

lection itself tend to reduce or eliminate those differences.

This book is a useful summary of the mathematical studies by the two authors. But its conclusions are mathematical rather than biological, and it will probably confuse rather than enlighten most readers.

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Books Received

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ASSISTANT OR ASSOCIATE PROFESSOR—The Department of Biochemistry at the University of Mississippi Medical Center invites applications for two tenure-track faculty positions. Applicants whose research interests center upon primary structure of nucleic acids, nucleic acid processing, the biochemistry of cellular ultrastructure, or the regulation of metabolism in eukaryotic cells are especially encouraged to apply. Highly qualified candidates in other areas of biochemistry will also be considered. This department has undergone vigorous development and established fields of investigation including developmental biology, nucleic acid and protein synthesis, membrane biochemistry, x-ray crystallography, and the structure and cloning of eukaryotic genes. The department is well equipped for most areas of biochemistry and has a P3 facility for recombinant DNA research. Please send curriculum vitae, bibliography, at least one reprint of a recent publication, and the names of three referees by 31 December 1980 to: Dr. Richard C. Hunt, Department of Biochemistry, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216. Equal Opportunity Employer, M/F.

BARUCH COLLEGE City University of New York Department of Natural Sciences Assistant Professor/Anatomist

To teach courses in comparative vertebrate anatomy and general biology to premedical students. Ph.D. required. Experience preferred. Salary commensurate with qualifications. Send résumé to: Dean Martin Stevens, Baruch College, Box 302, 17 Lexington Avenue, New York, N.Y. 10010. Equal Opportunity/Affirmative Action Employer, M/F.

BIOCHEMISTRY POSITION

To study the biosynthesis of glycoproteins. Experience with enzymology of membrane systems preferred. Salary up to \$19,000 per year. Send résumé and two letters of recommendation to:

Dr. I. K. Vijay
Department of Dairy Science
Animal Sciences Center
University of Maryland
College Park, Maryland 20742

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ASSISTANT PROFESSORS

The Department of Biological Sciences invites applications for three tenure-track assistant professorships beginning September 1981. Preference will be given to candidates with postdoctoral experience who have demonstrated outstanding potential for experimental research in an area which can expand the department's graduate program. The three general research areas are: (i) behavioral mechanisms, (ii) molecular genetics, and (iii) plant development. The applicants selected will be expected to teach undergraduate and graduate courses in their general fields and to direct M.S. and Ph.D. candidates.

Applications, including curriculum vitae, reprints, a statement of research plans, and three letters of reference should be sent to: **Dr. S. K. Shapiro, Head, Department of Biological Sciences, University of Illinois, Box 4348, Chicago, Illinois 60680.** Closing date: 28 November 1980. Administrative approval for filling these vacancies is anticipated.

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

ASSISTANT/ASSOCIATE PROFESSORSHIP IN ANATOMY

The Department of Anatomy, Health Sciences Center, Texas Tech University, has a full-time faculty position available at the assistant or associate professor level beginning 1 September 1981. Preference will be given to candidates with postdoctoral or equivalent experience, and a strong research program employing varied approaches to problems. Special consideration will be given to candidates with a background in either developmental biology, cell biology, endocrinology, connective tissue, and muscle biology or brain-endocrine interaction. The successful candidate will be expected to contribute significantly to the medical student anatomy teaching program. Letter of application, curriculum vitae, a brief summary of future research program, and three letters of reference must be received by 6 January 1981 and should be addressed to: **Dr. William G. Seliger, Professor and Chairman, Department of Anatomy, Texas Tech University Health Sciences Center, Lubbock, Texas 79430.** *An Equal Opportunity/Affirmative Action Employer.*

NATIONAL SCIENCE FOUNDATION DIVISION OF EARTH SCIENCES

The National Science Foundation (NSF), Division of Earth Sciences, is seeking qualified applicants for **ASSOCIATE PROGRAM DIRECTOR, GEOPHYSICS PROGRAM.** This position is excepted from the competitive civil service, EC-13/14 (equivalent to GS-13/14, \$29,375 to \$45,126 per annum), and will be filled on permanent or 2-year rotational basis. A Ph.D. in geophysics is desirable. Equivalent research and experience in the administration of large, multidisciplinary research programs may be substituted for a degree. A broad general knowledge of geologic research and familiarity with the U.S. scientific community are also required. Applicants should submit a statement of interest and résumé or SF-171, Personal Qualifications Statement, by 30 November 1980, to: **National Science Foundation, Personnel Administration Branch, Announcement Number EX 80-21, 1800 G Street, NW, Washington, D.C. 20550.** Attention: E. Paul Broglio. Telephone: 202-357-7841. *NSF is an Equal Opportunity Employer.*

BIOPSYCHOLOGIST

The Department of Psychology at the Johns Hopkins University has a tenure-track position for an assistant professor with interests in areas such as psychopharmacology or hormones and behavior. Please send curriculum vitae, three letters of reference, and select reprints to: **Dr. Elliott M. Blass, Biopsychology Search Committee, Department of Psychology, The Johns Hopkins University, Baltimore, Md. 21218.** *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

NEUROPSYCHOLOGIST

The Department of Psychology at The Johns Hopkins University has a tenure-track position for an assistant professor. The particular area within neuropsychology is not a critical factor, although reading, perception, memory, and other cognitive functions are of special interest. Candidates should send curriculum vitae, three letters of reference, and selected reprints to: **Professor Howard Egesh, Cognitive Neuropsychology Search Committee, Department of Psychology, The Johns Hopkins University, Baltimore, Md. 21218.** *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSORS—BIOLOGY

Two new tenure-track positions are available for August 1981 appointments at salaries commensurate with qualifications and experience.

DEVELOPMENTAL NEUROBIOLOGIST. Research areas could include cellular, anatomical and/or physiological aspects of development of the nervous system. Candidates should be capable of substantial contributions to a developmental biology course.

TROPICAL PLANT BIOLOGIST. Research areas should supplement or complement those of our current tropical biology faculty specializing in plant-soil and plant-animal interactions. Candidates should be engaged in field research in the tropics.

Apply with curriculum vitae, brief statement of research and teaching interests, names of four references who are sending letters of recommendation, and two representative reprints. Deadline for receipt of all materials is 9 January 1981.

Search Committee for
[position sought]
Department of Biology
University of Miami
P.O. Box 249118
Coral Gables, Fla. 33124

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR—HUMAN PERCEPTION. Tenure-track position to begin 1 July (duties start 1 September) 1981. Duties will include teaching undergraduate and graduate level courses in perception and/or related areas. Desirable (but not essential) qualifications include ability to teach graduate-level course in analysis of variance and/or ability to prepare graduate students for applied employment. Ph.D. required; teaching experience and published research preferred. Salary: \$19,400 to \$21,800 per 9-month academic year. Applications must be received by 15 January 1981. Send curriculum vitae, reprints-preprints, and names of three references (letters of recommendation should not be sent at this time) to: **Neal Kroll, Department of Psychology, University of California, Davis, Calif. 95616.** *An Equal Opportunity/Affirmative Action Employer.*

Wanted: **ASSOCIATE OR ASSISTANT IN ANESTHESIOLOGY.** Requirements include but are not limited to a master's degree. Documented expertise in teaching, administration, and research in a medical school department are preferred. Primary duties assigned will be the technical management of a research laboratory and participation in educational programs of technicians, physicians, and paramedical personnel. Ample opportunity for research is available. Stipend is negotiable and commensurate with qualifications. Position available 1 January 1981. Application must include curriculum vitae and bibliography to be sent to: **J. S. Gravenstein, M.D., Search Committee Chairperson, Department of Anesthesiology, Box J-254, JHMH, University of Florida, Gainesville, Fla. 32610,** by 15 December 1980. *Equal Opportunity/Affirmative Action Employer.*

BIOLOGY OF AGING—Independent research position available as member of the staff of Temple University's Institute on Aging, under executive directorship of Richard C. Adelman, Ph.D., to begin at mutually convenient date. Postdoctoral experience required. Preference will be given to candidate with independent publication in the general area of hormonal regulation and the demonstrated ability to obtain federal grant support. Status and salary are negotiable, commensurate with experience. Send résumé and salary history in confidence to: **Kathleen McAndrew, TEMPLE UNIVERSITY, Room 203, University Services Building, 1601 North Broad Street, Philadelphia, Pa. 19122.** *An Equal Opportunity Employer.*

BOTANIST. The Department of Botany and Microbiology at the University of Oklahoma has a vacancy at the assistant or associate professor level for a physiological ecologist commencing 1 September 1981. Applicants must possess a Ph.D. in botany with strong training in ecology, plant physiology, and biochemistry. The successful applicant would be expected to conduct research, direct graduate students, and teach an advanced course in the area of specialization, as well as teaching introductory ecology and botany. Applicants for this tenure-track position should submit curriculum vitae, statement of research interest, and three letters of recommendation by 15 December to: **Professor Leonard Bevers, Department of Botany and Microbiology, University of Oklahoma, Norman, Okla. 73019.** *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MEMORIAL UNIVERSITY OF NEWFOUNDLAND St. John's, Newfoundland, Canada DEPARTMENT OF BIOCHEMISTRY

Applications are invited for the position of **assistant professor of biochemistry.** Candidates must have a Ph.D. in biochemistry with 2 years of postdoctoral research experience. The department has research strength in the areas of biological membranes and proteins, biochemical toxicology, metabolic biochemistry, nutrition, and food biochemistry. Those with experience of teaching biochemistry and with potential for doing research in the above areas will be preferred. The candidate will be expected to teach undergraduate and graduate courses in biochemistry and to develop a research program.

Applications with complete curriculum vitae, list of publications, and names of two referees should be forwarded to: **Dr. S. Mookerjee, Head of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3X9.**

Closing date for applications is 31 January 1981, and the appointment is expected to be effective from 1 July 1981.

The Department of Surgery, Southwestern Medical School, is seeking an **ASSISTANT PROFESSOR (M.D., Board-eligible general surgeon)** with extensive teaching and broad research experience in transplantation. Applicants should contact: **William J. Fry, M.D., Hudson-Penn Professor and Chairman, Department of Surgery, 5323 Harry Hines Boulevard, Dallas, Texas 75235.** *The University of Texas Health Science Center at Dallas is an Equal Opportunity Employer.*

Pathobiology Department, College of Agriculture and Natural Resources. **ASSOCIATE PROFESSOR/PROFESSOR.** Salary: \$26,505 to \$42,180. Chief of Diagnostic Testing Services section of the department. The chief of this section will supervise diagnostic microbiology, serology, and other tests; establish and maintain a liaison with veterinarians of the state, state and federal agencies, and other diagnostic laboratories; develop new laboratory techniques and tests consistent with a progressive diagnostic program; engage in research pertinent to some area of microbiology; and participate and interact with graduate students, other faculty, and sections of the department, college, and university. Veterinarian with advanced training is desired. Rank and salary will be commensurate with qualifications and experience. Reply to: **Dr. Louis J. Pierro, U-89, University of Connecticut, Storrs, Connecticut 06268.** *Equal Opportunity Employer.*

CHAIRMAN DEPARTMENT OF BIOLOGY

Davidson College is conducting a search for a chairman of its Department of Biology. The successful candidate will possess the experience, the capacity, and the imagination (i) to teach and to conduct personal research with undergraduates, (ii) to administer a small department offering instruction in botany and zoology, (iii) to promote high-quality student-faculty research throughout the department, and (iv) to obtain funding for personal research, for departmental equipment, and for curriculum improvements.

A candidate with research specialization in molecular biology, especially plant molecular biology, is preferred. The position is available 1 August 1981. Candidates should send a letter of application and a résumé including three references by 28 November 1980 to: **Dr. J. N. Burnett, Associate Dean of the Faculty, Davidson College, P.O. Box 2497, Davidson, North Carolina 28036.**

OFFICE OF OCEAN TECHNOLOGY AND ENGINEERING SERVICES

The newly created Office of Ocean Technology and Engineering Services, National Oceanic and Atmospheric Administration (NOAA), is seeking a **DIRECTOR, DEPUTY DIRECTOR, AND DIRECTOR, PLANS AND PROGRAMS OFFICE.** Applicants for all three positions must have extensive engineering management experience with significant ocean-related activity. Special credit in rating process given to advanced degrees in engineering or science and to records of accomplishment in the ocean engineering field. Pay rate for these SES positions commensurate with background and experience; current salary range: \$47,889 to \$50,112.50 per annum. Apply to: **NOAA/NOS, 6001 Executive Boulevard, Rockville, Md. 20852,** attention: PER15:NB. Applications must be received by 1 December 1980 to be considered. *Equal Opportunity Employer.*

DEAN, COLLEGE OF ARTS AND SCIENCES

George Mason University, the state university of northern Virginia, announces its search for the Dean of the College of Arts and Sciences. With an enrollment this year of more than 13,300 students, George Mason University is one of the most rapidly growing universities in the nation. In addition to a full range of undergraduate and master's degree programs, the university has also initiated doctoral degrees in public administration, law, and education. Originally a college of the University of Virginia, George Mason University became a fully independent university in 1972. Although it serves an urban population in northern Virginia of more than 1 million, it is located on a wooded campus of nearly 600 acres. It is only 15 miles from downtown Washington, D.C.

The College of Arts and Sciences is the largest academic unit of the university, with 13 departments, a faculty of 332 FTE, and 45 degree programs. The dean is responsible for academic leadership in a dynamic and rapidly growing setting. More specifically, we are seeking as dean a person who has demonstrated the ability to:

- Foster high academic standards and excellence in teaching,
- Assist faculty in their professional development, and attract established scholars to the university,
- Maintain a collegial atmosphere and promote constructive interpersonal relationships,
- Guide the establishment of new academic programs,
- Represent the university to scholarly and lay audiences, and
- Provide effective resource management for a large academic unit.

Candidates for this position should have an earned doctorate, or its equivalent, and a record of scholarly achievement in the arts or sciences.

Salary for the position is competitive.

Persons interested in applying for this position should send a résumé and the names, addresses, and telephone numbers of five references to:

Dr. Robert P. Clark, Chair
CAS Dean Search Committee
Office of Academic Affairs
George Mason University
4400 University Drive
Fairfax, Virginia 22030

The committee will begin to consider applications or nominations on 15 November 1980. The position will be available July 1981.

George Mason University is an Affirmative Action/Equal Opportunity Employer.

DIRECTOR DEPARTMENT OF PATHOLOGY

Cuyahoga County Hospital, a major teaching Hospital of Case Western Reserve University School of Medicine, is inviting applications for the position of Director of Pathology. Candidates should have appropriate backgrounds in academic pathology with a major interest in research and teaching, as well as the ability to run a large, diverse Department of Pathology and a pathology training program. Applications or nominations with accompanying curriculum vitae, should be addressed to:

Dr. James R. Carter, Jr.
Chairman, Pathology Search Committee
Cuyahoga County Hospital
3395 Scranton Road
Cleveland, Ohio 44109

Cuyahoga County Hospital and Case Western Reserve University are Equal Opportunity/Affirmative Action Employers

DIRECTOR NATIONAL CENTER FOR ANTIBIOTICS ANALYSIS SALARY: \$47,889 to \$50,112 (SENIOR EXECUTIVE SERVICE)

The Food and Drug Administration's Bureau of Drugs has a permanent civil service or Public Health Service Commissioned Corps position available for the Director, National Center for Antibiotics Analysis in Washington, D.C. Responsibilities involve serving as key adviser and directing a multidisciplinary staff of scientific and professional personnel engaged in broad research and testing programs and activities related to antibiotic drugs.

This is an exciting and challenging opportunity for an individual who has professional experience in directing broad scientific programs; significant research accomplishments in drug technology; ability to deal effectively with high level governmental officials, the scientific/academic communities, national/international organizations, regulated industry representatives and others; and the ability to implement Equal Employment Opportunity Programs. It is desirable that applicants have a doctorate in microbiology, chemistry, biology, or a closely related physical, biological, or health science, and be recognized internationally as an authority in the field of pharmaceutical science.

An application for federal employment (SF-171) should be sent to: **DIVISION OF PERSONNEL MANAGEMENT (HFA-440), Food and Drug Administration, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857.** For further information, please telephone: **Jim Keady, collect, on 301-443-3634.** To ensure full consideration, applications should be received by 1 December 1980.

This position may also be filled by current commissioned officers of the U.S. Public Health Service, or by former officers willing to rejoin the Corps.

An Equal Opportunity Employer

NATIONAL SCIENCE FOUNDATION DIVISION DIRECTOR FOR OCEAN DRILLING PROGRAMS

The National Science Foundation is seeking qualified candidates for the position of **DIRECTOR, DIVISION OF OCEAN DRILLING PROGRAMS.** The division director is responsible to the Assistant Director for Astronomical, Atmospheric, Earth, and Ocean Sciences for the management of a unique worldwide effort to explore the earth's crust beneath the oceans. This involves an interdisciplinary science program designed to increase and enhance knowledge and understanding of the detailed composition and behavior of the submerged 75 percent of the earth's surface, aided by advanced technology in ocean drilling techniques for the coring of rocks and sediment from deep sea basins and the oceans' continental margins.

Essential qualification requirements for this position include: managerial and supervisory experience in the planning, funding, staffing, and oversight of major scientific activities operated by a contractor, including multidisciplinary research programs and major support facilities; executive experience in manpower management where organization objectives are achieved through use of subordinate staff; experience in formulating policy and the planning of a major research facility of international scope, including presentation and advocacy of plans to top-level decision-making groups and the allocation of resources within budgetary, logistic, manpower, and other support constraints; experience in negotiating international research and facility agreements; experience in representing organization positions in national and international forums; a Ph.D. or equivalent professional experience in the physical or environmental sciences or closely related field and experience as a research administrator or research scientist in the physical or environmental sciences.

This position is part of the Senior Executive Service with a salary range from \$51,164 to \$54,662 (currently limited to \$50,112 per annum). Appointment will be on a career basis.

All applicants must submit a Standard Form 171, Personal Qualifications Statement, and a supplemental narrative to: **National Science Foundation, Executive Personnel Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550, attention: EPB 80-50.** For further information on application procedures, telephone: **Margaret Cademartori at 202-357-7857.** All applications must be received by 8 December 1980.

Equal Opportunity Employer

POSITIONS OPEN

BOTANIST. RECON (Regional Environmental Consultants) is seeking applicants for the position of staff botanist. Applicants should have a minimum of an M.A.; however, the Ph.D. is preferred. Applicants should also have strong leadership capabilities and a background in southern California taxonomy and fieldwork. The staff botanist is responsible for the conduct and direction of the corporation's field efforts, including inventory, impact analysis, and species management programs. Submit résumé and curriculum vitae with the names of three references no later than 28 November to: Royce B. Riggan, Jr., President, RECON, 1094 Cudahy Place, Suite 204, San Diego, California 92110.

Equal Opportunity Employer

POSITION IN CELL BIOLOGY DEPARTMENT OF ZOOLOGY UNIVERSITY OF CALIFORNIA, BERKELEY

Applications are invited, pending final budgetary approval, for an anticipated opening at the level of assistant professor of zoology. The research and teaching interests of the candidate should be in the area of animal cell biology, with emphasis on the assembly, structure, and function of cellular components. Possible areas of specialization may include, but are not restricted to, gene expression, chromatin, membrane architecture, the cytoskeleton, and cell interactions. Teaching responsibilities will include graduate and/or undergraduate courses in cell biology. Applicants should send curriculum vitae, bibliography with copies of publications, a summary of research and teaching objectives, and the names of three references to: Chairman, Search Committee in Cell Biology, Department of Zoology, University of California, Berkeley, Calif. 94720. The deadline for receiving applications is 1 January 1981. Individuals with exceptional qualifications who currently hold nontenured positions may be considered for an associate professorship with tenure. *The University of California is an Affirmative Action Employer.*

CHAIRPERSON. Department of Biochemistry—Candidates must have substantial background in academic medicine evidenced by a record of excellence in teaching, research, and leadership in medical and graduate education. Interested persons are encouraged to submit their credentials and curriculum vitae to: Dr. Donald E. Hill, Chairman, Biochemistry Search Committee, Slot 512, University of Arkansas College of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, Arkansas 72201. *Affirmative Action/Equal Opportunity Employer.*

Search Reopened—Portland State University is seeking applications for DEAN OF THE COLLEGE OF SCIENCE. Candidates must hold an earned doctorate and have an outstanding record in research, teaching, and appropriate university administration. The position of dean is a 12-month appointment. The salary is competitive. The dean is charged with the responsibility for all aspects of the academic program within the College of Science and reports to the Vice President for Academic Affairs. The College of Science includes the Department of Biology, Chemistry, Earth Sciences, Mathematics, Physics, a Center for Public Health Studies, master's degree programs, and a doctoral program in environmental sciences and resources. The doctoral program involves faculty members from biology, chemistry, and physics. Applicants are requested to submit a letter of application summarizing interests and qualifications for the position and a detailed professional résumé. Candidates are asked to contact on their own at least four qualified professionals to send letters of reference. The application materials and letters of reference must be postmarked no later than 15 December 1980 and should be sent to: Dean of Science Search Committee, Office of Graduate Studies and Research, Portland State University, P.O. Box 751, Portland, Oregon 97207. *Portland State University is an Equal Opportunity/Affirmative Action Employer.*

TWO POSITIONS IN ECOLOGY. Both at assistant professor level, beginning fall 1981. Ph.D. required. Commitment to undergraduate education. To teach some combination of courses in the following areas: introductory biology; at the intermediate level, general principles of plant and animal ecology, evolution; at the advanced level, terrestrial, aquatic, and population ecology, invertebrate biology. To develop a strong field research program involving undergraduates. Send résumé, including names of three references, by 15 December to: Dr. Jane Kaltenbach Townsend, Department of Biological Sciences, Mount Holyoke College, South Hadley, Massachusetts 01075. *An Equal Opportunity/Affirmative Action Employer*

POSITIONS OPEN

DEAN COLLEGE OF ARTS AND SCIENCES OAKLAND UNIVERSITY Rochester, Michigan

Oakland University invites applications and nominations for the position of Dean of the College of Arts and Sciences, to assume office by 15 August 1981. Oakland University is a state-supported institution located 26 miles north of Detroit. The dean provides leadership for a 210-member faculty and administrative support for instructional programs and scholarly activities. The College, composed of 14 departments and an Honors College, has a strong tradition of interdisciplinary study at all levels. It offers B.A., B.S., M.A., M.S., and M.F.A. degrees and is planning doctoral programs; it also bears primary responsibility for general education offerings in a 12,000-student comprehensive state university with five professional schools.

Candidates should have the scholarly distinction and teaching credentials appropriate for appointment to professorial rank, together with demonstrated academic administrative experience.

Applications, accompanied by complete résumés and names of at least three references, must be received by 15 January 1981. Inquiries, nominations, and applications should be directed to:

Provost's Office
Dean Search Committee
Attention: Professor Paul Tomboulis, Chair
Oakland University
Rochester, Michigan 48063

Oakland University is committed to Affirmative Action and Equal Employment Opportunity.

DEAN COLLEGE OF MEDICINE UNIVERSITY OF OKLAHOMA

Applications are invited for the position of Dean, College of Medicine. The College is located on the Oklahoma City Campus of the University of Oklahoma and is one of seven colleges comprising the Health Sciences Center. Applicants should submit current curriculum vitae before 31 December 1980 to:

Dean's Search Committee
Office of the Provost
University of Oklahoma
P.O. Box 26901
Oklahoma City, Okla. 73190

An Equal Opportunity/Affirmative Action Employer

The University of California, Davis, announces a position in the DEPARTMENT OF DERMATOLOGY for a basic science research-oriented faculty member with clinical and teaching responsibilities. Experience in clinical teaching and basic research (with experience in cell and tissue culture preferred). Must be Board-certified or -eligible in dermatology. Rank and salary commensurate with credentials.

Send curriculum vitae and list of three references to:

Chair, Search Committee
c/o Department of Dermatology
University of California, Davis
205 Professional Building
Sacramento, Calif. 95817

Applications accepted through 31 January 1981.
Equal Opportunity/Affirmative Action Employer

EMBRYOLOGIST. Applications are invited for a tenure-track ASSISTANT PROFESSOR position beginning August 1981, to teach undergraduate courses in embryology and participate in zoological courses. Postdoctoral experience or training in comparative embryology or developmental anatomy or neurobiology preferred. Candidates should show promise of establishing a strong research program. Send curriculum vitae, transcripts, recent reprints, summary of planned research, and three letters of recommendation by 20 December 1980 to: Professor Edward Wallen, University of Wisconsin-Parkside, Life Science Department, Kenosha, Wis. 53141; telephone: 414-553-2446. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

ENVIRONMENTAL SCIENCE/EARTH SCIENCE. Tenure-track teaching position available at the instructor or assistant professor level, January 1981. Ph.D. with some teaching experience preferred. Rank and salary dependent upon qualifications. Send curriculum vitae with names of three references, and forward academic transcripts to: Dr. J. Rodney Fulcher, Dean of the Faculty, Davis & Elkins College, Elkins, W. Va. 26241. Closing date for applications: 1 December 1980. *An Equal Opportunity Employer.*

POSITIONS OPEN

CORRECTION NATIONAL SCIENCE FOUNDATION Director, Division of Environmental Biology Director, Division of Physiology, Cellular, and Molecular Biology Head, Cellular and Physiological Biosciences Section Head, Molecular and Genetic Biosciences Section

Application deadlines for the positions listed above, which were advertised in the 10 October 1980 issue, should have read 31 October 1980 instead of 31 October 1981. Interested applicants should telephone Margaret Cademartori on 202-357-7857 immediately to request a vacancy announcement explaining procedures for submitting applications. Applications will now be accepted until 28 November 1980.

EM TECHNOLOGIST

Manage multi-instrument facility. Responsible for routine maintenance of electron microscopes and related equipment, training new personnel, ordering supplies, and assisting laboratory director in providing research support. Bachelor's degree is desirable; higher training would help. At least 2 to 5 years of progressive experience in TEM, SEM, thin sectioning, and so forth. Starting salary: \$14,000 to \$16,000. Contact:

Wayne State University
Personnel Office
100 Antoinette
Detroit, Michigan 48202

Equal Opportunity Employer, M/F

ELECTRON MICROSCOPY—GROSS ANATOMY

Assistant professor tenure-track position is available January 1981. Responsibilities include supervision of EM laboratory and technician, offering course work in electron microscopy and neuroanatomy, and assisting in gross anatomy. The candidate would be expected to develop a research program. The Ph.D. is required. Application deadline is 28 November 1980. Send curriculum vitae and names of three references to: Dr. Harold G. Marshall, Chairman, Department of Biological Sciences, Old Dominion University, Norfolk, Va. 23508. *An Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITIONS IN STRUCTURAL BIOLOGY

The Department of Biochemistry is seeking to expand its newly formed biophysics and structural biology group. We seek outstanding candidates at all levels who can make strong contributions in research and teaching. Applications, including curriculum vitae, bibliography, names of four references, and representative reprints, should be addressed to:

I. S. Edelman, M.D.
Chairman, Department of Biochemistry
College of Physicians & Surgeons
Columbia University
630 West 168 Street
New York, N.Y. 10032

Columbia University is an Equal Opportunity/Affirmative Action Employer.

NEUROBIOLOGIST

The C. V. Whitney Laboratory for Experimental Marine Biology and Medicine of the University of Florida focuses on cell biology, physiology, and pharmacology of marine organisms. Applications are being accepted for a tenure-earning, full-time (12-month) research professorship at the assistant or associate level. The broad area of interest is the mechanisms underlying the effects of drugs, hormones, toxins, or transmitters on excitable or secretory cells. The applicant should be competent with electrophysiological techniques. Graduate training in neurobiology is required; postdoctoral experience is preferred. The appointee will be expected to set up and carry on an independent research program and to interact productively with other members of the laboratory. Initial funding will be provided, but the research program should eventually be grant-supported. All members of the laboratory have joint appointments in an academic department in one of the colleges at the University of Florida. Applicants should send a short statement of research goals, curriculum vitae, recent reprints, and the names of three references to: Dr. Barry W. Ache, Whitney Marine Laboratory, Route 1, Box 121, St. Augustine, Fla. 32084.

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

REGIONAL MEDICAL ASSOCIATE PHARMACEUTICAL MARKETING

Unique growth opportunity for an individual to combine scientific expertise and marketing skills. Responsibilities are to establish effective relationships within key medical institutions, providing scientific liaison and indepth information essential to appropriate use of SK & F's products. Will also have training responsibility at the Representative, Medical Staff, and Pharmacy levels. Approximately 40 to 50% travel. Due to recent promotions, we currently have positions available in Atlanta and Denver.

Qualifications include PhD in Biochemistry, Pharmacology or other medical disciplines desired. Must possess initiative, strong communication skills and interest in Marketing.

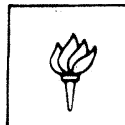
In addition to an independent work environment, where personal and professional growth are a way of life, we offer an outstanding Compensation/Benefits Package and a Relocation Program geared to today's market. Please send resume and current earnings to: R.T. Minoff, **SMITH KLINE & FRENCH LABORATORIES**, A Division Of SMITHKLINE CORPORATION, 1522 Spring Garden Street, P.O. Box 7929, Philadelphia, Pennsylvania 19101.

We are an equal opportunity
M/F/H/V.

SmithKline
Smith Kline & French Laboratories

Chairperson Department of Biology

Applications and nominations for the position of Chairperson of the Department of Biology are invited. Candidates must have a superior record of research in one of the major fields of Biological Science and be familiar with current scientific methods and concepts across a broad spectrum of biological sub-disciplines. Candidates must exhibit a capacity to exercise leadership in the development of first-rate instructional programs at both the undergraduate and graduate levels, including pre-medical education and doctoral training. The new Chairperson will have the responsibility for planning a major renovation of the Department's Research and Instructional Laboratories; recruiting new faculty; and developing consortial programs with the Basic Medical Sciences at the New York University Medical Center, as well as with other science departments at our Washington Square campus. Salary fully negotiable. Submit applications and nominations by December 15, 1980, along with curriculum vitae, research plans and a list of five references to:



NEW YORK UNIVERSITY

Office of the Dean of Arts and Science
5 Washington Square North
New York, N.Y. 10003
Attn: Prof. Edward McNelis, Chairperson
Biology Search Committee

An Equal Opportunity/Affirmative Action Employer

Biostatisticians

G. D. Searle & Company, a leading ethical pharmaceutical company, is seeking biostatisticians skilled in applied statistical analyses to join its Research and Development Division.

Qualified candidates will have a Ph.D. or an M.S. in Statistics. Experience in clinical trials or biological research is a plus.

We are seeking innovative statisticians to participate in all phases of pharmaceutical research projects. These positions require a strong background in categorical data analysis, general linear models, and experimental design. A knowledge of statistical computing and experience in the use of various statistical software packages, such as SAS and SPSS, are necessary.

Our Skokie, Illinois location is just north of Chicago. We offer a professional and intellectually stimulating research environment, an excellent compensation package including Life, Health, and Dental Insurance, relocation assistance, and educational reimbursement. Please send your resume to R. Rook.

Research and Development Division

G. D. Searle & Company

P. O. Box 5110
Chicago, Illinois 60680

Equal Opportunity M/F/H...
A Practice, Not Just A Policy

SEARLE

Senior Research Scientist

We are the pharmaceutical division of a Fortune 500 Corporation with an expanding research program in the cardiovascular area. We are seeking a Senior Research Scientist who can contribute to our hypertension research program's objectives—to provide a basis for finding effective new drugs for the treatment of hypertension.

Candidates should possess a Ph.D. in pharmacology, physiology or biochemistry with emphasis in cardiovascular pharmacology, post doctoral experience and a demonstrated record of publications. Related industrial experience is desirable. Salary is commensurate with experience.

Combine a professional work environment with small city living in a scenic recreational area of upstate New York. Additional benefits include paid relocation, health/dental coverage and flexible working hours.

Submit CV, list of publications and salary history to: Jane Belansky

Norwich-Eaton Pharmaceuticals

Division of MortonNorwich

P.O. Box 191, Norwich, New York 13815
An equal opportunity employer, M/F

POSITIONS OPEN

FACULTY POSITION—BIOCHEMISTRY. The Chemistry Department of Reed College invites applications for a regular faculty appointment (tenure-track) with undergraduate teaching responsibilities in the areas of biochemistry, physical chemistry, and freshman chemistry. The candidate will be expected to conduct an active research program and to guide undergraduates in the senior thesis program. Submit curriculum vitae, transcripts of academic record, and an outline of research interests, and arrange to have three letters of recommendation sent to: **Professor John Hancock, Chairman, Department of Chemistry, Reed College, Portland, Oregon 97202.** Applications should be completed by 16 January 1981. *Reed College is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS IN ANATOMY AND PHYSIOLOGY

Full-time faculty positions are available in the Department of Anatomy and Physiology beginning in January 1981. Principal responsibilities in anatomy include lectures and laboratories in neuroanatomy, histology, and embryology. Principal responsibilities in physiology include lectures and laboratories in neuromuscular and neuroendocrine physiology. Applicants must hold the Ph.D. or master's degree in the specific discipline and have a strong commitment to teaching. Send curriculum vitae and names of three references by 21 November 1980 to:

**Director of Basic Science
Cleveland Chiropractic College
6401 Rockhill Road
Kansas City, Missouri 64131**

MOLECULAR BIOLOGIST. Williams College, Biology Department, has an anticipated fall 1981 opening for a 2-year visiting appointment of a molecular biologist/biochemist to teach a one-semester course in biochemistry and another course in advanced molecular biology or related subspecialty. Ph.D. degree required. Send application, containing résumé, description of research interests, and three letters of recommendation, by 15 December to: **W. DeWitt, Chairman, Biology Department, Williams College, Williamstown, Mass. 01267.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION—The Department of Physiology, School of Medicine, University of Pennsylvania, Philadelphia, Pa., invites applications for the position of assistant professor. Candidates should have experience with modern biochemical and biophysical techniques in cellular active transport, including chemical synthesis. Teaching responsibilities include medical and graduate courses in physiology. Research experience sufficient to seek grant support as an independent investigator desirable. Send curriculum vitae and names of three references to:

**Dr. Robert Forster, Professor and Chairman
Department of Physiology
School of Medicine
University of Pennsylvania
Philadelphia, Pennsylvania 19104**

An Equal Opportunity/Affirmative Action Employer

IMMUNOLOGIST. Postdoctoral position available immediately for in vivo and in vitro studies of the immunologically active hormone-like peptide, tuftsin. Background in cellular or tumor immunology preferred. Send résumé and the names of three references to: **Dr. Kenji Nishioka, Surgical Research Laboratory, BF-426, The University of Texas System Cancer Center M.D. Anderson Hospital and Tumor Institute, Houston, Texas 77030.** *An Equal Opportunity Employer.*

MINERALOGIST for Conservation Analytical Laboratory, Smithsonian Institution; temporary 1-year appointment, to conduct archaeometrical research to measure or analyze archeological finds and relate measurements to origins of objects. Requires bachelor's degree or equivalent experience, including 24 semester hours of physical science plus 3 years of progressively responsible professional experience or appropriate graduate education. Must have knowledge of electron optical petrographic microscopy. Salary: \$22,486. Send SF-171 (federal Personal Qualifications Statement) to: **Office of Personnel Administration, Smithsonian Institution, 900 Jefferson Drive, SW, Room 1410NL, Washington, D.C. 20560, attention: MPA-80-89.** *The Smithsonian Institution is an Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITIONS

Applications are invited for two appointments at the assistant professor level. Under exceptional circumstances, appointments at higher ranks will be considered. Candidates should have a Ph.D. with postdoctoral training and research experience in one of the following areas: (i) cell structure and cellular development (with preference for membranes, cytoskeletal components, organelles mediating intracellular transport, and so forth); (ii) structural biology (with preference for the applications of modern structural techniques, such as EM with computer-assisted image reconstruction, and so forth, to cellular problems); or (iii) protein-nucleic acid interactions (with preference for nucleic acid enzymology). Faculty members are expected to develop strong, independent research programs in addition to instructing undergraduate and graduate students in the areas of biochemistry, biophysics, or cell biology. These two positions will become available during summer 1981. Send curriculum vitae and a concise description of proposed research program (no more than three pages) to: **Dr. Chien Ho, Department of Biological Sciences, 4400 Fifth Avenue, Pittsburgh, Pa. 15213.** Applicants should arrange to have three letters of recommendation sent directly by the referees to the above address. Review of applications will begin on 1 December 1980. *Carnegie-Mellon University is an Equal Opportunity/Affirmative Action Employer and encourages women and members of minority groups to apply for these positions.*

Continuation of Search for FACULTY POSITION IN PLANT BIOLOGY UNIVERSITY OF CHICAGO

The Department of Biology invites applications for a faculty position in plant biology. We are seeking an individual who is preferably working in part at the whole organism level, and with research and teaching interests that will complement the existing program. Areas of interest include, but are not limited to, ecology and physiology. Applicants must have demonstrated potential for development of an independent research program and excellence in teaching. Curriculum vitae, bibliography, and the names and addresses of references may be sent to:

**Chairman, Plant Biology Search Committee
Department of Biology
The University of Chicago
5630 South Ingleside Avenue
Chicago, Illinois 60637**

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

FACULTY POSITION TUFTS UNIVERSITY GRADUATE DEPARTMENT OF NUTRITION

The Tufts University Department of Nutrition and School of Veterinary Medicine have a faculty opening for a doctoral-level person who will spend half-time teaching nutritional biochemistry and physiology to graduate students and veterinary medical students, and half-time doing research. Interest in comparative nutrition and teaching experience are desirable.

Title, salary, and types of research will be determined according to applicant qualifications.

Curriculum vitae and bibliography should be submitted to:

**Dr. Stanley N. Gershoff
Director, Nutrition Institute
Tufts University
Medford, Mass. 02155**

Tufts University is an Equal Opportunity/Affirmative Action Employer.

MEDICAL GENETICIST

Faculty position available: University of California, Irvine, Department of Pediatrics. Applicant must have M.D. or M.D./Ph.D. degree(s), have completed a fellowship in medical genetics, and have demonstrated research potential for an academic career. The level of appointment and salary will be commensurate with qualifications and experience. Interested individuals are requested to send curriculum vitae and names/addresses of three references to: **Beverly C. Morgan, M.D., Professor and Chair, or Kenneth W. Dumars, M.D., Professor and Chief, Division of Developmental Disabilities and Clinical Genetics, Department of Pediatrics, University of California Irvine Medical Center, 101 City Drive South, Orange, Calif. 92668.** *An Affirmative Action Employer.* Closing date: 15 December 1980.

Research Opportunities

The FOSSIL FUEL ENVIRONMENTAL RESEARCH PROGRAM at the Lawrence Berkeley Laboratory is seeking three professionals to direct basic and applied research on environmental problems and control methods in the areas of oil shale, coal mining, and coal slurry transport.

Deputy Program Leader — Administer and technically direct a large fossil fuel environmental research program and make original contributions to on-going research. Coordinate research in basic and applied sciences including trace element studies, wastewater treatment, subsidence, and hydrologic and water quality impacts. Monitor program progress, prepare and control budgets, prepare progress reports, conduct program reviews, and engage in related basic or applied research.

Requires strong communication skills and experience in conducting and managing research in an academic environment. Must be able to work effectively with varied skill levels and disciplines, be familiar with fossil fuel technologies, and offer a broad scientific background that includes engineering and applied chemistry. Prefer a PhD in a basic science or engineering.

Group Leader, Characterization — Manage a small group of chemists conducting basic and applied research on the characterization, environmental transformations, and origin of organic, inorganic, and organometallic compounds in fossil fuel effluents. Develop and apply state-of-the-art instrumentation and techniques to molecularly characterize complex gaseous and aqueous mixtures, design and direct experiments to determine the origin of chemical species in coal and oil shale processes and their chemical transformations on discharge to the environment.

Requires a strong background in organometallic chemistry, demonstrated working knowledge of spectroscopic and chromatographic techniques, some management experience and proven ability as a research chemist. Prefer PhD in organometallic, inorganic, or organic chemistry.

Group Leader, Retort Abandonment — Manage a research group concerned with the laboratory development and evaluation of methods to control groundwater leaching of abandoned in-situ oil shale retorts. Develop research plans, conduct original experimental research, and write progress reports and technical papers.

Prefer a PhD in geotechnical or chemical engineering or geohydrology. Experience in more than one of the following fields is desirable: petroleum engineering, fluid flow in fractured rocks, formation grouting, geohydrology.

Interested individuals are invited to forward two resumes, including salary history to: **Employment Office, LAWRENCE BERKELEY LABORATORY, One Cyclotron Road, Berkeley, CA 94720.** An equal opportunity employer M/F/H.



**LAWRENCE
BERKELEY
LABORATORY**

POSITIONS OPEN

THE UNIVERSITY OF NEBRASKA-LINCOLN DEPARTMENT OF GEOLOGY

Seeks two tenure-track faculty: (i) **clastic sedimentologist** and (ii) **sedimentologist/stratigrapher**, effective late August 1981. Curricular reorganization in sedimentology and lithostratigraphy will partially reflect the specialties of the successful applicants, emphasizing clastic sedimentology and integrating the teaching of general sedimentology (clastic and nonclastic) with lithostratigraphic principles at both undergraduate and graduate levels. Teaching duties will include introductory geology and oceanography. Teaching load per semester is about two courses.

Requires Ph.D. and strong commitment to continuing excellence in both teaching and research/publication. Salary and rank are open and dependent upon experience; minimum salary for assistant professor is \$16,000, and \$19,000 for associate professor. Apply by January 1981 with application letter, curriculum vitae, and names of three references to: **Chairman, Geology Department, The University of Nebraska-Lincoln, Lincoln, Nebraska 68588. Affirmative Action/Equal Opportunity Employer.**

PHARMACOLOGIST. Emory University has a position open at the assistant professor or associate professor rank. Candidates must have doctoral or equivalent degree; for assistant professor rank at least 1 year of postdoctoral research experience and potential to develop an independent research program; for associate professor rank five or more years of experience in teaching and research in pharmacology or related discipline, evidence of excellent independent research, and current grant support. Strong commitment to teaching and research is essential. Preferred research interests are cardiovascular-renal system, autonomic nervous system, receptors, cellular and molecular pharmacology, or autacoids. Letters of application, curriculum vitae, a brief description of career goals and proposed research program, and three letters of recommendation must be received by 31 January 1981. Send to: **Dr. Neil C. Moran, Chairman, Department of Pharmacology, Emory University, Atlanta, Ga. 30322.**

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

GENETICIST

The Department of Biology, College of the Holy Cross, invites applications for a tenure-track position beginning fall 1981. Candidates will be expected to teach a course in genetics for biology majors. They also should be able to participate in departmental courses in general biology. Preference will be given to applicants with a strong background in plant science. Candidates should have a strong commitment to undergraduate teaching and to developing a research program that can include undergraduates. Rank and salary depend on qualifications and experience. Submit curriculum vitae, statement of research interests and plans, and names of three referees by 12 December 1980 to:

**Peter Parsons, Ph.D.
Chairman of Search Committee
Department of Biology
College of the Holy Cross
Worcester, Mass. 01610**

The College of the Holy Cross is an Equal Opportunity/Affirmative Action Employer.

Pharmacology—Postdoctoral and faculty positions at assistant/associate professor levels are now available. Applicants with a doctoral degree and committed to medical teaching with research interest in neuropharmacology, cardiovascular pharmacology, or toxicology will be given preference. Send curriculum vitae, three references, and statement of research and career goals to: **Harbans Lal, Chairman, Department of Pharmacology, Texas College of Osteopathic Medicine, Camp Bowie at Montgomery, Fort Worth, Texas 76107. Equal Opportunity Employer.**

PLANT GENETICIST. Career federal service. Incumbent to establish independent research program on wheat genetics directed toward development of improved disease and insect resistant parental lines adapted to the Hard Red Winter Wheat Region. The position is located at Kansas State University Campus, Manhattan, Kansas. GS-12/13/14; salary based on qualifications and experience. For applications: **J. Brooks, USDA-SEA-AR-B23, 2000 West Pioneer Parkway, Peoria, Ill. 61615. Telephone: 309-671-7319. An Equal Opportunity Employer.**

POSITIONS OPEN

FACULTY POSITIONS

The Virginia-Maryland Regional College of Veterinary Medicine invites applications from individuals interested in faculty appointments in the Division of Veterinary Biology. Teaching experience in the broad areas of veterinary gross and microscopic anatomy, physiology, pathology, or pharmacology is desirable.

Candidates should desire participating in the programs of a new and developing college, and be prepared to develop a productive research program in their area of expertise. The opportunity for participation in clinical service is available. Salary and faculty rank will be commensurate with experience and qualifications.

Letters of application should include curriculum vitae, research and teaching goals, and names and addresses of three persons who will provide letters of reference.

Closing date for applications is 1 January 1981, or until the positions are filled.

Correspondence should be addressed to:

**Chairman, Division of Veterinary Biology
Virginia-Maryland Regional College
of Veterinary Medicine
Virginia Tech
Blacksburg, Va. 24061**

An Equal Opportunity/Affirmative Action Employer

POLYELECTROLYTE RESEARCH CHEMIST

Gillette Research Institute offers a rewarding career opportunity for individual having zero to 3 years of industrial experience in the physical characterization of solution polymers and colloids, including polyelectrolytes. Some experience in synthetic laboratory procedures and inorganic chemistry would be desirable. Advanced degree required. Send résumés to:



Gillette Research Institute

**Personnel Office
1413 Research Boulevard
Rockville, Maryland 20850**

An Equal Opportunity Employer

Dermatological Research and Development Opportunities

Alcon, a rapidly expanding two hundred million dollar multinational pharmaceutical and cosmetics manufacturer, has the following immediate career opportunities for qualified professionals within our Dermatology Research and Development area:

Senior Clinical Research Associate

We are currently seeking an innovative, achievement-oriented Senior Clinical Research Associate capable and willing to accept independent responsibility for supervising the initiation (e.g. selection of clinical investigators to evaluate products and potential products) and monitoring (e.g. protocol design, case report collation, etc.) of all assigned clinical studies.

We require:

- ☐ M.S. and/or Ph.D. Degree in a basic medical science.
- ☐ Five or more years' broad applicable CRA experience to include supervisory responsibilities.
- ☐ Excellent interpersonal and writing skills.

Senior Dermatological Products Formulator

This unique Senior Scientist position provides responsibility for formulation of drug delivery systems associated with the research and development of human pharmaceutical dosage forms, including emulsion and gel systems associated with topical products. In addition, it offers potential growth into supervision.

We require:

- ☐ Ph.D. Degree in Pharmacy or Pharmaceutics.
- ☐ Two to five years' industrial experience related to emulsion and gel systems associated with topical products.
- ☐ Ability to plan and execute experimental work utilizing good oral and written communication skills.

Dermatological Products Formulator

Responsibilities focus upon the development of new dermatological products (e.g. creams, lotions, gels, shampoos, etc.) as well as the improvement of existing products.

We require:

- ☐ B.S. and/or M.S. Degree in related scientific discipline.
- ☐ Five years' dermatology/cosmetic product development experience.

We can offer you, as a qualified professional, a highly competitive starting salary, comprehensive life-health-dental insurance benefits and an excellent profit sharing plan. In addition, you and your family will appreciate our exciting Sunbelt location within the dynamic Dallas-Forth Worth Metroplex, featuring a wide variety of cultural and recreational diversions in a low-cost-of-living area.

If you are seeking a challenging career opportunity with a growing, established company, send your detailed resume in strict confidence to:

T.D. Faver, Corporate Employment Supervisor, Department S



ALCON LABORATORIES, INCORPORATED

P.O. Box 1959, Fort Worth, Texas 76101

an equal opportunity employer m/f/h/v

POSITIONS OPEN

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

The Department of Earth and Planetary Sciences is seeking to fill a **faculty position** in the area of **MARINE GEOPHYSICS/GEOLOGY**. Applicants should be oriented toward developing programs involving marine related data and should be prepared to participate in and run oceanographic cruises. Specializations could include such areas as tectonics at midocean ridges, tectonic and sedimentary problems at island arcs, continental shelf subsidence studies, and the correlation of satellite gravity and geoid fields with other geological and geophysical observations. The individual filling this position would be expected to interact with one or more of the following fields in the department: regional tectonics, seismology, theoretical geophysics, and marine geology. The individual would also participate significantly in the Joint Program in Oceanography with the Woods Hole Oceanographic Institution.

The appointment will probably be filled at the assistant professor level but consideration of a person at higher rank is possible.

Interested applicants should submit résumé and cover letter to:

J. G. Sclater
Department of Earth and Planetary Sciences
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

Our department's commitment to Affirmative Action encourages applications from all candidates without regard to race or sex.

JUNIOR FACULTY, tenure-track positions in neurobiology, Marine Biomedical Institute, University of Texas Medical Branch, Galveston. Investigators with postdoctoral experience to establish independent and collaborative research programs in areas ranging from molecular membrane mechanisms to integrative neurobiology. Send curriculum vitae and three letters of recommendation to: **Dr. Harold Pinkser, Chairman, Search Committee, Marine Biomedical Institute, 200 University Boulevard, Galveston, Texas 77550.** *The University of Texas Medical Branch is an Equal Opportunity/Affirmative Action Employer.*

PHARMACOLOGISTS at the level of assistant and associate professor. The Department of Pharmacology, University of Minnesota, Duluth, School of Medicine, is seeking to fill two positions, one at the assistant and the other at the associate professor level. Both tenure-track positions are available as of 1 July 1981. Qualifications should include the Ph.D. or M.D. degree, research experience, and teaching interest in the areas of cardiovascular pharmacology, chemotherapy, or toxicology. Secondary consideration may be given to individuals whose expertise is in the areas of neuropharmacology, autonomic pharmacology, or endocrine pharmacology. Candidates for assistant professor should have 1 to 2 years of postdoctoral experience and demonstrated research productivity. Associate professor candidates should have at least 4 years of academic experience, including teaching and research, and a record of publication and ability to secure external funding. Those interested should send curriculum vitae, including a summary of teaching and research experience, list of publications, and the names of three references, to: **Dr. Richard Eisenberg, University of Minnesota, Duluth, School of Medicine, Duluth, Minnesota 55812** by 31 December 1980.

The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities. The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, creed, color, sex, national origin, or handicap.

VON BRAUN POSTDOCTORAL FELLOW IN SPACE PHYSICS THE UNIVERSITY OF ALABAMA IN HUNTSVILLE (UAH)

Effective September 1981, a tenure-track assistant professorship with reduced teaching for first 2 years. Research specialty in astrophysics, planetary science, or solar-terrestrial physics. Research support available from UAH, NASA, and Redstone Arsenal. Salary competitive. Recent Ph.D.'s. Send résumé, research plans, and names of four references to: **Von Braun Fellowship Committee, The University of Alabama in Huntsville, Huntsville, Ala. 35899.** Deadline: 15 January 1981.

Equal Opportunity in Education and Employment

POSITIONS OPEN

MEDICAL ENTOMOLOGIST

The Department of Entomology, University of Illinois-Urbana, is seeking a Ph.D. medical entomologist for employment after August 1981 in a tenure-track position as an assistant professor, subject to budgetary approval. The salary range is competitive. Teaching responsibilities will include courses in medical and veterinary entomology and general biology, and research should focus upon insects of medical importance and their roles as vectors of human and animal pathogens. To apply, send curriculum vitae and the names of three references to: **S. Friedman, Search Committee, Department of Entomology, 320 Morrill Hall, University of Illinois, Urbana, Illinois 61801; telephone: 217-333-2910.** In order to receive full consideration, your application must be received by 15 January 1981. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

MEDICAL PSYCHIATRIC LIAISON DIRECTOR is being sought for well-established multidisciplinary clinical group. Reputation of this group in the field of psychosomatic medicine is international in scope and includes education at the medical school, residency, fellow, and continuing education levels. Research has been in the psychosocial areas of oncology, gastroenterology, cardiology, nephrology, neurology, human sexuality, pregnancy, and genetic counseling. Patient care and consultation learning experiences are included in the activities of its trainee investigators. Opportunity to try new educational approaches as well as carry out independent research within a biopsychosocially oriented setting. Prefer M.D. degree, professional and administrative experience. Please write: **Dr. Robert Ader, Chairman, Search Committee, P.O. Box R-Wing, University of Rochester, School of Medicine and Dentistry, 300 Crittenden Boulevard, Rochester, New York 14642.** *Equal Opportunity Employer, M/F.*

CHESAPEAKE BAY INSTITUTE THE JOHNS HOPKINS UNIVERSITY FOUR POSITIONS

Two **PHYSICAL OCEANOGRAPHERS**, at least one of which will be at a senior or intermediate level. Successful applicants will be expected to assume a leading role in the expansion of the Institute's Physical Oceanography Program. Applicants should have a Ph.D. or equivalent and preference will be given to those with theoretical or descriptive interests in continental shelf or estuarine circulation dynamics. Interdisciplinary studies are encouraged. Rank and salary commensurate with qualifications.

Two **BIOLOGICAL OCEANOGRAPHER/MARINE BIOLOGISTS** for Ph.D.'s (or equivalent) interested in estuarine or coastal ocean research in any of the following areas: plankton physiology, microbiology, heterotrophy, or benthic studies. Rank and salary for both positions are negotiable and one position may be at the senior level.

The Chesapeake Bay Institute, now in its 31st year as a research division of The Johns Hopkins University, has recently moved to a waterfront facility about 15 miles south of Annapolis, Md. The Institute operates a fleet of research vessels and is a member of the UNOLS organization. Applications will be accepted until all positions are filled. Submit résumé, statement of interests including bibliography, and names of three professional references to: **Search Committee, Chesapeake Bay Institute, 4800 Atwell Road, Shady Side, Maryland 20867.** *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL BIOCHEMISTS sought to study (i) sphingolipid metabolism and pathology, (ii) function of newly isolated proteins that control cerebroside metabolism (with the aid of monoclonal antibodies), and (iii) effects of enzyme inhibitors on sphingolipid enzymes in vitro and in vivo. An opportunity to develop your expertise in modern chromatography, immunoassays, enzyme and lipid assays. Write: **Norman Radin, Mental Health Research Institute, University of Michigan, 205 Washtenaw Place, Ann Arbor, Michigan 48109.**

Several **POSTDOCTORAL POSITIONS** are available in the study of chromatin structure, transcription and replication, and the regulation of histone gene expression with Doctors J. Gottesfeld, R. L. Seale, and J. Siegel. Applicants please indicate preference and send curriculum vitae with names of three referees to: **Dr. Ronald L. Seale, Department of Cellular Biology, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, Calif. 92037.**

POSITIONS OPEN

POSITION IN NEUROBIOLOGY DEPARTMENT OF ZOOLOGY UNIVERSITY OF CALIFORNIA, BERKELEY

Applications are invited, pending final budgetary approval, for an anticipated tenure-track opening at the level of **assistant professor of zoology**. The teaching and research interests of the candidate should be in the area of functional neurobiology with emphasis at the level of interactions between cells. Possible areas of specialization include brain chemistry, neuromodulators, transmitter systems, integrative networks, and development. Teaching responsibilities will include an advanced course in the candidate's area of specialization and participation in an undergraduate course in regulatory biology. Applicants should send curriculum vitae, bibliography with copies of publications, a summary of research and teaching objectives, and the names of three references to: **Chairman, Search Committee in Neurobiology, Department of Zoology, University of California, Berkeley, California 94720.** Review will begin 1 January 1981 and the deadline for applications is 1 February 1981. *The University of California is an Affirmative Action Employer.*

DEPARTMENT OF PHYSIOLOGY UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE

Applications and nominations are invited for a faculty position in physiology. Candidates must have completed a postdoctoral fellowship and be prepared to initiate an independent research program capable of competing for extramural support. This appointment can be made at any level and any area of physiology except reproductive endocrinology.

Please send curriculum vitae, references, and a brief statement of research plans to: **Chairman, Department of Physiology, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania 15261.**

An Equal Opportunity/Affirmative Action Employer

GEORGETOWN UNIVERSITY HOSPITAL DEPARTMENT OF OBSTETRICS AND GYNECOLOGY DIVISION OF GYNECOLOGIC ONCOLOGY

POSTDOCTORAL POSITION IN GYNECOLOGIC ONCOLOGY available for qualified applicant with Ph.D. to carry out research in diagnosis of gynecologic malignancies.

Applicant should have a strong background in cancer diagnosis and treatment.

Send curriculum vitae and list of three or more persons who may be contacted for references to:

John T. Queenan, M.D.
Professor and Chairman
Department of Obstetrics and Gynecology
Georgetown University Hospital
3800 Reservoir Road, NW
Washington, D.C. 20007

Georgetown University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available for research in multiple sclerosis and experimental allergic encephalitis. Ph.D. in immunology or related field required. Experience with study of neurotransmitter receptors or suppressor cells helpful. Send curriculum vitae and names of three references to: **Lynn E. Spitzer, M.D., Children's Hospital, 3800 California Street, San Francisco, Calif. 94118.**

POSTDOCTORAL POSITION. Chemical and biochemical studies of nitrogenase including energetics, kinetics, and spectroscopy. Seeking biochemist or chemist with some biochemical background. Position available immediately. Send résumé and two references to: **Dr. Gerald D. Watt, C. F. Kettering Research Laboratory, Yellow Springs, Ohio 45387.**

POSTDOCTORAL POSITIONS with one of several faculty members working in vision research. Research areas include theoretical, spectroscopic, and photochemical studies of primary processes (T. Ebrey, B. Honig, K. Kaufmann); photoreceptor biochemistry (T. Ebrey); retinal neurophysiology (L. Barr, B. Oakley III); visual cortical plasticity (W. Greenough); geniculostriate neurophysiology (J. Malpeli); and tectal neurophysiology (C. L. Prosser). For further information, write: **Vision Program, c/o T. G. Ebrey, 524 Burrill Hall, University of Illinois, Urbana, Illinois 61801.**

VICE PRESIDENT FOR ACADEMIC AFFAIRS

The Vice President for Academic Affairs is the chief academic officer for SUNY/Albany, the senior campus of State University of New York. The Vice President is responsible for academic policy and programs, administers the academic budget, and serves as the University's chief executive officer in the absence of the President.

Candidates for this position must have a distinguished record of academic scholarship and teaching. In addition, the record should give evidence of successful administrative experience in an academic setting and of engagement with the broader issues of American higher education.

The closing date for nominations and applications is December 1, 1980. The starting date for the new appointment is September 1, 1981. Applicants should submit a current curriculum vitae, including names and addresses of three references, to William Hedberg, Executive Secretary, VP for Academic Affairs Search Committee, c/o Office for Research (AD 218), 1400 Washington Avenue, Albany, New York 12222.

*An equal opportunity/affirmative action employer.
Applications from women, minorities, and the
handicapped are especially welcome.*



**STATE UNIVERSITY
OF NEW YORK AT ALBANY**

PHD RENAL PHARMACOLOGIST

SmithKline Corporation, a diversified multinational health care firm located in Philadelphia, PA. is seeking a Renal Pharmacologist who is interested in research directed toward the discovery and pharmacological characterization of new and useful renal agents. Career development will be encouraged and technical assistance is provided.

Preference will be given to individuals who have a PhD in Pharmacology with at least 1 to 2 years pharmacology research experience beyond the Doctorate; demonstrated capability in initiating and conducting independent and unique research; confidence in the investigation of molecular mechanism of renal function with regard to transport systems, renal auto regulation, control of fluid and electrolyte balance and the role of the kidney in modulating vascular tone; and experience in the newest methods for the conduct of detailed and sophisticated investigations of renal function.

SmithKline offers an excellent benefits and compensation program including an attractive relocation package along with opportunity for personal and professional growth. Please send resume with salary history, in confidence to: Mr. W.B. Flagg, Senior Employment Administrator, SMITHKLINE CORPORATION, 1524 Spring Garden Street, P.O. Box 7929, Philadelphia, PA 19101. Equal Opportunity Employer, M/F/H/V.

SmithKline

The Department of Geological Sciences at the University of Maine at Orono is seeking a geophysicist, a geochronologist, a metamorphic petrologist, and a marine sedimentologist. The first three will join a group investigating mountain systems, with particular emphasis on the New England Appalachians. Existing related staff include a structural geologist, an experimental petrologist, and a stratigrapher. The sedimentologist will join a group of Earth and Marine scientists with diverse interests including benthic ecology, estuarine modeling, lacustrine sedimentation, glacial-marine sedimentation, and environmental geochemistry. All of these new individuals will join two new major research programs funded by the National Science Foundation. Applicants should have a PhD and productive post-doctoral experience. Salaries and rank are commensurate with experience.

Curriculum vitae and the names of three referees should be sent to Professor Stephen A. Norton, Geological Sciences, 110 Boardman Hall, University of Maine at Orono, Orono, Maine 04469 by December 7, 1980. The University of Maine at Orono is an equal opportunity employer.

Geophysicist. Applicants should have experience in potential field and seismic methods, particularly as applied to investigations of subsurface structures and problems of plate tectonics. Familiarity with computer techniques and quantitative methods of data analysis is essential. Research responsibilities include integration of geophysical studies with ongoing geologic investigations of the Appalachian-Caledonian orogen and model studies utilizing existing gravity and magnetic data. The successful applicant is expected to develop cooperative research projects with other members of the group. Teaching responsibilities include a course in geophysical principles and a seminar. This is a tenure-track position.

Geochronologist. Applicants should have a well-rounded background in both stable and unstable isotope systematics and specialize in one or more of the following geochronological methods: Ar^{40}/Ar^{39} , Rb-Sr, or U-Th-Pb. The geochronologist is expected to participate in studies bearing on orogenesis of the Appalachian-Caledonian system and to develop cooperative research projects with other members of the group. Teaching responsibilities include a course in isotope geology and an advanced course in his/her specialty. This is a tenure-track position.

Metamorphic Petrologist. Applicants should possess an intimate knowledge of mineral associations, an overview of the relationship of metamorphism to mountain building, and the ability to apply thermodynamics/kinetics to problems of metamorphic petrology. The researcher is expected to participate in ongoing studies concerned with the Appalachian-Caledonide orogen and to develop cooperative research projects with others in this group. Research should combine field and laboratory studies. Teaching responsibilities include a course in petrography and one or more advanced courses in metamorphic petrology. This is a tenure-track position.

Marine Sedimentologist. Applicants should have expertise in fine-grained sediments. Training should include a strong background in the fundamental and quantitative aspects of sediment transport mechanics. Interest and past research should be in the application of this background to field-oriented studies of sedimentary processes in the coastal environment. Training should include experience in the application of statistical and computer techniques to solving field problems. Experience with geochemical methods would be useful.

The successful applicant will be expected to interact extensively with the staff, to obtain extramural support, and to conduct research in the Maine coastal zone. Teaching responsibilities include a course in sediment transport and a specialty course in alternate years. The position is nontenure track with annual reappointment (for up to 5 years). The appointment may be joint between Geological Sciences and Oceanography.

POSITIONS OPEN

POSTDOCTORAL POSITIONS CELL BIOLOGY

The Cell Biology Group of the Worcester Foundation for Experimental Biology announces the availability of postdoctoral positions. The members of this group are: Earl Baril, Edward Berger, William Crain, Grant Fairbanks, Jay Greenberg, Thoru Pederson, Harriet Robinson, David Steffen, Greenfield Sluder, Richard Vallee, Samuel Wadsworth, Robert Weihing, and Paul Zamecnik. These are 2-year appointments with possible renewal; the initial salary is \$12,500. Applicants should submit a curriculum vitae, a brief synopsis of their Ph.D. thesis research, and at least three letters of recommendation. Candidates should indicate the faculty member(s) with whom they would wish to work if a position is awarded.

Application materials should be sent to: Dr. Thoru Pederson, c/o Cell Biology Group Postdoctoral Fellowship Program, Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITIONS: Mössbauer group at Gray Freshwater Biological Institute has two positions (up to 3 years). Good background in physics or biophysical chemistry required. Experience in Mössbauer or EPR spectroscopy desirable. Projects involve nitrogenase, sulfite reductase, three-iron clusters, and dioxygenases. Send curriculum vitae and three letters of reference by 15 December 1980 to: Dr. E. Münck, Gray Freshwater Biological Institute, University of Minnesota, Navarre, Minn. 55392. *The University of Minnesota is an Equal Opportunity Educator and Employer.*

POSTDOCTORAL POSITION available immediately to isolate and purify antigens from brush border of renal tubule and develop radioimmunoassay to measure antigens in body fluids. Ph.D. in biochemistry or related areas. Send curriculum vitae and letters of reference to: S. P. Makker, M.D., Department of Pediatrics, Case Western Reserve University School of Medicine, Cleveland, Ohio 44106. *Equal Opportunity/Affirmative Action Employer.* Reply by 21 November 1980.

POSTDOCTORAL POSITION available immediately for research on biochemistry and reaction mechanisms of coagulation factors XI and high-molecular-weight kininogen. Ph.D. in biochemistry or related field required; experience in coagulation research desirable. Send curriculum vitae and amplifying letter to: Dr. Sandra Schiffman, University of Southern California Medical School, 2025 Zonal Avenue, Los Angeles, Calif. 90033. *An Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATES: one in soil ecology, nutrient cycling, or groundwater hydrology and a second in invertebrate ecology. To participate in the development of an integrated ecological research program in tallgrass prairie. Positions open now to be filled by 1 May 1981. Send résumé, including names of references, by 1 December 1980 to:

Dr. G. R. Marzolf
Konza Prairie Research Natural Area
Division of Biology
Kansas State University
Manhattan, Kansas 66506

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

PROFESSOR OF ZOOLOGY

The University of Florida announces a position, starting September 1981, for an exceptionally distinguished scholar to be appointed as **PROFESSOR OF ZOOLOGY**. The responsibilities will be a productive research program, a graduate course, and limited undergraduate teaching. Research interests: comparative, ecological, or evolutionary zoology. Preference: physiological ecology of marine invertebrates. Direct inquiries and submit curriculum vitae, a statement of research interests, and the names of three referees to:

Frank J. Maturo, Jr.
Chairman, Professor Search Committee
Department of Zoology
University of Florida
Gainesville, Florida 32611
Telephone: 904-392-1097

The deadline for applications is 15 December 1980. *An Equal Opportunity/Affirmative Action Employer*

POSITIONS OPEN

POSTDOCTORAL POSITION in experimental hematology available immediately for studies on cell-cell interaction for the regulation of hematopoiesis. Experience with in vitro culture of hematopoietic progenitor cells is desirable. Send curriculum vitae and three references to: Dr. Saul J. Sharkis, Department of Oncology, Room 2-127, The Johns Hopkins School of Medicine, 600 North Wolfe Street, Baltimore, Maryland 21205. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE
Position available immediately to study mechanisms of pathogenicity of *Pseudomonas aeruginosa* in insects. Experience in biochemistry, microbiology, or immunology preferred. Send résumé, including summary of research experience and three references, by 1 December 1980 to: Dr. P. E. Dunn, Department of Entomology, Purdue University, West Lafayette, Ind. 47907. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE, plant molecular biology. Immediate opening for recent Ph.D. to construct a plant cloning vector using the *Agrobacterium tumefaciens* Ti plasmid system. Applicants should send curriculum vitae and arrange for three letters of reference to be sent to: Dr. Daniela Sciaky, Biology Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, New York 11973. *Equal Opportunity Employer, M/F.*

POSTDOCTORAL RESEARCH ASSOCIATES—Positions available for studies of: (i) regulation of human urea cycle enzymes using recombinant DNA techniques, (ii) human lysosomal lipases and phospholipases related to storage diseases, and (iii) the biochemical basis of inborn errors of glycine metabolism. Biochemical genetic laboratories with strong basic molecular and clinical environment. Send curriculum vitae and letters of reference to: Arthur L. Beaudet, Department of Pediatrics, Baylor College of Medicine, Houston, Texas 77030. *An Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATESHIPS AT THE NAVAL MEDICAL RESEARCH INSTITUTE BETHESDA, MARYLAND Sponsored by The Naval Medical Research and Development Command in association with The National Research Council

Competitive applications are now being accepted for research associateships, starting 1 October 1981, in the areas of behavioral science, dental science, immunology, microbiology, parasitology, biochemistry, physiology, pharmacology, and hyperbaric medicine. Competition is open to all U.S. citizens and foreign nationals who possess a doctorate degree (M.D., Ph.D., D.D.S., D.V.M., or Sc.D.) or will earn the degree before beginning tenure. The program is open to senior investigators as well as to recent doctoral recipients. Salaries begin at \$22,486, and are commensurate with professional experience. Completed applications are due not later than 15 January 1981. Information and application materials may be obtained by writing to: National Research Council, Associateship Office (JH 610-N2), 2101 Constitution Avenue, NW, Washington, D.C. 20418. *An Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE POSITION IN RENAL PHYSIOLOGY, available July 1981. Biochemist or physiologist to study ion transport mechanisms in plasma membrane vesicles isolated from renal cortex. Send curriculum vitae and three letters of reference before 15 December 1980 to:

Dr. Peter Aronson
Department of Physiology
Yale School of Medicine
New Haven, Conn. 06510

RESEARCH ASSOCIATE with Ph.D. degree wanted to run laboratory dealing with amino acid and hormone measurements for clinical investigative studies.

Contact: Philip Felig, M.D., Yale University School of Medicine, 333 Cedar Street, New Haven, Conn. 06510.

Yale University is an Affirmative Action/Equal Opportunity Employer. Applications from females and minority groups are encouraged.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Participate in a unique interdisciplinary investigation of the development of the biochemical and electrophysiological responses of cultured embryonic heart cells to peptide hormone receptor occupancy. Background and training in membrane biochemistry, biophysics, or equivalent. Salary commensurate with experience. Submit curriculum vitae and names of three references to: Dr. L. J. Elsas, Box AM, Woodruff Memorial Research Building, Emory University, Atlanta, Ga. 30322. Deadline for applications is 1 January 1981. *Emory University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH POSITION in psychology. To study psychopharmacology, disorders of sleep, and gerontology; experience in sleep research required; experience in pharmacology, psychopathology, or aging helpful; 2-year appointment, starting January 1981; \$14,000 to \$16,000. Send curriculum vitae, including research goals and three letters of reference, to: Dr. Michael Bonnet, Sleep Laboratory, 116 A1, VA Hospital, 3200 Vine Street, Cincinnati, Ohio 45220.

POSTDOCTORAL RESEARCH POSITION: SPATIAL VISION. Available for 2 years beginning 1 January to 1 July 1981. Single unit studies in extrastriate visual cortices of owl monkey. Applicants with experience in visual system electrophysiology or psychophysics of spatial vision are preferred. Salary commensurate with experience. Send résumé and names of three references to: Dr. Daniel A. Pollen, Chairman, Division of Neurobiology, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix, Arizona 85013.

The California Space Institute of the University of California has an opening on the Santa Barbara campus for a new or established **RESEARCHER IN REMOTE SENSING** interested in the general area of renewable natural resources. Emphasis on some combination of research in remote sensing of natural and agricultural vegetation and of soil moisture will be weighted heavily, as will skills in computer image analysis, information systems, and modeling. We seek an independent worker with the goal of deepening and widening existing work in these areas on this campus. Rank and salary commensurate with experience. Closing date: 15 January 1981. Submit résumé, bibliography, and a brief account of research interests to: Dr. David Simonett, Department of Geography, University of California, Santa Barbara, California 93106. *The University of California, Santa Barbara, is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE. Investigate conceptual/normative issues concerning policy for the preservation of species. Require background in philosophy, biology, particularly ecology, evolutionary theory, and philosophy of biology. Teach two courses per year on research. Ph.D. prior to appointment and/or demonstrated outstanding research; 12-month contract; initial 2-year appointment begins 1 July 1981; renewal possible. To be guaranteed full consideration, applications should be postmarked by 1 December 1980 and sent to: P. G. Brown, Endangered Species Project, Center for Philosophy and Public Policy, University of Maryland, College Park, Md. 20742. *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE. A position is available immediately for a Ph.D. biochemist with experience in studying hemeprotein structure-function relationships to investigate mechanisms of hemeprotein-hemeprotein electron transfer. Salary commensurate with experience. The position is for 1 year, renewable. Send curriculum vitae and three letters of reference to: Dr. G. Mauk, Department of Biochemistry, University of British Columbia, Vancouver, British Columbia, Canada V6T 1W5.

Research Associate

Leading medical school is seeking a research associate to perform immunological experiments relating to the development of hyperthermia and radiosensitizing procedures in the treatment of cancer. Job requires a Ph.D. in a cancer-related field, with strong preference for training in hyperthermia research and with a good immunological background. Salary is \$20,196 per year. Apply to: EDD Office, James Peters, 297 West Hedding, San Jose, California 95110. *Equal Opportunity Employer through Affirmative Action.*

CHEMISTS / CHEMICAL ENGINEERS / MICROBIOLOGISTS

OUTSTANDING OPPORTUNITIES

FEDERAL CAREER SERVICE WITH THE U.S. DEPARTMENT OF AGRICULTURE

The Eastern Regional Research Center of USDA's Science and Education Administration, Agricultural Research, is seeking qualified professionals for the positions listed below. The Center is located in Wyndmoor, PA, a beautiful suburb of Philadelphia. USDA is an Affirmative Action/Equal Employment Opportunity Employer. Women and minorities are urged to apply.

LEADERSHIP POSITIONS (27-\$50K)

(Ph.D. and supervisory experience is desirable)

CHIEF, ENGINEERING SCIENCES LABORATORY, Supervisory Chemical Engineer, GS-13/15. Plan, organize, and conduct research involving chemical, mechanical, food engineering, and chemistry disciplines. BS/MS/Ph.D.

CHIEF, PHYSICAL CHEMISTRY AND INSTRUMENTATION LABORATORY, Supervisory Research Chemist, GS-13/15. Plan, organize, and conduct research in physical/analytical chemistry and biochemistry.

CHIEF, FOOD SAFETY LABORATORY, Supervisory Research Chemist, GS-13/15. Plan, organize, and conduct basic and applied chemical, biological, and microbiological research on fresh and processed foods to assure a safe and wholesome food supply.

RESEARCH LEADER, CHEMICAL AND FOOD ENGINEERING APPLICATIONS, Supervisory Chemical Engineer/Supervisory Research Chemist, GS-12/14. Plan, organize, and conduct research on conventional and new processes for agricultural materials.

RESEARCH LEADER, MICROBIOLOGICAL SAFETY, Supervisory Microbiologist, GS-13/15. Plan, organize, and conduct a research program on conditions influencing growth and toxin production of food pathogens including food microbiology, microbial metabolism, chemistry, and virology.

RESEARCH LEADER, MEAT AND MEAT PRODUCTS, Supervisory Research Chemist/Food Scientist, GS-13/15. Plan, organize, and conduct a research program on biochemical and physicochemical processes and characteristics of muscle components and their interactions with other food components.

RESEARCH LEADER, FOOD IRRADIATION, Supervisory Research Chemist/Food Scientist/Phy. Sci. GS-12/15. Lead and conduct research program on applications of ionizing radiation to meats, fruits and vegetables, radiation chemistry and wholesomeness of irradiated foods.

RESEARCH POSITIONS (\$22-32K)

(Ph.D. is desirable)

CHEMICAL ENGINEER (PROCESS ENGINEERING) GS-11/13, Engineering Sciences Laboratory. Conduct basic and applied research across a broad spectrum of agricultural problems. Study physical/ chemical phenomena and new processes on bench and pilot plant scale. BS/MS/Ph.D.

RESEARCH CHEMIST (MASS SPECTROSCOPIST) GS-12/13, Physical Chemistry and Instrumentation Laboratory, Spectroscopy Research. Conduct research on fundamental aspects of mass spectrometry.

RESEARCH CHEMIST (PHYSICAL PROPERTIES OF COMPOSITE POLYMERS) GS-12/13, Hides and Leather Laboratory, Chemical Modification Research. Study structure-property and composition-property relationships of fibrous protein-polymer composites.

Salary is based on qualifications and experience. Usual Federal Government benefits apply.

Salary ranges:	GS-11 \$22,486-29,236	GS-13 \$32,048-41,660	GS-15 \$44,547-50,112
	GS-12 \$26,951-35,033	GS-14 \$37,871-49,229	

At the Eastern Regional Research Center, scientists are engaged in basic and applied research in the public's interest on a variety of agricultural commodities to develop new fundamental information and new processing technologies, improve the nutritional value of foods, eliminate health hazards, reduce environmental pollutants and conserve natural resources.

We are now accepting applications from qualified professionals for the above positions. Applications may only be accepted from U.S. citizens. Applications *MUST BE* received by *December 8, 1980*. For further information and application requirements contact:

**Personnel Office, USDA, Eastern Regional Research Center,
600 East Mermaid Lane, Philadelphia, PA 19118
(215) 247-5800, ext. 295/397**

POSITIONS OPEN

SCIENCE RESEARCH ASSOCIATE

An experienced investigator is requested immediately to pursue collaborative research in the Laboratory of Cellular Neurobiology. The biochemical differentiation of neuroblastoma, glioma, and hybrid cells in culture by 2-D gels, enzyme induction, and membrane transport is the main theme of investigation. An outstanding person would be offered a long-term position leading potentially to a faculty appointment. We have an outstanding group of scientists in our own laboratory and this position offers a real opportunity for scientific development and experience in molecular neurobiology.

Telephone (collect): 214-688-3703, or send curriculum vitae to: Roger Rosenberg, M.D., Department of Neurology, University of Texas Health Science Center, 5323 Harry Hines Boulevard, Dallas, Texas 75235.

The University of Texas is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.

RESEARCH AWARD IN MARINE BENTHIC ECOLOGY. The National Research Council will award a research associateship in benthic ecology, tenable at the U.S. Environmental Protection Agency's marine research laboratory in Newport, Oregon. Research must be directed toward the effects of pollution on the structure and function of macrofaunal benthic communities. The program is open to senior investigators as well as recent doctorates. For details of the research program, contact: Dr. Rick Swartz, Marine Science Center, Marine Science Drive, Newport, Oregon 97365; telephone: 503-867-4031. For general information and application materials, write to:

Associateship Officer (EPA/Benthic Ecology)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, D.C. 20418

RESEARCH POSITION available to study cellular immunology of human tumors. Candidate must be M.S. or recent Ph.D. with experience in cell culture and immunological techniques. Excellent salary and benefits. Please send résumé to: G. Parker, Immunochimistry Research, Evanston Hospital, 2650 Ridge Avenue, Evanston, Illinois 60201. *Equal Opportunity Employer, M/F.*

SOLAR FLUID DYNAMICS MHD and MAGNETIC FIELD DIAGNOSTICS

Three Ph.D.-level scientific appointments are available at the High Altitude Observatory, a scientific division of the National Center for Atmospheric Research (NCAR), in Boulder, Colorado. One is in modeling global fluid dynamics of the solar convection zone and solar dynamo; a second is in theoretical magnetohydrodynamics and plasma physics of the solar atmosphere; and the third is in quantitative diagnostic studies of solar spectral lines polarized by magnetic fields. The first two positions may be filled at the level of a first or second 3-year appointment in the NCAR scientific appointment system; the third may be filled at either the second 3-year or 5-year appointment level. Telephone: Margareta Domecki at 303-494-5151, extension 581; or send résumé with publications list and salary requirements to: Employment Office, NCAR, P.O. Box 3000, Boulder, Colo. 80307.

An Equal Opportunity/Affirmative Action Employer

STAFF RADIOLOGIST

A position of staff radiologist is currently open. DePaul Hospital is actively searching for a staff radiologist skilled in computed tomography (CT), ultrasound, and interventional radiology. At least 2 years in an academic center are required with documented excellence by way of publications and letters of recommendation. Experience in teaching of the above subspecialties, as well as general diagnostic radiology, to medical students, residents, and fellow radiologists, is also a requirement. Documented research in CT of pulmonary lesions is preferred. The appointment date will be 1 January 1981. Send letters of application, curriculum vitae, and two letters of reference to:

Frederick P. Stitik, M.D.
Chairman, Department of Radiology
DePaul Hospital
150 Kingsley Lane
Norfolk, Virginia 23505

Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

RESEARCH ASSISTANT— AUDITORY LABORATORY

A minimum 1-year appointment to assist in conduction and analysis of experiments concerning the effects of hearing impairment on speech recognition. Requires Ph.D. in audiology or speech science with experience working with the hearing impaired and problems of speech perception. Position open immediately. Contact: Dr. Paul Ward or Dr. Donald Dirks, Division of Head and Neck Surgery (Audiology), 62-132 CHS, UCLA Center for Health Sciences, University of California at Los Angeles, Los Angeles, California 90024.

UCLA is an Equal Opportunity/Affirmative Action Employer.

SCANNING EM TECHNICIAN

Applicants are sought for a position involving both scanning and transmission electron microscopical studies of the effects of advancing age on mammalian cells. The individual will be responsible for full maintenance and operation of the SEM facility and will report to the laboratory director. Duties will include specimen preparation, operation of the microscope, and photographic processing of micrographs. A bachelor's degree, SEM experience, and a background in biological laboratory research are essential. Good darkroom skills and TEM experience, including thin-sectioning, are highly desirable. The position is grant-supported for a 5-year period. Applicants should direct curriculum vitae to: Dr. Martin L. Feldman, Department of Anatomy, Boston University School of Medicine, 80 East Concord Street, Boston, Mass. 02118. *We are an Equal Opportunity Employer.*

TECHNICAL ASSOCIATE (ELECTRON MICROSCOPIST) ROCHESTER, NEW YORK

A position is open for an experienced transmission electron microscopist at the University of Rochester. The individual will be expected to train users on a Zeiss 109 and to have responsibility for routine maintenance. Competence in nucleic acid spreading techniques is required; experience in tissue embedding and sectioning is desired. Half-time (20 hours per week to start); the possibility of full time exists as need arises. Interested persons should write to: Professor Joanna Olmsted, Department of Biology, University of Rochester, Rochester, N.Y. 14627.

The University of Rochester is an Equal Opportunity Employer.

SYSTEMS SOFTWARE

System software staff of the computer-based Education Research Laboratory (PLATO), with duties in maintenance, development, system management, and system design. Qualifications: bachelor's degree with experience in system software and/or CAT programming. Should be able to work on own initiative in group of 10 to 20 people. Starting salary: \$15,000 to \$19,000. Send letter and résumé to: Dr. R. K. Rader, 252 ERL, University of Illinois, Urbana, Ill. 61801. Closing date: 1 December 1980.

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

VISITOR APPOINTMENTS are available for new and established Ph.D.'s for up to 1-year periods to carry out research in solar physics, solar-terrestrial physics, and related subjects. Applicants should provide curriculum vitae, including education, work experience, publications, the names of three scientists familiar with their work, and a statement of their research plans. Applications must be received by 15 January 1981 and they should be sent to: Visitor Committee, High Altitude Observatory, National Center for Atmospheric Research (NCAR), P.O. Box 3000, Boulder, Colorado 80307. *NCAR is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

RESEARCH ASSOCIATE IN DEVELOPMENTAL PSYCHOPHARMACOLOGY

Ph.D. in pharmacology or related field. Experience conducting behavioral/functional teratology studies, using operant behavior analyses, neurochemical methodologies, and multivariate statistical procedures are essential. The successful candidate will assume daily responsibility for and work closely with principal investigator on a multidisciplinary project studying developmental effects of opiates in rat and chick embryos, fetuses, and mature subjects after early exposure. Position will probably be available February or March 1981 for a period of 2 to 3 years. Salary range: \$16,000 to \$19,000, depending upon qualifications and experience. Interested candidates should send current curriculum vitae to: S. B. Sparber, Ph.D., Department of Pharmacology, University of Minnesota, 3-260 Millard Hall, 435 Delaware Street, SE, Minneapolis, Minn. 55455. *Equal Opportunity Employer.*

SPECIALIST IN FISH AND WILDLIFE ECOLOGY

A private nonprofit corporation located in Washington, D.C., seeks a qualified scientist to assist in managing a comprehensive fish and wildlife program. Ph.D. or equivalent experience; broad experience in management of studies in fisheries and wildlife management/ecology; knowledge of current national fisheries and wildlife issues; demonstrated skill in written and technical communication; four or more years of experience in program management essential. Salary: \$32,000 to \$36,000. Please send résumé to: Dr. Philip Ross, Board on Agriculture and Renewable Resources, National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, D.C. 20418. *An Equal Opportunity Employer.*

STATISTICAL GENETICIST with a strong background in quantitative or population genetics. The successful candidate will be expected to collaborate in biomedical research projects involving nonhuman primates and to develop a strong independent research program. Academic affiliation may also be possible. This is an excellent opportunity for a creative scientist in an expanding genetics program under the direction of Dr. John L. VandeBerg. Postdoctoral experience required. Send résumé, statement of research interests, and names 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.*

TECHNOLOGY AND PUBLIC POLICY

The Department of Engineering and Public Policy of Carnegie Institute of Technology, the Social Science Department of the College of Humanities and Social Science, and the School of Urban and Public Affairs, Carnegie-Mellon University, have one or more joint faculty openings: (i) for applied social scientists interested in doing collaborative policy research with engineers or (ii) for engineers interested in doing collaborative policy research with social scientists. Problem areas of interest include industrial automation, productivity, and robotics; social impacts of computers and telecommunications; product liability and safety; electric power load management; retrospective technology assessment; arms control and disarmament, materials policy, and energy and environmental systems. Desirable areas of skill include decision analysis, optimization techniques, organizational analysis, and regulatory process and law. Send résumé with list of publications to:

Dr. Indira Nair
Department of Engineering and Public Policy
Carnegie-Mellon University
Pittsburgh, Pa. 15213

VIROLOGIST position (postdoctoral) available 1 January 1981 in the Department of Plant Pathology for work in the area of comparative virology with special emphasis on the interrelationships of plant and insect viruses with animal viruses. The applicant should have a Ph.D. in insect virology or other relevant field with competence in invertebrate cell culture and immunological techniques and a real interest in developing an interdisciplinary program in this area. Salary range is \$17,508 to \$20,052 at assistant specialist level. Send résumé and names of three references to: Professor David E. Schlegel, Department of Plant Pathology, 147 Hilgard Hall, University of California, Berkeley, Calif. 94720. Deadline for receipt of applications is 15 December 1980. *The University of California is an Affirmative Action Employer.*

CALL FOR PAPERS

Sixth Annual Clinical Pharmacy Symposium
Progress in Research and Clinical Application of Corticosteroids
20-22 February 1981

The Florida Agricultural and Mechanical University
School of Pharmacy
Tallahassee, Florida 32307

The Symposium will take a multidisciplinary approach to the examination of the current status of practical and theoretical knowledge, and projections for the future. The symposium format will include presentations by voluntary and invited speakers, poster sessions, panel discussions, and contributed papers. Abstracts are due November 1, 1980; manuscripts due December 20, 1980. For registration procedure, abstract forms and additional information contact: H. J. Lee, Ph.D., Program Director, or the Office of the Dean of the School of Pharmacy, Florida A&M University at (904) 599-3301.

Tentative areas of discussion

- * Pharmacology of Corticosteroids
- * Mechanism of Action
- * Metabolism and Diurnal Rhythms
- * Inflammatory Disease in Man
- * Anti-inflammatory Steroids
- * Structure-Activity Relationships
- * Progress in Clinical Application

FACULTY POSITION INDUSTRIAL HYGIENE DEPARTMENT OF PUBLIC HEALTH THE MEDICAL CENTER UNIVERSITY OF ALABAMA IN BIRMINGHAM

The Division of Environmental Health in an accredited School of Public Health at the University of Alabama in Birmingham solicits applicants for one position. Qualifications include commitment to excellence in teaching medical and public health graduate students, dedication to research, and a doctoral degree in industrial hygiene or a related field. Salary and fringe benefits highly competitive, with special consideration given to experience and certification.

ASSOCIATE PROFESSOR (TENURE TRACK)—The major responsibilities of this position involve a significant role in the expansion of the graduate level program in industrial hygiene with emphasis on developing advanced level, including doctorate, courses and monitoring student activities during their field experience. Collaborative as well as individual research opportunities will be encouraged once the expansion of the educational program is well underway.

Application Closing Date: December 31, 1980

Send curriculum vitae, manuscripts or reprints of major work and three letters of recommendation to Dr. Vernon Rose, Chairman, Search Committee, Department of Public Health, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294, an Equal Opportunity/Affirmative Action Employer.

Announcing The First International Congress For INTERFERON RESEARCH

WASHINGTON, DC, 9-12 NOVEMBER, 1980

The CONGRESS will be chaired by William E. Stewart II, of the Sloan Kettering Institute For Cancer Research, and organized jointly by Scherago Associates and the *Journal of Interferon Research*.

Approximately fifty (50) papers will be presented by recognized authorities from North America, Europe, the Middle East, and Japan. There will also be numerous poster presentations dealing with all aspects of interferon research.

For more information, please write to:

Mr. Edward Ruffing
International Congress For
Interferon Research (ICIR)
c/o Scherago Associates
1515 Broadway, New York, NY 10036
(212) 730-1050

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 - ☐ \$83 air-surface delivery via Holland
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 - ☐ \$76 USA ☐ \$90 Canada, PUAS ☐ \$93 Foreign
 - ☐ \$121 Air-surface delivery via Holland

- ☐ Payment enclosed ☐ Bill me later

Name Please print

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State

Zip

MV10

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HERE**

POSITIONS OPEN

ZOOLOGIST

Comparative invertebrate biologist at assistant professor level with a research program in population biology, developmental biology, or immunology. Teaching responsibilities will include general zoology and the development of undergraduate and graduate courses in area of expertise. Send curriculum vitae and names of three references to: Dr. Edmund W. Stiles, Department of Zoology, Rutgers University, Piscataway, N.J. 08854.

PROGRAMS

PROFESSIONAL PROGRAM: DOCTOR OF OPTOMETRY (O.D.)

Accelerated program of two calendar years specifically designed for the Ph.D. in the sciences to earn the O.D. degree. Excellent opportunities in health-related teaching and research; opportunity for an independent professional career. Program starts May 1981. Director of Admissions, The New England College of Optometry, 424 Beacon Street, Boston, Massachusetts 02115.

Ph.D. in Engineering and Public Policy

The Department of Engineering and Public Policy at Carnegie-Mellon University offers an interdisciplinary research-oriented Ph.D. for persons with an undergraduate degree in engineering or the mathematical or physical sciences. Persons with more advanced training or experience are especially welcome. Some financial support is available. Contact:

Engineering and Public Policy
Carnegie-Mellon University
Pittsburgh, Pa. 15213

IMMUNOLOGY—BIOCHEMISTRY. The Immunology Graduate group in the Department of Biochemistry, Jefferson Medical College, Thomas Jefferson University, offers a graduate program leading to a Ph.D. degree in biochemistry with a major concentration in immunology. Program consists of a biochemistry "core" combined with immunology in its broadest sense. Ten members of the department participate in the teaching of immunology and supervise training. There are currently 15 federally funded research projects. Research is available in immunogenetics, cellular immunology, immunochemistry, clinical immunology, and in the protein and molecular biological aspects of immune systems. The university is located in Center City Philadelphia, and can provide student housing. College graduates interested in biochemical approaches to immunology are encouraged to apply for admission. Stipends are available to qualified applicants. Contact:

Dr. P. A. Liberti
Immunology Graduate Group
Department of Biochemistry
Thomas Jefferson University
Philadelphia, Pa. 19107

DOCTORAL PROGRAM

The Department of Anatomy of Wayne State University School of Medicine offers graduate programs leading to the Ph.D. degree in the areas of cell, developmental, and reproductive biology, neurosciences, and molecular evolution. Both morphologic and biochemical research capabilities are available in the department. Teaching and research assistantships are available for qualified applicants. Beginning stipends range up to \$5,100 plus tuition. For further information and application forms, write: Dr. Harry Goshgarian, Department of Anatomy, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL TRAINING IN ENVIRONMENTAL AND INDUSTRIAL TOXICOLOGY. Thomas Jefferson University will again conduct a 2-year combined M.S.-postdoctoral program for holders of the Ph.D. in chemistry, biology, and related fields beginning July 1981. Program includes course work, research, toxicologic evaluation, methodology, and field experience in industrial laboratories. It leads to the M.S. (professional) degree in toxicology. A limited number of positions provide federally funded postdoctoral level stipends (minimum \$13,300 per year, plus tuition and health insurance). Program is also open to applicants sponsored by industrial firms. Apply to: R. C. Baldrige, Dean, College of Graduate Studies, Thomas Jefferson University, Philadelphia, Pa. 19107. Telephone: 215-928-8982.

ASSISTANTSHIPS

PREDOCTORAL ASSISTANTSHIPS

Highly qualified students interested in careers in biological research are invited to apply for graduate training in one of the departments of the School of Basic Medical Sciences, University of Illinois at the Medical Center, Chicago. Excellent facilities and faculty provide outstanding opportunities in biological research training. Financial assistance is available for students working toward the Ph.D. in anatomy, biological chemistry, genetics, microbiology and immunology, pharmacology, or physiology and biophysics. For further information, write: Phyllis H. Bogner, Ph.D., Assistant Dean for Student Affairs, School of Basic Medical Sciences, University of Illinois—Medical Center, 1853 West Polk Street, Chicago, Illinois 60612.

GRADUATE RESEARCH ASSISTANTSHIP M.N.S. DEGREE

The Department of Biology at Southeast Missouri State University offers a master's-level graduate research assistantship, starting 12 January 1981 and culminating 12 January 1982. The supporting project is a study of the ecology and distribution of the bantam sunfish (*Lepomis symmetricus*), an inhabitant of lowland swamps. The study will include field sampling of probable locations of populations and laboratory research on the species' behavioral ecology. The assistantship stipend is \$3750 per 12 months and waiver of incidental fees.

Applications should include résumé, transcripts, three letters of professional reference, and a letter stating the applicant's academic goals and interest. Deadline for receipt of materials is 1 January 1981. Apply to: Dr. Frederick T. Janzow, Department of Biology, Southeast Missouri State University, Cape Girardeau, Missouri 63701. Telephone: 314-651-2170. Southeast Missouri State University is an Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS

PREDOCTORAL/POSTDOCTORAL FELLOWSHIPS in anthropology, biology, and earth sciences. Tenable at Smithsonian's museum, laboratory, field, and research facilities for 6 to 12 months. Deadline: 15 January 1981. Contact: Office of Fellowships and Grants, Desk S, Smithsonian Institution, L'Enfant Plaza 3300, Washington, D.C. 20560. Awards are based upon merit, without regard to race, color, sex, religion, national origin, or age of any applicant.

FELLOWSHIP, CLINICAL CHEMISTRY

The University of California, Irvine, Department of Pathology, is recruiting for a fellow in clinical chemistry. Required: M.D. with at least 2 years in clinical pathology or clinical/anatomical pathology. Duties include supervision of resident staff in division of clinical chemistry and research (basic or clinical). Affirmative Action Employer. Send curriculum vitae and references to: H. Simpkins, M.D., Ph.D., Chief, Division of Clinical Chemistry, University of California, Irvine Medical Center, Orange, California 92668 by 15 December 1980.

POSTDOCTORAL FELLOWSHIP IN CLINICAL LABORATORY IMMUNOLOGY. Applications are invited for a 2-year fellowship in clinical laboratory immunology at North Carolina Memorial Hospital and the University of North Carolina. Fellowship provides residency-type training in laboratory immunology through laboratory experience, conferences, and research. Position is available 1 July 1981. Send curriculum vitae and three letters of reference to: Dr. James D. Folds, Clinical Immunology Laboratory, Department of Hospital Laboratories, North Carolina Memorial Hospital, University of North Carolina, Chapel Hill, N.C. 27514. Deadline for submission of completed application is 1 January 1981. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH FELLOWSHIPS available in respiratory physiology beginning July 1981. Send résumé plus the names of two references to:

Dr. S. M. Tenney
Department of Physiology
Dartmouth Medical School
Hanover, N.H. 03755

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FELLOWSHIPS

FELLOWSHIP IN HEMATOPATHOLOGY

Post-residency training and research in laboratory hematology including associated areas of coagulation, lymph nodes, and immunology for Board-eligible pathologists. One-year program with option for second year. A University of California Irvine Medical Center and Memorial Hospital Medical Center of Long Beach integrated program. Positions available starting July 1981. Apply with curriculum vitae to: Henry Simpkins, M.D., Division of Hematopathology, University of California Irvine Medical Center, Orange, Calif. 92668. An Equal Opportunity/Affirmative Action Employer.

C. H. BEST FOUNDATION POSTDOCTORAL FELLOWSHIP

In diabetic research, molecular endocrinology, molecular biology, differentiation, immunology, structure and function of membranes or lipid metabolism. Tenable for 2 years after 1 July 1981 with a stipend of \$16,000 plus travel and dependent's allowance. Available to new Ph.D.'s or candidates with fewer than 2 years of postdoctoral training by 1 July 1981. Send curriculum vitae and three letters of reference before 15 January 1981 to:

Dr. C.-H. Siu
Search Committee Chairman
Banting and Best Department of Medical Research
University of Toronto
Toronto, Ontario, Canada M5G 1L6

POSTDOCTORAL RESEARCH FELLOWSHIP in neurovirology and immunology. Support from NIH training grant for 1 to 3 years. M.D., D.V.M., or Ph.D. with background or interest in neurologic diseases. Comprehensive training program offered jointly by Departments of Neurology, Microbiology, and Pathology. Fellow can select projects with any of five investigators in molecular biology of viruses, immunology and immunogenetics, pathogenesis of CNS viral infections, and in vitro viral effects on CNS function. Applications accepted for 1 July 1981. Please send curriculum vitae and names of two references to: Leslie P. Weiner, M.D., Department of Neurology, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles, Calif. 90033. An Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS IN REPRODUCTIVE BIOLOGY, BIOCHEMISTRY, AND ENDOCRINOLOGY

Applications for pre-and postdoctoral fellowships are currently being accepted for a NIH-sponsored interdepartmental training program in the reproductive sciences. Faculty research is broadly based and includes both basic and clinical areas of investigation. Trainees are National Research Service awardees; only American citizens and permanent residents are eligible for these positions. Postdoctoral applicants must have either a Ph.D., M.D., or equivalent, or have completed all formal requirements for a terminal degree. Predoctoral applicants must be awarded admission to one of the participating departments and to the Graduate School; fellowships provide stipend and tuition for courses and research leading to the Ph.D. degree. For further information, please write: Dr. J. David Puett, Program Director, Department of Biochemistry, Vanderbilt University, Nashville, Tenn. 37232. Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.

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BIOLOGICAL RESEARCH SCIENTISTS

Stauffer Chemical Company is seeking applications for positions in our Biological Research group. These positions are located at Stauffer's de Guigne Technical Center in Richmond, California.

If you are a highly talented scientist and challenged by the newer areas of biological and biochemical research, the following positions may be of interest to you.

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Applicants should have a Ph.D. or equivalent in molecular biology or genetics and must have research experience in cloning techniques with microorganisms and/or plants.

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Experienced biochemists at the Ph.D. or equivalent level. Knowledgeable in isolation and handling DNA and RNA. Experience in virology and protein isolation desirable. In addition, positions are open for Ph.D. or equivalent level biochemists trained in enzyme kinetics and metabolism.

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The position requires a Ph.D. or equivalent experience in the molecular aspects of plant physiology with interests in uptake and transport at the cellular level.

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Applicants should hold a Ph.D. or equivalent in plant science with interest and experience in regeneration of plants from tissue culture and molecular aspects of plant physiology.

MICROBIAL GENETICIST

Geneticists at the Ph.D. or equivalent level should have experience in mutational techniques and the biochemistry and genetics of microorganisms. Experience in fermentation technology will be of value.

All positions offer competitive compensation along with a comprehensive benefit package in addition to an attractive San Francisco Bay Area location.

If you are interested in *opportunities with Stauffer*, send your confidential resume (please refer to the position of interest), statement of research interests and experience, and names of three references to:

James P. Baker
Manager, Administrative Services
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Delighted to have been of service

If we are going to be thumping our chest in exultation over our centennial, let's try to do it in a useful way instead of belaboring the obvious. Certainly it is not obvious to outsiders, aware of gene-splicing and genetic engineering only as hot topics, that the literature the insiders write and read should mention our name over and over.

The talky ad shown below appeared when we were only 82 years old. The ad had more scientific than business impact. The illustration shows macromolecules separated in acrylamide gel by difference of mobility in an electric field. It advertised the idea. Readers were invited to send for the theory and the working details. Not that we had created anything. The authors were two bioscientists who didn't work for us but accepted our offer to submit their method swiftly in full detail for the scientific community to try out. They called it disc electrophoresis. We justified our small part in the hope it would sell Eastman organic chemicals for preparing and working with the gel.

This unconventional form of scientific communication by paid advertising—prepublication we called it—accomplished in full measure all we had hoped. It has turned out that:

1 Though the cylindrical form still offers some advantage, most gel electrophoresis today is done in rectangular slabs where two dimensions of migration are available and the thickness dimension is subsequently used for

spraying betas from radionuclide-labeled spots onto film in contact for autoradiography.

2 The way molecular biology is moving today, those spots often as not represent individual gene products that some living cells have been fooled into manufacturing through the use of restriction enzymes in recombinant experiments that either approach fundamental problems of biology as exercises in code-breaking or else seek slicker ways of manufacturing valuable molecules than are described in organic chemical textbooks.

3 When the labeled products are still so scanty as to be flirting with the detection limits for direct autoradiography, incorporation of fluors into the gel causes light to take over the job of exposing the film, which helps greatly.

4 What proves equally necessary in using the feeble betas from tritiated material is to expose at around -78° so that the first atom or two of silver at a sensitivity speck on a silver halide crystal does not diffuse away before more arrive—the cause of reciprocity failure.

5 An earlier contribution from photographic science has also helped. The sigmoid shape of the plot of optical density vs log exposure has correctly predicted that preflashing the film to get above the toe of the curve would

gain sensitivity and linearity.

6 From the view at the lab bench, our most appreciated contribution to the work has proven to be some very high-grade x-ray films we make for the world's medical centers. Meanwhile one recent paper (*Analytical Biochemistry* 93, 189-195 [1979]) shifts attention to Kodak Ektacolor or Vericolor film for experiments using multiple isotopes and using color on a single sheet of film to see where they each end up. Films and their processing are what get us mentioned so often in the current literature of the subject.

If contemplating a jump onto the capacious bandwagon of recombinant studies, you may wish to ask E. J. Hahn, Health Sciences Markets Division, Kodak, Rochester, N.Y. 14650, phone 716-724-4633, for the latest edition of his product guide and bibliography entitled "Autoradiography of Large-Area Specimens."

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Kodak reports on:
what to do till the flying-spot scanner comes...light-sensitive liquids for less-than-juicy volume...
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Disc electrophoresis



Each of the dark discs in this little tube of gel represents a different protein in a 3-microliter sample of normal human serum. The separation was effected in 30 minutes. The pattern tells a detailed story to the practiced eye. The equipment can be jury-built in the laboratory for a materials outlay of about \$12.* The chemicals we recommend are N-Methylenebisacrylamide (Eastman...crystallized, grate-

Mount Sinai Hospital Cell Research Laboratory in New York City have extended electrophoresis in the directions of 1) more simplified equipment that gets you into the technique easily; 2) more sophisticated equipment that speeds and refines results once you have found the technique indispensable; 3) a clear (albeit concentrated and mathematical) exposition of the physical chemistry at work.

We propose a little experiment in casting bread upon the waters. We shall count how many will accept an offer hereby made by Distillation Products Industries, Rochester 3, N. Y. (Division of Eastman Kodak Company), to send a free preprint of a paper by Dr. Ornstein on the theory and a fully illustrated set of directions for Dr. Davis on how to proceed. Then we shall wait and count how many orders come in for the above-named Eastman Organic Chemicals. The results of this experiment you will never know.

Never say "die"?



These metal parts are not stampings, nor were they cut out by knife, scissors, or wire. They are too fussy

do it for hire. The method uses either Kodak Photo Resist or Kodak Metal- Etch Resist, depending on the metal to be worked. Both are light-sensitive liquids. The object is drawn to enlarged scale and photographed. The metal is coated with KPR or KMER and exposed to light through the negative. Where the negative protects from the light, the resist will subsequently flush away; where light-struck, it becomes resistant to an etchant. Etchants leave no burrs. The thinner the metal the closer an etchant can keep changing their minds, fancy-free, with less peril to their budgets, if any.

Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y., can provide all sorts of information about photo-etching. We even hold seminars on the subject.

The grateful but cautious spectrographer

A small pamphlet has been issued under the title "Spectrum Analysis with Kodak Materials." The words it contains may prove less useful than its graphs and numbers, though the words devoted to a warning against taking the graphs and numbers too seriously must be taken seriously. That's life.

Life lived with the photographic emulsion as a measuring instrument for radiation intensity must be filled with gratitude for its simplicity, versatility, and economy and filled with caution against glib assumptions. Those who live that life have learned that:

1) Kodak Spectroscopic Plates and 1034 work fast, capture