Department of Physiology, College of Medicine, Box J-274 JHMHC, University of Florida, Gainesville, Fla. 32610,** or telephone: 904-392-3791.

Anticipated POSTDOCTORAL POSITION

RECOMBINANT DNA WORK ON DROSOPHILA GENES AND MUTAGENESIS. Attractive starting salary. Send résumé and three letters of recommendation to: **Dr. Simon H. Chang, Department of Biochemistry, Louisiana State University (LSU), Baton Rouge, La. 70803.** Telephone: 504-388-5147. *LSU is an Equal Opportunity Employer. Anticipated hire date: spring 1985.*

POSTDOCTORAL POSITION available immediately for research on molecular biology of fowl pox virus and construction of fowl pox expression vectors. Knowledge of recombinant DNA technology and nucleic acid biochemistry is required. Experience with fowl pox or other viruses is desirable. Salary is up to \$25,000, depending on qualifications. Initial 1-year appointment may be extended for another year. Send applications and résumé to: **Dr. K. Nazerian, Regional Poultry Research Laboratory, 3606 East Mount Hope Road, East Lansing, Michigan 48823;** telephone: 517-337-6828. *Michigan State University is an Affirmative Action/Equal Opportunity Employer.*

IMMUNOLOGIST/ IMMUNOPHARMACOLOGIST

Expansion of immunology research has created an immediate opportunity in the Department of Pharmacology for a PhD level person to join a group investigating new approaches to the therapy of autoimmune diseases.

The successful candidate will preferably have 1-2 years postdoctoral research experience in immunology/immunopharmacology. In addition, the position requires expertise in animal and in vitro techniques for the study of interleukins and T-cell function.

Send your resume and salary requirements to:

Personnel Services Manager

Merrell Dow

**MERRELL DOW
RESEARCH INSTITUTE**

2110 East Galbraith Road
Cincinnati, Ohio 45215

Equal Opportunity Employer M/F/H

INVITRON CORPORATION

Invitron Corporation is a new independent company, with a leadership position in industrial scale mammalian cell culture, based upon an exclusive license of Monsanto Company proprietary technology. We are currently seeking a:

Director of Quality Assurance and Regulatory Affairs to assume overall responsibility for QA/Regulatory Affairs activities of the company. Responsibilities include designing and implementing the validation process of Invitron's new state-of-the-art production facility, under construction in St. Louis, instituting and staffing a qualified QA/QC function and representing the company with regulatory agencies. Candidates should have a degree in BioScience, a minimum of five years QA/Regulatory experience in the pharmaceutical industry, intimate knowledge of FDA GMP's, successful experience with IND/NDA filings, and excellent interpersonal and communication skills.

Protein Biochemist to assume responsibility for the development and implementation of purification recovery processes for biologicals produced in large-scale cell culture systems. Activities include developing and managing recovery processes, coordinating purchase of equipment, managing personnel, interfacing with cell culture and QA/QC functions. Successful candidate will have a PhD in Biochemistry, 3-5 years experience in recovery process development in the pharmaceutical industry, and excellent interpersonal and communication skills.

Our compensation/benefits package includes relocation assistance and equity participation.

Qualified applicants should send resume to:

Invitron Corporation
8000 Maryland Avenue #860
Clayton, MO 63105

POSITIONS OPEN

POSTDOCTORAL POSITION. Position available immediately; screening begins immediately. Research involves synthesis of antimicrobial compounds for interaction with teeth; individual will be responsible for the synthesis of molecules and structure verification in this collaborative project. Position is with NIDR-funded Dental Caries Center; research will be conducted in modern Medicinal Chemistry Laboratory at the College of Pharmacy, Ph.D. in organic or medicinal chemistry or equivalent postdoctoral experience is required. Preference given to candidates with skills in organic synthesis, modern spectroscopic techniques and product isolation. Stipend consistent with NIH postdoctoral salary scale; commitment will be 40 hours per week. Send résumé and two letters of recommendation to: **Dr. Charles Barknecht, Dows Institute for Dental Research, College of Dentistry, The University of Iowa, Iowa City, Iowa 52242. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION. Two-year, recent Ph.D. in biochemistry with strong background in isolation and characterization of proteins and biomembranes to study the hormonally controlled storage of uric acid in insect fat body. Proposed salary: \$20,000 to \$22,000. Application deadline: 15 December 1984. Starting date about 1 January 1985. Applicants should submit curriculum vitae and have three letters of recommendation sent to: **H. J. Klosterman, Chairman, Biochemistry Department, North Dakota State University, Fargo, N.D. 58105. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately for recent Ph.D. with biochemistry/biophysics background to investigate receptor movement and membrane changes associated with macrophage stimulation. Experience in fluorescent techniques and membrane biochemistry preferred; 3-year position. Starting salary: \$16,000 to \$17,000 per year. Send curriculum vitae and names of three references to: **Dr. Andrij Holian, University of Texas Medical School, 6431 Fannin, MSB 1.274, Houston, Texas 77025. An Equal Opportunity Employer. Women and minorities are encouraged to apply.**

POSTDOCTORAL POSITIONS to study **LYSOPHOSPHOLIPID- AND CHOLESTEROL-MEDIATED MECHANISMS IN MEMBRANES AND CELLS.** Experience relevant to the projects may be in the areas of phospholipid and sterol metabolism, demyelination, lipoproteins, or platelets. Annual stipend (\$17,384 minimum) and position (Hormel fellow, research associate) dependent upon previous experience. Submit, before 15 December 1984, curriculum vitae, names of three references, and a brief summary of previous research to: **Dr. Wolfgang J. Baumann, The Hormel Institute, University of Minnesota, Austin, Minn. 55912. Telephone: 507-433-8804. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages women and minority applicants.**

POSTDOCTORAL POSITION available to study steroid hormone receptors and mechanism of hormone action. Research includes both mammalian cells and hormone-receptor systems in yeast. Salary: NIH scale. U.S. citizenship required. Send résumé, brief summary of research experience, and two letters of reference to: **David Feldman, M.D., Stanford University School of Medicine, Endocrinology Division, Stanford, Calif. 94305.**

POSTDOCTORAL POSITION available immediately for individual interested in studying anaerobic microbiota of human and ligature-induced periodontal disease in the primate. Ph.D. in microbiology, or D.D.S., D.M.D. with research experience in microbiology with emphasis in microbial physiology and microbial genetics is required. Contact: **Dr. Stanley Holt, Department of Periodontics, The University of Texas Health Science Center, San Antonio, Texas 78284. An Equal Opportunity/Affirmative Action Employer.**

SENIOR RESEARCH ASSOCIATE position available immediately. Ph.D. in general microbiology to manage laboratory studying microbiology of anaerobes required. Duties: daily running of laboratory, media preparation, sample taking, and the keeping of accurate records. Successful individual will be part of a research team interested in anaerobic microbiology of human and primate periodontal disease. Contact: **Dr. Stanley Holt, Department of Periodontics, The University of Texas Health Science Center, San Antonio, Texas 78284. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN CELL BIOLOGY available 1 February 1985 to study: (i) the role of tight junctions in the development and maintenance of epithelial cell surface polarity, or (ii) biochemical mechanisms for the intracellular sorting of plasma membrane glycoproteins. Research experience with hybridoma technology, recombinant DNA, immunoelectron microscopy, or membrane protein biochemistry is desirable. Send curriculum vitae, names of three references, and a statement of research interests to: **Dr. George Ojakian, Department of Anatomy and Cell Biology, State University of New York, Downstate Medical Center, 450 Clarkson Avenue, Box 5, Brooklyn, N.Y. 11203. Equal Opportunity/Affirmative Action Employer. DMC Number 590.**

POSTDOCTORAL POSITION available immediately for person with experience in lipid chemistry to study lipid and phospholipid metabolism during ischemic arrest. Send curriculum vitae and names of three references to: **Dr. D. K. Das, Director, Cardiovascular Laboratory, University of Connecticut School of Medicine, Farmington, Connecticut 06032.**

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

POSTDOCTORAL POSITION (2 to 3 years) available immediately to study the role of specific tRNA anticodon modifications in modulating biologic responses in human cells. Various cell culture model systems will be used to evaluate promotion of carcinogenesis and differentiation. Experience analyzing gene expression by in vitro translation and/or electrophoretic peptide mapping preferred but not essential. Salary: \$18,120 per year to start. Send curriculum vitae and names of references to: **Dr. R. W. Trewyn, Department of Physiological Chemistry, Ohio State University, Columbus, Ohio 43210. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE position in molecular parasitology available for 2 years (beginning December 1984) for research related to characterization and isolation of protection-inducing antigens from *Trichinella spiralis*. Work on gene cloning, DNA sequencing, and generation of hybridomas will be emphasized. Candidate must have a strong background in molecular biology and an interest in infectious diseases. Send curriculum vitae and three letters of reference to: **Dr. Dickson D. Despomnier, Division of Tropical Medicine, College of Physicians & Surgeons, Columbia University, 630 West 168 Street, New York, N.Y. 10032. An Equal Opportunity/Affirmative Action Employer, M/F.**

POSTDOCTORAL RESEARCH ASSOCIATES

Interdisciplinary program supported by NIH training grant offers research in liver carbohydrate metabolism (J. B. Blair, Ph.D., Biochemistry); stimulus-secretion coupling (F. R. Butcher, Ph.D., Biochemistry); pituitary-ovarian function (R. L. Butcher, Ph.D., Ob/Gyn); adrenal/hepatic monooxygenases (H. D. Colby, Ph.D., Physiology); gonadotropins and follicular development (R. A. Dailey, Ph.D., Animal Science); reproductive neuroendocrinology (R. L. Goodman, Ph.D., Physiology); thyroid/adrenal neuroendocrinology (G. A. Hedge, Ph.D., Physiology); utero/ovarian relationships (E. K. Inskeep, Ph.D., Animal Science); gene expression/recombinant DNA (R. F. Kletzein, Ph.D., Biochemistry); and androgen/estrogen action (M.G. Mawhinney, Ph.D., Pharmacology and Toxicology). Positions filled as available depending on candidate qualifications and needs of laboratories involved. Application information and more detailed descriptions of these research programs are available on request from:

**Dr. George A. Hedge
Professor and Chairman
DEPARTMENT OF PHYSIOLOGY
WEST VIRGINIA UNIVERSITY
MEDICAL CENTER
Morgantown, West Virginia 26506-6302**

Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL RESEARCH ASSOCIATE/RESEARCH ASSISTANT PROFESSOR (nontenure-track) positions available for highly qualified individuals to conduct research on biochemistry, pharmacology, immunology, and pathophysiology of phospholipid/Ca²⁺-dependent protein phosphorylation system in heart, blood vessel, brain, and human leukemic cells. Send curriculum vitae to: **Dr. J. F. Kuo, Department of Pharmacology, Emory University School of Medicine, Atlanta, Ga. 30322.**

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

AGRIGENETICS CORPORATION POSTDOCTORAL RESEARCH APPOINTMENTS

The Advanced Research Division of Agrigenetics Corporation, at Madison, Wisconsin, has several positions available for 1 to 3 years in the areas of:

- 1) Transformation and regeneration of crop plants.
- 2) Molecular biology of viruses.
- 3) Protein chemistry.

A Ph.D. and relevant experience in one of these areas is required, and the successful candidate will work in one or more of the existing research programs utilizing molecular biological approaches to improve plant production. Agrigenetics Corporation is a broadly based plant science company contributing to America's agricultural productivity by supplying improved genetic material to plant breeders and producing and marketing seed from more than 50 crop species. The salary will be in the range of \$22,000 to \$25,000 annually.

Send résumé and names of three references by 15 December 1984 to: **Dr. John Ingle, Director, Agrigenetics Advanced Research Division, 5649 East Buckeye Road, Madison, Wis. 53716.**

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to study regulation of gene expression in maize leaves. Background in biochemistry and molecular biology and experience with recombinant DNA techniques required. Send curriculum vitae and names of three reference persons to: **Donald R. Hage, Ph.D., Biology Department, University of Oregon, Eugene, Ore. 97403. Closing date: 23 November 1984. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE position available 1 July 1985 to study central and hemodynamic mechanisms of environmentally produced hypertension in rats. Laboratory includes facilities for chronic instrumentation and recording, on-line data acquisition, and HPLC for catecholamines in urine, plasma, and brain. Undergraduate teaching available for extra pay, if desired. Potential for tenure-track position. Send curriculum vitae and three letters of reference to: **J. E. Lawler, Department of Psychology, University of Tennessee, Knoxville, Tenn. 37996. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL TRAINING POSITIONS are available for qualified candidates interested in blood coagulation, fibrinolysis, thrombosis, and hemostasis. Training is offered in several disciplines including biochemistry, cell biology, pharmacology, and physiology to study the role of thrombogenesis of plasma factors, platelets, megakaryocytes, and vascular cells. The goals are to explain etiology and pathogenesis of human thrombotic and hemorrhagic disease and to develop new diagnostic and therapeutic measures. The interested candidates must have fulfilled Ph.D. or M.D. training and be citizens or permanent residents of the United States. Positions are offered for up to 3 years. Salary is commensurate with NIH guidelines for postdoctoral trainees plus an institutional supplement. Send application and curriculum vitae to: **Dr. Andrei Budzynski, Thrombosis Research Center, Temple University School of Medicine, Philadelphia, Pa. 19140. Equal Opportunity/Affirmative Action Employer.**

PSYCHIATRIST

The University of Medicine and Dentistry of New Jersey (UMDNJ)—School of Osteopathic Medicine, Department of Psychiatry, is seeking a psychiatrist with special interest in consultation and liaison services to join the faculty group practice based at Kennedy Memorial Hospitals/University Medical Center, multi-hospital 627-bed complex. Candidate must be either Board-certified or Board-eligible. Academic rank depends upon experience and certification. Salary and benefits commensurate with qualifications. Send curriculum vitae and direct inquiries to: **William F. Ranieri, D.O., Acting Chairman, Department of Psychiatry, UMDNJ-School of Osteopathic Medicine, 401 Haddon Avenue, Camden, N.J. 08103. Equal Opportunity/Affirmative Action Employer, M/F/H/V.**

A leading disk drive and magnetic recording head developer and manufacturer located in the mid-west has the following position available:

SENIOR SCIENTIST —\$3250/mo

The duties of this position involve developing both new plated materials (high moment pole pieces and laminated poles) and plating techniques (layered structures, uniform thickness control) for micro-patterned elements. Electroplates magnetic materials through photomasks to obtain desired characteristics for thin-film heads. Optimized process variables and film uniformity by cell design and current modulation techniques.

To qualify you must have a PhD in Chemical Engineering and 3 yrs. research experience in electrochemical systems. Send resume to:

Ms. Nancy Thompson MDES
Control #4-81
309 Second Ave. South
Minneapolis, MN 55401

Postdoctoral Fellowships at the Woods Hole Oceanographic Institution

Ocean Science and Engineering

Applications are invited from new or recent doctorates in science or engineering with interests in physical oceanography, marine chemistry, marine geology and geophysics, biological oceanography, or oceanographic engineering. Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

Marine Policy and Ocean Management

Fellowships are offered to individuals in social sciences, law, or natural sciences to apply their training to problems that involve the use of the oceans. Present themes in the program include marine policy problems and opportunities in developing countries, policy and management issues concerning fisheries, marine minerals, and coastal zone use, implications of the Law of the Sea Treaty for ocean activities, Arctic and Antarctic resource issues, use of scientific information in decision making and policy planning, and other research topics. Applicants must have completed a doctoral level degree or possess equivalent professional qualifications through career experience.

Fellowships are awarded for one year with a stipend of \$23,100 plus group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by 15 January 1985 for 1985 - 86 awards. Awards will be announced by 1 March. Write for application forms to:

Dean of Graduate Studies
P.O. Box 5
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

Equal Opportunity Affirmative Action Institution

Postdoctoral Fellowships at the

Medical Biology Institute

The Medical Biology Institute (MBI) is expanding its staff at all levels in Immunology, and in Developmental/Cellular/Molecular Biology. The Institute is particularly interested in attracting postdoctoral fellows of exceptional ability who desire an equally exceptional opportunity for professional development.

MBI is a young, vigorous basic research institute combining cellular, membrane and molecular approaches in the investigation of medically relevant biological problems and phenomena. It is located in La Jolla, California in the hub of an area noted for its rapidly expanding concentration of both academic and commercial biomedical science organizations including the Salk Institute, Scripps Clinic and Research Foundation, the University of California at San Diego and La Jolla Cancer Research Foundation.

MBI's scientific staff includes the following members who are currently in residence, or due to arrive in early 1985, and whose areas of active research span a healthy diversity of interests and expertise:

Darcy B. Wilson, Ph.D. (Scientific Director) — Immunobiology of T lymphocytes; idiotypic regulation in GVH and autoimmune disease; functional studies of T cell surface molecules

David H. Katz, M.D. (President and Chief Executive Officer) — Cell/cell interactions in the immune system; the immunobiology of the IgE system; lymphokine biology and biochemistry; mechanisms of immunological tolerance

Donald E. Mosier, M.D., Ph.D. — Lymphocyte ontogeny and mechanisms of triggering of B lymphocytes

Fu-Tong Liu, Ph.D. — Molecular biology of the IgE system including gene expression, the structure and function of IgE and IgE-specific receptors

Paolo del Guercio, M.D. — Analysis of B cell regulatory effects on immune responses and B cell-derived lymphokines

Ann Feeney, Ph.D. — Interactions of T and B lymphocytes

Thereza Imanishi-Kari, Ph.D. — Molecular mechanisms in the generation of antibody diversity

John F. Marcelletti, Ph.D. — Immunoregulation and immunoregulatory networks; isotype-specific regulation of antibody synthesis by molecular mediators derived from Fc receptor-bearing lymphocytes

Matthew F. Mescher, Ph.D. — Functional analysis of lymphocyte surface molecules utilizing natural and synthetic model membrane systems

Makoto Nonaka, M.D., Ph.D. — Cellular and molecular regulatory mechanisms of IgE antibody production in normal and atopic human subjects

Andrew Wiseman, Ph.D. — Somatic cell genetics of cultured mammalian cells; the genetics and biogenesis of mammalian mitochondria

Maurizio Zanetti, M.D. — Immunoregulation of autoimmune responses; structure/function of idiotypic and anti-idiotypic antibodies; functional analysis of self-reacting receptors on T lymphocytes

Riaz I. Zuberi, Ph.D. — Soluble mediators of the immune response, immunomodulation by lymphokines, monokines and prostaglandins

For further information, please write:
Darcy B. Wilson, Ph.D., Scientific Director

Medical Biology Institute

MBI

11077 N. Torrey Pines Rd. La Jolla, California 92037
(619) 450-3033

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE for in vitro study of factors regulating hemopoiesis, assessing interactions between growth factors, immunoregulatory cells and hemopoietic precursors. Background in cell biology and/or immunology desirable. Send curriculum vitae and names of three references to: **Dr. Peter Greenberg, Department of Medicine, Stanford Medical Center, Stanford, Calif. 94305.**

POSTDOCTORAL RESEARCH. Available October 1984 for M.D. or Ph.D. with interest in peptide isolation, characterization, and regulation. Send curriculum vitae to: **D. T. Krieger, M.D., Division of Endocrinology, Annenberg 23-66, Mount Sinai Medical Center, 1 Gustave L. Levy Place, New York, N.Y. 10029.**

RADIATION/HYPERTHERMIA BIOLOGIST. Faculty position available immediately to support research in cellular and molecular aspects of radiation and hyperthermia damage, repair processes, and thermotolerance. Some teaching required. Salary and rank commensurate with experience; postdoctoral experience required. Position complements ongoing cellular, tissue, and clinical studies. Send curriculum vitae, summary of research interests and ongoing projects, and names of three references to: **Dennis B. Leeper, Ph.D., Laboratory of Experimental Radiation Oncology, Department of Radiation Therapy and Nuclear Medicine, THOMAS JEFFERSON UNIVERSITY HOSPITAL, Philadelphia, Pa. 19107.** *An Equal Opportunity/Affirmative Action Employer.*

NEBRASKA DEPARTMENT OF HEALTH has position available for **RADIOLOGICAL HEALTH DIVISION DIRECTOR** to administer the statewide Radiological Health Program. Requires coursework/training in radiation safety, radiological health and radiological health science, health physics, occupational or health safety, engineering, physical or life science or mathematics AND experience in a radiological health program. Salary: \$30,397 to \$31,917 annually. Contact: **Personnel Director, STATE HEALTH DEPARTMENT, P.O. Box 95007, Lincoln, Neb. 68509,** or telephone: 402-471-2161. Applications accepted through 30 November 1984.

RESEARCH

POSTDOCTORAL POSITION

Postdoctoral research position to study the roles of polypeptides in cell growth at biochemical and functional levels. Send résumé and three references to:

**SS, Personnel Department
Institute for Cancer Research
FOX CHASE
CANCER CENTER
Philadelphia, Pa. 19111**

Equal Opportunity Employer

RESEARCH ASSOCIATE. Ongoing studies of pulmonary host defenses in the human subject, normal and abnormal, using cells and other materials obtained by bronchial lavage. Background in macrophage physiology and immunology. Salary based on experience. Send curriculum vitae and names of three references to: **Henry Yaeger, Jr., M.D., Pulmonary Disease Division, Georgetown University Medical Center, 3800 Reservoir Road, NW, Washington, D.C. 20007.** *Georgetown University is an Affirmative Action/Equal Opportunity Employer.*

A RESEARCH TOXICOLOGIST is needed to conduct toxicology studies (acute, chronic, metabolism, and so forth). M.S. or Ph.D. in toxicology or related discipline is preferred. Experience in GLP safety studies is essential. Reply with curriculum vitae and cover letter indicating professional goals and references to: **Dr. William Hobson, Primate Research Institute, New Mexico State University (NMSU), P.O. Box 1027, Holloman Air Force Base, N.M. 88330.** *NMSU is an Equal Opportunity/Affirmative Action Employer.* Deadline for applications: 31 December 1984.

SENIOR RESEARCH SCIENTIST to work in Palo Alto. Will formulate equations governing propagation of waves in the earth's crust and oceans and develop computer algorithms for solving such equations. Will also construct models of such non-ideal geologic features as faults, domes, and discontinuous layers and such ocean features as current and gradients of temperature and salinity. Requires Ph.D. in applied mathematics plus 5 years of research experience in applied mathematics or physics and knowledge of scientific computer languages; \$48,000 per year; 40 hours per week. Send résumé to: **Dr. Jeremy Isenberg, Weidinger Associates, 620 Hansen Way, Suite 100, Palo Alto, Calif. 94304.**

POSITIONS OPEN

FULL-TIME FACULTY, MEDICAL SCHOOL RESEARCH ASSISTANT PROFESSOR—Nontenured position. Ph.D. with experience in membrane and protein biochemistry with emphasis on integral membrane protein solubilization and reconstitution. Ability to conduct independent research. Contact: **Dr. Dennis Stone, Internal Medicine, University of Texas Health Science Center, 5323 Harry Hines Boulevard, Dallas, Texas 75235.** *An Equal Opportunity Employer.*

RESEARCH ASSOCIATE

Postdoctoral position as research associate at Harvard Medical School available immediately in the Mailman Research Center of McLean Hospital. Research deals with the neurobiology of protein and neuropeptide metabolism and the role of proteolysis in neuropsychiatric disorders and aging. Experience with immunocytochemistry, RIA, and related immunochemical techniques is required. Familiarity with protein characterization and two-dimensional gel electrophoresis is also desirable but not essential. Minimum requirements: recent or pending Ph.D. with strong background in immunology or biochemistry. Address curriculum vitae and letters of reference to: **Ralph A. Nixon, M.D., Ph.D., Ralph Lowell Laboratories,** and send to: **Nikki Foster, McLean Hospital, 115 Mill Street, Belmont, Mass. 02178.** *An Equal Opportunity Employer.*

RESEARCH POSITION open for a microbiologist or biochemist with microbiology background. Should be a Ph.D. with zero to 4 years of experience or equivalent. Fermentation experience is especially desirable. Must be able to conduct independent research on development of microbial processes or products. Midwest location.

Interested individuals should submit résumé to:

**Manager, Personnel Services
Corn Products, a Unit of CPC International
Moffett Technical Center
P.O. Box 345
Argo, Ill. 60501**

An Equal Opportunity Employer, M/F

NEW YORK CITY AND NORTH CAROLINA

SALES REPRESENTATIVES

We seek bachelors or masters of science currently working in a laboratory or in sales. Candidates must have experience with gel electrophoresis. Please send résumés with cover letters to: **Philip Snodgrass, Hoefer Scientific Instruments, Box 77387, San Francisco, Calif. 94107**

The Department of Genetics of the University of California at Davis is seeking a **VISITING LECTURER** on a 100 percent time, 9-month basis beginning September 1985. The successful applicant will be hired for a 1-year period and will have the opportunity to renew the position up to 4 years, subject to a favorable yearly evaluation. Duties will involve a full-time teaching load, including lecture courses in general and molecular genetics for undergraduates and may include at least one undergraduate laboratory course.

Qualifications for this position include a Ph.D. in genetics, molecular biology, or related fields, a thorough understanding of molecular genetics, and a strong commitment to teaching. Applicants with previous teaching experience at the undergraduate level will be preferred.

Please send curriculum vitae, the names and addresses of three references, and a statement of interest in this position and of your commitment to teaching to: **John Gillespie, Search Committee Chair, Department of Genetics, University of California, Davis, Calif. 95616.** The applications must be received by 1 January 1985.

In accordance with applicable State and Federal laws and University policy, the University of California does not discriminate in any of its policies, procedures, or practices on the basis of race, color, national origin, religion, sex, sexual orientation, handicap, age, veterans status, medical condition (as defined in Section 12926 of the California Government Code), ancestry, or marital status; nor does the University discriminate on the basis of citizenship, within the limits imposed by law or University policy.

POSITIONS OPEN

RESEARCH ASSISTANT in protein chemistry with an emphasis on protein purification and sequencing using HPLC and gas phase sequencer. Qualified applicants should have a B.S. or M.S. in chemistry or biochemistry. Experience with HPLC, peptide synthesis or sequencing, and micropurification methodology is preferred. Salary will be commensurate with experience. Employment will also include liberal fringe benefits. Interested applicants should send résumé with letters of reference and transcripts to: **The Personnel Office, W. ALTON JONES CELL SCIENCE CENTER, 10 Old Barn Road, Lake Placid, New York 12946.**

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RESEARCH FELLOW to study the activities, structure, and regulatory interactions of beta-adrenergic receptors and GTP-binding regulatory proteins (G_s , G_i , ras). Projects include kinetic and physical studies of purified proteins reconstituted into phospholipid vesicles, protein chemistry, and so forth. Reply to: **Dr. Elliott M. Ross, Department of Pharmacology, University of Texas Health Science Center, 5323 Harry Hines Boulevard, Dallas, Texas 75235.** *Equal Opportunity University.*

STUDY DIRECTOR

HEALTH EFFECTS OF INTERNALLY DEPOSITED ALPHA-EMITTING RADIONUCLIDES

The Commission on Life Sciences of the National Research Council seeks a study director to plan and execute a study of the effects of alpha radiation on human health and genetics. The successful applicant will serve as the primary staff officer for a committee of 10 to 15 expert volunteers over a period of 18 months to 2 years. Applicant should have a Ph.D. or M.D. degree, or equivalent experience, in a field related to radiation biology. At least 5 and preferably 10 years of experience in conducting and managing sponsored research programs is required. Applicant should be able to demonstrate an ability to plan, organize, and carry out a complex research program involving multiple disciplines and science closely linked to difficult risk-management decisions. Ability to direct and motivate work by both volunteer committee members and support staff is essential. Applicant should also be skilled in communicating with sponsors and the general public in both written and oral presentations. Send curriculum vitae or professional biography and letter of interest to:

**Dr. Stephen L. Brown
Staff Director
Board on Radiation Effects Research
National Research Council
2101 Constitution Avenue, NW
Washington, D.C. 20418**

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UNIVERSITY SAFETY OFFICER Bowling Green State University (BGSU)

Responsible for health and safety matters related to University research and instruction. Seeking applicants with considerable expertise in radiation safety, plus knowledge of laboratory safety and hazardous waste disposal. Requires master's degree in physics, chemistry, or related field; related experience desired. Bachelor's degree and 3 years of related experience may also qualify. Low \$20,000's; excellent benefits. Send letter of application, résumé, transcripts, and three letters of reference to: **Susan Caldwell, Director, Administrative Staff Personnel Services, Bowling Green State University, Bowling Green, Ohio 43403.** Application credentials must be received by 5 p.m., 11 January 1985. *BGSU is an Affirmative Action/Equal Opportunity Employer.*

VERTEBRATE PHYSIOLOGIST

Applications are invited for a tenure-track faculty position in the Department of Biology to begin August 1985. A broadly trained systems physiologist who will be expected to teach physiology courses at both undergraduate and graduate levels is sought. The candidate will supervise M.S. students and develop a strong research program capable of attracting extramural support. Ph.D. degree and postdoctoral experience required. Please send curriculum vitae, names and addresses of three references, and brief descriptions of research interests and teaching experience to: **Dr. J. Doering, Chairman, Search Committee, Department of Biology, Loyola University of Chicago, 6525 North Sheridan Road, Chicago, Illinois 60626.** Deadline for receipt of applications is 30 November 1984.

National Institute of Environmental Health Sciences
National Institutes of Health
Public Health Service
Department of Health and Human Services

CHIEF

Laboratory of Behavioral and Neurological Toxicology

The National Institute of Environmental Health Sciences has an opening for Chief, Laboratory of Behavioral and Neurological Toxicology. Current research areas in the laboratory include: the biophysical and molecular properties of excitable cells; afferent and feedback mechanisms which influence neuronal plasticity; neurobehavioral mechanisms involved in plasticity and adaptive responses to environmental agents; peptides and their effects on biological systems; identification of vulnerable neuronal circuits by study of neurotransmitter translocations and enzyme analysis; and the functional roles of neurotransmitters and neuromodulators in CNS adaptation following chemical or physical insult. Duties of the Lab Chief include the scientific and administrative supervision of the laboratory research program and development of a research effort in the basic neurosciences.

This is a Civil Service career-conditional appointment under the Merit Pay System at the GM-15 level with a salary range from \$50,495 to \$65,642 per annum, depending on qualifications. Minimum educational requirements are a four year course of study in an accredited college or university leading to a bachelor's degree with major study in chemistry, psychology, biochemistry, or a related discipline and a doctorate in the speciality area. Applicants must have a demonstrable record of research achievement in molecular neurobiology or a related area. Some experience in research program planning and implementation is desirable. U.S. citizenship is required. (Candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) This is a supervisory position and may require the incumbent to serve a one year probationary period.

Applications consisting of a Personal Qualifications Statement, SF-171 (available in all Federal Job Information Centers and Federal Personnel Offices); a curriculum vitae and names of three references should be submitted to the following address and postmarked not later than November 30, 1984:

Mr. Bruce Wiggins, Code: HN-V2K
National Institute of Environmental Health Sciences
P.O. Box 12233 (MD 1-01), Research Triangle Park, NC 27709
(919) 541-3317

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Associate Senior Investigator/ Medicinal Chemistry

The Medicinal Chemistry Department of Smith Kline and French Laboratories is seeking a Ph.D. Biochemist interested in isolation, kinetic characterization, and inhibitor design of complex glyco- and metalloproteins.

The successful candidate must have:

- Ph.D. Biochemistry (with B.S. in Chemistry) and two or more years of postdoctoral experience in enzyme kinetics or mechanistic enzymology, preferably in the pharmaceutical industry.
- Demonstrated ability to interact with synthetic chemists in the rational design of enzyme inhibitors.
- Strong computer experience including fluency in FORTRAN and BASIC; VAX VMS operating system; interfacing laboratory equipment with microcomputers. The ideal candidate will have experience with VAX DCL, FMS, RS/1 systems and the ISSCO DISSPLA graphics package.
- Minimum of one year experience in isolation, kinetic characterization, and manipulation of complex metalloproteins and glycoproteins.
- Excellent publication record and outstanding communications and interpersonal skills.

In addition to an excellent compensation, benefits, and relocation package, we offer the opportunity for personal and professional growth in a state-of-the-art research facility. Please forward your C.V. with list of publications to George P. Kissell Jr., Senior Employment Consultant, Smith Kline and French Laboratories, 1594 Spring Garden Street, Philadelphia, PA 19101.

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RADIATION OFFICER

The Upjohn Company, a leading pharmaceutical company located in Kalamazoo, Michigan, is seeking an experienced Radiation Health Physicist to provide support for an established Radiation Protection Program.

Applicants must possess an M.S. in Radiation Health Physics, Radiation Biology, or Radiation Chemistry as well as a strong academic background in chemistry or pharmacy, plus two years experience in Health Physics.

Kalamazoo is a mid-sized southwestern Michigan community offering a mix of cultural, recreational opportunities including lakes, nearby colleges, and a four season climate. The Upjohn Company offers a competitive salary and benefits, and relocation assistance.

For confidential consideration, please call from outside of Michigan toll free 1/800/253-8600 and ask for extension 3-6767; or call from Michigan collect 616/323-6767 to request an employment application be sent to you immediately. Please refer to ad number 16396-E when calling.

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SCIENCE

News Department Reprint Series

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This collection of articles from *Science* by M. Mitchell Waldrop explores the newly emerging field of artificial intelligence, AI. What AI has really accomplished, where might it plausibly be expected to go, and what are its limits? In particular, the articles focus on the foundations of AI—the effort to understand the phenomenon of intelligence. Included are such topics as expert systems, natural language understanding, computer vision, and parallel processing. This series is available now.

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Write to AAAS, Dept. AI, 1515 Massachusetts Ave., N.W., Washington, D.C. 20005.

POSITIONS OPEN

RESEARCH ASSOCIATE

Ph.D. or equivalent with experience in the isolation and purification of proteins, to work on research related to experimental liver carcinogenesis. Familiarity with cell culture methodologies desirable. Salary commensurate with experience. Position available immediately. Send résumé to: **Administrative Office, 776 Scaife Hall, Department of Pathology, School of Medicine, University of Pittsburgh, Pittsburgh, Pa. 15261.**

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SENIOR RESEARCH ASSOCIATE: \$22,000 per year, 40 hours per week.

To design and carry out studies of the regulation of calcium transport in anuran epithelia, utilizing techniques of electrophysiology and tracer fluxes.

Requirements: M.D.; post-residency research in nephrology; research experience in nephrology must include research in renal physiology and electrophysiology with specific experience in studies of the regulation of calcium transport.

Reply with résumé only to:

**Philadelphia Job Bank Office
444 North Third Street
Philadelphia, Pa. 19123**

Refer to: Job Order Number 3798198.

ASSISTANTSHIPS

GRADUATE ASSISTANTSHIPS in MOLECULAR BIOLOGY and BIOCHEMISTRY at Oregon Graduate Center. Research programs in: microbial and plant metabolism, enzymology, and transport; plant and fungal genetics and molecular genetics; structure and function of metalloproteins. Research assistantships of \$8600 with remission of tuition available to qualified Ph.D. students. Write: **Chairman, Department of Chemical, Biological, and Environmental Sciences, Oregon Graduate Center, 19600 Northwest Walker Road, Beaverton, Ore. 97006.** *Affirmative Action/Equal Opportunity Employer.*

DOCTORAL PROGRAMS

The Rand Graduate Institute (RGI) invites applications for its doctoral degree program in policy analysis. Deadline for submitting applications for 1985-1986 is February 1, 1985. RGI, which is fully accredited by the Western Association of Schools and Colleges, is an integral part of The Rand Corporation. Its curriculum consists of interdisciplinary study, combined with on-the-job training (OJT), leading to the award of the Ph.D. in Policy Analysis. Students receive OJT support equivalent to doctoral fellowships. Fellowship support is also available for applicants with special interests in health policy and Soviet international behavior. A master's degree, or equivalent post-bachelor's degree training and experience, is required for admission.

For additional information write:

The Rand Graduate Institute, 1700 Main Street, Santa Monica CA 90406, or telephone: 213-393-0411.

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DOCTORAL PROGRAM IN THE LABORATORY SCIENCES IN ENVIRONMENTAL HEALTH HARVARD SCHOOL OF PUBLIC HEALTH Division of Biological-Sciences in Public Health

An interdisciplinary doctoral program offers graduate training in the laboratory sciences in environmental health. Faculty interests include pulmonary defense mechanisms and response to inhaled particulates; molecular mechanisms of mutagenesis; the metabolism of xenobiotic compounds; cell transformation and anticarcinogenesis; DNA damage and repair; regulation and cloning of DNA repair genes; animal and human cell culture models for organ specific chemical injury; chemical and physical analysis of environmental and occupational samples; mechanisms of action of tumor promoters and dioxins; and environmental factors affecting cardiovascular and respiratory function. Stipends and tuition assistance available. *Expression of interest is particularly invited from women and minority candidates.* Contact: **Admissions Office, Harvard School of Public Health, 677 Huntington Avenue, Boston, Mass. 02115.**

CONGRESS

Xth INTERNATIONAL CONGRESS ON THROMBOSIS AND HAEMOSTASIS SAN DIEGO, CALIFORNIA 14 to 19 July 1985

To receive the final announcement and abstract submission forms, write to:

**ISTH Xth Congress
P.O. Box 8296
La Jolla, California 92038-8296**

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POSTDOCTORAL FELLOWSHIP IN PLANT MOLECULAR BIOLOGY

Available immediately for research in transfer of genetic information and regulation of its expression in the potato. An opportunity for a recent Ph.D. with strong training in basic molecular biology to extend his/her interest to an important plant system. A growing department with a strong commitment to plant molecular biology associated with a state agricultural experiment station. Please submit curriculum vitae and names of three references to:

**Dr. William Park
Department of Biochemistry and Biophysics
Texas A&M University
College Station, Texas 77843
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Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP IN TUMOR BIOLOGY

An immediate opportunity for postdoctoral training in human tumor biology is available. The successful candidate will have the opportunity to work in one of two well-established laboratories to study the role of human mononuclear phagocytes in destruction of tumor cells. Emphasis will be placed on defining regulation of leukocyte function in terms of alterations in cellular physiology and biochemistry. A background in immunology, cell biology or biochemistry would be suitable, though not essential, for this opportunity for advanced training in cell biology. The stipend will be attractive and commensurate with the candidate's experience. Applicants should send curriculum vitae and three letters of reference to:

**Robert Bast, M.D., or Dolph Adams, M.D.
Duke University Medical Center
Durham, North Carolina 27710**

POSTDOCTORAL RESEARCH FELLOWSHIP. The University of Toronto, Mushroom Research Group, has several positions available for molecular biologists, geneticists, and mycologists to work on genetic engineering of the commercial mushroom. Positions are for 2 to 3 years. A completed Ph.D. is required; please send curriculum vitae and three letters of reference to: **Dr. Paul Horgen, Mushroom Research Group, University of Toronto, Erindale Campus, Mississauga, Ontario, Canada L5L 1C6.** Closing date: 15 January 1985.

The American Museum of Natural History announces a limited number of resident **RESEARCH/MUSEUM FELLOWSHIPS** available to postdoctoral researchers and established scholars starting in summer and fall 1985. Areas include vertebrate and invertebrate zoology, paleozoology, anthropology, mineral sciences, and the field of museum education as it relates to natural history museums or planetariums. Deadline for most applications, including Carter Fellowship (vertebrate paleontology) and Chapman and Naumburg Fellowships (ornithology), is 15 January; deadline for Lounsbury Fellowship (anthropology) is 1 February. Request information booklet and application from: **Office of Grants and Fellowships, American Museum of Natural History, Central Park West at 79 Street, New York, New York 10024.** *An Equal Opportunity/Affirmative Action Institution, M/F/H.*

POSTDOCTORAL FELLOWSHIP IN HUMAN POPULATION GENETICS available immediately, to study immunoglobulin allotype associated/linked immune response genes. The candidate should be proficient in segregation and linkage analyses; some experience in immunogenetics would be preferable. Please send curriculum vitae, graduate school records, and three letters of recommendation to:

**Dr. J. P. Pandey
Department of Immunology and Microbiology
Medical University of South Carolina
Charleston, S.C. 29425**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS available immediately. Biochemical characterization of polypeptide hormone receptor. Background in biochemistry desirable. *U.S. citizenship or permanent resident status required.* Curriculum vitae with two letters of reference should be sent to: **Richard L. Soffer, M.D., Departments of Biochemistry and Medicine, Cornell University Medical College, 1300 York Avenue, New York, N.Y. 10021.**

POSTDOCTORAL FELLOWSHIPS. Opportunity to study alterations in cell metabolism and protein changes in the lung during development of experimental fibrosis, emphysema or free radical mediated injury. Strong background in biochemistry, toxicology and/or immunology required. Application deadline: 1 December 1984. Send résumé and names of three references to: **Dr. G. Weinbaum, Chief, Research Division, Department of Medicine, Graduate Hospital, 1 Graduate Plaza, Philadelphia, Pa. 19146.** *An Equal Opportunity/Affirmative Action Employer affiliated with the University of Pennsylvania School of Medicine.*

POSTDOCTORAL FELLOWSHIPS IN CHEMISTRY OF POLYPEPTIDE HORMONES (2 or 3 years), beginning July 1985, or earlier.

Opportunities available immediately for Ph.D.'s in an interdisciplinary group, studying polypeptides of human and animal pituitary glands, using HPLC, gas phase microsequencing, GC/LC/mass spectrometry, and peptide synthesis, to isolate, identify chemically, and synthesize hitherto unknown pituitary peptides. U.S. citizens/permanent residents, experienced in any of the above, are invited to apply. Stipend: \$28,000 plus relocation expenses. Send curriculum vitae and names of three references to: **Dr. A. F. Parlow, Harbor-UCLA Medical Center, 1000 West Carson Street, Torrance, Calif. 90509.**

SCIENCE, TECHNOLOGY, AND SOCIETY RESEARCH FELLOWSHIPS

The Massachusetts Institute of Technology (MIT) Program in Science, Technology, and Society invites applications for several 1-year research fellowships on the relationships of science, technology, and society with preference given this year to proposals in the area of government, industry, and universities: The Organization and Politics of Academic Research. Historical and comparative perspectives are encouraged. Ph.D. or equivalent desirable. Partial or full stipend. Application deadline: 15 January 1985. For more information, write: **Deborah Wilkes, E51-128, MIT, Cambridge, Mass. 02139.**

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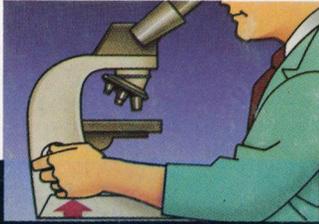
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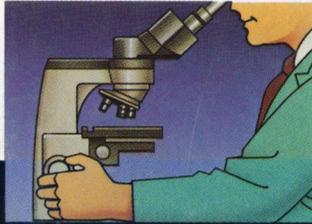
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