

symptoms of cystic fibrosis, but he pays little attention to the abnormal mucus. No explanation is offered for how the transport abnormalities might cause the synthesis of this abnormal mucus.

In the final chapter, Wallach deals with therapeutic possibilities, chemotherapy, toxicity, and the pharmacology of the cytoskeleton. As is the case with the first chapter, this chapter's greatest value is as a concise review.

There is much in *Plasma Membranes and Disease* that is open to debate, but nowhere could I find data that were over-interpreted or unfairly presented. The author makes it clear where his opinions depart from those of the workers he is citing, and the tone is always thoughtful. The volume might have discussed other diseases whose relationships to the plasma membrane are at least as firm as those of paroxysmal nocturnal hemoglobinuria and scrapie. For example, pemphigus is a potentially lethal skin disorder characterized by an apparent loss of cell adhesion among the skin cells. Autoantibodies from patients with pemphigus react with a cell surface antigen that is widely distributed on squamous epithelia of mammals. For that matter, the entire class of morphogenetic defects could be included in such a book, since no reasonable hypotheses for birth defect mechanisms fail to consider the plasma membrane.

In the last analysis, however, the book is important not because of the particular diseases included for discussion, or even because of the discussions themselves, but because it marks a new stage in our concept of the plasma membrane and suggests a classification of disease according to the organelle most affected. Will such a nosology be useful and, if so, may we except books with titles like "Nuclear Membranes and Disease" and "The Golgi Apparatus and Disease"? Is it likely that the plasma membrane has more physiological significance than any other cell organelle and that it is the only structure that could be responsible for so diverse an array of pathologies? Finally, is it at all possible that the importance of the plasma membrane has been overemphasized by researchers desperate for a way to understand the biochemistry of shape and cell interactions—those ill-defined but often-discussed phenomena? The book should be read by biologists and clinicians interested in any of these questions.

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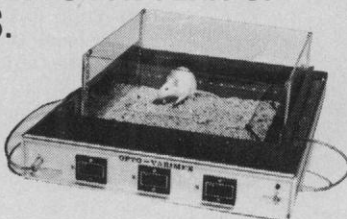
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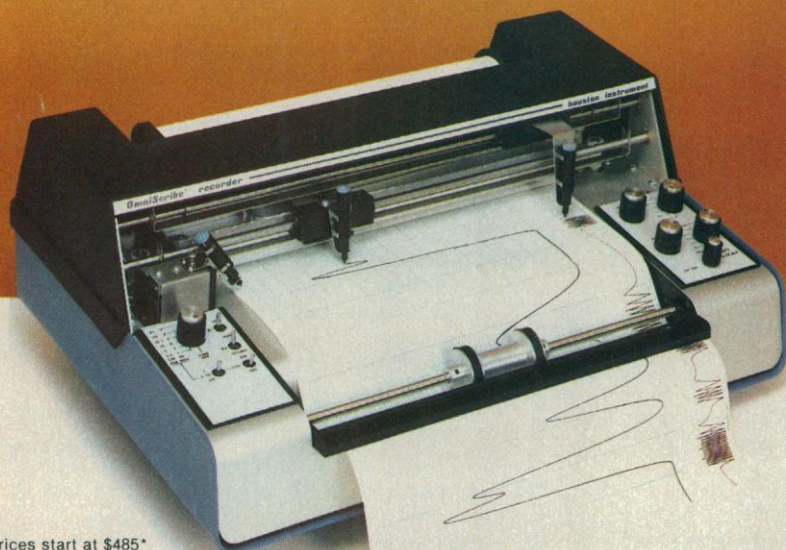


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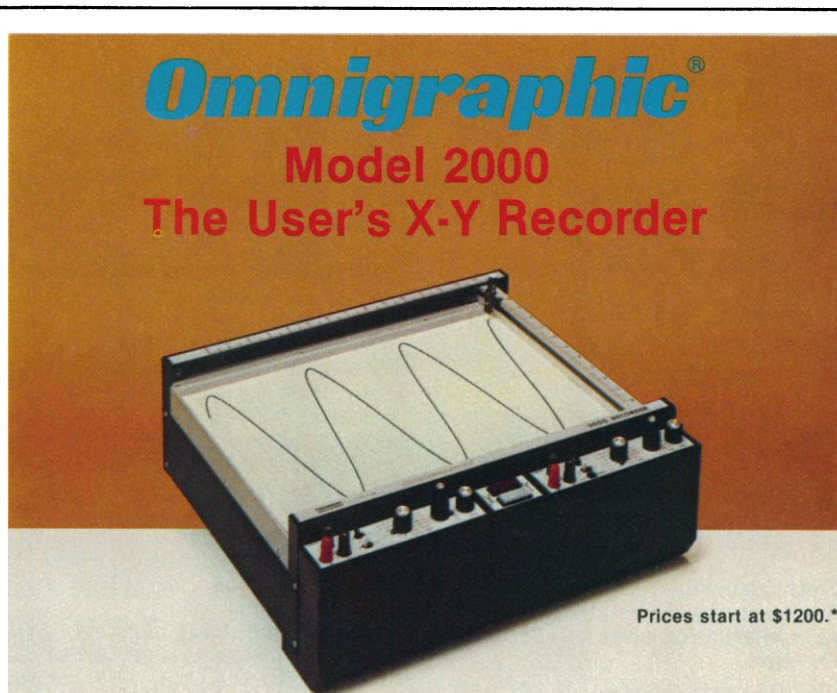
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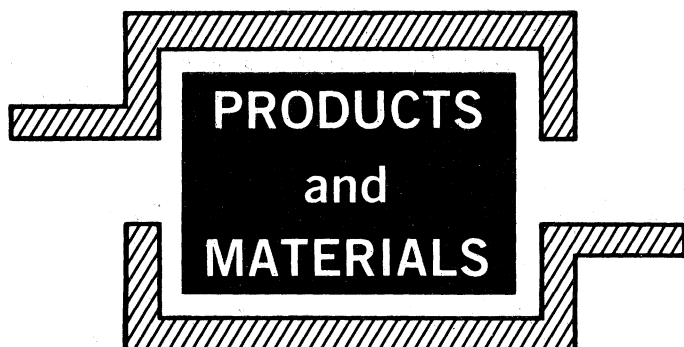
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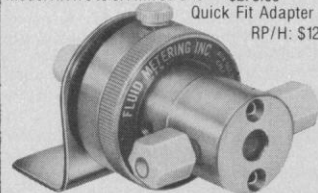
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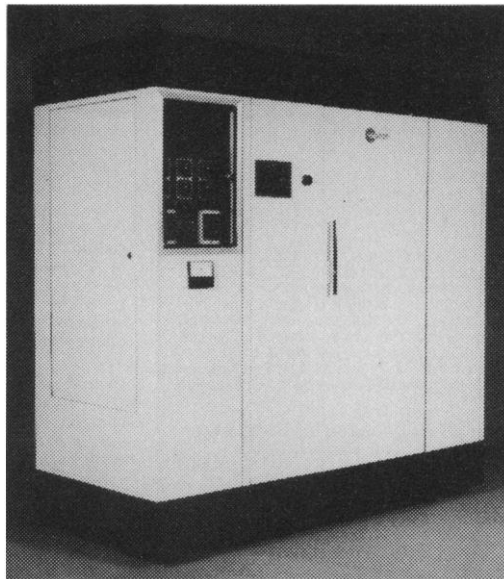
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ADMINISTRATIVE POSITION IN HEALTH CERTIFICATION AREA

A national search is being conducted for the position of **VICE PRESIDENT**, American Society of Clinical Pathologists (ASCP) responsible for Board of Registry affairs. Minimum education qualification is master's degree (or terminal degree) in administration/management; doctorate preferred. Minimum of 5 years of experience in administration/management, preferably in clinical laboratory-related field. To apply, submit curriculum vitae and résumé to: **ASCP Board of Registry Search Committee, 2100 West Harrison Street, Chicago, Illinois 60612.** Applicants will be accepted until 1 December 1980. *ASCP is an Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSORSHIPS. Analytical (assistant/associate) and organic (assistant) tenure-track positions. Applicants for these positions must be committed to excellence in research and teaching. Areas of research should complement those presently represented in the department. Complete curriculum vitae, which includes a description of future research plans, a documented summary of past accomplishments, and at least three professional references should be submitted to: **Chairman, Search Committee, Department of Chemistry, State University of New York at Buffalo, Buffalo, New York 14214.** Deadline for applications is 15 November 1980. *The State University of New York at Buffalo is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DEPARTMENT OF ANATOMY

The Department has one opening for an **assistant professor** level appointment. A minimum of 2 years of postdoctoral experience in the neuroscience field is required. Research fields of interest which the department wishes to have developed involve: (i) pain mechanisms, (ii) immunocytochemistry of peptides, (iii) tissue and/or organ culture, (iv) cytostructure, or (v) intracellular recording and labelling techniques. The teaching requirement will be in gross anatomy.

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

Applications must include up-dated curriculum vitae, a minimum of three professional references, and copies of all publications.

Send applications to: **John E. Swett, Ph.D., Professor and Chairman, Department of Anatomy, College of Medicine, University of California, Irvine, Calif. 92717.**

ANIMAL BREEDING AND GENETICS. The Department of Animal Science, University of California, Davis, seeks applications for a tenure-track appointment at the assistant professor level in animal breeding and genetics (50 percent teaching, 50 percent research). Applicants should have a Ph.D. in genetics or animal breeding with training in quantitative genetics and statistics. Knowledge of and interest in the livestock industry and strong interests in both undergraduate and graduate teaching are important. Development of a research program in livestock breeding would be expected. Applicants should submit résumé, transcripts, and the names and addresses of at least three persons familiar with the applicant's qualifications to: **B. W. Kennedy, Search Committee, Department of Animal Science, University of California, Davis, California 95616.** To be certain of being considered, the completed application should be received by 15 January 1981. Anticipated starting date is 1 July 1981.

In compliance with federal and state laws and university policy, the University of California does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, or against disabled veterans, or veterans of the Vietnam era. The University of California is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION AVAILABLE ASSISTANT OR ASSOCIATE PROFESSOR OF CIVIL ENGINEERING

The Department of Civil Engineering/Materials Science and Engineering of the G. W. C. Whiting School of Engineering of The Johns Hopkins University invites applications for a tenure-track faculty position in civil engineering.

Candidates should have a doctoral degree in civil engineering and a strong interest in structures and materials. The new faculty member will be expected to teach courses in concrete structural design and materials of construction (concrete, ceramics, and wood). A candidate who can also teach courses in soil mechanics and foundation design will be given preference. A genuine commitment to excellence in teaching as well as research is required. It is expected that the Civil Engineering and Materials Science and Engineering programs will grow rapidly and candidates are being sought who are eager to assist in building these disciplines. *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

Candidates should send professional résumés containing teaching and research accomplishments and names of three referees to:

**Professor Robert E. Green, Jr.
Civil Engineering/Materials Science
and Engineering Department
The Johns Hopkins University
Baltimore, Maryland 21218**

ASSISTANT RESEARCH POSITION available immediately in the Department of Psychobiology, University of California, Irvine. Candidate must have a Ph.D. Two years or more experience desired with CNS cultures including serum free media and immunocytochemistry utilizing CNS cell type specific marker proteins. Also, experience in intracellular recording, cholinergic and adrenergic neurotransmitter metabolism, subcellular fractionation, and cytoskeletal protein is desirable. A letter of applications, curriculum vitae, and three letters of recommendation should be sent to: **C. W. Cotman, Department of Psychobiology, University of California, Irvine, Calif. 92717. Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR in PHYSIOLOGY and BIOPHYSICS. The Department of Physiology and Biophysics is seeking a candidate holding a Ph.D. and/or M.D. degree with broad training in physiology and a substantial record of research in some aspect of cellular physiology. Please send curriculum vitae, statement of research interest and names of three references to: **Dr. William Van der Kloot, Professor and Chairman, Department of Physiology and Biophysics, State University of New York at Stony Brook, Long Island, N.Y. 11794. An Equal Opportunity/Affirmative Action Employer.**

YALE UNIVERSITY ASSISTANT PROFESSOR IN THEORETICAL FLUID MECHANICS

Applications are solicited for a junior faculty position in the field of theoretical fluid mechanics to begin in the academic year 1981-1982 in the Department of Engineering and Applied Science or in the Department of Geology and Geophysics.

Yale University is an Equal Opportunity Employer and encourages women and members of minority groups to compete for this position.

Curriculum vitae, publications, and the names of three or more referees should be sent by 15 November 1980 to: **B. T. Chu, Department of Engineering and Applied Science, Box 2159 Yale Station, New Haven, Conn. 06520.**

University of California, San Diego (UCSD), Department of Chemistry, invites applications for an **ASSISTANT RESEARCH CHEMIST** position available immediately. The position involves measurements of cosmogenic radionuclides, especially ⁵³Mn, in lunar samples, meteorites, and other extraterrestrial materials. The candidate should have several years of experience in the field. Salary: \$19,700.

Candidates should send curriculum vitae, including a list of publications, a description of research experience, and the names of three references to: **Professor James R. Arnold, Department of Chemistry B-017, University of California, San Diego, La Jolla, Calif. 92093. UCSD is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT SCIENTIST—ENTOMOLOGIST

Person required with Ph.D. in entomology with background in insect toxicology, integrated pest management, bioassay techniques, insect rearing, chemistry, and statistics to supervise the evaluation of chemicals for insecticide-nematicide activity in the laboratory, greenhouse, and field as part of a Bioregulant Chemicals Group. Other units in the group are concerned with fungicides, herbicides, and plant growth regulators. Position is applied research oriented, but there are opportunities for independent research. Available immediately.

Send résumé and names of at least three references to: **Dr. S. Ristich or Dr. D. C. Torgeson, Boyce Thompson Institute, Tower Road, Cornell University, Ithaca, New York 14853.**

An Affirmative Action/Equal Opportunity Employer

The Massachusetts General Hospital and Harvard Medical School seek a tenure-level faculty member at the **ASSOCIATE PROFESSOR OR PROFESSOR RANK** with research expertise in the field of pain. The candidate would be expected to conduct a laboratory program to investigate pain at a clinical or basic science level. The candidate should give evidence of past productivity in the field of pain research. Applicants should submit curriculum vitae to: **Joseph B. Martin, M.D., Ph.D., Chairman, Department of Neurology, Massachusetts General Hospital, Boston, Mass. 02114. An Equal Opportunity/Affirmative Action Employer.**

ROBERT H. WILLIAMS CHAIR IN MEDICINE. The University of Washington is seeking a **biomedical scientist** for appointment to this endowed chair which has been established to honor Dr. Robert H. Williams, first chairman of the Department of Medicine. The academic position will be a **research professorship** and the principal criterion for appointment is research accomplishment significant to our understanding of diabetes.

Applications, including complete curriculum vitae and names of three persons who may be contacted for references, should be sent before 1 October 1980 to: **Dr. George N. Aagaard, Chairman, Search Committee, Robert H. Williams Chair, Department of Medicine, RG-20, University of Washington, Seattle, Wash. 98195.**

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

POSITIONS OPEN

BIOCHEMIST—RESEARCH ASSOCIATE. Position available 1 October 1980 to study chemical and biologic properties of interferons. A Ph.D. is required and extensive knowledge of biochemical methodology. Prior research experience with interferons, virologic and cell culture techniques is desirable but not necessary. Salary: \$17,000 to \$20,000 range. Ability to work independently and as part of team essential. Send résumé and names of three references to: **Dr. Clifton A. Ogburn, The Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pa. 19129. An Equal Opportunity Employer, M/F.**

BIOCHEMIST

Metalloprotein, glycoprotein, membrane receptor, cyclic AMP biochemistry. Postdoctoral or possible junior faculty position, available immediately for persons with expertise and interest in above areas to study molecular mechanisms of taste and smell receptors and interaction of salivary and olfactory mucous proteins. Send curriculum vitae and references to: **Dr. R. I. Henkin, Director, Center for Molecular Nutrition and Sensory Disorders, Georgetown University Medical Center, Washington, D.C. 20007.**

BIOLOGY: postdoctoral position (postgraduate research biologist) available immediately in the Department of Biology at the University of California, San Diego, to study aspects of genetic recombination in yeast and analysis of enzymatic functions: in vitro and in vivo assays. Experience in recombinant DNA techniques highly desirable. Must have Ph.D. Salary range \$13,596 to \$17,076 per annum. Send curriculum vitae and three letters of reference by 15 September 1980 to: **R. Pinon, Department of Biology, B-022, University of California, San Diego, La Jolla, Calif. 92093. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.**

BIOPSYCHOLOGIST. The University of Maryland invites applications from qualified individuals for an appointment as assistant or associate professor of psychology to begin in January 1981 or August 1981. Requirements include training and experience in teaching and research in the biological bases of behavior. Preference will be given to applicants with relatively broad interests and skills, an established record of scientific productivity, and the ability to obtain research grant support. Applicants should send their curriculum vitae, a selection of representative reprints of their work, a brief description of their future plans and the names and addresses of three references to: **Dr. William Hodos, Department of Psychology, University of Maryland, College Park, Maryland 20740.** To ensure consideration, applications should be received by 1 November 1980; however later applications may be accepted. *The University of Maryland is an Equal Opportunity/Affirmative Action Employer. Applications from members of minority groups and from women are encouraged.*

CHAIRMAN

DEPARTMENT OF BIOCHEMISTRY GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE

The School is conducting a search for qualified candidates for a professor and chairman of the Department of Biochemistry. Applicants should have demonstrated competence in teaching, research, and administration. *Georgetown University is an Affirmative Action/Equal Opportunity Institution in employment and admissions.* Letters from interested persons or proposals for the position should be addressed to:

**Lawrence S. Lilienfeld, M.D., Ph.D.
Chairman, Biochemistry Search Committee
Georgetown University School of Medicine
3900 Reservoir Road, NW
Washington, D.C. 20007**

Applications are now invited for a **FACULTY POSITION** at the University of California at San Francisco. We are seeking a person with research interests in theoretical aspects of **structural biology at the molecular level.** The successful candidate will have demonstrated research and teaching skills in this general area. Salary is negotiable.

Send curriculum vitae and direct three letters of reference to: **Robert J. Fletterick, Professor of Biochemistry and Biophysics, Department of Biochemistry and Biophysics, University of California School of Medicine, San Francisco, California 94143. We are an Equal Opportunity Employer.**

POSITIONS OPEN

University of California, San Francisco (UCSF)

CHAIRMAN, DIVISION OF FAMILY AND COMMUNITY MEDICINE. The candidate will preferably hold an M.D. with extensive experience in academic administration, primary care clinical medicine, community health, and research. The chairman will be responsible for providing leadership to this academic unit which will be responsible for supervising and coordinating existing predoctoral programs in family and community medicine and developing new education programs in these areas. In addition, the applicant will coordinate and encourage further development of the existing affiliated family practice residency programs and for developing additional affiliations to support the overall academic program, as well as developing additional academic programs, in community medicine, preventive medicine, and clinical epidemiology.

The chairman will be responsible for encouraging, supporting, and leading a major thrust to develop a strong research base for this new academic unit. In addition, the chairman will develop appropriate links with preclinical and clinical academic units in all Health Professional Schools on campus, in order to improve the teaching, patient care, and research efforts, develop and modify as necessary an academic plan for this new division, and develop an annual budget, as well as seek extramural funding. This is a new position. Academic rank will be commensurate with the individual's credentials. The position will be available 1 July 1981. Applications will be accepted to 1 October 1980. Please direct inquiries, including curriculum vitae, to: **Leon J. Epstein, M.D., Department of Psychiatry, University of California, 401 Parnassus Avenue, San Francisco, Calif. 94143. UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.**

ENVIRONMENTAL CHEMIST. New England College invites applications for a position in analytical, environmental, or biogeochemical areas starting spring 1981 or fall 1981, at the **assistant professor level.** Primary responsibilities include teaching courses in area of specialty, appropriate for majors in civil engineering, biology, geology, and environmental science. Ph.D. required. Send résumé and three letters of reference by 20 October 1980 to: **Office of Academic Affairs, New England College, Henniker, New Hampshire 03242. An Equal Opportunity Employer.**

ENVIRONMENTAL STUDIES. The Environmental Studies Division of New England College invites applications for the position of **assistant professor.** A strong commitment to undergraduate teaching in an interdisciplinary program is expected. Applicants must have demonstrated academic training or related experience in the sciences with appropriate knowledge of resource management or human ecology. The Ph.D. degree is required, and a recent Ph.D. is preferred. Position begins spring 1981. Send résumé and three letters of reference by 20 September 1980 to: **Office of Academic Affairs, New England College, Henniker, New Hampshire 03242. An Equal Opportunity Employer.**

FACULTY POSITIONS IN TOXICOLOGY

West Virginia University invites applications for two tenure-track positions, one at the **assistant professor level**, and one, depending on experience and qualifications, at the **assistant or associate professor level.** Applicants should have a Ph.D., M.D., or equivalent degree, and postdoctoral research experience. Preference will be given to applicants whose research experience has been in molecular interactions of toxic substances, such as toxicokinetics or chemical mutagenesis/carcinogenesis. Some familiarity with occupational or industrial toxicology would be helpful in regard to teaching responsibilities. No applicant who does not present evidence of training or experience in toxicology will be considered. Research accomplishments and evidence of ability to develop independent, externally funded research will be prime considerations in the selection process. The positions are to be filled on or before 1 July 1981. Applicants should submit curriculum vitae, including a complete bibliography, and request two letters of reference be sent to: **Dr. Mark J. Reasor, Chairman of Search Committee, Department of Pharmacology and Toxicology, West Virginia University Medical Center, Morgantown, West Virginia 26506.** The deadline for application and supporting documents is 15 October 1980. *West Virginia University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CHAIRPERSON DEPARTMENT OF PLANT PATHOLOGY

Washington State University invites applications and nominations for the position of chairperson, Department of Plant Pathology, to be filled as soon as an acceptable candidate is identified, but not before 1 January 1981. Screening of applications will begin 15 October 1980.

Candidates must have an earned doctorate in plant pathology or a closely related discipline; a minimum of 10 years of teaching, research, or extension experience in plant pathology; administrative experience or potential; supervisory experience; and the ability to get along with people. It is desired that candidates have experience in basic and/or applied research; the ability to deal with commodity groups; and experience developing grant supported programs. Salary is open and commensurate with qualifications. Send applications, nominations, and inquiries to: **J. Walter Hendrix, Department of Plant Pathology, Washington State University, Pullman, Wash. 99164. Telephone: 509-335-3754.**

Washington State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and handicapped candidates are encouraged to apply and to identify themselves as such on their applications.

DIRECTOR, ATMOSPHERIC TECHNOLOGY DIVISION (ATD), NATIONAL CENTER FOR ATMOSPHERIC RESEARCH (NCAR)

The National Center for Atmospheric Research in Boulder, Colorado, seeks applications for director of this division, which develops and provides aircraft, radars, and other research services and facilities to scientists from universities, NCAR, and other research groups engaged in atmospheric research. ATD has a technical and scientific staff of about 169 persons and a budget of \$7.5 million. The ATD director is the technical and administrative leader of the division, responsible for overall planning and operations, and often represents NCAR in field facility planning for major national and international programs. Requires Ph.D. or equivalent in physical science or engineering; broad knowledge of atmospheric research facilities; research experience in the use of such facilities; and demonstrated ability in planning, management, and working cooperatively in the university-federal research community. Please send letter and résumé to: **Dr. G. W. Curtis, P.O. Box 3000, Boulder, Colorado 80307.**

NCAR is an Equal Opportunity/Affirmative Action Employer.

ANTICIPATED ELECTRON MICROSCOPY TECHNICIAN

A scanning electron microscope technician II position is available at the University of South Florida. The career service position involves the coordination of the daily activities of the facility, maintaining and operating the SEM and major laboratory equipment, assisting with specimen preparation and analysis, and training investigators. Applicants should be fully experienced in SEM, energy dispersive x-ray analyses, and darkroom techniques. Annual salary ranges from \$13,400 to \$17,900, depending upon background and qualifications.

Send résumé and list of three references to:

**Dr. John C. Steinmetz
Department of Marine Science
University of South Florida
830 First Street, South
St. Petersburg, Florida 33701**

Applications will be accepted through 15 September 1980. Starting date should be 15 October 1980.

FACULTY POSITIONS

Growing, well-established, accredited school of chiropractic seeks quality teacher/scholars with doctorates for positions opening in the Basic Science Division. **BIOCHEMIST:** preference to individual with interest in nutrition; January or August 1981. One or more **PHYSIOLOGIST(S)** with preference given to those interested in digestive, cardiovascular, or neuromuscular physiology; January 1981. Interested persons with these and **OTHER SPECIALTIES** relevant to the preclinical sciences are invited to submit a letter discussing career goals in teaching and research, curriculum vitae, and names and addresses of three references to: **Basic Science Division, Northwestern College of Chiropractic, 1834 South Mississippi River Boulevard, St. Paul, Minnesota 55116.**

POSITIONS OPEN

FACULTY POSITION IN ENVIRONMENTAL ANALYSIS AND PLANNING

**University of California, Berkeley
College of Natural Resources
Department of Conservation and Resource Studies**

A position as **associate or full professor** is available immediately. Applicants should possess attitudes and interests which will facilitate interdisciplinary activities in teaching and applied research. They should have a Ph.D., with a strong background in the natural sciences, and competence in the application of basic knowledge to problems associated with the use of natural resources. Candidates with experience in applying the principles of ecology to environmental assessment, policies, or planning are especially urged to apply. Teaching responsibilities include courses on environmental analysis and environmental impact assessment (pertaining to natural resources planning) and the guidance and counseling of students. The appointee will be expected to establish and conduct a productive research program in the area of expertise, that is broadly integrated with the teaching responsibilities. Submit (before 1 October 1980) full curriculum vitae, list of publications, names of at least three references, and other pertinent materials to:

**Dr. Joseph G. Hancock
Department of Conservation and Resource Studies
College of Natural Resources
112 Giannini Hall
University of California, Berkeley
Berkeley, California 94720**

The University of California is an Affirmative Action Employer.

BAYLOR COLLEGE OF MEDICINE FACULTY POSITION IN BIOCHEMISTRY

The Marrs McLean Department of Biochemistry invites applications for a faculty position at the level of **assistant or associate professor**. Although we are especially interested in the areas of molecular genetics, biochemistry of differentiation and development, and membrane biochemistry, we will consider outstanding applicants in any area of biochemistry. Candidates will be expected to participate in teaching and to carry out an independent research program. Please send curriculum vitae, statement of research interest, and names of three individuals for letters of recommendation to: **Dr. John H. Wilson, Chairman, Faculty Search Committee, Marrs McLean Department of Biochemistry, Baylor College of Medicine, Houston, Texas 77030. Affirmative Action/Equal Opportunity Employer.**

The University of Missouri-Columbia, Chemistry Department, is consolidating its NMR instrumentation into a facility which will include 60-, 90-, and 300-MHz capabilities. The Department is now recruiting a **SENIOR LEVEL FACULTY MEMBER** in conjunction with this facility. In addition to maintaining an active research program using NMR, the candidate is expected (in lieu of substantial teaching duties) to supervise the maintenance and periodic upgrading of the facility and to offer technical advice to other faculty members who contemplate the use of NMR to solve problems in chemistry, biochemistry, and biology. Candidates should supply a graduate transcript, curriculum vitae, résumé of future research plans, and have three letters of recommendation sent to: **Dr. Pierre Crabbe, Chairman, Department of Chemistry, University of Missouri, Columbia, Mo. 65211. An Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITION

The University of Kentucky College of Pharmacy invites applications for an **assistant or associate professor** position in medical chemistry-pharmacognosy with future opportunities for tenure to begin in 1980-1981. A Ph.D. in the pharmaceutical or related sciences and postdoctoral experience are required. The successful applicant will teach at the undergraduate and graduate levels and develop a rigorous program of research in one or more of the following areas: genetics of microorganisms, microbial transformations, and mode of action of antibiotics. The deadline for applications is 30 September 1980 and applications should be made to:

**Joseph V. Swintosky, Dean
College of Pharmacy
University of Kentucky
Lexington, Kentucky 40506**

The University of Kentucky is an Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITIONS FOR WOMEN. As the result of a recent consent decree entered into by the University of Minnesota in the United States District Court, District of Minnesota, the Department of Chemistry at the University of Minnesota is seeking to add female faculty to its staff. Applications are being sought from qualified females in all areas of chemistry. Probationary or tenured appointments at all ranks will be considered. Applicants should submit detailed curriculum vitae, an in-depth description of research plans, undergraduate and graduate transcripts, and a minimum of three references to: **Professor Paul G. Gassman, Chairman, Search Committee, Department of Chemistry, University of Minnesota, Minneapolis, Minnesota 55455, by 31 October 1980.**

UNIVERSITY OF BRITISH COLUMBIA (UBC) FACULTY OF MEDICINE DEPARTMENT OF PHYSIOLOGY

Applications are invited for a tenure-track faculty position at the **assistant or associate professor** level. Duties include the teaching of physiology to undergraduate students in science and medicine and to graduate students. It is expected that the individual appointed will develop an active research program with the potential for external funding. Applicants should have a Ph.D. or M.D. degree and have postdoctoral research experience.

Applications will be accepted until 1 November 1980. Send curriculum vitae and the names of three referees to: **Dr. J. R. Ledson, Professor and Head, Department of Physiology, Faculty of Medicine, University of British Columbia, Vancouver, British Columbia, Canada V6T 1W5.**

UBC offers Equal Opportunity to male and female candidates.

FACULTY POSITION—MOLECULAR GENETICS. Applications are invited for a tenure-track position in molecular genetics. While primarily looking at the level of assistant professor, the Department welcomes applications for this position at the senior level. Applicants should have demonstrated research capabilities in molecular genetics and a serious commitment to establishing an independent research program. The Department of Microbiology has a strong emphasis on research in various aspects of molecular biology, including recombinant DNA cloning and DNA tumor viruses. Please send curriculum vitae, names of three references, and a short account of professional background and future research plans to: **Microbiology Search Committee, Department of Microbiology, College of Medicine and Dentistry of New Jersey, New Jersey Medical School, 100 Bergen Street, Newark, N.J. 07103. An Equal Opportunity/Affirmative Action Employer, M/F.**

FACULTY POSITION, DEPARTMENT OF PHARMACOLOGY. The University of Tennessee Center for the Health Sciences, College of Medicine, invites applications for junior faculty tenure-track positions at the level of **instructor/assistant prof.** Applicants should hold a doctoral degree with postdoctoral experience and will be expected to contribute to the teaching programs in the Colleges of Medicine, Dentistry, and Pharmacy. Applicants must be capable of developing a vigorous independent research program and securing extramural support. Research interests in neuropharmacology, biochemical, cellular, or receptor pharmacology, or drug metabolism are preferred. Send curriculum vitae and three references to: **Dr. C. B. Nash, Department of Pharmacology, University of Tennessee Center for the Health Sciences, 800 Madison Avenue, Memphis, Tenn. 38163. An Equal Opportunity Employer.**

Princeton University, Department of Geological and Geophysical Sciences, has an opening available for a postdoctoral research position for **GEOCHEMIST, CHEMIST, or CHEMICAL ENGINEER.**

Participate in and direct chemical aspects of interdepartmental program on solution mining of shallow and deep mineral resources. Entails design and operation of mineral leaching experiments including hydrothermal equipment; derivation of kinetic rate laws and mineral dissolution mechanisms; interaction with team of engineers and geochemists in numerically simulating solution mining processes. Ph.D. plus strong background in chemical kinetics/thermodynamics and laboratory expertise required; geochemical experience highly desirable.

Send résumé to: **D. A. Crerar, Department of Geological and Geophysical Sciences, Princeton University, Princeton, N.J. 08544. Princeton University is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

INSECT ECOLOGIST. Ph.D., to participate immediately in laboratory and field population studies in Pakistan on mosquitoes, malaria, and genetic control for approximately 18 months. Travel, housing, and American education for grade and high school dependents provided. Salary commensurate with training and experience. Send résumé and names of three references to: **Dr. Richard H. Baker, International Health Program, University of Maryland School of Medicine, 10 South Pine Street, Baltimore, Md. 21201.**

INVERTEBRATE ZOOLOGIST, curatorial position for 1981 (date negotiable). Responsibilities to include curation of collections, public education in the museum context, research in invertebrate (other than insect, arachnid, and myriapod) systematics, and administration of a small staff. The curator is expected to establish a strong research program and vigorously build collections of marine and freshwater invertebrates. Qualifications include a doctorate in invertebrate systematics and additional relevant professional experience, especially in museums. Send curriculum vitae with statement of professional goals and names of three references before 1 November 1980 to: **Dr. D. W. Barr, Department of Invertebrate Zoology, Royal Ontario Museum, Toronto, Ontario, Canada M5S 2C6.**

UNIVERSITY OF ALABAMA IN BIRMINGHAM

The Department of Nutrition Sciences at the University of Alabama in Birmingham is accepting applications for a faculty position as **INSTRUCTOR** in the Division of Nutritional Biochemistry. A Ph.D. in biochemistry is required. Expertise in folate metabolism and purine biosynthesis is needed to continue ongoing research in these areas. Must be able to teach nutritional biochemistry at the graduate level. Send curriculum vitae before 15 October 1980 to: **Dr. Carlos L. Krumdieck, Vice Chairman, Department of Nutrition Sciences, University of Alabama in Birmingham, University Station, Birmingham, Ala. 35294.** The University of Alabama in Birmingham is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

MOLECULAR GENETICIST

Leading pharmaceutical company has challenging position available for Ph.D./M.S.-level senior research scientist (or equivalent) with proven experience in genetic engineering.

If interested, send résumé and salary requirements to:

PERSONNEL MANAGER

**Schering-Plough Corporation
60 Orange Street
Bloomfield, N.J. 07003**



Schering-Plough

We Are An Equal Opportunity Employer M/F

POSTDOCTORAL POSITION. Participate in study of biochemistry of surface membranes of parasitic helminths. Ph.D. required; background in lipid and protein biochemistry desirable. Two-year appointment; salary negotiable. Send statement of research experience, curriculum vitae, and three letters of recommendation to: **George Cain, Ph.D., Department of Zoology, University of Iowa, Iowa City, Iowa 52242.** The University of Iowa is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION. Structure-function studies on thyroglobulin, thyroid hormone biosynthesis. Background in protein purification and/or amino acid sequence determination desirable. Write to: **Dr. Allen Rawitch, Department of Biochemistry, University of Kansas Medical Center, Kansas City, Kans. 66103.** Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

MICROBIOLOGIST. Postdoctoral position available to study the intestinal microbial flora of the cockroach. This study includes biochemical and microbial interactions, the isolation and characterization of unique prokaryotes, and the attachment and localization of bacteria in the gut. Experience with fastidious anaerobes and a background in microbial physiology are desirable. Position available immediately for two or more years. Curriculum vitae and letters of reference to: **A. J. Markovetz, Department of Microbiology, University of Iowa, Iowa City, Iowa 52242.** An Affirmative Action/Equal Opportunity Employer.

MOLECULAR BIOLOGY. Tenure-track assistant professorship for Ph.D. in biochemistry or molecular biology. Evidence of research activity and productivity is necessary. A strong commitment to research is expected. Teaching involves both medical and graduate students. Send curriculum vitae, names of three references, and a brief statement of research plans by 15 November 1980 to: **Dr. Guilford Rudolph, Head, Department of Biochemistry, Louisiana State University Medical Center, Box 33932, Shreveport, La. 71130.** Equal Opportunity Employer.

SIMON FRASER UNIVERSITY BURNABY, BRITISH COLUMBIA, CANADA DEPARTMENT OF BIOLOGICAL SCIENCES MOLECULAR BIOLOGIST

Applications are invited for a tenure-track position as **assistant professor in molecular biology** with research interests in eukaryotic gene regulation. The successful candidate will be expected to develop a strong research program and to participate in the teaching program at both the undergraduate and graduate levels. Candidates must have a Ph.D. degree with postdoctoral experience in recombinant DNA technology. The applicants should have extensive experience with plasmid and/or phage vectors.

The position is available from 1 September 1981, subject to budgetary approval. The current salary base for the assistant professor rank is \$21,376 per annum, subject to ratification.

Applicants should include up-to-date curriculum vitae, a brief statement of research interests and objectives, and reprints of published research. Applicants should request a confidential assessment of their research and teaching ability from three referees to be forwarded directly to:

**Dr. M. Mackauer, Chairman
Department of Biological Sciences
Simon Fraser University**

Burnaby, British Columbia, Canada V5A 1S6

Deadline for receipt of applications is 31 October 1980.

DEPARTMENT OF MOLECULAR GENETICS AND MICROBIOLOGY, University of Massachusetts Medical School, announces **faculty openings.** Applicants with interest in gene structure, expression, or regulation in prokaryotic or eukaryotic systems (including the immune system) should send curriculum vitae, short summaries of current and future research, and names of three references to: **Search Committee, Department of Molecular Genetics and Microbiology, University of Massachusetts Medical School, 55 Lake Avenue, North, Worcester, Mass. 01605.** Minority candidates and women are especially encouraged to apply. An Affirmative Action/Equal Opportunity Employer.

PHARMACOLOGISTS needed in all fields of teaching subjects for accredited School of Medicine. Preferred attention will be given to appointment of an experienced chairperson but other ranks for teachers qualified in pharmacology are also requested. Research encouraged. Please send curriculum vitae and three references to: **Acting Chairperson, Pharmacology Department, Ponce School of Medicine, P.O. Box 7004, Ponce, P.R. 00731.** Equal Opportunity Employer.

POSTDOCTORAL POSITION. Study of metal interaction with enzymes using NMR and visible-infrared spectroscopy. Available immediately; \$13,000 per year. Send résumé and two letters of recommendation to:

**Dr. J. M. Brewer
Department of Biochemistry
University of Georgia
Athens, Ga. 30602**

Education Coordinator

The Argonne Center for Educational Affairs has the direct administrative responsibility for ANL programs funded as education and training efforts by DOE and other agencies.

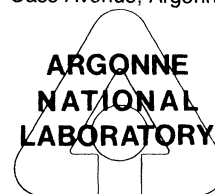
The Center serves as a communications link between Argonne and the academic community, assisting universities with the development of manpower and aiding in the promotion of appropriate research collaboration between universities and Argonne. We currently have a regular staff position (12 month/year) beginning as soon as possible and requiring some regional and national travel.

Responsibilities will include developing and presenting new education and training programs directed at faculty members and students from universities/colleges and personnel from government agencies; revising or writing manuals for use in training sessions; and conducting courses and laboratory instruction.

Duties will also involve arranging and monitoring the approximately 60 summer appointments annually associated with the Energy Research Institute graduate student research participation program, arranging and leading the energy seminar series, and developing any new educational mechanisms required. Additionally, you will coordinate graduate student appointments associated with CEA's existing (and possibly new) programs with DOE-EIA and DOE-Policy and Evaluation.

Background should include a Ph.D. (or equivalent) and a background in life sciences with a physiochemical emphasis or physical science with a biological emphasis. Knowledge of environmental science is desirable. Candidates should also have teaching experience, an appreciation of the impact of energy-related technology on man and his environment, and the ability to relate to persons from minority backgrounds and institutions.

Salary is commensurate with qualifications. Respond with detailed resume by September 10, 1980 to: **Walter McFall, Argonne National Laboratory, 9700 So. Cass Avenue, Argonne, IL 60439.**



An Affirmative Action/Equal Opportunity Employer. Women, Minorities, the Handicapped, and Veterans are Urged to Apply.

POSITIONS OPEN

PATHOLOGIST—ACADEMIC POSITION. The Department of Pathology, University of South Carolina School of Medicine, invites application for appointment at the level of assistant professor. Applicants must have M.D. degree and Board-qualification or -certification is desirable. The position involves teaching medical students and establishing an active research program. Send replies and curriculum vitae to: **Dr. J. B. Caulfield, Chairman, Department of Pathology, University of South Carolina, Columbia, S.C. 29208.** An Affirmative Action/Equal Opportunity Employer.

PLANT ECOLOGIST

Tenure-track assistant professor or instructor position for plant ecologist with demonstrated excellence in experimental field (or field and laboratory) research. Teaching duties will include a course in plant ecology. Other teaching responsibilities will relate to the candidate's area of expertise in association with graduate and undergraduate programs in ecology and evolutionary biology. Candidates must have a Ph.D., potential for excellence in teaching, ability to develop a high-quality, independently funded research program, and interact productively with our faculty in ecology and evolutionary biology. Preference will be shown to candidates with strong backgrounds in evolution and systematics working in the areas of plant demography, life history strategies, community structure and dynamics, plant-animal interactions, or plant ecological genetics. Applicants should submit a résumé, including research and teaching experience, a list of courses in biology and related areas, future research plans, and a list of publications, and should have three letters of reference sent by 15 October 1980 to: **Dr. D. H. Morse, Division of Biology and Medicine, Brown University, Providence, R.I. 02912.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW IN IMMUNOLOGY

Applications are invited for a postdoctoral position for research in immunology. Both Ph.D.'s and M.D.'s are eligible. The work will involve cell and tissue culture, lymphocyte surface markers, gel filtration, and electrophoresis. Salary range: \$12,000 to \$16,000.

Please send curriculum vitae to: **Dr. R. K. Chandra, Professor of Pediatric Research, Memorial University of Newfoundland, Janeway Child Health Center, St. John's, Newfoundland, Canada A1A 1R8; telephone: 709-722-5100, extension 388, from whom further information about the position can be obtained.**

POSTDOCTORAL POSITION. Available immediately. Involves the use of the ion microscope and ion microprobe to study the chemical composition of tissues. Experience with tissue sectioning techniques is essential. Send curriculum vitae with names of two references to: **Dr. G. H. Morrison, Department of Chemistry, Cornell University, Ithaca, N.Y. 14853.**

POSTDOCTORAL POSITION available for studies on control enzymes of gluconeogenesis. Emphasis on action of glucagon and protein phosphorylation. Adequate background in either enzymology or protein chemistry is required. Send résumé and names of two references to: **Dr. Frank Marcus, Department of Biochemistry, University of Health Sciences/The Chicago Medical School, 2020 West Ogden Avenue, Chicago, Ill. 60612.**

A POSTDOCTORAL POSITION will be available soon for suitably qualified applicants interested in studying immunity to infectious diseases and cancer. The research program of the Trudeau Institute involves the use of animal models of infectious diseases and cancer to analyze mechanisms of protective immunity at the physiological, cellular, and molecular levels. Applicants should have some training in immunobiology. The starting salary is \$13,500 and campus housing is available. Send résumé to: **Dr. Robert J. North, Director, Trudeau Institute, P.O. Box 59, Saranac Lake, N.Y. 12983.** An Equal Opportunity Employer.

POSTDOCTORAL POSITION available 1 September 1980. Research on proteolysis to identify enzymes responsible for protein breakdown. General experience in enzymology and related procedures is required. Salary: \$12,000 per annum. Send curriculum vitae and three references to: **Dr. M. Rothstein, Department of Biological Sciences, State University of New York at Buffalo, 357 Cooke, Amherst, N.Y. 14260.**

POSITIONS OPEN

Two **POSTDOCTORAL POSITIONS** to study regulation of the enzyme-catalyzed hydrolysis of glycerides and cholesteryl esters at a molecular level. Role of lipid-lipid and lipid-protein interactions. Opportunity to learn novel techniques for modeling interfacial reactions occurring on membranes, lipoproteins, and arterial plaque. Available January 1981. Send résumé and three letters of reference to: **Dr. Howard Brockman, Biophysics Section Leader, The Hormel Institute, University of Minnesota, Austin, Minn. 55912.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION

A postdoctoral position is available for work on either: (i) the fractionation of high molecular weight DNA, or (ii) new procedures of genetics for understanding the assembly of bacteriophages. Send curriculum vitae and names of two references to: **Dr. Philip Server, Department of Biochemistry, The University of Texas Health Science Center, San Antonio, Texas 78284.**

POSTDOCTORAL POSITIONS available in December 1980 involving research in DNA replication and repair in mammalian cell-virus systems, and the effects of chemical carcinogens. Salary: \$16,500. Please send curriculum vitae to:

**Liebe F. Cavaliere, Ph.D.
Sloan-Kettering Institute
Walker Laboratory
145 Boston Post Road
Rye, New York 10580**

POSTDOCTORAL POSITION available for studies on the protein-synthesizing system with special emphasis on prokaryotic and eukaryotic ribosomes, biogenesis, and function, and mRNP particles during differentiation. Teaching opportunities available. Reply with résumé to:

**Dr. Bruce H. Sells, Professor and Director
Laboratories of Molecular Biology
Faculty of Medicine
Health Sciences Centre
Memorial University of Newfoundland
St. John's, Newfoundland, Canada A1B 3V6**

POSTDOCTORAL POSITIONS (two) to: (i) isolate, purify, and study mechanisms of action of enzymes, and (ii) study mechanisms by which hormones regulate activities of lipogenic enzymes. Send résumé and two letters of recommendation to: **Dr. John Porter, Department of Physiological Chemistry, 589 Medical Science Building, University of Wisconsin, Madison, Wis. 53706.**

POSTDOCTORAL POSITION

Available immediately for studies on glutathione-dependent cellular functions controlling hepatic metabolism and disposition of chemical carcinogens. Experience in hepatocyte isolation or liver perfusion helpful. Send inquiries and curriculum vitae to: **Dr. Walter G. Levine, Department of Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, New York 10461.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in HLA research and human tumor immunology. Available immediately. Send curriculum vitae to:

**Dr. Paul Teraski
Department of Surgery
University of California Medical School
Los Angeles, Calif. 90024**

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POSTDOCTORAL RESEARCH ASSISTANT position available September 1980. Ph.D. to do neuronal recording in adult and developing mammalian CNS. Individual with experience in recordings from single neurons preferred. Send curriculum vitae and names of references to: **N. A. Buchwald, Director, Mental Retardation Research Center, 760 Westwood Plaza, Los Angeles, Calif. 90024.**

University of California, Los Angeles, is an Affirmative Action Employer, M/F/H.

POSTDOCTORAL RESEARCH POSITION in metabolism and intermembrane exchange of phospholipids for recent Ph.D. beginning 1 September 1980. Experience in spectroscopy desirable. Send résumé and two reference letters to: **Dr. George M. Helmkamp, Jr., Department of Biochemistry, University of Kansas Medical Center, Rainbow at 39th, Kansas City, Kans. 66103.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATES

Applications are invited from persons with backgrounds in chemistry, molecular biology, or biophysics. Areas of current research interest include: (i) molecular mechanisms of mutation, (ii) alteration of gene expression by carcinogens and mutagens at the molecular level, and (iii) physical interactions between hydrocarbons and DNA. Send curriculum vitae and two or more letters of recommendation to: **Dr. Thomas Meehan, 1910 West St. Andrews Road, Midland, Michigan 48640.** Michigan Molecular Institute is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS in molecular and tumor virology are available immediately at the Institute for Molecular Virology. The following virus systems are under investigation: human adenoviruses, herpesviruses, human papillomaviruses, and avian and mammalian retroviruses. Techniques of molecular cloning and in vitro manipulation of the viral genomes and DNA- and RNA-sequence analysis are emphasized in research programs which include the study of viral-coded proteins, transcription, DNA replication, integration, and molecular genetics. Send a résumé, plus three references, to:

**Dr. Gary F. Gerard, Coordinator
Postdoctoral Training Program
Institute for Molecular Virology
St. Louis University Medical Center
3681 Park Avenue
St. Louis, Mo. 63110**

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POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately in group studying environmental effects on oral bacteria. Opportunity to learn continuous culture methods, immunological techniques as applied to study of microbial surfaces, and identification of macromolecules. Studies also include use of radiolabeling assays for microbial adherence and aggregation. A background in microbial physiology and genetics is desirable but not essential. Send curriculum vitae and names of three references to: **Dr. Burton Rosan, University of Pennsylvania, School of Dental Medicine, Department of Microbiology, 4001 Spruce Street, Philadelphia, Pa. 19104.** The University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately for Ph.D. biochemist, physiologist, or nutritional biochemist. Research in lipid metabolism, Purification, characterization, cell localization, and regulation of various lipolytic enzymes. Cell-lipoprotein interactions. Salary commensurate with experience. Submit résumé plus names of three references to: **Dr. André Bensadoun, Nutritional Biochemistry, 242 Savage Hall, Cornell University, Ithaca, New York 14853.** Cornell University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH FELLOW position available fall 1980 to participate in an interdisciplinary NSF-funded study on the biogeochemistry of wetland areas (bogs) in Minnesota and across North America. Background in geochemistry is desirable. Responsibilities include supervision of site-specific bog study in Minnesota involving atmospheric input and cycling of nutrients, metals, and organics. Salary and length of appointment are negotiable. Write to: **Steven J. Eisenreich, Environmental Engineering Program, 313 Shepard Research Laboratories, University of Minnesota, Minneapolis, Minn. 55455.**

The University of California, Los Angeles (UCLA), invites applications for the vacant position of **PROFESSOR OF NEUROSCIENCE IN PHARMACOLOGY.** The search committee favors candidates whose research interests lie in the area of molecular pharmacology and/or the structures, properties, or biogenesis of neurotransmitter receptors. Applications or nominations should be submitted with curriculum vitae and bibliography to:

**Chairman
Neuroscience/Pharmacology Search Committee
Department of Pharmacology
UCLA School of Medicine
Los Angeles, California 90024**

All applications and inquiries will be treated in strict confidence. UCLA is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

PROGRAM DIRECTOR, Hawaii Epidemiologic Studies Program, University of Hawaii at Manoa. Faculty research position, full-time, funded by a grant from the Environmental Protection Agency. Program conducts community studies on pesticides. Ph.D. or M.D. Appointment at the assistant professor level but associate level possible for Affirmative Action purposes. Applications and inquiries to: **Dr. F. C. Greenwood, Director, Pacific Biomedical Research Center, 1993 East-West Road, Honolulu, Hawaii 96822.** Closing date: 5 September 1980.

UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF PSYCHIATRY

A position has been developed for a senior academic research clinician in the Department of Psychiatry, University of British Columbia. This position offers excellent research opportunities in association with the distinguished Division of Neurological Sciences of the department, and with clinical researchers in other departments and faculties.

Applicants should have a proven record in psychiatric research, and should be experienced teachers in undergraduate and postgraduate programs. Rank and salary according to qualifications and experience. The effective date of the appointment will be 1 January 1981. Applications with curriculum vitae and requests for further information should be sent to:

Neil Yorkston, M.D.
Head, Department of Psychiatry
2255 Wesbrook Mall
Vancouver, British Columbia, Canada V6T 2A1

REPRODUCTIVE PHYSIOLOGIST. Career federal service. To develop independent research program in bovine embryonic and fetal development. Position located at Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, Nebraska. GS-11/12/13; salary based on qualifications and experience. For applications, contact: **J. Brooks, USDA-SEA/AR-B3, 2000 West Pioneer Parkway, Peoria, Illinois 61615.** Telephone: 309-671-7813. *An Equal Opportunity Employer.*

POSITIONS OPEN

The U.S. Department of Agriculture, Science and Education Administration, is recruiting for a **RESEARCH AGRONOMIST**, GS-11 (\$20,611 per annum), GS-12 (\$24,703 per annum), GS-13 (\$29,375 per annum) at the Aquatic Weed Control Research Unit, Fort Lauderdale, Florida. The incumbent will develop integrated management systems technology for control of aquatic weeds that interfere with the utilization of water resources for agriculture, flood control, navigation, fish and wildlife management, and recreation. Incumbent must have knowledge of botanical identification and life cycles of aquatic weeds, herbicides, and experimental methodology, including basic biometrical analyses. Interested applicants should telephone: **Dr. L. W. Larson in Gainesville, Fla., at 904-373-6701** for application requirements. Applications are due in Hyattsville, Md., by 22 September 1980.

RESEARCH ASSOCIATE. Master's degree in microbiology or immunology with 2 years of related experience in tissue culture and at least one of the following: RIA, chromatography, antibody purification. Area of research is brain tumor cell biology. *Affirmative Action/Equal Opportunity Employer.* **The University of Texas Health Science Center, Personnel Office, 7703 Floyd Curl Drive, San Antonio, Texas 78284.**

RESEARCH ASSOCIATE at the Cooperative Institute of Marine and Atmospheric Sciences at the University of Miami (*An Equal Opportunity/Affirmative Action Employer*) to study reef ecology leading to the development of a theory of reef fish management. Salary: \$20,000 plus benefits. Preference will be given to individuals having demonstrated experience in ecological research on reef fish and invertebrates, a working knowledge of the species inhabiting reefs of the tropical western Atlantic, and experience in conducting field studies. Forward curriculum vitae with names and telephone numbers of three references to: **Dr. W. J. Richards, Southeast Fisheries Center, 75 Virginia Beach Drive, Miami, Fla. 33149.**

POSITIONS OPEN

RESEARCH ASSOCIATE

Permanent, nontenure-track position available to help direct research programs involving cell culture techniques, radio-immunochemical analysis of protein turnover, cell-free translation, protein purification and sequencing, and red blood cell ghost microinjection, among others. Desired qualifications include a Ph.D. degree in a biological or chemical area, postdoctoral training, and evidence of productivity. Position available 1 September 1980 or negotiable.

Please send curriculum vitae and two or three letters of reference. Salary and benefits negotiable.

Dr. Wesley D. Wicks
Department of Biochemistry
University of Tennessee
Knoxville, Tennessee 37916

The University of Tennessee is an Equal Opportunity/Title IX/Section 504 Employer.

RESEARCH ASSOCIATE. Position available immediately for Ph.D. to work on physiological and biochemical mechanisms in the crystalline lens of the eye. Experience in membrane or protein biochemistry would be advantageous. Salary minimum: \$12,000. Send résumé and names of two references to: **Dr. C. A. Paterson, Box B205, University of Colorado Health Sciences Center, Denver, Colorado 80262.** *The University of Colorado is an Equal Opportunity Employer.*

RESEARCH ASSOCIATE position in molecular biology/genetics available 1 October 1980 to explore theory on the mechanism of aging. Experience in nucleic acid hybridization and cloning methodology desirable. Salary: \$13,000 to \$16,000. Send curriculum vitae and three letters of recommendation to:

Dr. O. E. Landman
Department of Biology
Georgetown University
Washington, D.C. 20057

no later than 24 September. *An Equal Opportunity Employer.*

Optical Scientists/Engineers

The Jet Propulsion Laboratory of the California Institute of Technology has two or three new technologist positions in optical sciences and engineering. The candidate must have completed a PhD in optics, or in electrical engineering or physics with an emphasis on optics, within the last five years. Facilities are available for applied research in holography, optical testing, optical design, image formation, infrared systems design, detector technology, optical information, processing, interferometry and advanced spectrometers.

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Please contact Dr. James B. Breckinridge, Optical Sciences Group, at (213) 354-6785 or send resume and curriculum vitae to Dept. C80

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California Institute of Technology
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Pasadena, CA 91103

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POSITIONS OPEN

RESEARCH ASSOCIATE. Applicant must have an M.S. in physics, applied mathematics, marine science. Knowledge of Fortran. The applicant will work in a physical oceanographic group concerned with satellite remote sensing data analysis and is expected to be proficient in various phases of geophysical data analysis; that is, time series analysis, assimilation of 3 and 4 dimensional data sets, high level computer programming, and so forth. The individual will be responsible for specific large scale projects which initially will entail design and integration of a TIROS Operational Vertical Sounder (TOVS) data processing system and its verification by utilizing commensurate satellite and surface data sets. Please respond to: **Dr. Otis Brown, University of Miami, 4600 Rickenbacker Causeway, Miami, Fla. 33149.** The University of Miami is an Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE

An opening for a research associate is immediately available in the laboratory of Dr. Behrus Jahan-Parwar to study cellular neuroethology in *Aplysia*. Applicants should have a Ph.D. or M.D., a strong background in cellular electrophysiology, and working knowledge of one of the following techniques: synaptic pharmacology, voltage clamping, ultrastructure, or computer modeling. Salary range: \$12,500 to \$16,000, depending on qualifications. Send curriculum vitae and request three referees to send references directly to: **Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

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RESEARCH FELLOW—Ph.D. position available immediately for cellular immunologist with background in cell culture, virology, fluorescent microscopy, and autoradiographic techniques. Salary commensurate with experience and qualifications. Send curriculum vitae to: **Dr. A. R. Neurath, Lindsley F. Kimball Research Institute, THE NEW YORK BLOOD CENTER, 310 East 67 Street, New York, N.Y. 10021.** An Equal Opportunity Employer.

SKELETAL BIOLOGY. A 2-year postdoctoral position is available immediately to study bone formation and resorption by ultrastructural methods, including electron microprobe analysis. Deadline for applications: 10 October 1980. Send résumé and addresses of three reference sources to: **Dr. Harald Schraer, Department of Microbiology, Cell Biology, Biochemistry and Biophysics, 517 Mueller Laboratory, The Pennsylvania State University, University Park, Pa. 16802.** An Equal Opportunity/Affirmative Action Employer.

VICE PRESIDENT FOR RESEARCH AND DEAN OF GRADUATE STUDIES SEARCH REOPENED

UNIVERSITY OF CENTRAL FLORIDA (UCF)

Nominations and applications are invited for the position of Vice President for Research and Dean of Graduate Studies. This 12-month position is responsible for the continued development, coordination, and administration of the University's research and graduate programs.

Minimum qualifications include a doctoral degree in a discipline appropriate for consideration by a university academic department for a concurrent tenure-earning faculty appointment; recognized administrative ability and competence with documented evidence of successful and extensive related professional experience in research and graduate education.

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Applications must be postmarked by 12 September 1980.

Send nominations to:

**Vice President for Research and
Dean of Graduate Studies Search Committee
University of Central Florida
Orlando, Florida 32816**

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POSITIONS OPEN

RESEARCH FELLOW. Ph.D. in biophysics or biochemistry to study role of membrane proteins in the proton pump. Work involves purification and incorporation into liposomes and bilayers. Résumé to: **Dr. D. R. Sanadi, Cell Physiology Department, Boston Biomedical Research Institute, 20 Staniford Street, Boston, Mass. 02114.** Equal Opportunity/Affirmative Action Employer.

RESEARCH SPECIALIST SCHOOL OF MEDICINE EMORY UNIVERSITY

Due to expansion, a position is available in our Department of Biochemistry in the routine and developmental preparation and assay of enzymes and coenzymes; work with organisms and tissues to isolate and identify metabolites derived from radioactive vitamins and coenzymes. Applicants must have at least a master's degree in biochemistry, chemistry, or biology with laboratory training involving enzymological and metabolic skills and specific knowledge of usual biochemical techniques such as fractionation, centrifugation, chromatography, electrophoresis, spectrophotometry, fluorometry, and scintillation counting.

To apply, contact: **Maggie Joffe, Personnel Department, Emory University, Trimble Hall, Atlanta, Ga. 30322.** 404-329-7611.

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TUMOR IMMUNOLOGIST for position as senior project associate in cancer research program. Will conduct studies to isolate and characterize tumor antigens and to detect macromolecules associated with malignancies in patients. Ph.D. in microbiology or immunology; proficiency in chromatography, immuno-absorption, and radio-immunoassay techniques and three years of experience required. Salary for 5-day, 40-hour week: \$17,500 per year. Send résumé to: **Dr. Eugene A. Davidson, Department of Biological Chemistry, Milton S. Hershey Medical Center, Hershey, Pennsylvania 17033.**

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FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available September 1980. Two years (American Heart). Experience in cardiovascular/cardiopulmonary/respiratory physiology. Acid-base/hypoxia effects on myocardial and whole body oxygen uptake. Send curriculum vitae, your letter stating career goals, and letters directly from three references to: **Dr. S. F. Sullivan, University of California, Los Angeles, School of Medicine, Los Angeles, Calif. 90024.** Equal Opportunity/Affirmative Action Employer.

OPHTHALMIC PATHOLOGY FELLOWSHIP

Department of Ophthalmology, University of Pennsylvania, Scheie Eye Institute, Presbyterian-University of Pennsylvania Medical Center. Applications are invited for a National Eye Institute training fellowship in experimental ophthalmic pathology. Designed to prepare physicians for careers in academic ophthalmology, the 2-year program emphasizes the acquisition of specialized research skills while fostering a broad understanding of ophthalmic pathology. Candidates must be permanent residents or citizens of the United States and preferably should be M.D.'s. An NIH payback agreement is required. Those interested should direct inquiries, including up-to-date curriculum vitae and bibliography, to:

**Myron Yanoff, M.D.
Director, Scheie Eye Institute
51 North 39 Street
Philadelphia, Pa. 19104**

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FELLOWSHIPS

POSTDOCTORAL RESEARCH FELLOWSHIPS IN VIROLOGY

Positions are available for postdoctoral research training in virology with particular emphasis on the genetics of orbiviruses or the genetics of baculoviruses. Experience in either nucleic acid chemistry, molecular genetics, or arboviruses is highly desirable. Recent Ph.D.'s or M.D.'s who are U.S. citizens or permanent residents are invited to apply. Initial appointment is for one year, renewable for 2 years. Stipends are funded under current National Research Service Awards and they are dependent upon previous relevant research experience. Send curriculum vitae with three references to: **Dr. R. E. Shope, Director, Yale Arbovirus Research Unit, Department of Epidemiology and Public Health, Yale University School of Medicine, P.O. Box 3333, 60 College Street, New Haven, Conn. 06405.**

POSTDOCTORAL FELLOWSHIP IN GASTRIC VASCULAR PHYSIOLOGY. For training in gastric microcirculation studies: in vivo microscopy techniques for vascular diameter, micropressure and permeability studies, and C-aminopyrine clearance and radiolabeled microsphere techniques for gastric mucosal blood flow studies. Recent Ph.D.'s are invited to apply. Contact: **Dr. Paul H. Guth, 691/111C, Wadsworth VA Hospital, Los Angeles, Calif. 90073.** Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP. Position available for research training in environmental toxicology and physiology in one of the following areas: perinatal toxicology; biochemistry, physiology, and pharmacology of lung function; factors affecting release of mediators of inflammation; regulation of circulatory and body fluids during exercise and thermal strain; sensory measurement in olfaction and taste. The position is open to U.S. citizens or permanent residents with M.D., D.V.M., Ph.D., or equivalent degrees. Applicants should send curriculum vitae with two references and specify area of interest to: **M. Hitchcock, Ph.D., John B. Pierce Foundation Laboratory, Yale School of Medicine, 290 Congress Avenue, New Haven, Conn. 06519.** Yale University is an Affirmative Action/Equal Opportunity Employer.

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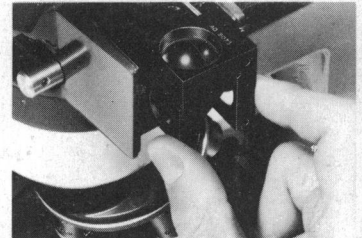
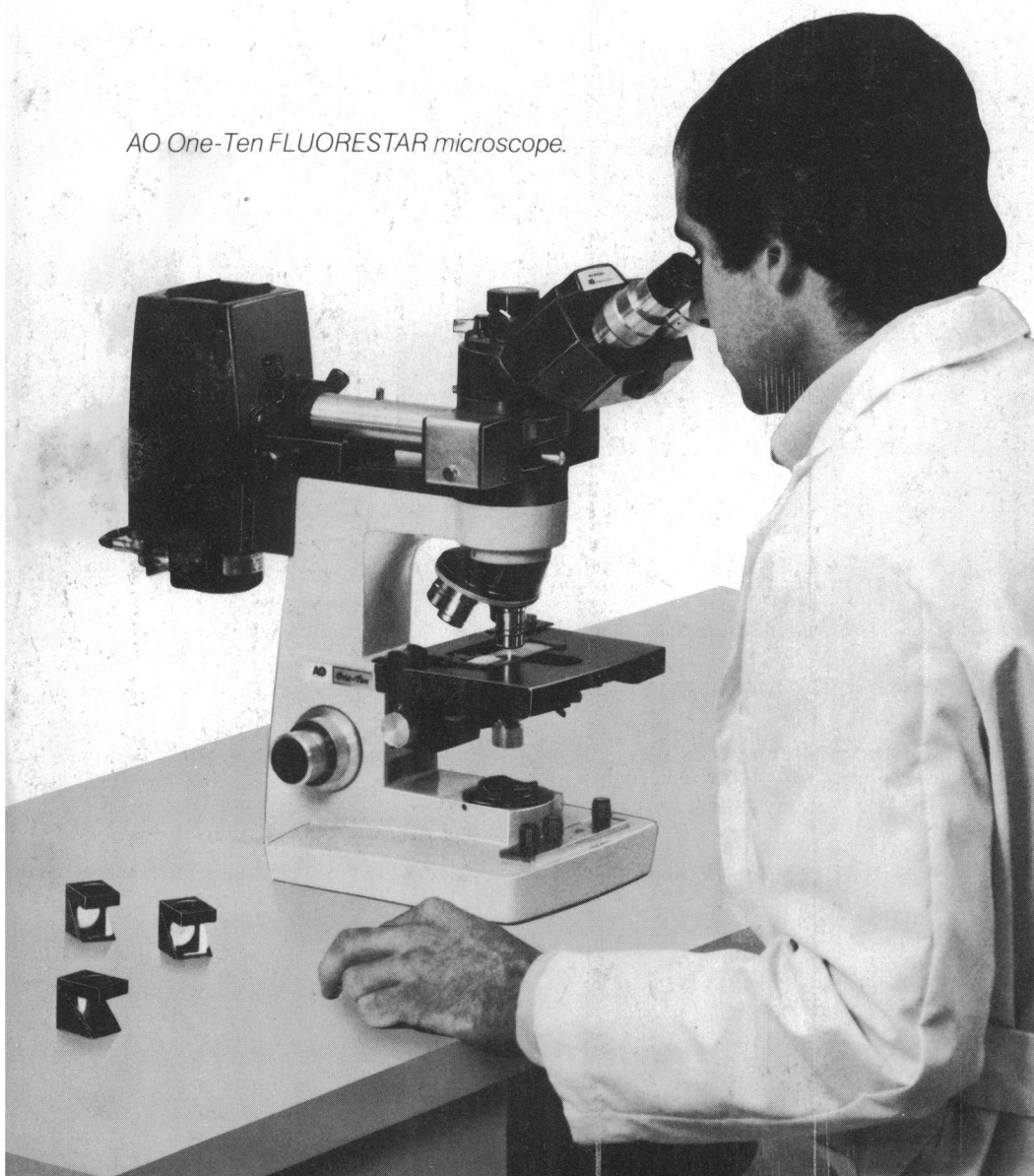
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