

Carnegiea, *Lemaireocereus*, *Peniocereus*, *Acanthocereus*, and *Wilcoxia* are returned to the large collective genus *Cereus* pending further investigations. On the other hand, Benson's own intensive field studies have led him to accept *Sclerocactus* and *Pediocactus* as valid genera after assigning *Coloradoa* to the former and *Utahia*, *Navajoa*, and *Toumeyia* to the latter. The genus *Coryphantha*, placed in *Mammillaria* in early editions of the author's *Cacti of Arizona*, represents another example of changes that can be justified as information accumulates. The system of classification as a whole is therefore flexible rather than static.

The systematic section that makes up three-quarters of the volume contains the keys, descriptions, and distribution maps required for the identification of unknown plants. It is profusely illustrated with photographs and line drawings of exceptional quality; the descriptions are often followed by additional comments on ecology or distribution or comparisons with closely related taxa. In the interests of easier reading, documentation and synonymy are relegated to a section at the end of the book, where there are also a glossary and an extensive list of references. The system of classification so carefully developed by Benson and exemplified in this work will be the standard for many years to come.

This long-awaited book is the definitive publication for the cacti of North America north of Mexico. The scholarship and care involved in its preparation and the high quality of the printing and illustrations make it indispensable for anyone interested in cacti.

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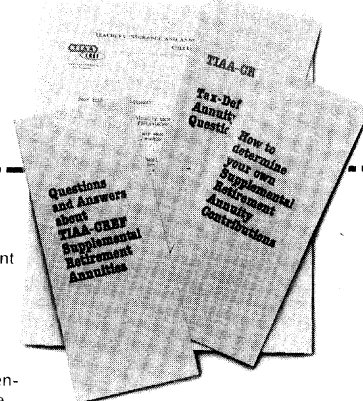
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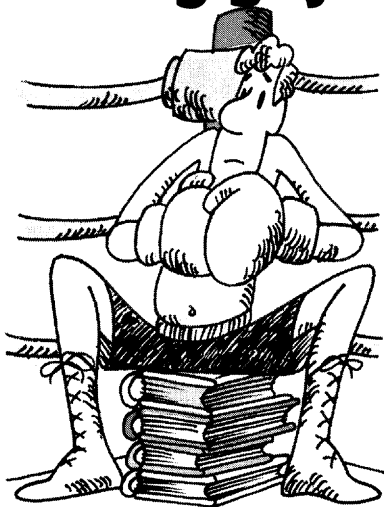
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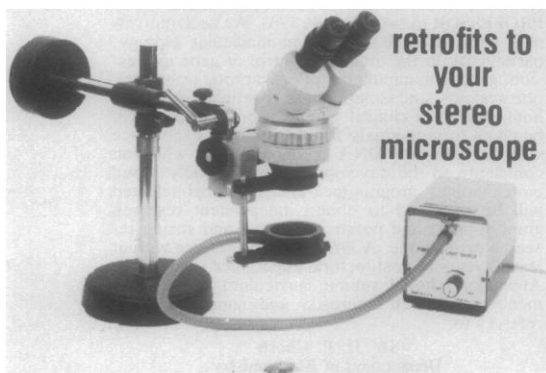
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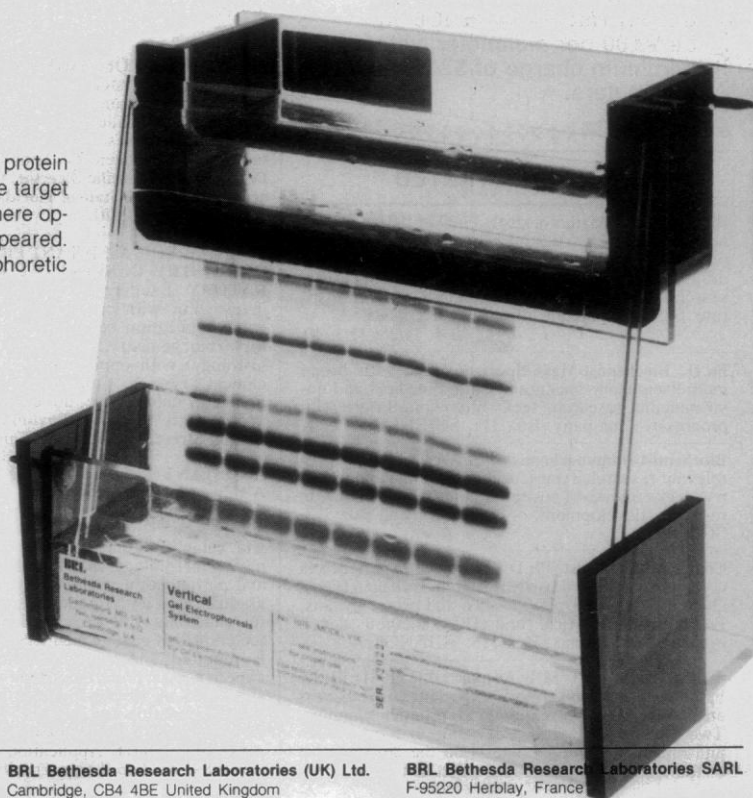
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POSITIONS WANTED

Biochemical Pharmacologist: Ph.D., 1971; mechanism of action of drugs on calmodulin and microtubules. Also some experience in hypnotics, narcotic drugs, hormone, RIA, and enzymology. Seeks research position in industry/academic research institute. Salary negotiable. Box 313, SCIENCE. 11/26; 12/3, 10

Ph.D. Biochemist/Mass Spectroscopist, with broad multidisciplinary background in biomedical and environmental research, seeks interesting future with progressive company. Box 311, SCIENCE. X

Biochemist/Immunochemist, Ph.D. Fourteen years of relevant research experience in academia and industry, seeks mid-level position in industry/academia in research, development, or quality control. Box 312, SCIENCE. X

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M.B.A./Biochemist: M.B.A. marketing (1981); B.Sc. biochemistry (1979). Work experience in business analysis, market research, and product planning. Two years of research experience in fermentation and molecular biology. Thesis on the development of the biotechnology industry. Box 314, SCIENCE. X

POSITIONS WANTED

Versatile Research Microbiologist (M.S.) and multifaceted individual seeks challenge and responsibility with opportunity for advancement. Also, experienced editor, designer, technical writer, and writing advisor. Operating own part-time direct sales and service business. Louise Loudon (formerly M. Louise Brock), 7225A Amherst, St. Louis, Mo. 63130. Telephone: 314-725-8284. 11/26; 12/3

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POSITIONS OPEN

UNIVERSITY OF MINNESOTA Tenure-track Assistant Professors

Two tenure-track assistant professor positions are available in the Department of Anatomy beginning as early as 1 July 1983. Applicants must have postdoctoral experience, demonstrated research productivity, and training in gross anatomy. Applicants will be assessed on three major criteria: teaching ability; strength of research program; and research that complements on-going departmental research interests in cell biology, reproductive biology, neurobiology, or endocrinology. Teaching responsibilities will include gross anatomy (for dental or medical students) and graduate teaching in the area of specialty. Curriculum vitae, brief statement of research interests and goals, reprints of publications, and names of three referees must be received by 15 January 1983, and should be addressed to: **Search Committee, Department of Anatomy, University of Minnesota, 4-135 Jackson Hall, 321 Church Street, SE, Minneapolis, Minn. 55455.**

The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

ASSISTANT PROFESSOR. The Department of Biology at Stephen F. Austin State University (SFASU) has a tenure-track position for a Ph.D. to teach histology and human anatomy and physiology courses beginning in fall 1983. Experience in scanning and transmission electron microscopy is required. Duties include supervision of master's level graduate students and development of a research program. Applicants should submit a résumé, reprints, and official transcripts and should have three letters of recommendation sent to: **Dr. Charles W. Mims, Department of Biology, SFASU Box 13003, Nacogdoches, Texas 75962.** Closing date: 15 February 1983. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR—Tenure-track position for a Ph.D. interested in tumor cell proliferation and chemotherapy. Cancer Center support facilities exist for use of nude mice xenografts, EM, tissue culture, and cell sorting. Current emphasis is on tumor cell heterogeneity. Send curriculum vitae to: **Dr. Krishan, Scientific Director, Comprehensive Cancer Center for the State of Florida, R-71, Box 016960, Miami, Florida 33101.**

OPENING FOR ASSISTANT PROFESSOR OF BIOCHEMISTRY IN SKELETAL RESEARCH LABORATORY. Exciting research prospects for talented investigator with background in biochemistry and good publication record. Multidisciplinary laboratory (biochemistry, physiology, cell biology, and histology) with opportunities for collaborations in clinical research. Competitive salary and benefits. Send curriculum vitae, three references, transcripts, and reprints to: **D. J. Baylink, M.D., (151) 11201 Benton Street, Loma Linda, Calif. 92357.**

ASSISTANT PROFESSOR OF MICROBIOLOGY. A new, tenure-track position has been assigned to the Department of Microbiology, Iowa State University, starting 1 July 1983. We seek an individual who will establish a program in biotechnology/applied molecular biology that includes vigorous research and participation in the advising and instruction of graduate and undergraduate students. The successful candidate will be experienced in the modern techniques of genetic engineering. The Ph.D. degree is required and some teaching and postdoctoral experience is preferred. Send curriculum vitae, a statement of research plans, and three letters of recommendation to: **Fred D. Williams, Chairman, Department of Microbiology, Iowa State University, Ames, Iowa 50011.** Application deadline is 21 January 1983. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

McMASTER UNIVERSITY Faculty of Health Sciences

Applications are invited for positions of **ASSISTANT PROFESSOR** to begin in July 1983. We seek individuals with research interest in molecular biology, particularly in the areas of control of gene expression, genetic manipulation of prokaryotic or eukaryotic systems, and isolation and genetic regulation of human genes of clinical significance. Preference will be given to individuals who have direct experience with recombinant DNA technology and who can contribute to the development of a broadly based biotechnology programme. The individual selected will be expected to obtain independent research grant support and pursue an active and strong research programme. A Ph.D. or M.D. degree with at least 2 years of postdoctoral experience is required. Applicants should submit curriculum vitae, statement of research interests, and names of three referees to:

Dr. H. P. Ghosh
Department of Biochemistry
McMaster University
1200 Main Street West
Hamilton, Ontario, Canada L8N 3Z5

ASSISTANT PROFESSOR (TWO POSITIONS)

1) **MAMMALIAN PHYSIOLOGIST.** Tenure-track position. Appropriately trained to teach existing undergraduate anatomy-physiology course for health science majors. Some background in biochemistry, toxicology, or pharmacology desirable.
2) **CELL BIOLOGIST.** Tenure-track position. Appropriately trained to teach undergraduate courses in human and general genetics. Research training and experience should be in general area of cellular or molecular biology with some background in electron microscopy.

Successful candidates must develop strong research programs with potential for securing extramural grant funds, develop graduate level course in area of specialization, and supervise M.S. and Ph.D. students in biological and biomedical sciences programs. Specific research areas are open but should be compatible with on-going research programs in mammalian physiology or cell biology. Postdoctoral experience essential; salary commensurate with qualifications and experience; effective date: August 1983. Send curriculum vitae, copies of transcripts, and three letters of recommendation by 15 January 1983 to: **Dr. Gary J. Killian, Box 10, Department of Biological Sciences (Position 1), or to: Dr. Walter C. Adams, Box 22, Department of Biological Sciences (Position 2), Kent State University, Kent, Ohio 44242.** *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR OF PUBLIC HEALTH EDUCATION

Doctoral degree in health education or related field. M.P.H. desirable. Concern with interdisciplinary teaching approach relating social and behavioral theory relevant to the practice of health education in a variety of health care settings and with a focus on diverse population groups. Contribute to research upon which policy and program decisions in the social and administrative health sciences can be based. Ability to offer courses and seminars for master's and doctoral students. *The University of California is an Equal Opportunity/Affirmative Action Employer.* Submit curriculum vitae and publications by 1 February 1983 to: **Chairman, Department of Social and Administrative Health Sciences, 405 Warren Hall, School of Public Health, University of California, Berkeley, California 94720.**

PROFESSOR OF HEALTH AND MEDICAL CARE ORGANIZATION

Emphasis on analysis and policy formulation for improvement of public sector role. Ability to offer courses and seminars for master's and doctoral students, and substantive consultation to faculty and students in developing areas of delivery systems, finance systems, manpower deployment schemes, and provider and client roles. Doctoral degree in an academic or professional area relevant to health and medical care, preferably in medicine, and preference for a second relevant graduate degree. Salary is negotiable. Send curriculum vitae, selected publications, at least three letters of reference, and a statement indicating how you match the specifications of the position by 1 February 1983 to: **Chairperson, Department of Social and Administrative Health Sciences, School of Public Health, 403 Earl Warren Hall, University of California, Berkeley, California 94720.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR IN CELLULAR NEUROBIOLOGY. Applications are invited for a tenure-track position available 1 September 1983 or possibly earlier. Candidates should have postdoctoral experience and demonstrated ability to conduct independent research. Preference will be given to those working in the areas of cell cytoskeleton, plasma membrane, synaptogenesis, or developmental neurobiology. Teaching experience in anatomical science courses desirable. Rank and salary will be commensurate with qualifications. For fullest consideration, applicants should submit curriculum vitae, a brief statement of research interests, and three letters of reference by 1 January 1983 to: **Dr. G. D. Pappas, Department of Anatomy, University of Illinois College of Medicine, P.O. Box 6998, Chicago, Ill. 60680.** *The University of Illinois is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.*

ASSISTANT PROFESSOR—OBSTETRICS AND GYNECOLOGY, Duke University Medical Center; and **ASSOCIATE DIRECTOR OF OBSTETRICS AND GYNECOLOGY,** Cape Fear Valley Hospital, Fayetteville, North Carolina.

Applicants are sought for a position as assistant professor in the Department of Obstetrics and Gynecology, Duke University Medical Center, with a joint appointment as associate director for obstetrics and gynecology, Cape Fear Valley Hospital, Fayetteville, North Carolina. Candidates must have completed 3 years of approved residency education in obstetrics and gynecology as well as a 2-year fellowship in maternal-fetal medicine as approved by the American Board of Obstetrics and Gynecology. The successful applicant will live in Fayetteville, North Carolina, and will be the associate director of an affiliated residency program in obstetrics and gynecology and have primary responsibility for obstetrical patient care on the teaching service of Cape Fear Valley Hospital. Anticipated salary: \$65,000. Application and three letters of recommendation are required. *Equal Opportunity/Affirmative Action Employer.* Inquiries should be addressed to: **Charles B. Hammond, M.D., Professor and Chairman, Department of Obstetrics and Gynecology, P.O. Box 3853, Duke University Medical Center, Durham, North Carolina 27710.**

The Department of Physiology, College of Medicine, University of Saskatchewan, has available a limited-term position at the **ASSISTANT PROFESSOR** level. The position is nontenurable but may be continuous for 3 years. Applicants must have a Ph.D., D.D.S., D.V.M., or M.D. degree with postdoctoral experience. Preference will be given to individuals with teaching and research expertise in neurophysiology, gastrointestinal and/or renal physiology. Address inquiries to: **Dr. N. M. McDuffie, Acting Head, Department of Physiology, College of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.** Applications are welcome until the position is filled. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.*

The Cancer Center at the University of California, San Diego, seeks an **ASSISTANT RESEARCH BIOLOGIST** to collaborate in studies modulating tumor cells with growth factors and monoclonal antibodies. Excellent research group and support. A Ph.D. plus further training in cell biology/immunology is required. Begin now or before 1 July 1983. Salary related to the established schedule of the University of California research series. Applications received by 27 December 1982 will be given thorough consideration. Send curriculum vitae to: **John Mendelsohn, M.D., Cancer Center H-221, 225 Dickinson Street, San Diego, California 92103.** *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

The Cancer Center at the University of California, San Diego, seeks a **POSTGRADUATE RESEARCH BIOLOGIST** to participate in studies modulating tumor cells with growth factors and monoclonal antibodies. Excellent research group and support. A Ph.D. in cell biology/immunology/biochemistry is required. Begin now or before 1 July 1983. Salary related to the established schedule of the University of California postgraduate research series. Applications received by 27 December 1982 will be given thorough consideration. Send curriculum vitae to: **John Mendelsohn, M.D., Cancer Center H-221, 225 Dickinson Street, San Diego, Calif. 92103.** *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

Assistant Director For Institute of Geophysics and Planetary Physics

at Lawrence Livermore
National Laboratory,
University of California

Located 40 miles east of San Francisco in the diversified Bay Area, the Lawrence Livermore National Laboratory is an applied science R&D facility operated by the University of California for the U.S. Department of Energy. As a nationally recognized laboratory, we employ approximately 7,300 individuals and are engaged in basic and applied research and development.

The Regents of the University of California have approved the establishment of a branch of the Institute of Geophysics and Planetary Physics (IGPP) at the Lawrence Livermore National Laboratory. Applicants are being sought for an Assistant Director to head this fifth branch of the IGPP. Administratively, the Assistant Director will be jointly responsible to the Systemwide IGPP Director and to the LLNL Director through the Associate Director for Physics.

The objectives of the Branch are to carry out scientific research in appropriate fields, to promote collaboration between Laboratory and University staff, and to make the facilities of the Laboratory available to faculty and students from the University campuses. Initial research will be focused on astrophysics, high-pressure physics, and seismology. Applicants should have a distinguished scientific record in one of the above disciplines. Previous administrative experience is desirable, as is an ability and interest in directing an interdisciplinary research center.

Candidates should respond to either: Prof. Orson L. Anderson, Director, Systemwide IGPP, 4851 Slichter Hall, KSC-112, UCLA, Los Angeles, CA 90024, or Dr. John D. Anderson, Associate Director for Physics—L-75, LAWRENCE LIVERMORE NATIONAL LABORATORY, P.O. Box 808, KSC-112, Livermore, CA 94550.

U.S. Citizenship is required. An Equal Opportunity Employer M/F/H/V.

University of California



**Lawrence Livermore
National Laboratory**

POSITIONS OPEN

ASSISTANT PROFESSOR EXERCISE PHYSIOLOGY

Tenure-track position in Department of Health Sciences for research and teaching in human physiology on both undergraduate and graduate levels. Special expertise required in exercise and muscle biochemistry. Screening of applicants began 15 November 1982 for appointment 1 September 1983. Submit curriculum vitae, recent reprints, and three letters of recommendation to: **Chairman Search Committee, Department of Health Sciences, Boston University, Boston, Mass. 02215. Equal Opportunity/Affirmative Action Employer.**

BIOLOGY Two Positions

1) **CHAIRMAN:** An individual with demonstrated teaching, research, and administrative experience to assume the leadership of a department of 11 full-time faculty members. The rank for this position is open.

2) **FACULTY POSITION:** It is anticipated that a tenure-track appointment at the assistant professor level will be available for a person with teaching and research experience. The Ph.D. is required.

Applications are invited from persons in the fields of **cell biology, molecular biology, and vertebrate physiology.** Courses to be taught at the undergraduate level are: anatomy and physiology for nursing and other nonscience majors; cell biology and vertebrate morphology/anatomy for biology majors. At the graduate (master's) level, the course assignments and research could be microbial genetics, biological membranes or endocrinology; other areas would be considered. Duties will also include academic advising of students, directing undergraduate and graduate research, and involvement in other departmental activities such as seminars. Salaries are negotiable. Both positions are available as of 1 September 1983. The deadline for receipt of applications is 15 January. Submit curriculum vitae to:

**Dr. Frank F. Katz, Chairman
Department of Biology
Seton Hall University
South Orange, New Jersey 07079**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ASSOCIATE DEAN COOK COLLEGE

Cook College, Rutgers-The State University of New Jersey, New Brunswick, N.J., invites nominations and applications for the position of **Associate Dean for Resident Instruction.** Cook is a coeducational, residential college offering programs in life and physical sciences and applied social sciences to serve agricultural and environmental needs to about 3,000 students. The incorporation of the New Jersey Agricultural Experiment Station and the Cooperative Extension Service as integral parts of the college provides students with a unique educational experience.

The tasks of the dean will include: providing leadership to a distinguished faculty in setting of goals, objectives, and priorities in academic and student life areas, stimulating the faculty in scholarly activities, encouraging teaching excellence, and being responsible for budgets related to academic and student life areas.

Earned doctorate and qualification for professorial rank in one of the related departments required; knowledge of land grant institution and administrative experience in higher education highly desirable.

Send applications, résumés, and names of references by 15 January 1983 to:

**Professor Herbert T. Streu, Chairperson
c/o Assistant Dean for Personnel
Rutgers-The State University of New Jersey
Cook College-P.O. Box 231
New Brunswick, New Jersey 08903**

An Affirmative Action/Equal Opportunity Employer

ASSOCIATE DIRECTOR OF TEACHING LABORATORIES Position available March 1982

Ph.D. director for organization and supervision of teaching assistants in laboratories for general biology (biochemical, physiological, and genetic aspects) and biochemistry (upper division). Opportunities to innovate. Application deadline: January 1983.

**M. M. Appleman, Chairman, Biological Sciences,
University of Southern California, Los Angeles, Calif.
90089-0371.**

POSITIONS OPEN

ASSOCIATE CHIEF OF STAFF FOR RESEARCH AND DEVELOPMENT applications are invited at the Veterans Administration Medical Center, Kansas City, Missouri.

Candidates should be established M.D. investigators who have a record of meritorious research, have been highly successful in competing for research funding, and are actively engaged in a substantial ongoing research program. Candidates to head this \$3-million program with 150 employees should have prior administrative experience and will be expected to provide dynamic leadership in the continuing development of research programs.

Joint appointments will be given at the Veterans Administration Medical Center and the appropriate department at the University of Kansas College of Health Sciences and Hospital.

Respond with curriculum vitae and three references to: **James A. Kennedy, M.D., Chairman, Search Committee, Veterans Administration Medical Center, 4801 Linwood Boulevard, Kansas City, Mo. 64128.**

An Equal Opportunity Employer

BIOCHEMIST

Full-time position available in January 1983 or July 1983; teaching biochemistry with laboratory and developing an independent research project in an interest area of the applicant as it relates to health science. Ph.D. required. Interested persons with **OTHER SPECIALTIES** relevant to preclinical sciences are invited to submit a letter discussing teaching and research experience. Enclose curriculum vitae, with names and addresses of three references, to: **Search Committee, Basic Science Division, Northwestern College of Chiropractic, 1834 South Mississippi River Boulevard, St. Paul, Minn. 55116. An Equal Opportunity Employer.**

September 1983 opening in college entry program for adults. Prerequisites: **Ph.D. IN BIOLOGICAL SCIENCE**, emphasis on human biology; teaching experience with adults, non-science majors. **Excel Division, Room 819, Fordham University at Lincoln Center, New York, New York 10028.** Applications close 15 January.

DEPARTMENT OF BIOLOGY UNIVERSITY OF PUERTO RICO RIO PIEDRAS CAMPUS

Applications are invited for tenure-track positions for an **immunologist**, a **geneticist (microbial)**, and a **general microbiologist**. All three will be expected to coordinate and develop a large undergraduate course (300 students) in one of these areas. They will also be expected to develop active independent research programs, supervise graduate students, and teach graduate courses in their respective areas. Speaking and writing knowledge of Spanish is preferred. All appointments are expected to be made at the assistant professor level, but exceptional candidates will be considered at other levels. Send a letter describing commitment to teaching, current and future research interests, curriculum vitae, transcripts, bibliography, representative reprints, and the names, addresses, and telephone numbers of at least three people who may be contacted for letters of recommendation to: **Chairman, Department of Biology, University of Puerto Rico, Río Piedras, P.R. 00931.** Deadline: 15 January 1983. *An Equal Opportunity Employer.*

ROCHESTER INSTITUTE OF TECHNOLOGY DEPARTMENT OF BIOLOGY

Anticipated position. **MICROBIAL PHYSIOLOGIST**, Ph.D., assistant professor, tenure-track. To teach molecular biology, microbial and viral genetics to majors, and a portion of microbiology to nonmajors. Biotechnology skills desirable. Research in specialty encouraged. Send curriculum vitae and three letters of recommendation to: **Department of Biology, Search Committee, Rochester Institute of Technology, One Lomb Memorial Drive, P.O. Box 9887, Rochester, New York 14623.** Application deadline is 15 January 1983. *Rochester Institute of Technology is an Equal Opportunity/Affirmative Action Employer.*

BIOLOGY—Two anticipated tenure-track positions at instructor/assistant professor level. Ph.D. in vascular developmental botany-plant anatomy. Ph.D. mammology. Positions start August 1983. Closing date: 15 January 1983. Send complete transcripts, curriculum vitae, letters from three referees, and a brief statement of teaching, research, and goals to: **Dr. William J. Vail, Head, Department of Biology, Frostburg State College, Frostburg, Maryland 21532.** *Affirmative Action/Equal Opportunity Employer.*

RESEARCH MANAGER - MOLECULAR BIOLOGY

The Upjohn Company, a leader in pharmaceutical research and development of new therapeutic agents, is extending its biotechnology research effort and is seeking a Research Manager for its enlarging Molecular Biology Research Unit. This essentially basic research unit will study and develop recombinant DNA applications to all areas of Upjohn therapeutics research.

Applicants must have a Ph.D. or M.D. with research concentration in molecular biology, genetics and biochemistry, have a substantial publication record, and be a recognized contributor in the field. The successful candidate should have administrative and supervisory experience and demonstrated ability to guide and maintain an active, large, and expanding laboratory program.

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**Associateship Programs (JH-608-E7)
National Research Council
2101 Constitution Avenue, NW
Washington, D.C. 20418**

Drug Metabolism

Smith Kline & French Laboratories, a leader in pharmaceutical research, invites applications from scientists to participate in a challenging new drug metabolism program, which will expand during the next several years and play an important role in drug discovery and development.

ASSOCIATE SENIOR INVESTIGATOR

The successful candidate will be responsible for the development of enzymatic techniques to be used in: the preparative scale synthesis of drug metabolites; the study of reversible enzyme inhibitors; and in vitro drug metabolism studies. In addition the successful candidate will be expected to initiate a research program in support of drug development and discovery.

Candidates must have a PhD and 2 or more years post doctoral research experience and:

- strong background in enzyme isolation and characterization
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We offer an excellent salary and benefits including an outstanding relocation policy. Please send your C.V. in confidence to: C.J. Elder, SMITHKLINE BECKMAN CORPORATION, 1570 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

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POST DOCTORAL RESEARCH POSITIONS

The Malaria Section of the Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, U.S. Public Health Service, in Bethesda, Maryland, has available Staff Fellow and Senior Staff Fellow positions in Molecular Biology and Protein Chemistry at a salary range of \$20,688 to \$44,786 per annum for physicians and \$17,000 to \$36,946 per annum for nonphysicians. Candidates for both the Staff Fellowship and Senior Staff Fellowship must be U.S. citizens or resident aliens who would be eligible for citizenship within 4 years. They must either have been awarded their doctoral degrees or have been certified by a university as meeting all the requirements leading to such a doctorate. Appointments are made for 2-3 year periods. Applicants are invited for postdoctoral research positions studying proteins of malarial parasites by protein biochemistry and molecular biology. Work will focus on proteins that are characteristic of primate malarias of different biological phenotypes. In addition,

studies are underway on the identification of receptors for parasite invasion of erythrocytes.

Applicants for Molecular Biology should have experience in molecular cloning, restriction analysis and gene expression. Applicants for Protein Biochemistry should have experience in membrane protein purification and fine structure analysis. Experience in defining the molecular basis for antigenic heterogeneity or of receptor-ligand binding would assist in defining the structure-function relationships of these proteins.

Please send a Curriculum Vitae, relevant publications, and the names, addresses, and telephone numbers of three references to Dr. L. H. Miller, Malaria Section, Laboratory of Parasitic Diseases, NIAID, NIH, Building 8, Room 326, 9000 Rockville Pike, Bethesda, Maryland 20205. The telephone number is area code 301, 496-2183.

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHYSICS The University of Akron

Applications are invited for a physics faculty position at the level of assistant professor. Appointment will begin in fall 1983. The Ph.D. is required; salary is commensurate with background and qualifications. Solid-state or polymer physics research interests are preferred. Theorists or experimentalists with backgrounds in NMR, electron-tunneling, computer physics, or polymer-related areas will be of particular interest. Expertise in applications of computers to physics research and teaching, with an interest in developing undergraduate and graduate programs in computer physics, would be very desirable. Please send current résumé, plus names and addresses of four references, by 31 January 1983 to: **Dr. Roger B. Creel, Chairman of Search Committee, Department of Physics, The University of Akron, Akron, Ohio 44325.** *The University of Akron is an Equal Education and Employment Institution.*

CHAIRPERSON: ANATOMY. Howard University, College of Medicine, Washington, D.C., invites applications from individuals with demonstrated leadership in research, administrative experience, and commitment to education in the health sciences. The successful applicant will be expected to play a major role in expanding the graduate program and furthering interdisciplinary research. Send letter of interest with curriculum vitae and the names of at least three references to: **Dr. G.-M. Moolenaar, Anatomy Search Committee, Department of Physiology, Howard University, College of Medicine, Washington, D.C. 20059.** Closing date: 15 January 1983. *Howard University is an Equal Opportunity Employer.*

ANNOUNCEMENT

Graduate School of Design, Harvard University, faculty position available academic year 1983-1984.

LANDSCAPE ARCHITECTURE AND PLANNING ENDOWED CHAIR: ECOLOGY AND NATURAL RESOURCES

Applications are invited from persons qualified to offer graduate level instruction and conduct research or professional studies in the field of ecology and natural resources.

The position is full time and appointment will be made as professor for a fixed term or with tenure. Academic appointments entail responsibilities for teaching, academic administration, and scholarship.

APPLICATION

Applicants should send a copy of their curriculum vitae to: **Graduate School of Design Appointments Committee, c/o Janet Hatch, Harvard University, 48 Quincy Street, Cambridge, Massachusetts 02138.** Applications should be received by 10 December 1982. *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

The City of Savannah, Georgia, is looking for a **CITY ENGINEER.** Annual starting salary: \$30,000. Bachelor's degree in civil engineering or a related field and 5 years of professional engineering experience, including 3 years of supervisory experience. Possession of or ability to obtain within 6 months a Georgia State Professional Engineer's License. Apply to: **City of Savannah, Georgia, Personnel Office, 10 East Bay Street, Savannah, Ga. 31401.** *An Equal Opportunity Employer.*

The Department of Aeronautics and Astronautics, Stanford University, seeks an outstanding person for appointment to a regular **FACULTY POSITION** in the field of **EXPERIMENTAL STRUCTURES.** Salary and rank will be commensurate with experience and qualifications. The successful candidate should have proven his or her excellence in experimental research on the application of modern materials to lightweight structure, with emphasis on advanced composites. The position will offer the opportunity to develop and improve departmental structures laboratories to interact with outside research organizations. A candidate should have interest in teaching. Industrial experience is also desirable.

In addition to guiding the research of advanced-degree students, responsibilities will include regularly scheduled graduate courses related to the specialty and occasional mechanics courses for undergraduate engineering students. *Stanford is an Affirmative Action Employer and welcomes applications from women and minority candidates.*

Inquiries should be made expeditiously to the chairman of the search committee: **Professor N. J. Hoff, Durand 355B, Department of Aeronautics and Astronautics, Stanford University, Stanford, California 94305.** Telephone: 415-497-2441.

POSITIONS OPEN

The University of Michigan, School of Natural Resources, is seeking applicants to fill a full-time, tenure or tenure-track position at a level commensurate with qualifications for the **GEORGE WILLIS PACK ENDOWED CHAIR IN NATURAL RESOURCES ECONOMICS.** The primary focus is forest economics directed toward the management of forest and forest-related resources. It is expected that the position will be filled by 1 September 1983. Applications should be sent to: **William J. Johnson, Dean, School of Natural Resources, The University of Michigan, Ann Arbor, Mich. 48109.** Closing date: 28 February 1983 for initial review. Applications will be welcomed until the position is filled.

A nondiscriminatory, Affirmative Action Employer

CHAIRMAN, DEPARTMENT OF GEOLOGY LOUISIANA STATE UNIVERSITY (LSU)

The Department of Geology, LSU, invites applications for the position of **professor and chairman**, to be filled during the 1983-1984 academic year. We are seeking an earth scientist of national or international stature with research, academic, or industrial experience. The department is a well-equipped, research-oriented organization with a faculty that should approach 20 by 1983. Construction of a new Geology Building annex is scheduled to begin within one year. LSU's location and strong ties to industry make this position particularly attractive relative to the department's growth potential.

The successful candidate must demonstrate outstanding leadership ability. Applicants should submit to the Search Committee their curriculum vitae and a statement of their philosophy of governance. They should also arrange to have three letters of recommendation sent directly to the Search Committee. Preference will be given to applications received by 15 February 1983. Applications, nominations, and inquiries should be addressed to:

Clyde H. Moore
Chairman, Search Committee
Department of Geology
Louisiana State University
Baton Rouge, La. 70803

LSU is an Equal Opportunity/Affirmative Action Employer.

CHEMIST/PHYSICAL CHEMIST

Responsibilities for this position will include innovative, independent research into gas-sensitive semiconducting materials, using modern ultra-high vacuum surface science methods (such as Auger, Electron Defraction, Thermal Desorption, and Photoemission Spectroscopies) in combination with semiconductor electrical characterization measurements.

In addition, this individual will implement practical in situ techniques for investigating the energetic, structural, and electrical aspects of the gas-semiconductor surface interaction in the pressure range 10^{-10} to 10^5 torr; supervise a surface analysis facility ensuring the reliability and quality of the analytical data; and provide consultation on surface analysis problems to other members of the technical staff.

Ph.D. in chemistry or physical chemistry; at least 3 years of recent hands-on experience with modern ultra high vacuum surface research methods; and evidence of capabilities of producing independent, creative, research of peer review standards all required. In addition, qualified individual will have direct experience with high-pressure, low-pressure surface research techniques; knowledge of semiconductor electrical characterization methods.

Permanent residents and U.S. citizens only need apply. Salary: \$3390 per month. If qualified, contact: **Maryland State Employment Service, 1100 North Eutaw Street, Baltimore, Md. 21201.** When applying, please refer to job order number 4078721. *Ad paid for by an Equal Opportunity Employer.*

CHEMIST—Ph.D. The New England Medical Center, Department of Hematology-Oncology, has an immediate opening for a Ph.D. chemist with expertise in solid phase and solution phase peptide synthesis. Responsibilities will include designing and synthesizing peptide inhibitors of blood clotting enzymes. Peptides, contained arginine analogs are designed using computer graphics display of peptide-enzyme complex. Experience with NMR, IR, and HPLC required. Salaries are excellent. Benefits include 3 weeks' paid vacation, medical coverage, life insurance, tuition assistance, and more. Please send résumé, including salary history, to: **Hugh J. Burke, Manager of Employment, New England Medical Center, 171 Harrison Avenue, Box 795, Boston, Mass. 02111.** *An Equal Opportunity Employer, M/F.*

POSITIONS OPEN

CHAIRMAN, Department of Veterinary Anatomy-Physiology. The College of Veterinary Medicine, University of Missouri at Columbia, invites applications and nominations to identify an academic leader. The department chairman is responsible for directing the teaching, research, service, continuing education, and extension programs of an academic department. Academic disciplines include anatomy, physiology, pharmacology, biochemistry, and toxicology. Candidates must have a D.V.M. or a V.M.D., and/or Ph.D. or equivalent. Specialty Board-certification would be desirable, with demonstrated teaching, research, and administrative abilities. Applications should include a letter of interest, curriculum vitae, and the names of three individuals to be contacted as references. Application deadline is 28 February 1983. Inquiries, nominations, and applications should be directed to: **Chairman, Screening Committee for Chairman of Veterinary Anatomy-Physiology, c/o Dean's Office, College of Veterinary Medicine, University of Missouri, Columbia, Missouri 65211.** *The University of Missouri is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR OF RESEARCH LABORATORY—Ph.D. biologist or biochemist wanted to direct the Research Laboratory of the Department of Obstetrics and Gynecology at the Albert Einstein Medical Center, Northern Division, Philadelphia, Pa. Academic appointment at major university medical school. Opportunity to continue personal research interests and teach resident physicians and medical students. Knowledge of radioimmunoassay, chromatography, and tissue culture techniques required. Send curriculum vitae to: **Martin Farber, M.D., Chairman, Department of Obstetrics and Gynecology, Albert Einstein Medical Center, Northern Division, York and Tabor Roads, Philadelphia, Pa. 19141.** *Equal Opportunity Employer.*

California—**DIRECTOR, CENTER FOR CRANIOFACIAL ANOMALIES,** Department of Growth and Development. Primary duties include coordination of an ongoing research program in craniofacial biology, coordination of clinical treatment of craniofacial anomalies with associated teaching responsibilities. Rank and salary determined by experience and credentials. Available now. *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.* Send curriculum vitae to: **Dr. Robert J. Isaacson, Department of Growth and Development, School of Dentistry, University of California-San Francisco, San Francisco, Calif. 94143.** For full consideration, applications must be received by 15 January 1983.

FACULTY POSITION IN PATHOLOGY. The Department of Pathology of The University of Health Sciences/The Chicago Medical School (UHS/CMS) invites applications from Board-certified pathologists for a position at the assistant professor level. Send curriculum vitae to: **Arthur S. Schneider, M.D., Professor and Chairman, The Chicago Medical School, Department of Pathology, 3333 Green Bay Road, North Chicago, Illinois 60064.** *UHS/CMS is an Equal Opportunity/Affirmative Action Employer.*

GEOLOGY: DEPARTMENT HEAD. Associate or professor rank; tenure-track; 12-month appointment. Salary commensurate with experience. Teaching areas: igneous and metamorphic petrology; 9 hours per semester teaching load, 6 hours summer, including beginning and advanced courses. Grants experience highly desirable. Review of applications to begin 1 December 1982. Position available 1 July 1983. Send letter, curriculum vitae, transcripts, and three letters of reference to: **John E. Trimpey, Dean of the College of Arts and Sciences, University of Tennessee at Chattanooga, Chattanooga, Tennessee 37402.** *An Affirmative Action/Equal Opportunity Employer.*

MEDICAL DIRECTOR OF BLOOD BANK—The Department of Pathology has an opening for a physician, Board-certified or eligible in pathology or other appropriate specialty boards, and eligible for licensure in Florida. Major responsibilities include supervising the immunohematology, hemotherapy, and paternity testing services at 480-bed teaching hospital; teaching residents and medical students; and developing an independent research program. Salary and rank are commensurate with academic background and experience (assistant or associate professor) with anticipated starting date of 1 March 1983. Forward applications by deadline of 1 February 1983 to: **Juan C. Scornik, M.D., Associate Professor, Department of Pathology, Box J-275, JHMHC, University of Florida, Gainesville, Florida 32610.** *An Equal Employment Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH AWARDS

Sponsored by the
BALLISTIC RESEARCH LABORATORY
in association with
THE NATIONAL RESEARCH COUNCIL

The National Research Council will make awards in 1983 under the Resident Associateship Program, which provides awardees with opportunities to conduct experimental and theoretical research as visiting scientists and engineers in the fields of:

Applied Computer Sciences
Applied Mathematics
Probability Theory and Stochastic Processes
Combustion Research
Fluid Mechanics
Continuum Mechanics
Materials Sciences
Nuclear and Radiation Physics
Physical Chemistry
Quantum Chemistry

in the Ballistic Research Laboratory complex located in the beautiful Chesapeake Bay country of Maryland, within easy driving distance of the metropolitan centers of Baltimore, Philadelphia, and Washington, D.C.

Some programs are open to senior investigators as well as recent doctorates.

Further details on research programs may be obtained from: **Dr. L. J. Puckett**, telephone: 301-278-6246, at the Ballistic Research Laboratory, Aberdeen Proving Ground, Md. 21005.

For application materials and details on specific research opportunities, write promptly, giving areas of interest, to:

Associateship Office (JH-610-P)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, D.C. 20418

Postmark deadline for application is 15 January.

Coagulation Researchers: Create New Diagnostic Kits

Warner-Lambert Company, an internationally respected developer, manufacturer, and marketer of health care and consumer products, has creative scientific opportunities in their Diagnostic Division for two highly motivated and talented individuals to expand their coagulation research efforts for the development of diagnostic kits.

One position will be responsible for the design of experiments and the preparation of necessary protocols. A Ph.D. in Biochemistry with a strong emphasis in lipid/phospholipid chemistry as well as a working knowledge of GC, HPLC, TLC, and lipid extraction techniques are essential.

The other position is responsible for the preparation of reagents and the evaluation of product performance characteristics and concurrently developed instrumentation. A B.S. in Biological Sciences and 3-4 years experience in clinical laboratory testing and instrumentation are required. A good background in biochemistry, protein chemistry, and/or enzymology is desirable.

We offer an excellent benefit package and salaries commensurate with experience. Interested and qualified applicants should send their resumes and salary histories in confidence, to: Ms. R. Mullen, Warner-Lambert Company, 170 Tabor Road, Morris Plains, N.J. 07950. Equal Opportunity in Action M/F.

WARNER LAMBERT

THE SALK INSTITUTE BIOTECHNOLOGY/INDUSTRIAL ASSOCIATES, INC.

SIBIA

A new biotechnology company, located in La Jolla, California, invites applications for a

SCIENTIFIC RESEARCH ANALYST

We are seeking an individual to undertake scientific and technical research on molecular biology and microbiology subjects through undertaking journal searches and by discussions with scientific colleagues at SIBIA. The assignment does not call for lab work. The ideal candidate will possess a Bachelor's degree in Molecular Biology or Microbiology. A Master's degree is desirable, but not essential. Experience in Genetics, Molecular Biology, Microbiology, Cell Biology or Biochemistry would be advantageous.

Good scientific and technical writing is an important element of this job to clearly explain the results of literature searches, new proposed research routes and the like. Publication of scientific or technical papers by the applicant will, therefore, be a plus in undertaking this assignment. Must have willingness to work long hours in a stimulating environment.

We offer a comprehensive benefit package, and a competitive salary. Applications, including curriculum vitae, a list of publications (if applicable) and the names of 3 professional references, should be submitted to: **SIBIA, P.O. BOX 85800, DEPT. DAW, SAN DIEGO, CA 92138**. SIBIA is an equal opportunity employer.

THE SALK INSTITUTE BIOTECHNOLOGY/INDUSTRIAL ASSOCIATES, INC.

SIBIA

is a new biotechnology company interested in the whole spectrum of biotechnology and is located in La Jolla, a seaside community in northern San Diego, California.

SIBIA IS A COMPANY WHICH:

1. Has a strong basic research component;
2. Maintains close ties to very senior academic consultants; and
3. Works on challenging, multi-disciplinary research projects.

You are invited to submit an application for the position of

PROTEIN CHEMIST

This position requires specific experience in isolation and purification of proteins from micro-organisms. Scientists with scale up experience and background in enzyme isolations and purifications are encouraged to apply. PhD or Master level scientists are desired. The level of appointment is dependent upon qualifications.

Applications, including a curriculum vitae, a statement of research interests and goals, a list of publications, and the names of 3 professional references should be submitted to: **SIBIA, P.O. BOX 85800, DEPT. JDF, SAN DIEGO, CALIF. 92138**. SIBIA is an equal opportunity employer.

POSITIONS OPEN

Applicants are being sought for the position of **DIRECTOR OF THE DIAGNOSTIC IMMUNOLOGY/RHEUMATOLOGY LABORATORY** at The Children's Memorial Hospital in Chicago. The selected individual will direct, coordinate, and supervise test selection and development in the immunology laboratory. This division performs approximately 7000 assays annually. The major focus of this position will be to obtain data for the diagnosis and treatment of disease.

Qualified candidates will possess a Ph.D. in immunology, a minimum of 4 years of experience, including postdoctoral training, and proven research productivity. Interested applicants should submit résumé by 31 December or, if additional information is required, contact: **Dr. Lauren M. Pachman, Head of the Division of Immunology/Rheumatology, telephone: 312-880-4360, The Children's Memorial Hospital, 2300 Children's Plaza, Chicago, Ill. 60614. An Equal Opportunity Employer, M/F.**

FACULTY POSITIONS IN BIOMEDICAL ENGINEERING, BOSTON UNIVERSITY COLLEGE OF ENGINEERING, at the assistant/associate/full professor levels in expanding Department of Biomedical Engineering for September 1983 or January 1984. Applicants should have an earned doctorate, be committed to quality teaching at both undergraduate and graduate levels, and have the desire to develop strong research programs. Collaboration with the Boston University School of Medicine or other engineering departments may be facilitated through a joint faculty appointment. Candidates with backgrounds in chemical engineering, mechanical design, electronics, computer engineering, biomechanics and materials, image processing, or robotics are especially welcome. Opportunities for part-time (adjunct) faculty positions and for collaborative arrangements with nearby institutions involved in biomedical research and development are also available. There may also be an opportunity for a visiting appointment of 1 or 2 years duration to replace faculty on sabbatic leave. Candidates should send résumé, list of publications, names and addresses of at least three references, and a brief statement of teaching and research interests to: **Dr. Henry D'Angelo, Chairman, Engineering Search Committee, College of Engineering, Boston University, 110 Cummings Street, Boston, Mass. 02215. Boston University is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION Department of Physics Emory University

The Department of Physics, Emory University, has an opening for a tenure-track, beginning assistant professor position. The department is searching for an outstanding experimentalist with proven research record. Candidates with research interests in condensed matter physics, and biophysics will be considered. The on-going research programs in the department include far-infrared and Raman spectroscopy, superconductivity, laser optics, semiconductor physics, and Mössbauer and magnetic resonance studies of proteins. Interested candidates should send curriculum vitae and names of three references to:

**Professor Fereydoon Family
Chairman, Search Committee
Department of Physics
Emory University
Atlanta, Ga. 30322**

before 20 February 1983.

Emory University is an Equal Opportunity/Affirmative Action Employer.

Ph.D. IMMUNOLOGIST

Ottawa Red Cross requires Ph.D. immunologist with strong biochemical background. Position available immediately. Submit curriculum vitae in confidence to:

**Medical Director
Blood Transfusion Service
85 Plymouth Street
Ottawa, Ontario, Canada K1S 3E2**

NIH POSTDOCTORAL POSITIONS (two) available for research in cell and molecular biology of cardiovascular system. The specific area of interest is atherosclerosis. Individuals interested in chromatin structure and function, lipid metabolism or macrophage function may apply. For further information, call or write: **Dr. K. T. Lee or Dr. K. Janakidevi, Department of Pathology, Albany Medical College, Albany, N.Y. 12208. Telephone: 518-445-5454. Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

SENIOR FACULTY POSITION LOUISIANA STATE UNIVERSITY (LSU)

The Department of Geology invites applications for a tenure-track appointment at the full professor level beginning September 1983 or earlier. Preference will be given to applicants in the fields of seismology, organic geochemistry, basin analysis, and geohydrology. We are seeking an individual with a proven research record who will develop vigorous research and teaching programs at LSU.

The department presently has 16 full-time faculty members, including two geophysicists in the areas of geodynamics and applied geophysics, four geochemists in the areas of low-temperature inorganic sedimentary geochemistry and ore deposits, stable isotope geochemistry, Argon dating, and clay geochemistry, and three sedimentologists and sedimentary petrologists in the general fields of carbonate sedimentology and diagenesis, ancient clastic deposits, and modern coastal sedimentation. Department facilities include a seismic data processing computer, automated XRD, 12-inch solid-source and 6-inch gas source mass spectrometers, AA, SEM with EDAX, infrared spectrophotometer, and ARL-EMX microprobe. Induction coupled plasma emission spectrometer, tandem gas chromatograph/mass spectrometer, and neutron activation analytical facilities are available on campus.

Applicants should send a résumé, statement of research record and interests, and the names of at least three references to: **Donald R. Lowe, Department of Geology, Louisiana State University, Baton Rouge, Louisiana 70803.**

The position will remain open until filled. Applications will be reviewed as they are received, but preference will be given to persons whose materials are received before 1 February 1983.

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

FACULTY POSITION: State University of New York (SUNY), Stony Brook. Department of Anthropology invites applications for a tenure-track position in physical anthropology beginning September 1983. Ph.D. required. Candidates to teach advanced undergraduate and graduate courses in various aspects of biological anthropology, to develop active research program suitable for graduate student participation, and to interact with other anthropology, biological, and medical science faculties. Send curriculum vitae and names of three references by 15 February 1983 deadline to: **Dr. Phil Weigand, Department of Anthropology, SUNY Stony Brook, Stony Brook, N.Y. 11794. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK number 465.**

FACULTY POSITION HARVARD MEDICAL SCHOOL

Berman-Gund Laboratory for the Study of Retinal Degenerations at the Massachusetts Eye & Ear Infirmary is seeking an independent investigator with expertise in electron microscopy. Research focus should be cell biology of retina or pigment epithelium. Experience in histochemistry, autoradiography and/or immunocytochemistry desirable. Ph.D. or equivalent required; postdoctoral experience preferred. Position includes responsibility for directing research on postmortem donor eyes from patients with hereditary retinal degenerations with aid of a senior technician. Tenure-track position; salary and rank to be based on previous accomplishments. Position open; to be filled by 1 July 1983. Send curriculum vitae and names of three references to: **Dr. Eliot Berson, Professor of Ophthalmology, Harvard Medical School, Berman-Gund Laboratory, Massachusetts Eye & Ear Infirmary, 243 Charles Street, Boston, Massachusetts 02114. Harvard Medical School is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW to work with an established group studying regulation of glucose and protein metabolism in rat muscle. Candidates research will deal with the mechanism governing the increases in glucose transport, glycogen synthesis, and insulin sensitivity following exercise. Techniques used will include organ perfusion, hormone binding, and enzymatic analysis of tissue metabolites. Stipend: \$13,400 to \$17,000 plus, as per NIH criteria. Candidate must be a U.S. citizen or permanent resident. Starting date: mid to late 1983. Please send curriculum vitae, statement of research interests, and names of three references to: **Neil Ruderman, M.D., D. Phil., Professor of Medicine and Physiology, Boston University School of Medicine, University Hospital, 75 East Newton Street, Boston, Mass. 02118. Equal Opportunity Employer.**

POSITIONS OPEN

IMMUNOLOGIST

The Department of Biology, University of California, Riverside, seeks an immunologist for a tenure-track position starting 1 July 1983. The appointment will be at the assistant professor level. We seek an individual with strong research potential to interact with an active group in cell biology focused on cell surface phenomena. Preference will be given to persons doing research in reproductive immunology and/or cell surface immunology. A productive research program and willingness to develop courses at the graduate and undergraduate level are essential. Postdoctoral experience is highly desirable. Applicants should send up-to-date curriculum vitae, a brief description of research and teaching goals, reprints of scientific papers, and request at least three letters of reference be sent to:

**Professor Vaughan Shoemaker, Chairman
Department of Biology
University of California
Riverside, California 92521**

The University of California is an Equal Opportunity/Affirmative Action Employer. Applications are invited from all qualified individuals.

University of Michigan Medical School, Department of Physical Medicine and Rehabilitation, is seeking candidates for an open position of **INSTRUCTOR-ASSOCIATE PROFESSOR**. Candidates should be Board-certified physiatrists with 2 to 3 years of experience with the severely disabled with pediatric rehabilitation preferred. *The University of Michigan is a nondiscriminatory, Affirmative Action Employer.* Send replies to: **Theodore M. Cole, M.D., Chairman, Department of Physical Medicine and Rehabilitation, The University of Michigan Medical School, E3300 Hospital, Ann Arbor, Michigan 48109.**

MEDICAL MICROBIOLOGY

Immediate opening for an individual with broad-based training in medical microbiology. Preference given to person with strong immunology/mycology background. Person will have teaching commitments in the medical, podiatric, and physician assistant programs in a six-member department. Research interests are open. Rank and salary are dependent upon qualifications and experience. Send curriculum vitae and names of three references to: **William J. Dyche, Ph.D., Associate Dean for Pre-Clinical Affairs, University of Osteopathic Medicine and Health Sciences, 3200 Grand Avenue, Des Moines, Iowa 50312. An Equal Opportunity Employer.**

PHYSIOLOGIST

Hampshire College is seeking one and possibly two physiologists for regular faculty positions at the assistant professor level starting fall 1983. We invite applications from candidates who have strong research interests, can supervise undergraduate laboratory projects, and are interested in teaching in an innovative and interdisciplinary environment in one of these areas: (i) mammalian reproduction, nutrition, or organ physiology, utilizing our experimental farm center for research, or (ii) the biology of women, including interests in reproduction, endocrine systems, and related health issues. Ph.D. required. Applicants should send their curriculum vitae, a brief statement of teaching ideas, and the names of three references to: **Search Committee, School of Natural Science, Hampshire College, Amherst, Mass. 01002, by 1 January 1983. An Affirmative Action/Equal Opportunity Employer.**

POLYCHAETE TAXONOMIST

Battelle, one of the world's leaders in contract R & D is seeking a person experienced in the identification of marine polychaete worms. The laboratory is currently conducting a variety of ecological programs in coastal and offshore environments. The successful applicant will be expected to identify benthic polychaetes, solve taxonomic problems, and assist in the training of junior-level identifiers. The position will initially be for one year and will be filled at either the researcher (M.S.) level or offered as a postdoctoral appointment (Ph.D.).

Battelle New England Marine Research Laboratory is located on an attractive 10-acre campus in Duxbury, Massachusetts, directly on Cape Cod Bay. We offer an excellent opportunity for career development, competitive salary, and comprehensive employee benefits. Send résumé in confidence to:



Battelle

**Director
Battelle New England Marine
Research Laboratory
397 Washington Street
Duxbury, Mass. 02332**

The Erna and Victor Hasselblad Foundation

will in 1983 award grants to Swedish as well as foreign researchers of special merits to further scientific education and research within the wider fields of natural sciences and photography.

The funds, available for annual distribution, are intended to be concentrated on large projects, essential to the continued development within the fields mentioned. In principle, the medical discipline shall be ineligible.

Granted funds will be disbursed before the end of 1983

Applications — in duplicate and preferably in accordance with forms, available at the Foundation — ought to be submitted to and available to the Foundation before January 31, 1983.

Göteborg in September 1982

Erna and Victor Hasselblad Foundation
P O Box 18
S-401 20 GÖTEBORG
Sweden

MICROBIAL PHYSIOLOGIST

JOIN A MULTI-DISCIPLINARY STREPTOMYCES STRAIN IMPROVEMENT PROJECT AT ABBOTT LABORATORIES

Our \$2 billion, international health care corporation has experienced continuous growth and expansion as a result of exceptional R&D activities resulting in the development of new products.

We are seeking a Ph.D. Microbiologist or Biochemist with industrial experience or at least 2-3 years post-doctorate experience to become involved in a key research program aimed at increasing antibiotic yields in a streptomyces fermentation. The individual we seek will have:

- Knowledge of microbial metabolism
- Demonstrated skills in elucidation of biochemical pathways

Preference will be given to candidates with:

- Experience with HPLC techniques
- Familiarity with macrolide metabolism
- Experience with fermentation strain improvement

Abbott Park, Abbott's headquarters, is located in an attractive suburban area on the Lake Michigan shoreline, 30 miles north of Chicago. We provide an outstanding salary and benefits program that includes profit sharing and relocation assistance. For consideration, submit your resume with salary history in complete confidence to: **Chris Gude/Corporate Placement.**

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NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

OPENING DATE: November 1, 1982/CLOSING DATE: November 30, 1982

(All applications must be post marked before closing date)

ASSOCIATE DIRECTOR, COMMUNICATIVE DISORDERS
NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE

The National Institutes of Health invites nomination and applications for the position of Associate Director, Communicative Disorders, National Institute of Neurological and Communicative Disorders and Stroke (NINCDS). This Institute conducts, fosters, and supports research and research training on the causes, prevention, diagnosis, and treatment of neurological, sensory, communicative, and muscle disorders. The Institute's efforts cover the spectrum of basic, applied, and developmental research. Programs under the responsibility of this position encompass intramural laboratory research and extramural (grants and contracts) activities in communicative disorders.

This is a Civil Service position in the Senior Executive Service (SES), with a salary range from \$54,755 to \$61,300 per annum (currently limited to \$58,500) depending on qualifications. Candidates may be eligible for Physicians Comparability Pay up to \$10,000 per year. Alternately, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service. The SES individual selected, if not presently in the SES, must serve a one-year probationary period.

The mandatory qualifications are: (1) meet the minimum educational requirements for Medical Officer, GS-602, or Health Scientist Administrator, GS-601, or equivalent combination of experience and training, which demonstrates a broad knowledge and understanding of major public health problems; and (2) have research experience and knowledge of research programs related to communicative disorders. In addition, candidates must meet the following managerial/executive qualifications: experience in the leadership/management or a basic or clinical research program, demonstrating competence to assume leadership responsibilities in: (1) assuring that national and agency goals and priorities are considered in carrying out the

functions and responsibilities of the organization; (2) establishing and maintaining relationships with key individuals and groups outside the organization; (3) directing and guiding programs and projects, including long-term and short-term planning and establishing objectives and priorities; (4) establishing procedures for the development and defense of the organization's budget, and allocating fiscal and personnel resources to support program implementation; (5) developing processes and overseeing activities to assure the fair and equitable employment of qualified persons, and implementing EEO/Affirmative Action objectives; (6) developing and implementing procedures for monitoring program performances, including periodic analysis and evaluation.

Candidates who meet the mandatory requirements will be further evaluated by the Search Committee on the following factors: managerial/executive qualifications in excess of mandatory level; scientific reputation/peer recognition; advanced training and education in communicative disorders; and honors and awards indicative of outstanding contributions in the field of communicative disorders, and the degree to which they exceed the minimally qualified level of the mandatory managerial/executive qualifications.

Applications (Personal Qualifications Statement, SF-171) are to be sent to **Helen Price, Personnel Specialist, Building 31, Room 8A25, NINCDS, National Institutes of Health, Bethesda, Maryland 20205.** For further information contact **Helen Price** on (301) 496-6334. A current curriculum vitae and bibliography must accompany all applications. Applications of women, members of minority groups and handicapped individuals are especially solicited.

NIH is an Equal Opportunity Employer.

SYNTHETIC ORGANIC/COAL CHEMIST

Join the Synthetic Fuel Chemistry Group of Amoco Research Center for this excellent opportunity to aid our on-going fundamental research into developing novel coal liquefaction approaches. As an experienced and highly innovative Fuels Scientist/Synthetic Organic Chemist, you'll find this both interesting and highly rewarding.

The program you'll enter encompasses several aspects of coal characterization and reactivity.

The nature of this work requires a PhD in Fuels Science or Synthetic Organic Chemistry with some experience in coal and/or shale chemistry. Two or more years post-doctoral or equivalent industrial experience desired, not essential.

Your benefits will come in the form of outstanding professional exposure and long-range growth potential. We are located in Naperville, Illinois, just 30 miles outside Chicago and offer a choice of urban, suburban, or rural living. Salary is commensurate with experience, and we offer a comprehensive benefits package. If you qualify for this position, please send resume with a detailed qualifying letter, in confidence, to:



Professional Recruiting Coordinator
AMOCO RESEARCH
CENTER
 P.O. Box 400
 Naperville, IL. 60566

An Equal Opportunity Employer M/F/H

RESEARCH OPPORTUNITIES IN BIOCHEMICAL GENETICS

Abbott Laboratories is continuing to build a state-of-the-art Genetic Engineering Program. With a strong corporate financial commitment, this highly visible research group explores the applications of Recombinant DNA technology in the areas of pharmaceutical, diagnostic, agricultural and nutritional products. We are especially interested in individuals with experience in nucleic acid sequencing and synthesis, protein and peptide separation, sequencing and synthesis, neurohormones and lymphokines.

We are currently looking for accomplished scientists to join our Biochemical Geneticist Engineering staff.

GROUP LEADER

A Ph.D. with a minimum of 7 years postdoctorate research and a strong publication record will direct protein chemistry and polypeptide sequencing research. This individual will head up a group of 3 researchers and serve as the major protein chemistry resource for the Recombinant DNA staff.

PROJECT LEADER

Will organize and lead nucleic acid synthesizing program, and develop complementary programs with protein chemistry group. 2-4 years of postdoctorate experience in polynucleotide synthesis is required, and familiarity with DNA sequencing and hybridization is highly desirable.

ASSISTANT BIOCHEMIST

As a member of the protein chemistry project team, this individual will operate automated sequencing instruments and complementary equipment. An MS or BS with 3 years of related experience to include 1 year in protein chemistry sequencing are required.

Abbott Park, Abbott's headquarters, is located in an attractive suburban area on the Lake Michigan shoreline, 30 miles north of Chicago. We offer exceptional career potential to individuals who seek the challenge of our \$2.5 billion professional environment. Abbott provides an excellent salary and benefits package that includes profit sharing, stock retirement plan and relocation assistance. For consideration, send resume including salary history in confidence to: Sue Hart-Wadley / Corporate Placement.

ABBOTT
 ABBOTT PARK ILL. 60064

Abbott is an Affirmative Action Employer

"HEALTH CARE WORLDWIDE"

POSITIONS OPEN

MOLECULAR GENETICIST with an interest in exploiting restriction fragment length polymorphisms in biomedical research, to establish a new laboratory in our Genetics Department. We maintain over 2500 baboons and 500 marsupials in addition to standard laboratory animals. Major collaborative projects among our Biochemical Genetics, Population Genetics, and Immunogenetics Laboratories involve genetic influence on predisposition to atherosclerosis in baboons; regulation of immune functions and of X-chromosome inactivation in marsupials; and regulation and organization of genes in and near the major histocompatibility complexes of mice, rats, baboons, and marsupials. The successful applicant will be expected to develop a strong independent research program and will have the opportunity to collaborate in any of the above projects. Academic affiliation may also be possible. This is an excellent opportunity for a creative scientist in a young and expanding genetics department under the direction of Dr. John L. VandeBerg. Send résumé, statement of research interests, and names and addresses of three references to: **Personnel Manager, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Texas 78284. We are an Equal Opportunity/Affirmative Action Employer.**

MOLECULAR GENETICS, ASSISTANT PROFESSOR

Initial appointment limited to 3 years. Emphasis on research, with limited teaching obligation. We prefer a molecular biologist of higher eukaryotes but will consider applicants using other experimental systems. Present research of our faculty includes: genetics and control of gene expression in bacteriophage, yeast, *Drosophila*, and higher plants; biochemical mechanism and control of DNA repair processes; mechanism of action of interferon; mapping of human DNA using advanced physical techniques; and studies of nucleic acid structure. Please send curriculum vitae, a short description of current and proposed research, and names of at least three references (we will request letters after initial screening) to: **Chairman, Molecular Genetics Search Committee, Department of Biological Sciences, State University of New York at Albany (SUNYA), 1400 Washington Avenue, Albany, N.Y. 12222. SUNYA is an Equal Opportunity/Affirmative Action Employer.**

PLANT PATHOLOGY

RESEARCH PLANT PATHOLOGY GROUP LEADER

The Biochemicals Department of E. I. Du Pont de Nemours & Company is seeking a group leader to head a multidisciplinary team of Ph.D. scientists investigating the biochemical and physiological processes of pathogenesis. The successful candidate will have the opportunity to conduct his/her own research as well as to plan and direct fundamental research aimed toward the rational design of novel agrichemicals for plant disease control. Qualifications needed include a Ph.D. with several years of industrial and/or academic experience in biochemistry and/or fungal physiology. Also desirable is previous experience in supervising a multidiscipline research group.

Salary is competitive and supplemented by a strong benefits program. Qualified candidates should contact: **Dr. F. E. Mumford, Biochemicals Department, Building 335, Du Pont Experimental Station, Wilmington, Delaware 19898. Telephone: 302-772-4949.**

Equal Opportunity Employer, M/F

Massachusetts Institute of Technology (MIT) POSTDOCTORAL ASSOCIATE IN NEUROENDOCRINOLOGY for NIH supported research on hormonal regulation of neural and behavioral sexual differentiation in mammals. Ph.D. and experience in steroid biochemistry/mechanism of hormone action preferred. Minimum salary: \$15,000; maximum negotiable. Position available 1 February 1983.

Send résumé and publications to: **Dr. M. J. Baum, Department of Nutrition and Food Science, MIT, Room 37-315, Cambridge, Mass. 02139. MIT is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately for qualified individual to study chromosome structure with Dr. C. C. Lin and Dr. J. B. Rattner. Experience in electron microscopy, cell fusion, cytogenetics, and molecular biology techniques useful. Please send curriculum vitae and names of references to: **Dr. J. B. Rattner, Assistant Professor of Anatomy, The University of Calgary, Calgary, Alberta, Canada T2N 4N1.**

General Pharmacologist

The General Pharmacology Department of Pfizer Central Research seeks an individual with a PhD and several years post-doctoral experience. Applicants must have a broad knowledge of pharmacology with whole animal expertise. Prior industrial experience is desirable but not a prerequisite.

You will be a member of a group involved in the general pharmacological profiling of potential new drug candidates. Responsibilities will require frequent interaction with multi-disciplinary drug discovery teams working in the CV, CNS, immunological, metabolic, and infectious disease areas.

This position offers excellent opportunities for professional recognition and career growth. In addition, Pfizer offers a competitive compensation and benefit package and the opportunity to live and work in an attractive Connecticut shore community. Please send resume and brief description of research interests to: **Dr. J. K. Larson, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.**



An equal opportunity employer

DIRECTOR, INVESTIGATIVE TOXICOLOGY

Smith Kline & French Laboratories, a leader in pharmaceutical research and development, is seeking an outstanding scientist to lead a new department charged with defining and explaining the toxicity of new drugs under development.

In addition to the leadership role, the successful candidate will be expected to establish a laboratory to investigate target organ toxicity (e.g., hematotoxicity, hepatotoxicity, nephrotoxicity, etc.) using both *in vivo* and *in vitro* techniques.

The department (Investigative Toxicology) will be one of four in the Safety Evaluation Area. Area scientists have opportunities to pursue independent research, to publish, to hold adjunct academic appointments, and to interact fully with the scientific community.

Candidates must have a PhD degree in Pharmacology, Toxicology or Biochemistry and at least 10 years post doctoral experience in experimental toxicology. They must also have independent decision-making ability, a demonstrated record of achievement, and a national reputation in their field of expertise.

Our compensation and benefits package, including relocation policy, are geared to today's economy and are among the best in the industry. For confidential review, send your C.V. and salary expectations to: Mr. William G. Groves, Manager, Scientific Employment, **SMITHKLINE BECKMAN CORPORATION**, 1520 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

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NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

OPENING DATE: November 1, 1982/CLOSING DATE: November 30, 1982

(All applications must be post marked before closing date)

ASSOCIATE DIRECTOR, NEUROLOGICAL DISORDERS NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE

The National Institutes of Health invites nomination and applications for the position of Associate Director, Neurological Disorders, National Institute of Neurological and Communicative Disorders and Stroke (NINCDS). This Institute conducts, fosters, and supports research and research training on the causes, prevention, diagnosis, and treatment of neurological, sensory, communicative, and muscle disorders. The Institute's efforts cover the spectrum of basic, applied, and developmental research. Programs under the responsibility of this position encompass intramural laboratory research and extramural (grants and contracts) activities in fundamental neurological disorders, stroke and central nervous system trauma.

This is a Civil Service position in the Senior Executive Service (SES), with a salary range from \$54,755 to \$61,300 per annum (currently limited to \$58,500) depending on qualifications. Candidates may be eligible for Physicians Comparability Pay up to \$10,000 per year. Alternately, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service. The SES individual selected, if not presently in the SES, must serve a one-year probationary period.

The mandatory qualifications are: (1) meet the minimum educational requirements for Medical Officer, GS-602, or Health Scientist, GS-601, or equivalent combination of experience and training, which demonstrates a broad knowledge and understanding of major public health problems; and (2) have research experience and knowledge of research programs related to neurological disorders. In addition, candidates must meet the following managerial/executive qualifications: experience in the leadership/management or a basic or clinical research program, demonstrating competence to assume leadership responsibilities

in: (1) assuring that national and agency goals and priorities are considered in carrying out the functions and responsibilities of the organization; (2) establishing and maintaining relationships with key individuals and groups outside the organization; (3) directing and guiding programs and projects, including long-term and short-term planning and establishing objectives and priorities; (4) establishing procedures for the development and defense of the organization's budget, and allocating fiscal and personnel resources to support program implementation; (5) developing processes and overseeing activities to assure the fair and equitable employment of qualified persons, and implementing EEO/Affirmative Action objectives; (6) developing and implementing procedures for monitoring program performances, including periodic analysis and evaluation.

Candidates who meet the mandatory requirements will be further evaluated by the Search Committee on the following factors: managerial/executive qualifications in excess of mandatory level; scientific reputation/peer recognition; additional training and education in neurological disorders; and honors and awards indicative of outstanding contributions to the field of neurological disorders, and the degree to which they exceed the minimally qualified level of the mandatory managerial/executive qualifications.

Applications (Personal Qualifications Statement, SF-171) are to be sent to Helen Price, Personnel Specialist, Building 31, Room 8A25, NINCDS, National Institutes of Health, Bethesda, Maryland 20205. For further information contact Helen Price on (301) 496-6334. A current curriculum vitae and bibliography must accompany all applications. Applications of women, members of minority groups and handicapped individuals are especially solicited.

THE NATIONAL INSTITUTES OF HEALTH IS AN EQUAL OPPORTUNITY EMPLOYER.

POSITIONS OPEN

PLANT PHYSIOLOGIST DEPARTMENT OF BIOLOGICAL SCIENCES SAN FRANCISCO STATE UNIVERSITY

Applications are invited from individuals with a Ph.D. degree for a full-time, tenure-track appointment at the assistant professor level beginning fall semester 1983. Responsibilities include teaching introductory botany and plant physiology at the undergraduate level, developing advanced undergraduate and/or graduate courses in area of specialty, and developing an effective research program. First consideration will be given to individuals with research interests in such areas as stress physiology, photosynthesis, plant metabolism, or plant development; however, individuals with interests in other aspects of plant physiology will also be considered. Applicants should submit curriculum vitae and a statement of personal goals, and should arrange for three letters of reference to be sent. Address applications to: **Dr. Crellin Pauling, Chair, Department of Biological Sciences, San Francisco State University, 1600 Holloway Avenue, San Francisco, Calif. 94132.** Deadline: 21 January 1983. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION—The Respiratory Physiology Group of the Department of Physiology, University of Pennsylvania, School of Medicine, invites applications for postdoctoral research positions in the field of respiratory physiology. Representative research areas include: chemoreception, metabolism-circulation coupling, fetal/maternal circulation, mitochondrial reactions, metabolism and cell biology of various lung cells including type 2 Alveolar cells and smooth muscle, carbonic anhydrase. Address inquiries to: **Dr. Ronald F. Coburn, Education Officer, Department of Physiology, A-201 Richards Building G/4, University of Pennsylvania, School of Medicine, Philadelphia, Pa. 19104.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately to work on effects of tetrachlorodibenzo-dioxin on hepatic heme metabolism primarily in liver cell cultures. Background in liver culture and drug and heme metabolism studies desirable. The laboratory is located at the VA and is affiliated with Dartmouth Medical School 5 miles away. Send letter with curriculum vitae, representative publications and names of references to: **Dr. Peter Sinclair, VA Medical Center, White River Junction, Vt. 05001.** Telephone: 802-295-9363. *Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS AVAILABLE

Postdoctoral positions for 2 to 3 years are available for individuals interested in studying macrophage-tumor cell interactions, macrophage regulation by prostaglandins and MAF, and liposome-macrophage delivery systems. These studies will involve both in vitro human macrophage-tumor cell interaction and animal tumor models. The project will be undertaken in laboratories directed by John Rinehart, Bruce Zwilling, and Carol Whitacre at the Ohio State University. Please send curriculum vitae to: **Dr. John Rinehart, N1035 University Hospital, 410 West 10 Avenue, Columbus, Ohio 43210.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN DROSOPHILA NEUROGENETICS

Postdoctoral position available immediately to study *Drosophila* mutants that alter nerve and muscle membrane excitability. Research involves genetic, neurophysiological, and molecular analyses of mutants with emphasis on using recombinant DNA techniques to isolate genes controlling membrane excitability. Background in recombinant DNA research, neurophysiology, or *Drosophila* genetics is desirable; 2 to 3-year appointment. Submit curriculum vitae and three letters of reference to: **Dr. Barry Ganetzky, Laboratory of Genetics, University of Wisconsin, Madison, Wis. 53706.**

POSTDOCTORAL RESEARCH ASSOCIATE—Position available immediately for an individual to work on immunology and cell biology of human malaria (*Plasmodium falciparum*). Candidate must have experience in cell biology, immunology, or microbiology. Salary from \$16,000 to \$19,000 per year, depending upon experience. Send curriculum vitae, reprints, and names of three references to: **Dr. Susan G. Langreth, Department of Microbiology, c/o Personnel/Manpower Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814.** *The Uniformed Services University is an Equal Opportunity/Affirmative Action Employer.* Curriculum vitae will not be returned.

POSITIONS OPEN

POSTDOCTORAL POSITIONS available to study the molecular biology of dedifferentiation in *Dictyostelium discoideum* or the molecular biology of cell divergence in *Candida albicans*. Apply to: **Dr. David R. Soll, Department of Zoology, University of Iowa, Iowa City, Iowa 52242.** *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

To study the regulation of peptide hormone receptors in cell culture. Background in biochemistry and/or cell biology and some experience in hormone receptors is preferred. Knowledge of cell cultures helpful. Available immediately. Send curriculum vitae and three letters of reference to: **Dr. M. K. Raizada, Department of Physiology, J-274 JHMH, University of Florida, Gainesville, Florida 32610;** telephone: 904-392-3791.

POSTDOCTORAL POSITIONS—Two positions are available immediately for a person(s) to work on the genetics and molecular biology of herpesvirus-infected (V2V, MSV-2) cells. Ph.D. or equivalent degree in microbiology, biochemistry, molecular biology, or related discipline required. Send résumé and the names of three references to: **Dr. W. T. Ruyechan and Dr. John Hay, Departments of Biochemistry and Microbiology, c/o Personnel/Manpower Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814.** Curriculum vitae will not be returned. *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION IN REPRODUCTIVE PHYSIOLOGY. Available immediately for recent Ph.D. to pursue funded studies on the regulation of steroid hormone secretion during mammalian pregnancy. Applicant should have training in isolation, purification, and quantitation of steroids in blood and other tissues and should be facile with radioimmunoassay. Salary competitive. Send curriculum vitae and names of three references to: **Dr. Gerald J. Pepe, Department of Physiology, Eastern Virginia Medical School, P.O. Box 980, Norfolk, Va. 23501.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately for studies on chromatin function in mammalian cells with special interest in DNA repair, poly APR-ribose, and cell cycle. Send curriculum vitae and references to: **Dr. K. Ebisuzaki, Cancer Research Laboratory, University of Western Ontario, London, Ontario, Canada N6A 5B8.**

POSTDOCTORAL RESEARCHER. A position as postdoctoral scientist in reproductive physiology will be available in January 1983 for a period of up to 2 years. Minimum salary for first year is \$17,000, with consideration made for prior relevant postdoctoral experience. Research in primate in vitro fertilization, blastomere separation, and embryo transfer will be under supervision of Dr. Thomas J. Kuehl, head of Perinatal Biology Program. Interested candidates should respond by 1 January 1983 to: **Personnel Manager, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Texas 78284.** Include curriculum vitae, a description of research interests, and names of three references, including major professor, in initial correspondence. *An Equal Opportunity/Affirmative Action Employer*

POSTDOCTORAL RESEARCHER. Position presently available for Ph.D. in biochemistry or related field to study lipoprotein metabolism and atherosclerosis in nonhuman primates under supervision of Dr. Rampratap S. Kushwaha, associate scientist. Applicant should be experienced with methods in protein biochemistry and metabolism. Position extends up to 2 years. Minimum first year salary is \$17,000 with consideration made for prior relevant postdoctoral experience. Interested candidates should respond by 1 January 1983 to: **Personnel Manager, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Texas 78284.** Include curriculum vitae, a description of research interests, and names of three references, including major professor, in initial correspondence. *An Equal Opportunity/Affirmative Action Employer*

POSTDOCTORAL RESEARCH ASSOCIATE POSITION available in neuroendocrinology from September 1983; with interest in steroid feedback, neuropeptide, and neurotransmitter interactions. Strong background in neuroanatomy and neurochemistry desirable. Send curriculum vitae and three references to: **Dr. S. P. Kalra, Department of Obstetrics and Gynecology, College of Medicine, University of Florida, Gainesville, Fla. 32610.**

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE

Research on mechanisms of action of bacterial toxins, including the *B. anthracis* calmodulin-dependent adenylate cyclase that enters and acts within eukaryotic cells [*Proc. Natl. Acad. Sci.* 79, 3162-3166]. Possible projects: (i) study receptors and internalization mechanisms, (ii) identify functional domains using peptide fragments, chemical modification, monoclonal antibodies, (iii) characterize biochemical alterations in toxin-treated cultured cells, and (iv) analysis of toxin genes. Salary: \$23,500 minimum. Tenure: 1 year, beginning June 1983; renewable for second year. Send curriculum vitae by 15 December 1982 to: **Stephen H. Leppla, Ph.D., Pathology Division, United States Army Medical Research Institute of Infectious Diseases, Frederick, Md. 21701;** telephone: 301-663-7211.

POSTDOCTORAL RESEARCH ASSOCIATE in the area of membrane physical biochemistry. We are systematically investigating the effects of perturbants such as alcohol and anesthetics on the physical properties of individual membrane components including lipids and proteins using a multiparameter approach. Methods include NMR, fluorescence, and UV-Vis spectrophotometry. The successful candidate should have a Ph.D. in chemistry or biochemistry. Funding available for up to 3 years; salary is based on experience and qualifications. Send curriculum vitae and names of references to: **Elizabeth S. Rowe, Ph.D., Veterans Administration Medical Center, Research Service (151), 4801 Linwood Boulevard, Kansas City, Mo. 64128;** telephone: 816-861-4700, extension 541. (Affiliated with the Biochemistry Department of the University of Kansas Medical Center.)

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POSTDOCTORAL RESEARCH FELLOW in neurophysiology, beginning summer 1983. To collaborate in ongoing experiments on inhibitory synaptic transmission. Previous experience with intracellular recording or patch clamp techniques and familiarity with computer programming desirable. Applicants should send curriculum vitae and names of three references to: **Dr. A. R. Martin, Department of Physiology, C240, University of Colorado School of Medicine, Denver, Colo. 80262.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH POSITION to work on physiology and biochemistry in intact epithelia and/or in isolated plasma membranes. Available immediately. Appropriate background for applicants could be (bio)chemistry with experience in cell fractionation or in kinetics, or in physiology with experience in endocrinology or epithelial transport. Send curriculum vitae to: **Dr. U. Hopfer, Developmental Biology Center and Department of Anatomy, School of Medicine, Case Western Reserve University, Cleveland, Ohio 44106.**

The DEPARTMENT OF PSYCHOLOGY of the University of Minnesota contemplates a faculty position opening in the broad area of experimental cognitive science for appointment in September 1983, and invites applications. The appointment will be with tenure at either the associate professor or professor rank, depending upon the candidate's level of career accomplishment. Candidates should have primary interests in one or more of the following areas: (i) psychology of language; (ii) artificial intelligence and/or quantitative modelling approaches to human cognition; (iii) problem solving, decision making, choice behavior, and human reasoning; (iv) structure of human memory; (v) action systems/perceptual-motor behavior; and (vi) biochemical/neurological studies of human cognition. Candidates are expected to have an active research program in their area of specialization and contribute to the research training of graduate students. Teaching responsibilities will involve courses at the undergraduate level, the undergraduate/graduate level, and the graduate level, with these courses compatible with the individual's interests and expertise. Salary level is competitive and will depend on qualifications and experience. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

Candidates should submit curriculum vitae, three letters of reference, three representative publications, and a statement of long-term research interests to: **Search Committee in Cognitive Science, Department of Psychology, n218 Elliott Hall, 75 East River Road, University of Minnesota, Minneapolis, Minnesota 55455.** Applications must be received by 29 January 1983.

ASSISTANT PROFESSOR

THE SALK INSTITUTE FOR BIOLOGICAL STUDIES invites applications for an assistant professorship in the areas of molecular biology and the neurosciences.

Preference will be given to candidates with research interests centered on the molecular biology of peptides, neurotransmitters, or their receptors.

Candidates should send their curriculum vitae, names of 4 references, and a short description of their research goals to:

CHAIRMAN, SEARCH COMMITTEE

**THE SALK INSTITUTE
FOR BIOLOGICAL STUDIES**

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Pharmacologist

Ortho Pharmaceutical Corporation, a major subsidiary of Johnson & Johnson, has an immediate opportunity for a Scientist in our Biological Research Division.

The individual we seek will have a PhD. in Pharmacology or Physiology, and/or 2 years of post-doctoral experience preferably in the area of G.I. Pharmacology.

The selected candidate will be responsible for scientifically contributing to a well established gastrointestinal pharmacology program and must possess skill in both written and oral communication and be able to direct others.

Ortho offers a highly competitive salary and benefits package including health care and tuition reimbursement.

For immediate consideration, forward your C.V. with salary history in confidence to: E. W. Bullock, Selection Manager, Dept. S-1126,

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POSITIONS OPEN

POSTDOCTORAL—RESEARCH ASSOCIATE POSITIONS

Available now to investigate mechanisms of regulation of lipoprotein lipase and hepatic lipase protein synthesis and catalytic activities. Cell culture (liver, adipocyte, endothelial), molecular biology and immunochemical (monoclonal antibodies) approaches are employed. Applicants should have training in biochemistry or molecular biology. Send résumé and names of three references to: **Dr. Andre Bensadoun, Division of Biological Sciences and Nutritional Biochemistry, 242 Savage Hall, Cornell University, Ithaca, New York 14853.**

POSTGRADUATE PHARMACOLOGY POSITION in anticancer drug pharmacokinetics and biochemical pharmacology available 1 July 1983. Join a multidisciplinary team studying the relationship of in vitro cell kill and clinical efficacy to biodistribution and drug metabolism. Ph.D. in biochemistry or pharmacology preferred. Experience with HPLC or cell transport methodology helpful. Contact: **Dr. Victor A. Levin, Brain Tumor Research Center, 783 HSW, University of California, San Francisco, California 94143.**

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

Ph.D. Research Associate Position. For hematology research laboratory. Available 3 January 1983. Ph.D. preferably in biochemistry, with experience in red cell enzymology/metabolism. University of California, Los Angeles (UCLA) academic appointment commensurate with qualifications. Send curriculum vitae, brief statement of research interests, bibliography, and names of three references to: **Dr. K. R. Tanaka, Department of Medicine, Harbor-UCLA Medical Center, Torrance, Calif. 90509. Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE CHEMICAL PHYSICS PROGRAM JACKSON STATE UNIVERSITY

A research associate position is available to perform structural and dynamical studies on molecular systems. Previous research experience in electronic spectroscopy, laser-induced fluorescence, Raman, and a strong theoretical background is desirable. Appointment is available immediately for 1 to 3 years at a salary of \$20,000 per year. Send résumé, transcript, list of publications, and three references to: **Chemical Physics Program, P.O. Box 17364, Jackson State University, Jackson, Mississippi 39217, attention: Dr. James Perkins, Jackson State University is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH DIVISION UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY (UMDNJ) NEW JERSEY SCHOOL OF OSTEOPATHIC MEDICINE (NJSOM)

Tenure-track (or tenured) positions for 1983–1984 at levels of assistant to full professor in collaborative basic and clinical research. Applicants for junior rank (tenure-track) should have several years of productive postdoctoral training and show promise of vigorous research program. Applicants for senior rank (tenure-track or tenured) should provide evidence of outstanding productivity and ability to attract research support.

OBSTETRICS AND GYNECOLOGY: Cell/reproductive physiologist/biochemist to collaborate in fertility/infertility research and take charge of in vitro fertilization laboratory. In vitro or cell culture experience required.

PEDIATRICS: Neonatal/growth-and-development physiologist/anatomist to collaborate in clinical pediatric research. Interest in respiration and EM skills preferred.

PSYCHIATRY: Neurobiologist/neuropharmacologist with experience in collaborative clinical CNS research. Specialization in neurobiology of aging and/or psychopharmacology of stress desirable.

SURGERY: Physiologist/pharmacologist animal surgeon to collaborate in surgical research. Specialized field of interest open.

Application by 15 January 1983 to be accompanied by curriculum vitae, reprints, research experience and plans, and names of three references. Application to: **Dr. Matthew Freund, Associate Dean for Research, UMDNJ-NJSOM, 300 Broadway, Camden, N.J. 08103. UMDNJ is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately to study mechanisms of sodium and calcium transport in sarcolemmal vesicles from normal and ischemic heart. Background in biochemistry and some experience in membrane transport preferred. Salary negotiable. Send curriculum vitae and three letters of recommendation to: **Dr. Barry J. R. Pitts, Department of Medicine (Section of Cardiovascular Sciences) and Biochemistry, Baylor College of Medicine, Houston, Texas 77030. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately to study the molecular basis of morphogenetic cell-cell recognition, using the cellular slime mold *Dictyostelium* as a model system. Ongoing projects include: (i) structure-function domain studies of discoidins I and II (endogenous lectins), including the use of monoclonal antibodies; (ii) analysis of the cell surface organization of the molecular components of the cohesion apparatus; (iii) identification of the cell surface vents involved in cell contact regulation of developmental gene expression, using cloned DNA's to measure the expression of specific contact-regulated genes. Approaches include the use of membrane ghosts and antibodies and ligands against specific cell surface molecules to mimic or block the regulatory effects of cell-cell contact. The analysis of non-cohesive mutants with associated defects in expression of contact regulated genes is an important element of this work. Experience in protein chemistry, immunochemistry, and molecular biology desirable, but not necessary. Send curriculum vitae, description of research interests, and names of three references to: **Dr. Edward A. Berger, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

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RESEARCH INSTRUMENTATION

You will run and coordinate the use of gas chromatography/mass spectrometer, gas chromatograph, and amino acid analyzer in our Biochemistry Department's Instrumentation Facility. We require a B.S. in chemistry or biology and in-depth knowledge of instrumentation. Please send your résumé to: **Paul Platzman, Biochemistry Department, Brandeis University, Waltham, Mass. 02254. An Equal Opportunity/Affirmative Action Employer.**

RUMINANT NUTRITIONIST UTAH STATE UNIVERSITY

Tenure-track, predominantly research position with focus upon effects of range, nutritional inputs upon domestic livestock production, upon wildlife, and upon range. Ph.D. in ruminant nutrition, supporting study in ecology, familiarity with range livestock production, and ability to develop and support strong innovative program required. Contact: **Dr. James A. Bennett, Search Committee, Animal Dairy and Veterinary Sciences Department, UMC-48, Utah State University, Logan, Utah 84322. An Affirmative Action/Equal Opportunity Employer.**



SWISS SERUM AND VACCINE INSTITUTE BERNE, SWITZERLAND

SENIOR VIROLOGIST

A vacancy exists within our Institute located in Berne, Switzerland, for the

HEAD OF VIROLOGY

to provide leadership to a small team concerned with the design and development of new approaches to the prophylaxis of infectious viral diseases and direction of the production unit.

The qualified candidate will have a strong background in working with pathogenic viruses, identification and isolation of viral antigens, and large scale tissue culture techniques. A genuine interest in goal-oriented R & D is expected.

Salary will be negotiable, commensurate with experience and qualifications. Benefits are excellent and moving expenses are reimbursed.

Applications are kept confidential and should include curriculum vitae, publications, and references. Please reply to:

**Swiss Serum and Vaccine Institute Berne
P. Wiestli, lic.occ., Personnel Manager
P.O. Box 2707
CH-3001 Berne, Switzerland**

POSITIONS OPEN

SENIOR TERRESTRIAL/SYSTEMS ECOLOGIST. Permanent position for established ecologist interested in ecosystems. Should have excellent publication record and demonstrated ability to find support for research. Must interact with established group of ecologists now carrying out funded research in ecosystems, especially tundra and chaparral. Duties include graduate and undergraduate instruction and research; may include research administration. Rank open. Submit by 21 January 1983 curriculum vitae, summary of recent and current research, copies of publications, and names of four references to: **Dr. W. E. Hazen, Department of Biology, San Diego State University, San Diego, Calif. 92182-0057. Equal Opportunity/Affirmative Action/Title IX Employer.**

STAFF MEDICAL RESEARCH SCIENTISTS

Guthrie Foundation for Medical Research, affiliated with the Guthrie Medical Center, Sayre, Pennsylvania, seeks fulltime research staff for a new research program in **Human Immunology**, starting in Summer 1983. Applicants should have advanced degree and postdoctoral experience, and should have worked on human immune regulation and disease mechanisms. Advantages include a well-equipped new facility; endowed support of baseline research activities and salary; possible collaborative/teaching affiliations with nearby institutions; generous travel and working arrangements; attractive life style in rural, culturally-rich area of the Susquehanna Valley on the New York/Pennsylvania border; and opportunity to be involved in development of new program. Send letter and résumé to:

**S. D. Litwin, M.D.
Guthrie Foundation for Medical Research
Sayre, Pa. 18840**

SYSTEMATIC ENTOMOLOGIST HARVARD UNIVERSITY

The Department of Organismic and Evolutionary Biology and the Museum of Comparative Zoology, Harvard University, invite applications for an assistant professor/assistant curator position in systematic entomology, preferably in *Coleoptera* or *Hymenoptera*. The applicant should be prepared to assume an important curatorial role as well as teach in entomology. Send curriculum vitae, research plans, and the names and addresses of three references to: **Professor Edward O. Wilson, Museum of Comparative Zoology, Harvard University, Cambridge, Mass. 02138, by 15 January 1983.**

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THE OHIO STATE UNIVERSITY VICE PRESIDENT FOR RESEARCH AND GRADUATE STUDIES

The Ohio State University is seeking nominations and applications for the new position of Vice President for Research and Graduate Studies.

The vice president will report to the president and be responsible for supervision and coordination of all research and the Graduate School at The Ohio State University. This individual will work closely with the vice president for academic affairs/provost in further strengthening the University's activities in both basic and applied research. The position especially demands innovation and leadership in research, including increased cooperation with business and industry.

The successful candidate should have a record of outstanding achievement in research, a commitment to graduate education, and demonstrated administrative ability. The individual must have an understanding of the missions of a large, public, land-grant institution of higher education. Experience in grant and contract activities with government agencies and industry is necessary.

Nominations and applications should be received by 31 December 1982, and should be sent to:

**Dr. Harold Shechter
Chairman, Search Committee for the
Vice President for Research and Graduate Studies
The Ohio State University
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190 North Oval Mall
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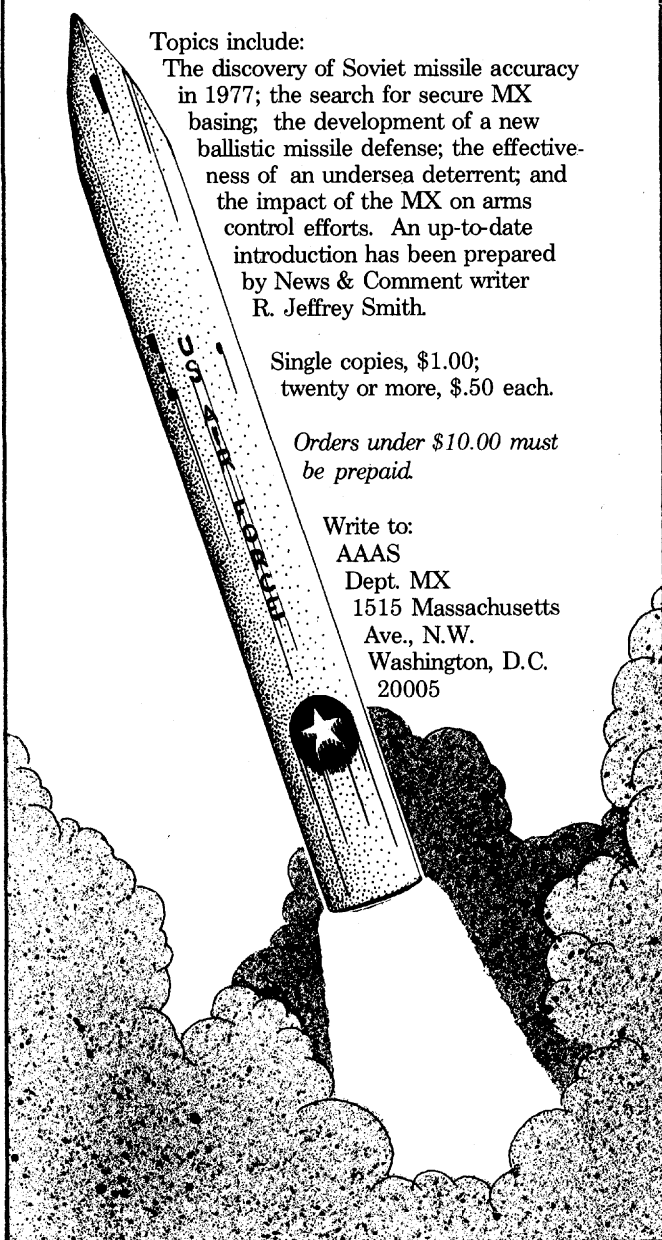
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POSITIONS OPEN

OPPORTUNITY FOR RESEARCH EMPLOYMENT IN GREECE

Applications are invited for the position of **Director** of the Institute of Organic Chemistry of the National Hellenic Research Foundation (NHRF), Athens, Greece.

The candidates should be leading authorities in the field of organic chemistry with a substantial research record.

Applications including: (i) reprints (three copies) of the publications and (ii) curriculum vitae (16 copies), containing information about the candidate's studies, scientific activities, and detailed analysis of his/her work, should be sent to:

Administration of the NHRF
48 Vassileos Constantinou Avenue
Athens, 501/1, Greece

Deadline for applications is 15 December 1982.

TERATOLOGISTS

Program Resources, Inc. is forming a four to six person group within Pathology Services to perform teratologic and reproductive toxicology for a contract period of approximately 2 years, beginning January 1983. The work will be performed at the National Center for Toxicological Research (NCTR), Jefferson, Arkansas. Studies will typically be bioassays in rodents and rabbits.

A broad variety of compounds will be evaluated and the full range of teratologic methods will be employed. Diversity and challenge will be prominent, publication is encouraged, and collaborative research with NCTR staff will be available. A dedicated computer system will be available to record and tabulate observations and GLP standards will prevail. The group collectively will comprise a balance of education and experience. The senior person will be a teratologist with Ph.D., demonstrated leadership, and experience with rodents and rabbits. Compensation will be commensurate with experience and training. Applicants should send complete curriculum vitae to: **Charlotte Roush, Pathology Services Project, NCTR, Jefferson, Ark. 72079; telephone: 501-541-4029. Equal Opportunity Employer.** Applications close on 10 December 1982.

SUMMER RESEARCH

SUMMER RESEARCH AWARDS AT THE PYMATUNING LABORATORY OF ECOLOGY

The Pymatuning Laboratory of Ecology, University of Pittsburgh, announces the availability of two or more research awards for summer 1983. Proposals for field and/or laboratory studies in aquatic or terrestrial ecology are requested by 1 March 1983. Proposals are welcome at all academic levels (including graduate students). Financial support will usually not exceed \$5000 and may include travel, equipment, supplies, assistants, and room and board at the Laboratory. Letters of inquiry and proposals should be sent to: **W. P. Coffman, Department of Biological Sciences, University of Pittsburgh, Pittsburgh, Pa. 15260.**

FIELD BIOLOGY. Postdoctoral fellowships are available for summer research at the Mountain Lake Biological Station of the University of Virginia. Proposals will be considered for a wide variety of ecological and evolutionary studies. Stipend: \$1900 (10 weeks). Deadline: 1 March 1983. Write to: **Director, Mountain Lake Biological Station, Gilmer Hall, University of Virginia, Charlottesville, Va. 22901. Equal Opportunity/Affirmative Action Employer.**

TRAINEESHIPS

TRAINING IN METABOLISM. PREDOCTORAL AND POSTDOCTORAL TRAINEESHIPS are available for January 1983 in a NIH supported program. The program is designed for the Ph.D. or would-be Ph.D. desiring a foundation in clinical investigation while developing his or her basic science capabilities and for M.D.'s to obtain expertise in basic science departments as Case Western Reserve University for awarding the degree. Trainees must be U.S. citizens or permanent residents. For detailed information, write to: **Dr. Richard W. Hanson, Program Director, Department of Biochemistry, Case Western Reserve University, School of Medicine, Cleveland, Ohio 44106.**

ASSISTANTSHIPS

PREDOCTORAL TEACHING AND/OR RESEARCH ASSISTANTSHIPS IN BIOCHEMISTRY AND MICROBIOLOGY. Areas of research include immunology, membrane biochemistry, microbial ecology, microbial physiology, molecular genetics, plant biochemistry, virology and applied areas of biotechnology, genetic engineering, microbial control of insects, food quality, and phospholipid vesicles as drug carriers. Contact: **Dr. D. L. Crawford, Graduate Committee, Department of Bacteriology and Biochemistry, University of Idaho, Moscow, Idaho 83843. Affirmative Action/Equal Opportunity Employer.**

PREDOCTORAL ASSISTANTSHIPS IN ANATOMY

Qualified students are invited to apply for graduate study leading to the Ph.D. degree in anatomy with specialization in cell biology, neurobiology, developmental biology, or functional morphology. Stipends are available as teaching assistantships and tuition waivers. For application forms and further information, write to: **Chairperson, Graduate Studies Committee, Department of Anatomy, University of Illinois College of Medicine, P. O. Box 6998, Chicago Ill. 60680. An Equal Opportunity/Affirmative Action Employer.**

FELLOWSHIPS

MARINE POLICY AND OCEAN MANAGEMENT RESEARCH FELLOWSHIPS

Woods Hole Oceanographic Institution offers 1-year fellowships to professionals in social sciences, law, or natural sciences who will apply their training to problems that involve the use of the oceans, including coastal zone management, fisheries management, marine mineral management, marine policy problems and opportunities in developing countries, implications of the Law of the Sea Treaty for ocean management, use of scientific information in decision-making and policy planning, and U.S./Canada marine resource management issues. Other research topics may also be appropriate. Recipients of awards are selected on a competitive basis with primary emphasis placed on research promise.

Applicants must have completed a doctoral level degree or possess equivalent professional qualifications through career experience.

Fellowship stipend is \$21,500. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by 1 March 1983 for 1983-1984 awards. (A second year's appointment may be possible.) Awards announced in April. Write for application form to:

Dean of Graduate Studies, Education Office, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543.

Equal Opportunity/Affirmative Action Institution

THE UNIVERSITY OF SYDNEY PROFESSOR HARRY MESSEL RESEARCH FELLOWSHIP IN PHYSICS

Applications are invited for the above postdoctoral fellowship for research in physics.

The annual stipend shall be within the range for University of Sydney Postdoctoral Research Fellowships (currently A\$19,122 to A\$19,649 per annum). The fellowship is tenable for 1 year but may be renewed from year to year.

Application forms and further information may be obtained from: **Registrar (Scholarships Section), University of Sydney, N.S.W., 2006, Australia,** with whom applications close 10 January 1983.

GRADUATE FELLOWSHIPS IN BIOMEDICAL AND PHYSICAL SCIENCES

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ADVANCED STUDY INSTITUTE

NATO Advanced Study Institute—**CHEMOMETRICS: MATHEMATICS AND STATISTICS IN CHEMISTRY**, 12 to 23 September 1983, Cosenza, Italy. Applications are now being sought. The ASI offers a unique opportunity to learn how modern methods from applied mathematics and statistics can solve complex problems in chemistry. Experts will present tutorial lectures. Application deadline is 31 March 1983. Write: **B. R. Kowalski, Department of Chemistry BG-10, University of Washington, Seattle, Wash. 98195**

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