

indeed unfortunately continues to have among some biologists an image of conservatism if not of irrelevance. However, recent developments, in which some of the contributors to this book have played a leading role, have done much to restore respect. Many of these developments are due to the application of new techniques. Tom Taylor, in his chapter on pollen and pollen-organ evolution in early seed plants, demonstrates the importance of electron microscopical studies in enabling paleobotanists to adopt a more biological and functional approach to their material, which may be of great significance in evolutionary studies. Only a few years ago biochemical analysis of fossil plants would have been considered futile. Although biochemical studies in paleobotany to date have been few, their results encourage the prediction that this too will appreciably broaden the pool of data available for the tracing of evolutionary relationships and, as Tony Swain and Gillian Cooper-Driver here suggest, will assist toward a better understanding of the relations between ancient plants and their environments.

Paleobotanists have perhaps been rather slow to appreciate the importance of the ecological dimension by comparison with many animal paleontologists, but in recent years much has been done in pre-Quaternary plant paleoecology to make up for the slow start. Greg Retallack's review of work on fossil soils demonstrates the potential importance of this rather neglected source of information about past vegetation and environments, though many readers will wish that he had presented it so that those with less experience than he in this area might have read it with greater understanding.

Another and already very fruitful approach to paleoecology is represented by the work of Tom Phillips and William DiMichele on coal-ball analysis. The Pennsylvanian coal-swamp plants are probably better known morphologically and anatomically than those of any other fossil flora. Many attempts have been made to reconstruct the communities to which they belonged, but few have been based, as Phillips and DiMichele's are, on analytical methods.

The impact of plate tectonics is reflected in a discussion by Alfred Ziegler and others of the implications of land-mass disposition during the Paleozoic, not only in relation to the creation and breakdown of breeding barriers but also in influencing climatic patterns.

Some of the most outstanding advances in paleobotany over the past two

decades relate to the origins and early evolution of gymnosperms and angiosperms. Charles Beck's work and that of Banks and his associates on the progymnosperms provide a superb example, the evolutionary implications of which are admirably discussed by Beck here. Similarly, although it stresses one particular paleoecological theory, the contribution by Retallack and David Dilcher on the rise of the angiosperms provides reason to hope that paleobotany is making significant progress toward a solution of this traditional evolutionary mystery.

The book, which is divided presumably only for handling ease into two volumes, each with the same appreciation of Harlan Banks, portrait, and editorial preface, will be valuable to advanced students as well as to those actively involved in relevant areas of research. For the general biologist it provides a useful microcosm of much of what is exciting in modern paleobotany.

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Literature

Chemistry Analyzer describes the Hitachi 705 for clinical analysis of samples. Boehringer Mannheim Diagnostics. Circle 563.

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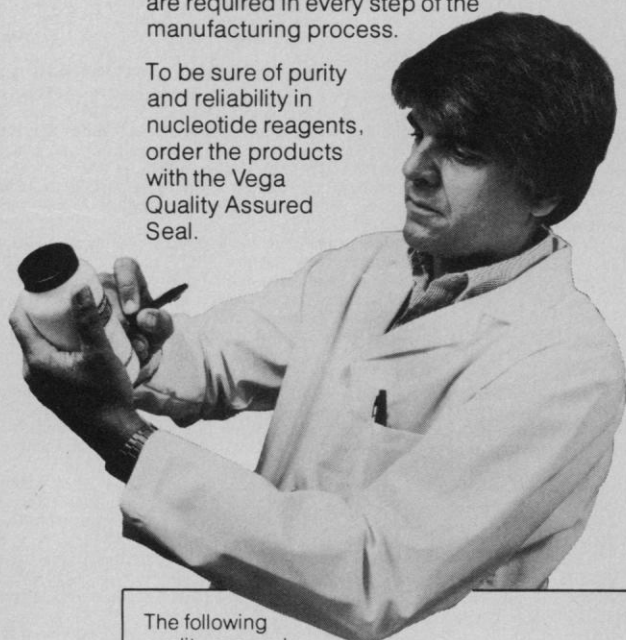
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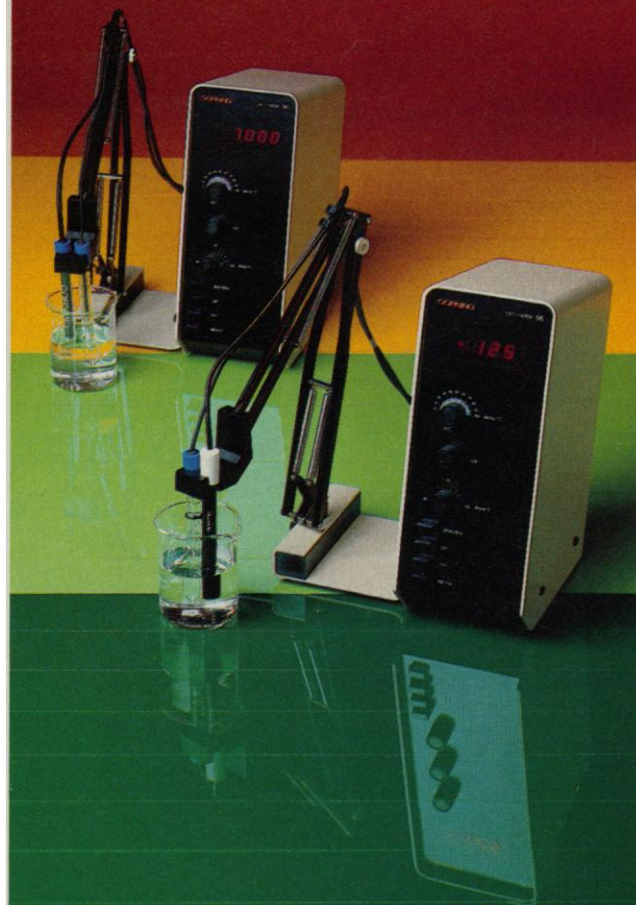
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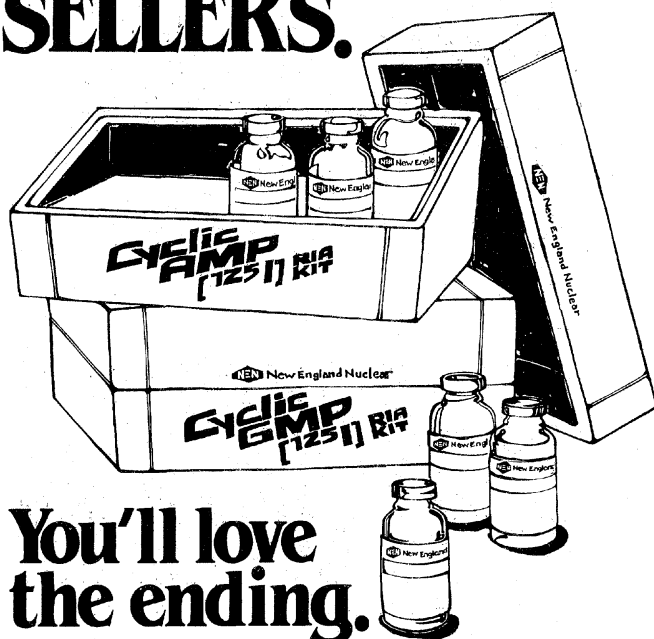
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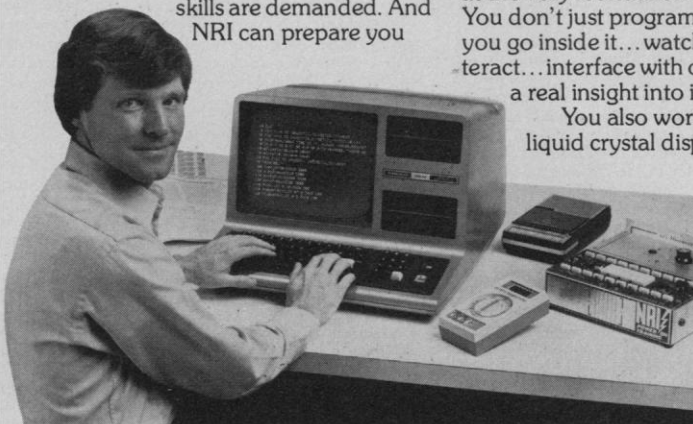
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POSITIONS OPEN

ADJUNCT PROFESSOR FOR RESEARCH AND SCHOLARSHIP. Stanford University, Division of Nuclear Medicine. Candidates must have had substantial research experience in two or more of the following fields: biochemistry of membranes and receptors, immunology, lymphocyte biology, cell culture, hybridoma technology, radioimmunoassay, cancer cell biology, and endocrinology. The adjunct professorship is a 6-year, renewable, nontenured appointment, coterminous with research support. Qualified candidates should send complete curriculum vitae and names and addresses of four references to: **Joseph P. Kriss, M.D., Professor of Radiology and Medicine, Director of the Division of Nuclear Medicine, Department of Radiology, Stanford University Medical Center, Stanford, California 94305.** Stanford is an Equal Opportunity Employer and welcomes nominations of women and minority group members and applications from them.

ALLERGY RESEARCH—Positions are now open for immunochemists (Ph.D.) in the following areas: allergen-specific IgE, basophil histamine release, and allergen quality control and standardization. Candidates should have a strong background in at least one of these areas. Send curriculum vitae to: **Irene B. Haydik, M.D., IMMUTRON INC., 1531 Monrovia Avenue, Newport Beach, Calif. 92663.**

ANATOMY/MORPHOLOGY

The Department of Biology of Virginia Commonwealth University (VCU) anticipates two openings for August 1982. These positions emphasize excellence in teaching and research is not expected. Primary teaching assignment is in human anatomy, anatomy-physiology, or vertebrate morphology. Candidates must have M.S. as minimum. VCU is a comprehensive, urban, state-supported institution with an enrollment of 20,000. The Department of Biology is staffed by 26 full-time faculty and numerous adjunct faculty and graduate teaching assistants. A large number of the students served are in the pre-health sciences. Applicants should indicate their teaching experience and professional interests. Send curriculum vitae with names of three or more references by 12 February 1982 to: **Margaret May, Department of Biology, Virginia Commonwealth University, Richmond, Virginia 23284.** VCU is an Equal Opportunity/Affirmative Action Employer.

ANIMAL BIOCHEMIST

The Department of Agricultural Biochemistry of the University of Nebraska-Lincoln. Tenure-track assistant or associate professor. Postdoctoral experience and research interests in any area of basic biochemistry related to the growth and reproduction of domestic animals is desirable. This 12-month position, primarily in the Experiment Station, includes teaching duties. Résumé and names of three references should be sent by 28 February 1982 to: **J. M. Daly, 206 Agricultural Biochemistry Hall, The University of Nebraska, Lincoln, Neb. 68583-0718.** Telephone: 402-472-2932. An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

Applications are invited for a faculty position in the Department of Biochemistry and Molecular Biology, Harvard University. Distinction in research and teaching is essential. Send curriculum vitae, three letters of recommendation, and a brief outline of future research plans before the end of March to: **Department Secretary, Department of Biochemistry and Molecular Biology, Harvard University, 7 Divinity Avenue, Cambridge, Mass. 02138.**

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POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR. Must have research interest in cellular and molecular aspects of host-parasite interaction. Postdoctoral experience in microbial physiology, molecular genetics, immunology, virology, or pathogenic organisms required. Teaching commitment in medical microbiology and graduate courses required. Closing date: 15 February 1982. Send curriculum vitae, description of professional aspirations, and names of three referees to: **Dr. Byron Burlingham, Department of Microbiology, School of Medicine, East Carolina University, Greenville, N.C. 27834.** An Equal Opportunity through Affirmative Action Employer.

ASSISTANT PROFESSORSHIP. San Francisco State University invites applicants in the area of **MEMBRANE BIOCHEMISTRY** for a tenure-track appointment to begin fall 1982. Applicants should have strong commitments to teaching and to developing a research program. Submit résumé, summaries of research plans, equipment requirements, and teaching interests, and the names of at least three references to: **Chairman, Department of Chemistry, San Francisco State University, San Francisco, Calif. 94132.** The University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSORSHIPS

The Department of Biology, University of Alabama in Birmingham, invites applications for two tenure-track positions, beginning 1 September 1982. Positions available are: (i) **CELL BIOLOGIST**, with training in developmental biology and/or endocrinology, and (ii) **ENVIRONMENTAL MICROBIOLOGIST**, with training in microbial genetics. Postdoctoral experience desirable. Research should be compatible with ongoing programs in (i) vertebrate reproduction and (ii) microbial ecology. Ability and willingness to teach in both our undergraduate and graduate programs are necessary. Send curriculum vitae, three letters of reference, and other pertinent information by 20 February 1982 to: **Dr. C. G. Crispens, Jr., Chairman of Search Committee, Department of Biology, University of Alabama in Birmingham, University Station, Birmingham, Ala. 35294.** An Affirmative Action/Equal Opportunity Employer.

ASSOCIATE PROFESSOR—ANATOMY

Applications are invited for a tenure-track position in the Department of Anatomy, University of North Dakota School of Medicine. Applicants must have a Ph.D., M.D., or equivalent with at least 4 years of postdoctoral training and research experience in cell biology, molecular biology, structural biology, biochemistry, or related areas. The successful applicant will be expected to carry on a vigorous research program and demonstrate excellence in his/her respective field. Faculty members are expected to obtain extramural support for their research activities. Applicants should be able to demonstrate excellence in teaching microscopic and developmental anatomy to medical students and contribute substantially to the departmental graduate program. Send curriculum vitae, descriptions of research and teaching experience, and at least three letters of reference by 30 January 1982 to: **Dr. Edward C. Carlson, Chairman, Department of Anatomy, University of North Dakota School of Medicine, Grand Forks, North Dakota 58202.** The University of North Dakota is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.

BIOCHEMISTS—MOLECULAR BIOLOGISTS

Tenure-track faculty positions at assistant and associate professor levels. Candidates should be interested in developing strong and independent research with long-term growth potential on the mechanisms of gene expression at the molecular level in either prokaryotic or eukaryotic systems. This area may be interpreted broadly from chemical-physical to genetic interests. Teaching includes medical, dental, and graduate students at sizable and rapidly expanding medical complex. Biochemistry department with excellent new facilities is undergoing substantial expansion. Salary commensurate with experience and competitive. Curriculum vitae, brief statement of present and future research interests, and three letters of recommendation should be sent to: **Dr. Robert D. Wells, Chairman, Department of Biochemistry, University of Alabama—Birmingham, Schools of Medicine and Dentistry, University Station, Birmingham, Alabama 35294.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

APPRENTICESHIP. Ecological, environmental consulting. Required: B.S. or M.S. in biology or environmental science, typing (50 words per minute), editing skills. Preferred: bookkeeping or other business skills. Learn all business aspects of environmental consulting: reports, agencies, proposals, contracts, finances, legal, and office management. Start: \$200 per week; increase with proficiency. Send academic résumé, all work experience, references, grade transcript, and letter of interest to: **Applied Marine Ecological Services, 600 Grapetree Drive—4EN, Miami, Fla. 33149.**

ASSISTANT OR ASSOCIATE PROFESSOR OF PUBLIC HEALTH (HEALTH ECONOMICS). Doctoral degree in economics, business administration, or a closely related field and interest and qualifications for joint appointment (primary in School of Public Health, secondary in School of Business Administration). As a complement to existing faculty strength in macroeconomics of health, specialist in microeconomics of health service programs and institutions will be concerned with planning, administration, and evaluation of health programs and with related health policy and decision-making. Ability to offer courses and seminars for master's and doctoral students. The University of California is an Equal Opportunity/Affirmative Action Employer. Submit curriculum vitae and publications by 31 January 1982 to: **Chairman, Department of Social and Administrative Health Sciences, 403 Warren Hall, School of Public Health, University of California, Berkeley, California 94720.** This is an extension of the 1980–1981 search. Previous applicants need not reapply.

ASSOCIATE IN BIOLOGICAL CHEMISTRY to conduct research in the synthesis and evaluation of CNS stimulants and depressants. Candidate must have experience in micromethods of organic synthesis, including: the handling of unstable compounds; experience in NMR, IR, and UV spectroscopy and the spectro identification of organic compounds; use of thin-layer and column chromatography on analytical and preparative scale; synthesis of CNS active compounds; a knowledge of drug-receptor binding; and kinetics of reaction mechanism. Requirements include a Ph.D. in organic chemistry, at least 3 years of postdoctoral research experience in medicinal chemistry and pharmacology, and good writing skills. In addition, experience in the synthesis of receptor or enzyme model system is required. Salary: \$20,800 per annum. Send résumés to: **W. Healey, Cambridge Job Center, 806 Massachusetts Avenue, Cambridge, Mass. 02139,** and refer to job reference number 2120.

BIOCHEMICAL ENDOCRINOLOGIST position in the Department of Cellular and Molecular Biology at the Southwest Foundation for Research and Education which is affiliated with the University of Texas Health Science Center at San Antonio. The individual sought will be expected to collaborate in established programs examining hormonal regulation of target tissue function during aging and in neoplasia and to develop an independent complementary research program. Applicants with a Ph.D. degree and experience in studies of steroid and/or polypeptide hormone action in cell culture and in receptor quantitation are particularly encouraged. The Department of Cellular and Molecular Biology is directed by Dr. Sydney A. Shain, maintains a large colony of inbred rats for studies in aging, and has established programs of in vivo and in vitro studies related to prostatic cancer. The research environment provides an excellent opportunity for an aggressive, creative scientist. Send résumé, a 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.**

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POSTDOCTORAL SCIENTIST position available for participation in studies of hormonal regulation of prostate cancer cell function. We are seeking an individual trained in molecular biology/cell biology with predoctoral experience in maintenance and growth of cells in culture. The position is in the Department of Cellular and Molecular Biology at the Southwest Foundation for Research and Education. The department has established programs of in vivo and in vitro studies related to prostatic cancer. 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.**

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POSITIONS OPEN

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

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

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

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

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ASSOCIATE/ASSISTANT PROFESSOR

Magnetic Resonance Laboratory. The Department of Pathology and Laboratory Medicine of Hahnemann Medical College invites applications from biophysicists or biochemists for the position of **director** of the Magnetic Resonance Laboratory. This is a faculty appointment at the rank of **assistant or associate professor**. Applicants must have a solid backing in magnetic resonance—both NMR, ESR, and in the area of biological membranes. Preference will be given to applicants with an established research project in this area. The director is expected, in addition to his/her independent research, to assist and collaborate with members of the department in studies of biological membranes. Please forward curriculum vitae, publication list, recent reprints, and names of three references to: **Dr. E. Rubin, Chairman, Pathology Department, HAHNEMANN MEDICAL COLLEGE & HOSPITAL, 230 North Broad Street, Philadelphia, Pa. 19102. Equal Opportunity Employer.**

NATIONAL SCIENCE FOUNDATION

National Science Foundation (NSF), Division of Environmental Biology, is seeking candidates for a permanent appointment as an **ASSOCIATE PROGRAM DIRECTOR** in the Ecology Program. The associate program director administers programs of basic research grant support, including advising applicants, reviewing proposals, and other administrative duties. The position is excepted from the competitive civil service and is equivalent to GS-13 or -14 (\$33,586 or \$39,689 per annum). Candidates should have a Ph.D. or equivalent in the field of ecology, 6 years of research experience, and be active in the ecology of freshwater or terrestrial systems. Supervisory or management experience is highly desirable. Send Standard Form 171, Personnel Qualifications Statement, to: **NSF, Personnel Administration Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550, attention: Odessa White.** Applications will be accepted under Announcement Number EX 82-2 until 29 January 1982. For further information, telephone: 202-357-7840. *NSF is an Equal Opportunity Employer.*

NATIONAL SCIENCE FOUNDATION

National Science Foundation (NSF), Division of Environmental Biology, is seeking qualified candidates for four positions: **program director, systematic biology; program director, ecosystem studies; and two associated program directors in systematic biology.** The incumbents to these positions will administer programs for basic research grant support, including advising applicants, reviewing proposals, and other administrative duties. The positions will be filled on a rotational basis for 1 or 2 years and are excepted from the competitive civil service at grades EC-13/14/EP (equivalent to GS-13/14/15), \$33,586 to \$60,689 (limited by statute to \$50,112.50) per annum. (One of the associate program director positions has the potential for conversion to permanent assignment at the same or at program director level.) Candidates should have a Ph.D. and/or equivalent research experience plus 6 years of postdoctoral experience in a related discipline. Résumés should be sent to: **National Science Foundation, Personnel Administration Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550, attention: E. Paul Broglio.** For further information, telephone: 202-357-7841. *NSF is an Equal Opportunity Employer.*

POSITIONS OPEN

University of Alaska. **ASSISTANT PROFESSOR OF FOREST MANAGEMENT** position starting 1 April 1982. Responsibilities: to build a forestry management research program and develop procedures for the multiple-use management of forestlands in Alaska. Duties involve research directly related to forest industries and associated business enterprises on both public and private lands. Qualifications: a Ph.D. in forest management, a strong silvicultural background, knowledge of the forest industry, and skills in quantitative analysis are desirable. Salary range is \$37,211 to \$39,478 annually, commensurate with experience. Send résumé, transcripts, and five letters of recommendation to: **Dr. James V. Drew, Director, Agricultural Experiment Station, 309 O'Neill Resources Building, University of Alaska, Fairbanks, Alaska 99701.** Deadline for applications is 1 March 1982. *University of Alaska is an Equal Opportunity/Affirmative Action Employer and Educational Institution.*

Amherst College seeks an **ASSISTANT PROFESSOR** in the area of molecular, microbial, or developmental **GENETICS** to begin 1 July 1982. Doctorate required: postdoctoral experience desirable. Teaching expectation is three one-semester courses per year, one of which will be a team-taught genetics course with laboratory. The candidate will develop an active research program including the supervision of student research. Three-year renewable contract, with tenure decision during the sixth year. Send curriculum vitae, copies of publications, and three letters of reference to:

**Dr. William M. Hexter, Chairman
Biology Department
Amherst College
Amherst, Mass. 01002**

The deadline is 15 February 1982.

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BIOCHEMIST OR PHARMACOLOGIST. State University of New York (SUNY) Stony Brook has a position available immediately for one research associate (postdoctoral). Projects involve the mechanistic studies of a new antitumor drug or the chemical carcinogenesis. Send résumé and three letters of recommendation to: **Professor Felicia Y.-H. Wu, Department of Pharmacological Sciences, HSC, SUNY Stony Brook, Stony Brook, N.Y. 11794. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK Number 232A.**

Biochemist/ Molecular Biologist

The Science Division of the Brooklyn Center of Long Island University anticipates starting an undergraduate program in biochemistry with emphasis in molecular biology. We are seeking a recent Ph.D. who will be able to implement such a program on both the theoretical and practical laboratory levels and who will be available by no later than June, 1982. Salary and rank commensurate with experience and qualifications.

Send resume to: Director of Administration
Long Island University
The Brooklyn Center
University Plaza, Brooklyn, NY 11201



BIOPHYSICAL PHYSIOLOGIST

The Biophysics Department of the Johns Hopkins University (Faculty of Arts and Sciences) seeks candidates for a tenure-track faculty position. Our department is small and diverse, with an emphasis at present on molecular structure and dynamics. To help balance the department we are especially interested in candidates with a strong background in physics whose research interests emphasize problems of function or physiological mechanisms (for example, cell-cell interactions, neural processing, tissue or organ interactions). We have traditionally maintained a strong program in neurophysiology and this appointment will probably be in an area that relates broadly to neurophysiology. Please submit curriculum vitae, a summary of your research interests or plans, reprints of representative publications, and the names of three references to: **Richard Cone or Shin Lin, Department of Biophysics, The Johns Hopkins University, Baltimore, Maryland 21218. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

BIOLOGIST—State University of New York (SUNY) Stony Brook has a position available in June 1982 for a Ph.D. in developmental biology, biochemistry, or related field to participate in a study of myxobacteria involving gene expression, morphogenesis, or recombinant DNA technology. Send curriculum vitae and names of three references to: **Dr. Masayori Inouye, Department of Biochemistry, SUNY Stony Brook, Stony Brook, N.Y. 11794. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK Number 231.**

The **DEPARTMENT OF BIOLOGY** at the University of South Florida anticipates two tenure-earning **FACULTY POSITIONS** at the assistant professor level commencing August 1982. These are: (i) an **animal virologist** and (ii) a **comparative physiologist** with an interest in the lower vertebrates. A Ph.D. is required and postdoctoral experience is preferred. Applicants should submit curriculum vitae and statement of research interests and should solicit three letters of recommendation to be sent to: **Chairman, Search Committee, Department of Biology, University of South Florida, Tampa, Fla. 33620.** Deadline for submission is 15 February 1982. *The University of South Florida is an Affirmative Action/Equal Opportunity Employer, and applications from women and minority individuals are encouraged.*

BIOLOGY DEPARTMENT, University of Michigan—Flint invites applications for positions beginning fall 1982: (i) full-time, tenure-track assistant professor level, with teaching responsibilities in human anatomy, histology, and developmental biology. Requirements: Ph.D., demonstrated teaching ability, active research record, and broad training in biology; (ii) full-time, tenure-track assistant professor level with teaching responsibilities in genetics and biostatistics. Requirements: Ph.D., demonstrated teaching ability, active research record, and broad training in biology; (iii) two full-time lecturers with responsibilities for laboratory instruction in two or more of the following areas: anatomy, physiology, cell biology, histology, and general biology. Requirements: master's or equivalent, demonstrated teaching ability, and broad training in biology essential for the lecturer positions. Positions are subject to funding and post approval. Send résumé, including teaching areas, copies of representative recent publications, and list of three references, by 1 March 1982 to: **Dr. K. Lavoie, Biology Department, University of Michigan—Flint, Flint, Mich. 48503. An Affirmative Action/Equal Opportunity Employer.**

CELL BIOLOGIST AND BIOCHEMIST

Researchers to investigate: (i) **COATED VESICLE** assembly, ligand, receptor, and coat interactions; in part using monoclonal ab to coat proteins and receptors; and (ii) **IgG transport** in unique tissue culture monolayers emphasizing the route, isolation of vesicular intermediates, recycling, and kinetics.

Dr. Thomas F. Roth, Department of Biological Sciences, University of Maryland (UMBC), Catonsville, Maryland 21228. An Equal Opportunity/Affirmative Action Employer.

Simmons College has expanded its search to include two assistant professor positions, available 1 July 1982, for (i) a **CELL BIOLOGIST** and (ii) a **DEVELOPMENTAL BIOLOGIST.** Additional teaching in general biology and either genetics or anatomy will be expected. Requirements: Ph.D., interest in undergraduate education, and a commitment to combining excellence as a teacher with an active research program involving student participation. For detailed information and application procedure, write to: **Dr. Louis Irwin, Department of Biology, Simmons College, 300 The Fenway, Boston, Mass. 02115. Simmons is an Affirmative Action/Equal Opportunity Employer.**

CELLULAR AND MOLECULAR BIOLOGIST

The University of Arizona College of Medicine in Tucson invites applications for a tenure-track faculty position at the level of assistant professor in the Department of Anatomy. Applicants should have a minimum of 2 years of postdoctoral training. Research in cellular and molecular endocrinology, eukaryotic molecular genetics, membrane biology, immunology, or cancer biology desirable. Teaching opportunities are in cell biology and/or histology. Send curriculum vitae, résumé of research activities, and names of three references to:

**Faculty Search Committee
Department of Anatomy
University of Arizona College of Medicine
Tucson, Arizona 85725**

Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ASSISTANT RESEARCH OCEANOGRAPHER POSITION

Scripps Institution of Oceanography (SIO) invites applications for an assistant research oceanographer position. The incumbent will be expected to apply methods of remote sensing to the study of physical processes in coastal areas. Jointly sponsored by the Center for Coastal Studies and the Visibility Laboratory, the position will be at the assistant research oceanographer level (\$22,900 to \$30,100, commensurate with qualifications). Applicant should have a background in physical oceanography at the Ph.D. level or equivalent. Strong interests in coastal physical oceanography and remote sensing are important assets, but prior experience in these areas is not required. Private foundation funding provides support for up to 2 years and is limited to U.S. citizens. Submit résumé, including names of three references, before 26 February 1982 to: **J. D. Frautschy, Deputy Director, A-010, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, Calif. 92093.** Request position profile at the same address. *An Equal Opportunity/Affirmative Action Employer.*

CHAIRMANSHIP DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER

Candidates for the chairmanship of the Department of Pharmacology and Toxicology are being sought. Qualifications include an established reputation in research and teaching and the ability to direct a department with an active graduate program and teaching responsibilities for medical, dental, and nursing students. Applicants should submit curriculum vitae, list of publications, description of research plans, and names of three references by 1 March 1982 to: **Dr. Dennis J. O'Callaghan, Chairman, Search Committee, Department of Microbiology, University of Mississippi Medical Center, 2500 North Street, Jackson, Miss. 39216.** *University of Mississippi Medical Center is an Equal Opportunity/Affirmative Action Employer, M/F/V/H.*

CHAIR, Department of Anatomy and Cell Biology, Downstate Medical Center. Candidates and those wishing to nominate candidates are asked to send curriculum vitae to: **Dr. Bernard Jaffe, Chairman, Search Committee, Downstate Medical Center, Box 40, 450 Clarkson Avenue, Brooklyn, N.Y. 11203.** *Equal Opportunity/Affirmative Action Employer.*

CHAIRPERSON: ANATOMY. Howard University, College of Medicine, Washington, D.C., invites applications from individuals with demonstrated leadership in research, administrative experience, and commitment to education in the health sciences. The successful applicant will be expected to play a major role in expanding the graduate program and furthering interdisciplinary research. Send letter of interest with curriculum vitae and the names of at least three references to: **Dr. G.-M. Moolenaar, Anatomy Search Committee, Department of Physiology, Howard University, College of Medicine, Washington, D.C. 20059.** Closing date: 30 January 1982. *Howard University is an Equal Opportunity Employer.*

CHAIRPERSON DEPARTMENT OF ANATOMY School of Medicine, University of Virginia

The University of Virginia invites applications for the position of chairperson of anatomy. Applicants should have strong records of productive research as well as experience in medical education. Preference will be given to candidates whose research interests are in cellular-molecular biology, and whose teaching experience qualifies them to direct the educational activities of the Department of Anatomy. The department is responsible for instruction of medical students in gross anatomy, histology, neuroanatomy, and developmental biology and for graduate instruction in program leading to the Ph.D. degree in anatomy, cellular and molecular biology, and neuroscience. Candidates must have the M.D., Ph.D., or equivalent degree.

Qualified candidates may submit their curriculum vitae and bibliography to:

R. G. Langdon, M.D., Ph.D.
Chairman of the Search Committee
Department of Biochemistry
University of Virginia School of Medicine
Charlottesville, Virginia 22908

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

POSITIONS OPEN

ENDOWED CHAIR IN ELECTRICAL ENGINEERING. The Department of Electrical Engineering of Texas Tech University invites nominations and applications for the J. Fred-Odetta Bucy Endowed Chair in Electrical Engineering. The department seeks to fill this position with a distinguished engineer/scientist of national and international stature in the broad area of solid-state electronics. It is anticipated that the applicants will be interested in teaching and developing their area of interest in research. Texas Tech University is a Texas state-supported university with programs to the doctoral level in most professional and academic fields. The university has an enrollment of approximately 23,000 with the enrollment in the College of Engineering more than 4100 full-time undergraduate students and more than 300 full-time graduate students. The Department of Electrical Engineering has an enrollment of 620 undergraduate and 60 graduate students in its Computer Science Program. The department is engaged in research in such areas as plasma, pulsed power, lasers, systems, solid-state devices, electro-optics, along with other normal areas of involvement. Major facilities exist in most of these areas. It is anticipated that the starting date for the position will be September 1982. The selection will be based on the qualifications of the candidate. Please forward applications or nominations for the position to: **R. H. Seacat, Chairman, Department of Electrical Engineering, P.O. Box 4439, Texas Tech University, Lubbock, Texas 79409.** *Texas Tech University is an Equal Opportunity Employer.*

CHEMICAL OCEANOGRAPHY. Research assistant professor. Initial appointment for 1 year with the possibility of extension or entry into tenure-track position based on competitive search. Ph.D. in chemical oceanography or related field required. Candidate with experience in the analyses of nutrient elements, metals, and/or radioactive nuclides in marine samples preferred. Successful candidate must initiate research program either independently or in cooperation with existing faculty members. Position available fall 1982. Salary commensurate with experience. The Oceanography Department offers programs leading to the M.S. and Ph.D. degrees. Send résumé and three letters of recommendation by 15 February 1982 to: **Dr. George Wong, Department of Oceanography, Old Dominion University, Norfolk, Va. 23508.** *An Affirmative Action/Equal Opportunity Employer.*

CYTOGENETICS TECHNOLOGISTS. Positions immediately available in the Cytogenetics Laboratory of The Oklahoma Teaching Hospitals located on campus of the University of Oklahoma Health Sciences Center. Interested candidates must have experience in the area of cytogenetics and tissue culture. Direct inquiries to: **Diana Alexander, Technical Assistant to Director of Laboratories, The Oklahoma Teaching Hospitals, P.O. Box 26901, Oklahoma City, Okla. 73190.** *Equal Opportunity Employer.*

DEAN, COLLEGE OF ENGINEERING AND APPLIED SCIENCE THE UNIVERSITY OF WISCONSIN- MILWAUKEE

ENGINEERING AND APPLIED SCIENCE—Dean of College of Engineering and Applied Science, The University of Wisconsin-Milwaukee. Responsible for administrative leadership, research, industrial liaison, and continuing education. Five departments: Civil, Industrial/Systems, Materials, Mechanical, and Electrical/Computer Science, offering programs for bachelor through doctoral degrees. Candidates should have doctoral degree in engineering or an applied science or equivalent and qualifications for tenured appointment in one of the departments. Position available summer 1982. Nominations and applications (including curriculum vitae and names of at least three references) by 1 March 1982 to: **Dr. Robert C. Eidl, Chairperson, Search and Screen Committee, Department of Geography, The University of Wisconsin-Milwaukee, Milwaukee, Wisc. 53201.** *Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION, rank open, in Department of Speech Pathology and Audiology (pending availability of funds). Individual should have expertise in **NEUROSCIENCE**, particularly in relation to the normal and pathological processes of speech, hearing, and language. Individuals with basic science and/or clinical interests are encouraged to apply. Contact: **Dr. Paul J. Abbas, Department of Speech Pathology and Audiology, University of Iowa, Iowa City, Iowa 52242.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

DIRECTOR/MOLECULAR BIOLOGY

ROSWELL PARK MEMORIAL INSTITUTE, a comprehensive cancer research center, requires a director of the Department of Molecular Biology. Candidates should be able to further develop the department and to interact with, and provide scientific leadership for, the present members of the department whose expertise is in the areas of regulation and development in mammalian systems using a molecular biological and genetic approach. Qualifications should include an earned doctorate with significant accomplishments in the area of molecular biology. Applicants should submit a formal letter of application, complete curriculum vitae, and the names of three references to: **Dr. Darrell Doyle, Department of Cell and Tumor Biology, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263.** *An Affirmative Action/Equal Opportunity Employer.*

DIRECTOR, INSTITUTE FOR SOCIAL SCIENCE RESEARCH University of California, Los Angeles (UCLA)

Applications and nominations are invited for the position of director, Institute for Social Science Research (ISSR) at UCLA, effective 1 July 1982. The institute supports faculty research in a broad range of disciplines, and fosters interdisciplinary research training and experience. A substantial technical staff and budget (including extramural funds) are assigned to the institute. Candidates must qualify for a tenure appointment on the UCLA faculty.

Please send curriculum vitae and references by 15 March 1982 to: **ISSR Search Committee, Office of the Chancellor, University of California, Los Angeles, Calif. 90024.** *UCLA is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR MOLECULAR BIOLOGY INSTITUTE University of California, Los Angeles (UCLA)

Applications and nominations are invited for the position of director, Molecular Biology Institute, UCLA. The institute is an interdepartmental research unit with some 50 academic members and associates housed either within the building or in affiliated departments. Potential candidates should have a distinguished research record, demonstrated or potential administrative skill, and a commitment to providing aggressive leadership for continued scientific growth of the institute. The director will also assume an active senior professorship within an appropriate department in the College of Letters and Science or the School of Medicine.

Submit curriculum vitae and inquiries to: **Jack G. Stevens, Chairman, Search Committee, Molecular Biology Institute Director, Department of Microbiology and Immunology, UCLA School of Medicine, Los Angeles, California 90024.** Closing date: 1 March 1982. *UCLA is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR OF LABORATORY ANIMAL FACILITIES: State University of New York (SUNY) Stony Brook has an opening for a director of Laboratory Animal Facilities to administer veterinary services for research and teaching in a new facility serving Health Sciences Center and University Center. Veterinary care includes diagnostic laboratory and pathological services and program for preventive and therapeutic medicine. Administrative responsibility includes fiscal management, setting charges, and billing, purchasing, and maintaining animals. Qualifications: D.V.M. from approved School of Veterinary Medicine or comparable alternative experience; 5 to 7 years of laboratory animal facility. Salary is competitive and the deadline to respond is open. Send résumés to: **Dr. Daniel Fox, OVP, HSC, Health Sciences Center, Level 4, SUNY Stony Brook, Stony Brook, N.Y. 11794.** *SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK Number 230B.*

ETHOLOGIST/TERRESTRIAL ECOLOGIST. Applications are invited for a tenure-track position at the assistant professor level. Ph.D. required. Teaching responsibilities include general biology, general ecology, behavior, and area of specialty. Applicants with teaching experience in general biology preferred. The successful applicant will be expected to maintain an active research program in ecology or behavior and to guide graduate students at the master's level. Send application, curriculum vitae, transcripts, research interests, and names and addresses of three potential references to: **Dr. James E. Platz, Search Committee, Department of Biology, Creighton University, Omaha, Nebraska 68178,** by 15 February 1982. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

EVOLUTIONARY ECOLOGIST

The University of Kentucky is seeking outstanding candidates to fill a tenure-track position in evolutionary ecology at the assistant professor level or higher. The successful candidate will be expected to have demonstrated excellence in research, including experience beyond the doctorate. Teaching responsibilities normally include one graduate and one undergraduate course per year. We expect to fill the position by fall 1982 or within the subsequent year, subject to approval of funding.

Applicants should submit curriculum vitae, a statement of research plans, and names and addresses of at least three references by 8 February 1982 to:

The Search Committee
T. H. Morgan School of Biological Sciences
University of Kentucky
Lexington, Ky. 40506

Equal Opportunity/Affirmative Action Employer

FACULTY POSITION IN TOXICOLOGY

The Department of Community and Environmental Medicine invites applications for the position of **PROFESSOR** in the area of toxicology. Applications are sought from individuals with a Ph.D. degree in toxicology or related field or with an M.D. with several years of experience in conducting basic research and in teaching in the field of toxicology. The position requires demonstrated ability to secure research funds through contracts and grants in toxicology, to publish original research papers in refereed journals, and to teach toxicology at the graduate level. This faculty position is expected to complement the toxicology teaching and research faculty in the Department of Community and Environmental Medicine and the University of California Southern Occupational Health Center and the successful applicant will assist in further faculty recruitment in toxicology. The current Program in Environmental Toxicology at University of California, Irvine, concentrates in the areas of inhalation and pulmonary carcinogenesis, biochemical toxicology, and chemical carcinogenesis. Candidates with experience in these fields and in biochemical mechanisms in neurotoxicology and reproduction toxicology would be especially attractive.

Candidates should send curriculum vitae and names of five referees to:

T. Timothy Crocker, M.D., Chair
Department of Community and
Environmental Medicine
Ronald C. Shank, Ph.D.
Chair, Search Committee
College of Medicine
University of California, Irvine
Irvine, California 92717

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

FACULTY POSITION BRAIN THEORY AND COMPUTER AND INFORMATION SCIENCE

We seek a qualified Ph.D. graduate for a tenure-track assistant professorship in the COINS Department. The individual is expected to teach computer science and to conduct research in brain theory. Send curriculum vitae, a brief statement of research interests, and the names of three references to: **Dr. Caxton Foster, Personnel Committee Chairman, Computer and Information Science, University of Massachusetts, Amherst, Mass. 01003. The University of Massachusetts is an Equal Opportunity/Affirmative Action Employer.**

ST. GEORGE'S UNIVERSITY SCHOOL OF MEDICINE GRENADA

The school has a requirement for next semester for the following faculty: two demonstrators in histology, one demonstrator in neuroanatomy, and one lecturer or assistant professor in biochemistry. Pathology lecturers suitable for retired histopathologists and clinical pathologists, but all qualified applicants considered. All posts for 1 year, renewable annually by mutual agreement. Histology appointees will be acceptable for 6 or 12 months or longer. Biochemistry post would be suitable for recently graduated Ph.D. with some lecturing experience. Return air-passageway for appointee and spouse provided. Very favorable income tax rates for faculty in Grenada. Applications should be sent by airmail as soon as possible to: **Vice Chancellor, St. George's University, School of Medicine, Grenada, West Indies.**

POSITIONS OPEN

TWO FACULTY POSITIONS. Department of Biochemistry and Pharmacology, Tufts University Schools of Medicine, Dental Medicine, Veterinary Medicine, and the Sackler School of Graduate Biomedical Sciences, 136 Harrison Avenue, Boston, Mass. 02111. Responsibilities include fundamental research and participation in the teaching program. A solid research background and the potential of developing an independent research program are essential. Candidates should have expertise in one of the following areas: DNA structure, the regulation of nucleic acid synthesis, the molecular basis of carcinogenesis, comparative toxicology, or neuropharmacology. Apply to: **Dr. Henry Mautner, Chairman, Tufts University is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITIONS—BIOCHEMISTRY

The Department of Biochemistry of the Uniformed Services University of the Health Sciences invites application from candidates for tenure-track appointments to be made at levels commensurate with experience beginning 1 July 1982. The appointees will be expected to teach and establish strong programs in areas of biochemistry that will complement activities of the existing faculty. Applicant should hold the Ph.D. degree in biochemistry and appropriate postdoctoral experience. Qualified persons should send their résumé, concise summaries of present and of proposed research, and the names of three references to: **Personnel/Manpower, attention: Dr. Lucy M. S. Chang, Acting Chairperson, Department of Biochemistry, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814.** Applications will not be returned. *An Affirmative Action/Equal Opportunity Employer.* Closing date: 15 February 1982.

FACULTY POSITIONS IN PLANT MOLECULAR/CELLULAR BIOLOGY AT THE UNIVERSITY OF CALIFORNIA, BERKELEY

A developing program in molecular and cellular aspects of plant biology is currently recruiting three tenure-track positions. Applications will be considered at both the junior and senior levels. These positions are in plant biology departments in the College of Letters and Science and the College of Natural Resources. Applicants will be expected to develop a research program concerned with gene expression or molecular genetics of plant processes, of which development, photosynthesis, or nitrogen fixation are examples. The appointees will be expected to instruct at the undergraduate and graduate levels. Positions pending budgetary approval. Submit curriculum vitae, a summary of research and teaching objectives, and the names of three references to: **Chair, Search Committee, Department of Biology, 4583 Life Sciences Building, University of California, Berkeley, California 94720.** Applications should be received by 15 February 1982.

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

ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCE University of Miami

Tenure-track position in **FISHERIES SCIENCE** in Division of Biology and Living Resources: assistant professor to professor; salary and rank dependent on qualifications and experience; starting date: 1 June 1982 or as soon as possible thereafter.

Applicants should hold Ph.D. in fisheries or appropriate related field. Experience desirable in one or more of following areas: (i) stock assessment and management; (ii) tropical, multi-species fisheries; (iii) larval fish ecology; and (iv) predator-prey relationships. Incumbent expected to develop field and laboratory research including independent research proposals and would be responsible for teaching graduate courses Introduction to Fisheries Science and Biometrics, and development of new courses in area of specialization as required. The candidate would be encouraged to initiate or participate in fisheries projects overseas.

Applications should include curriculum vitae, a brief statement of research interests and objectives, and names of three referees and should be forwarded to:

Dr. F. Williams, Chairman, Search Committee
Division of Biology and Living Resources
Rosenstiel School of Marine and Atmospheric Science
4600 Rickenbacker Causeway
Miami, Florida 33149

Closing date for applications 19 February 1982.

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

NATIONAL SCIENCE FOUNDATION

National Science Foundation (NSF), Division of Physiology, Cellular and Molecular Biology, is seeking qualified applicants to fill a 1-year rotational assignment as **ASSISTANT/ASSOCIATE PROGRAM DIRECTOR** for the Metabolic Biology Program. This position is excepted from the competitive civil service at the EC-13/14 level (equivalent to GS-13/14), \$33,586 to \$51,596 (limited by statute to \$50,112.50) per annum, based on professional qualifications and experience. The Metabolic Biology Program supports studies of the biochemical processes in animal, plant, and microbial systems by which energy is provided and through which material is assimilated and broken down. Major areas of emphasis include photosynthesis and nitrogen fixation, ion transport across membranes, oxidative phosphorylation, chemiosmotic systems, the elucidation of metabolic pathways, and the role of natural products in plant function. Candidates should have a Ph.D. or equivalent research experience. In addition, 4 to 6 years of experience beyond the Ph.D. and a broad understanding of current research in the metabolic aspects of biology. Send résumés to: **National Science Foundation, Personnel Administration Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550. Attention: E. Paul Broglio, EX 82-8.** For information, telephone: 202-357-7841. *NSF is an Equal Opportunity Employer.*

NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF), in performing its function of support of scientific research, seeks high-quality **PROFESSORIAL STAFF** selected from a broad range of disciplines to carry out the review and evaluation of proposals and to recommend for support those proposals which are most meritorious from the scientific point of view.

Vacancies to be filled in the Division of Atmospheric Sciences are in the following areas of interest:

Atmospheric chemistry
Meteorology
Solar-terrestrial physics
Solar physics
Oceanography
Paleoclimatology
Fluid dynamics
Aeronomy

Proposed rotational assignments will be for **four assistant/associate program managers** at the EC-12/13/14 level (equivalent to GS-12/13/14), salary range of \$28,245 to \$51,596 per annum; and **three program managers**, EC-14/EP level (equivalent to GS-14/15), salary range of \$39,689 to \$60,689 per annum (salaries limited by statute to \$50,112.50 per annum). These positions are excepted from the competitive civil service and will be for a 1- or 2-year duration. Candidates should have a Ph.D. or equivalent experience, plus 6 to 8 years of experience beyond the Ph.D. in the appropriate discipline. Candidates interested in being considered for positions in these areas should forward résumés to: **National Science Foundation, Personnel Administration Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550, attention: E. Paul Broglio, ATM.** *NSF is an Equal Opportunity Employer.*

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA Faculty Position in Biochemistry

The Department of Biochemistry invites applications for a tenure-track appointment to be at the level of **ASSISTANT PROFESSOR**. Candidates should have broad training and research interests in biochemistry and molecular biology. Preference will be given to persons with expertise in the structure, chemistry, metabolism, processing, and regulation of nucleic acids, utilizing prokaryotic, viral, or eukaryotic systems. Responsibilities will include development of an independent research program and teaching at the undergraduate and graduate level. The position is available 1 July 1982. Candidates should send detailed curriculum vitae, names of four individuals who may be contacted for reference, and a summary of research interests to: **A. W. Norman, Search Committee, Department of Biochemistry, University of California, Riverside, California 92521**. Applications will be accepted until 1 March 1982 or until a suitable candidate is found. *The University of California is an Equal Opportunity/Affirmative Action Employer; all qualified candidates, minorities, and women are encouraged to apply.*

FACULTY POSITIONS IN SUNBELT AREA. The University of Arkansas Graduate Institute of Technology has openings for two faculty members. The openings are in the multidisciplinary areas of instrumentation, electronics, mechanical engineering, and aerosol technology. Applicants should have at least a master's degree, preferably a Ph.D. in one of the above fields, and should have demonstrated ability to perform research and to teach graduate-level courses. Research may involve digital and analog electronics, microprocessors, optical systems, process control, biomechanical systems, aerosol characterization and deposition, and medical and laser instrumentation. Current projects are funded by NASA, EPA, DOE, and NIH. Salary is competitive. Candidates should submit a résumé, a publications list, a description of research interests, and three letters of recommendation to: **Dr. M. K. Mazumder, Interim Director, Graduate Institute of Technology, P.O. Box 3017, Little Rock, Arkansas 72203**. *The university is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS IN (i) VERTEBRATE ANATOMY and (ii) GENETICS

Applications are invited for two tenure-track positions as assistant professor, beginning fall 1982. Ph.D. required. A serious commitment to teaching is desired and the opportunity is available to develop specialty courses in an area of expertise, direct master's research, and maintain an active research program. (i) **VERTEBRATE ANATOMIST**—The duties include teaching comparative vertebrate anatomy/embryology and histology (background in histological technique desired); (ii) **GENETICIST**—The appointee will be expected to teach undergraduate general and human genetics. Send curriculum vitae, concise summary of research interests and goals, reprints, and three letters of recommendation by 14 February 1982 to: **Dr. Dan Ely, Chairman, Anatomy Search Committee; or Dr. John Olive, Chairman, Genetics Search Committee, Department of Biology, The University of Akron, Akron, Ohio 44325**. The University of Akron is a consortium member of the Northeastern Ohio Universities College of Medicine. *Affirmative Action/Equal Opportunity Employer.*

Rollins College announces a full-time, tenure-track opening for a **HEAD** of the Environmental Studies Department. The decade-old Environmental Studies Program will continue to be broadly based among the natural sciences, social sciences, and the humanities. This program will now be strengthened through the establishment of a separate academic department. Responsibilities include curriculum development, budget management, major advisement, maintenance of relationships with environmental groups, and teaching core courses. A doctorate degree in environmental studies or a related field is required, as is a record of outstanding teaching and academic leadership. Research is desirable. Salary and rank are competitive and commensurate with experience.

Rollins College is an independent, coeducational liberal arts college of 1350 undergraduates. Founded in 1885, Rollins has had as its primary mission the quality education of undergraduate students in the liberal arts. *Affirmative Action/Equal Opportunity Employer.*

Interested applicants should send curriculum vitae and three letters of reference to: **Search Committee for Environmental Studies, Box 2753, Rollins College, Winter Park, Fla. 32789**.

POSITIONS OPEN

FACULTY RESEARCH POSITION IN PHYSIOLOGY available at the level of assistant professor. Work involves the physiologic regulation of bone repair processes, utilizing both in vivo and in vitro models. Experience desirable in whole animal work, kinetics, tissue culture, RIA, membrane receptors, computer experimental design, and statistical methods. Competitive salary and exceptional opportunity in a well-equipped, multidisciplinary laboratory.

Contact: **D. J. Baylink, M.D., Department of Medicine, Medical Center Number 1501, Loma Linda University, Loma Linda, Calif. 92350**. *An Equal Opportunity/Affirmative Action Employer.*

Academic position available for **Ph.D. IMMUNOLOGIST** in Hematopathology Laboratory, Department of Pathology, Boston University School of Medicine. Salaried position provided to oversee and expand diagnostic immunology laboratory. Opportunity provided to collaborate in related research projects with members of Boston University research staff. Send curriculum vitae to: **Richard Neiman, M.D., Mallory Institute of Pathology, 784 Massachusetts Avenue, Boston, Mass. 02118**.

INVENTION EVALUATION. Senior organic chemist or biochemist with broad and diversified industrial experience in pharmaceutical, medical, or chemical areas for staff of nonprofit organization involved in technology transfer. Industrial experience should include research, new product planning and development, and some knowledge of patents. Evaluate inventions for novelty and commercial value. Work with academic scientists and industrial personnel engaged in licensing and technology transfer. Headquarters in midtown New York; some travel. Competitive salary, fringes, and benefits. Write in confidence, enclosing résumé, to: **Willard Marcy, Vice President, Research Corporation, 405 Lexington Avenue, New York, N.Y. 10174**. *An Equal Opportunity Employer.*

MATHEMATICS—Tenure-track position in the Mathematics Department at the assistant/associate level beginning 1 September 1982. A person with a Ph.D. degree and strong background in mathematical sciences is sought. A candidate with the ability to teach elementary computer science and applied statistics, to use and develop statistical packages, and to interact with researchers in social, physical, or mathematical sciences is highly desirable. St. Lawrence University is a private, nondenominational, coeducational, *Affirmative Action/Equal Opportunity Employer*. Send résumé and letters of recommendation to: **Dr. C. Singh, Search Committee Chairman, Department of Mathematics, St. Lawrence University, Canton, N.Y. 13617**, by 28 February 1982.

MICROBIAL MICROBIOLOGIST—Assistant professor, tenure-track position in small liberal arts college for fall 1982. Ph.D. preferred with background in some combination of genetics, molecular biology, environmental microbiology, or water quality analysis. Teaching responsibilities include general microbiology, immunology, zoology, and nonmajor general science with participation in general biology. Development of upper-division courses will be encouraged. Send letter, résumé, transcripts, and names of three references to: **Dr. Mary F. Guest, Biology Department, Clarke College, Dubuque, Iowa 52001**. Deadline: 9 February 1982. *An Affirmative Action/Equal Opportunity Employer.*

PLANT SCIENTISTS

- Genetics • Biochemistry
- Physiology • Cell Culture
- Molecular Biology

CALGENE was founded in 1980 to develop, produce, and market agricultural products, using an integrated plant and microbial science capability ranging from recombinant DNA to field breeding. We have strong financial resources and an outstanding Scientific Advisory Board. Our laboratories in Davis, California, are ideally located for agricultural science.

CALGENE offers a competitive salary and benefit package with significant equity participation. We encourage publication. Please send résumé, list of publications, and statement of research interests, in strict confidence, to:

CALGENE, INC., 1910 Fifth Street, Suite F, File 550, Davis, California 95616.

An Equal Opportunity Employer

POSITIONS OPEN

MOLECULAR BIOLOGIST

The **UNIVERSITY OF NOTRE DAME** is making a concerted effort in at least two departments to strengthen the area of molecular biology/genetics. A tenure-track position is open in the **DEPARTMENT OF MICROBIOLOGY** at the assistant professor level beginning 1 September 1982. We are looking for an outstanding individual to conduct an active research program encompassing the molecular aspects of gene expression which will complement existing programs in the department. Areas of special interest are **IMMUNOGENETICS** and **YEAST/FUNGAL** molecular biology; qualified individuals in other research areas will not be excluded from serious consideration and are urged to apply. Responsibilities include the direction of graduate student research and teaching at the advanced undergraduate and graduate levels. Applicants should have postdoctoral experience and strong prospects for funding.

Submit curriculum vitae, a summary of research interests, and the names of three references by 1 March 1982 to:

**Dr. Morton S. Fuchs
Department of Microbiology
University of Notre Dame
Notre Dame, Indiana 46556**

This university is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR IMMUNOLOGY

Roswell Park Memorial Institute, a comprehensive cancer research center, has available three tenure-track positions which are open in the Department of Molecular Immunology. The department is expanding into the areas of idiotype manipulation and recombinant DNA technology. One of the positions is at the senior (full professor equivalent) level and two are at the junior level. No formal teaching is required at the institute, but graduate students are available through the institutional graduate program. The candidate for the senior staff position will be consulted in the selection of the junior candidates. Applications should be forwarded to: **Heinz Kohler, Chairman, Department of Molecular Immunology, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263**. *An Affirmative Action/Equal Opportunity Employer.*

ORGANIC CHEMIST. A postdoctoral research fellow is required for 1 year to join a team studying the chemistry of tobacco. The work offers interesting structural and synthetic problems in the natural product field, which requires knowledge of both modern spectroscopic and chemical methods and advanced separation procedures. The annual salary is £11,000 and assistance will be given with relocation expenses and in obtaining accommodation. Please write to: **Professor C. R. Enzell, Research Department, Swedish Tobacco Co., P.O. Box 17007, S-104 62 Stockholm, Sweden**, enclosing brief curriculum vitae and references before 22 January 1982.

PHARMACOLOGY/TOXICOLOGY. The School of Veterinary Medicine at the University of Wisconsin-Madison is recruiting to fill three faculty positions in pharmacology and toxicology. Responsibilities will include assisting in the development and implementation of programs in instruction, research, and service. The Ph.D. and/or D.V.M. or equivalent degree is required. Salary and rank will be commensurate with experience and qualifications. Applications should include complete curriculum vitae and names and addresses of three references. Application closing date is 1 March 1982 or until filled. Apply to: **Dr. Gerald E. Bisgard, Department of Structural and Functional Sciences, School of Veterinary Medicine, 333 North Randall Avenue, Madison, Wisc. 53715**. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

PLANT PHYSIOLOGIST. The Department of Biology of the Pennsylvania State University announces a tenure-track position at the assistant professor level, starting 1 September 1982. The candidate chosen will be expected to develop a strong research program, train graduate students, and participate in graduate and undergraduate teaching. Research interests preferred, but not limited to, stress physiology, photosynthesis, nitrogen fixation, phytohormones, and phytochemistry. A Ph.D. required and postdoctoral experience desirable. Send curriculum vitae, statement of research interests, and three letters of reference by 1 March 1982 to: **Robert H. Hamilton, Chairman, Search Committee, Box G, 406 Buckhout Laboratory, Pennsylvania State University, University Park, Pa. 16802**. *An Equal Opportunity/Affirmative Action Employer.*

Scientists

Vaccine Development

Lederle Laboratories, American Cyanamid's Pharmaceutical Division, has openings for Scientists with expertise in the growth and handling of microorganisms or viruses to develop bacterial and viral vaccines. Ph.D. in Microbiology, Biochemistry or Virology required. Post doctoral experience and familiarity with biochemical fractionation/purification techniques are preferred.

Located on 510-acres in scenic Rockland County, 30 miles northwest of New York City, Lederle is easily accessible to the New York State Thruway, Palisades Parkway and Garden State Parkway. Excellent benefits and career opportunities are offered.

Please reply, in confidence, indicating salary history and requirements to Mrs. Nancy Levine, Professional Employment Coordinator

Lederle

LEDERLE
LABORATORIES

American Cyanamid Company
Pearl River, N.Y. 10965

An Equal Opportunity Employer m/f

TOXICOLOGIST

Immediate opportunity for a Ph.D. Toxicologist or Pharmacologist with some related industrial or post-doctoral experience to design experimental protocols, monitor acute, subacute and chronic toxicity studies and interpret results. Will assist in reviewing data on existing products, develop strategy for additional testing, provide support to staff/line groups and interact with government and regulatory agencies.

Successful candidate will have a strong technical background; be flexible in thinking and have good communication skills.

Comprehensive benefit program, salary commensurate with training and experience, excellent working conditions.

Please send resume with salary history in strict confidence to the Employment Office at the address below.

CYANAMID

American Cyanamid Co.
Agricultural Research Division
P.O. Box 400
Princeton, NJ 08540

An Equal Opportunity Employer M/F/H

Organic Synthesis Chemists

Are you seeking a challenging position designing and synthesizing new molecules with biological activity? Stauffer Chemical Company has immediate openings in our laboratories in New York and California for Ph.D. organic chemists interested in synthesis of agricultural chemicals. Stauffer Chemical Company is a leader in production of crop protection chemicals, and has a record of innovative thinking. Are you creative enough to help us move the frontier significantly?

Superior organic chemists, with an active mind and 0-5 years of relevant experience, are invited to send a resume to: Ms. D. A. Walker, Western Research Center, Stauffer Chemical Company, 1200 S. 47th Street, Richmond, CA 94804, or Mr. G. J. DeMunnik, Eastern Research Center, Stauffer Chemical Company, Dobbs Ferry, NY 10522. An Equal Opportunity/Affirmative Action Employer.

RESEARCH BIOCHEMISTS

International Minerals and Chemical Corporation, a leading supplier to agricultural, industrial, and chemical markets worldwide, is pursuing an aggressive expansion of its Research and Development base. In addition to intensifying R & D efforts in areas of traditional interest, we are moving decisively into new and exciting areas of process and product research. Our Analytical and Macromolecular Department is now seeking Biochemists for the following newly created positions:

PROCESS BIOCHEMIST

This individual will have the responsibility to plan, propose, design and direct basic and applied research projects as well as product development projects. The position requires a thorough knowledge of industrial scale fermentation processes, enzyme technology, and the scale-up of biochemical separations. Must also have a good working knowledge of peptide/protein analytical methods. The successful candidate will be able to show successful industrial experience in process design and problem solving. A Ph.D in biochemistry is required.

PROTEIN CHEMIST

This individual will conduct laboratory studies on the modification, isolation, purification and characterization of protein/peptide substrates and how such factors impact on biological activity. This position requires a strong background in organic chemistry. Knowledge of enzyme technology and radioimmuno assay methods are highly desirable. An M.S. degree with a minimum of 4 years experience is required. Candidates without this experience must have a Ph.D degree in biochemistry.

IMC offers an outstanding salary commensurate with experience and an excellent fringe benefit package including relocation assistance. For confidential consideration, forward your resume with salary history to James E. Moore, Manager-Recruiting and Placement at the following address:

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

421 E. Hawley St., Mundelein, IL 60060



An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

PATHOLOGIST

Private practice position in 500-bed hospital in Southeast with new state-of-the-art laboratory. Clinical pathologist, preferably with subspecialty interest in immunology, hematology, and/or immunohematology. Will function as division director over several clinical laboratory sections, each supervised by another pathologist. Previous administrative experience and demonstrated management ability necessary. Board-certified, AP/CP or CP. Send curriculum vitae and references to:

Box 3, SCIENCE

PHYSICAL SCIENCE—Tenure-track, assistant professor to teach physical science, geoscience, and energy/environment courses for nonscience majors starting fall 1982. Background in physics and geoscience preferred. Applicants must have a well-defined interest and experience in teaching nonscience majors. A Ph.D. and an active interest in research is also required. Send curriculum vitae, three letters of reference, and a summary of research interests and needs by 15 February to: **R. Nackoney, Chairman, Department of Natural Science, Loyola University, Chicago, Ill. 60626.** *Loyola University is an Equal Opportunity/Affirmative Action Employer.*

PHYSIOLOGIST

Adjunct assistant/associate/full professor of physiology with interest in microcirculation and/or peripheral circulation to participate in development of microcirculatory research unit at Veterans Administration Hospital. Applicants are expected to have a strong research background and active research program. Ample opportunities are available for collaborative research with clinical faculty and basic scientists. Opportunities also exist for teaching at undergraduate and graduate levels. Interested persons should apply to: **Dr. Paul Johnson, Department of Physiology, University of Arizona, College of Medicine, Tucson, Arizona 85724,** detailing background and current research activities. Applications must be received by 15 February 1982.

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

PHYSIOLOGIST—The University of Nebraska Medical Center, College of Dentistry, invites applications for the full-time position of physiologist in the Department of Oral Biology beginning 1 June 1982. The candidate is expected to establish an active research program and teach graduate and undergraduate courses. Ph.D. or equivalent, with demonstrated research ability required. Salary and rank commensurate with training and experience. Submit curriculum vitae by 1 March 1982 to:

**Search Committee, Position Number 146
College of Dentistry, Room 100
UNIVERSITY OF NEBRASKA MEDICAL CENTER
40th and Holdrege
Lincoln, Neb. 68583-0740**

The University of Nebraska Medical Center is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW

Biochemist with background in protein chemistry and connective tissue. Present project involves study of bone and inflammation. Familiarity with these areas desirable. Must have completed Ph.D. in biochemistry or related discipline.

Salary commensurate with experience. Résumé to: **Administrator, Department of Otolaryngology and Maxillofacial Surgery, University of Iowa Hospitals, Iowa City, Iowa 52242.**

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

POSTDOCTORAL POSITION available for protein chemist with experience in immunochemistry. Work involves studies of cholinergic enzymes during development. Position available immediately. Send résumé and three letters of reference to:

**Dr. Barbara F. Crandall
Mental Retardation Research Center
University of California
760 Westwood Plaza
48-233 NPI
Los Angeles, California 90024**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

POSTDOCTORAL FELLOWS IN COGNITIVE SCIENCE AT THE UNIVERSITY OF CALIFORNIA, IRVINE

The Program in Cognitive Sciences at the University of California at Irvine has a number of openings for postdoctoral fellows for the academic year beginning fall 1982; supported by a Sloan Foundation grant. Individuals with an interest in study and research in the following and related areas are invited to apply: learnability theory, linguistic theory, psycholinguistics, neurolinguistics, cognitive neuroscience, perception, and mathematical cognitive science.

Applications from senior scholars are welcome. Please send a letter outlining research interests, curriculum vitae, and names of three or more references to:

**Postdoctoral Cognitive Science Committee
c/o Lykke Anderson
School of Social Sciences
University of California
Irvine, Calif. 92717**

An Equal Opportunity Employer. Applications for fall 1982 should be received prior to 15 March 1982.

Applications are invited from suitably qualified candidates for the post of:

POSTDOCTORAL FELLOW REFERENCE NUMBER PDF/L4/81/1

A position is available for a postdoctoral fellow to work with the Immunobiology Unit on the definition of cells of the bovine immune system. Applicants must have experience in preparing, maintaining, and testing functional T cell, natural killer cell, and so forth, clones from a mammal. The successful applicant will be expected to work closely with other members of the unit who have produced monoclonal antibodies against bovine B cell, T cell, and macrophage surface membrane determinants. The studies are directed toward understanding bovine immune response against African trypanosomes and *Theileria* infected bovine cells. This is an international position, the salary will be paid in U.S. dollars and the successful applicant will be assisted with moving expenses.

Applications identified with reference number, including curriculum vitae, summary of Ph.D. thesis, and three references, should be sent to:

**Chief Personnel Officer
ILRAD
P.O. Box 30709
Nairobi, Kenya**

Closing date: 29 January 1982.

POSTDOCTORAL POSITION available July 1982 for pharmacologist or biochemist interested in **CATECHOLAMINE RECEPTORS**. Projects include mechanism of inhibition of adenylate cyclase activity by alpha receptors and the regulation of adrenergic receptors, particularly in smooth muscle. Please send curriculum vitae and name of three references to: **Dr. Brian B. Hoffman, Division of Clinical Pharmacology, S-155, Stanford University School of Medicine, Stanford, Calif. 94305.** *An Equal Opportunity Employer through Affirmative Action.*

UNIVERSITY OF CALIFORNIA, IRVINE

POSTDOCTORAL/RESEARCH ASSOCIATE. A 2-year research project on identification of injury and mechanisms of action of formaldehyde on ciliated, mucus-secreting (respiratory) epithelia and on alveolar ducts and alveoli of mammalian lung is ready for participation by a doctoral level research associate or recent doctoral graduate in cell biology of motile organelles. SEM and TEM, histochemistry, cell membrane characterization in differentiated cells, or related fields. Project support by senior investigators and facilities for mucociliary clearance of radio-labeled particles, light and electron microscopy, cell/organ culture, lung biochemistry, and inhalation exposure of animals to well-characterized experimental atmospheres; in medical school departments of the University of California, Irvine and Los Angeles. Salary commensurate with background, up to \$22,000. **AVAILABLE IMMEDIATELY** (fall 1981). Contact: **T. T. Crocker, M.D., Department of Community and Environmental Medicine, College of Medicine, University of California, Irvine, California 92717.**

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

FACULTY POSITION IN PLANT PATHOLOGY—Applications are now being accepted for a sabbatical leave replacement position in plant pathology which will be available 16 September 1982. Responsibility will be for teaching an introductory undergraduate course in plant pathology and one additional course in either epidemiology or physiology of parasitism. The appointment will be for 9 months, with the possibility of extension for three additional months. Consideration could be given to persons interested in teaching for only one term. A Ph.D. degree in plant pathology is required, and preference will be given applicants who have had experience in the subject matter area. Salary will be competitive and dependent upon experience. Closing date for applications will be 1 March 1982. Applications and inquiries should be addressed to: **Dr. Thomas C. Moore, Chairman, Department of Botany and Plant Pathology, Oregon State University, Corvallis, Oregon 97331.** Applications must include curriculum vitae, reprints of research papers, transcripts of academic records, three letters of recommendation, and any other information considered pertinent by the applicant. *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

POSTDOCTORAL POSITION available for research on preimplantation mouse embryos. Studies are on micromanipulation and the molecular biology of differentiation. Apply with curriculum vitae to: **R. L. Brinster, Laboratory of Reproductive Physiology, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania 19104.**

POSTDOCTORAL RESEARCH ASSISTANT (grant), temporary, 1 to 2 years. To develop and perform measurements of enzymes of biosynthesis and degradation, high affinity uptake and receptor binding of putative neurotransmitters. Experienced in above techniques and subcellular fractionation, EM fraction monitoring required. Salary: \$18,185. Send résumé to: **Personnel, Position Number 265, New York Institute for Basic Research in D.D., 1050 Forest Hill Road, Staten Island, New York 10314.** *Affirmative Action/Equal Opportunity Employer, M/F/H.*

POSTDOCTORAL RESEARCH POSITION

Available from January 1982 to study receptors for human and mouse interferons. The position is supported for 2 years by a grant from the American Cancer Society. The salary is up to \$16,000, depending on qualifications, with a cost-of-living increase for the second year. Experimental methods include cell culture, interferon assays, membrane isolation, separation and analysis of glycoproteins and glycopeptides, analysis of carbohydrate composition and structure. The position is suitable for a person with Ph.D. or equivalent training in either biochemistry or cell biology. Experience in some of the methodologies listed would be desirable. Interested persons should send applications, with résumé and names of three references, to: **Dr. Helmut Ankel, Department of Biochemistry, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, Wis. 53226.** *An Equal Opportunity/Affirmative Action Employer.*

PROFESSIONAL ASSISTANT position available for Ph.D. with 3 years of experience in studies relating to the control of lipid synthesis for pulmonary surfactant production. Candidates must be able to assist in the direction of technical staff. Salary: \$18,000 per year. Send curriculum vitae and names of three references to: **Fred Possmayer, Department of Biochemistry, University of Western Ontario, London, Ontario, Canada N6A 5A5.** Preference will be given to Canadian applicants.

PROJECT LEADERS—SPECIAL PROJECTS. Kallestad Laboratories is a manufacturer of medical immunodiagnostic test kits and is located in a southwest suburb of Minneapolis. Due to rapid expansion, Kallestad is creating an entry-level position for a recent Ph.D. with a strong background in chemistry or biochemistry. The successful applicant will have good communication and organizational skills, a commitment to work as part of a problem-solving team in an industrial setting, and a desire to combine benchwork with supervisory responsibilities. The duties of the successful candidate will include preparing custom reagents and adapting them to clinical instruments, while learning the basics of immuno-diagnostics manufacturing. Please send curriculum vitae, in confidence, to: **Personnel, Kallestad Laboratories, Inc., 1000 Lake Hazeltine Drive, Chaska, Minn. 55318.** *An Equal Opportunity Employer, M/F.*

GROUP LEADER- IMMUNOASSAY

Sterling-Winthrop Research Institute announces a Ph.D opening in its Drug Metabolism Department. The position will be involved in the overall operation of the Immunoassay group, with responsibility for the development of RIA's or measurement of drug content.

The successful candidate will have a Ph.D in Biology, Biochemistry or Immunology or the equivalent experience. 3-5 years related experience in Radioimmunoassay or Enzyme Immunoassay Development with the ability to integrate clinical and toxicological interpretations with drug and/or metabolite concentration.

We offer an attractive salary and benefit package with the opportunity for career growth. The Institute is located near Albany, New York, which is the center of major summer and winter recreational activities.

Please send your curriculum vitae including salary requirement in confidence to:

**Mr. John G. Barry,
Employment Administrator**

**STERLING-WINTHROP
RESEARCH INSTITUTE**

A Division of Sterling Drug Inc.
Columbia Turnpike, Rensselaer, N.Y. 12144



An Equal Opportunity Employer M/F/H

MOLECULAR GENETICS Ph.D.'s

THE INTERNATIONAL PLANT RESEARCH INSTITUTE (IPRI) invites applicants for its rapidly expanding programs in advanced molecular genetics. Applicants with significant records of frontier achievements are invited to join a strong team of innovative scientific leaders in the pleasant San Francisco area.

Send résumé with recent publications to:

DIVISION OF MOLECULAR GENETICS, IPRI, 853 Industrial Road, San Carlos, Calif. 94070.

Equal Opportunity Employer, M/F

**KING FAISAL UNIVERSITY
COLLEGE OF MEDICINE
DAMMAM, SAUDI ARABIA**

**Faculty Positions Open
1982-1983**

King Faisal University College of Medicine, now in its eighth year, invites applications from qualified men and women for the 1982-1983 academic year in:

Chemistry	Pathology
Biology	Epidemiology
Physics	Microbiology
Biochemistry	Parasitology
Anatomy	Pharmacology
Physiology	Community Medicine

Doctorate or equivalent degree required. Language of instruction is English. Interviews to be held in London and Houston during spring 1982.

Salaries are highly competitive and negotiable; comparable to other Saudi universities.

Benefits include free furnished housing, educational allowances, air tickets to and from Saudi Arabia once each year for a family of four, 60-day paid vacation, and liberal overweight allowance. No Saudi income tax.

Send curriculum vitae with current telephone number and the names and addresses of three references to:

**Dr. Tawfik Tamimi
Dean, College of Medicine
King Faisal University Office**

Suite 540
2425 West Loop South
Houston, Texas 77027

OR

c/o Saudi Arabian Educational Office
29 Belgrave Square
London, S.W. IX 8QB, England



**THE
UNIVERSITY
OF CALGARY**

PROFESSOR in BIOLOGY

The University of Calgary invites applications for the position of Assistant Professor in the Department of Biology. The successful candidate will be expected to teach a course in introductory genetics to science students, to develop an upper-level course in eukaryote genetics, and to develop an active research programme in the field of modern cellular and developmental genetics of eukaryote systems. Applicants must hold the Ph.D. degree or equivalent. Post-doctoral work and experience in university-level teaching are desirable. Candidates with training in recombinant DNA technology are particularly encouraged to apply.

The appointment will be open as of July 1st, 1982, with an expected starting salary in the range of \$25,500 to \$32,500, based on the 1981-82 scale.

Citizens and permanent residents of Canada will be given preference. Applicants are requested to submit a complete curriculum vitae and three academic references, by February 15th, 1982 to:

**Dr. D. Parkinson, Head
Department of Biology
The University of Calgary
2500 University Drive N.W.
Calgary, Alberta T2N 1N4**

POSITIONS OPEN

RESEARCH PHYSIOLOGIST/ASSISTANT ADJUNCT PROFESSOR

Applications invited for nontenured academic position for cross-disciplinary research in inhalation and pulmonary toxicology, with emphasis in mammalian exercise physiology. Successful candidate will have a minimum of 2 years of postdoctoral research experience, with demonstrated record of achievement in research subject area, including evidence of ability to collaborate with other laboratory professionals as well as to conduct independent research. Experience with laboratory computer data acquisition and control system is desirable. Teaching duties will be assigned under the assistant adjunct professor title, with principal commitment to undergraduate and graduate seminars and research supervision in the area of the candidate's specialty.

Send curriculum vitae and names of three referees to:

T. Timothy Crocker, M.D., Chair
Department of Community and
Environmental Medicine
College of Medicine
University of California, Irvine
Irvine, California 92717

An Affirmative Action/Equal Opportunity Employer

RESEARCH ASSOCIATE (postdoctoral) position available to study the molecular basis for hormonal inhibition of adenylate cyclase as a model system for transmembrane signaling. Applicant must have a Ph.D. in biochemistry, pharmacology, molecular biology, or related discipline with considerable exposure to biochemical techniques. Send curriculum vitae and three letters of recommendation to: **Lee E. Limbird, Ph.D., Assistant Professor, Department of Pharmacology, Vanderbilt University, Nashville, Tennessee 37232. Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE IN BIOCHEMISTRY

Ph.D. with training in cell culture and glycoprotein purification to work on the mechanism of induction of intercellular adhesion (*JBC*, 256, 8553 and 10684). Send curriculum vitae and three names for reference to: **Carl G. Hellerqvist, Department of Biochemistry, Vanderbilt Medical Center, Nashville, Tennessee 37232.**

The Woodrow Wilson School of Public and International Affairs, Princeton University, is searching for at least one and, possibly, two individuals to teach and carry out research in the fields of **SCIENCE, TECHNOLOGY, AND PUBLIC POLICY ANALYSIS**. Individuals applying should have worked on policy problems that raise important scientific issues or have substantial technological content. A background in science advising as well as policy analysis will be an important consideration for appointment. Candidates might come from fields in the natural sciences, engineering, mathematics, social sciences, or history of science and technology. Appointments will be made at senior and/or junior levels. It is possible that the appointment might be joint with another academic department. Applications with curriculum vitae and references should be made to: **Dean, Woodrow Wilson School, Princeton University, Princeton, N.J. 08544. Princeton University is an Affirmative Action Employer.**

VETERINARY GROSS ANATOMY

The Department of Structural and Functional Science, School of Veterinary Medicine, University of Wisconsin-Madison, invites nominations and applications for a faculty position in veterinary anatomy. The successful candidate will contribute to teaching gross anatomy of domestic animals to first year students in the professional curriculum and will also be involved in the development and operation of programs in research and service for the School of Veterinary Medicine, which will accept its first class in fall 1983. The Ph.D. degree is required and the D.V.M. or equivalent is desirable. Salary and rank will be commensurate with experience and qualifications. Applicants should include curriculum vitae outlining academic training, professional experience, and publications. A statement of professional goals and names and addresses of three references should be included. Closing date for applications is 1 March 1982 or until the position is filled. Send applications or nominations to: **Dr. Norman J. Wilsman, School of Veterinary Medicine, 333 North Randall Avenue, University of Wisconsin-Madison, Madison, Wisconsin 53715. The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

RENAL PHYSIOLOGIST (Ph.D.)—A Ph.D. renal physiologist research position is available in a newly developing Nephrology Division of a university-affiliated hospital located in a highly desirable area. The position is hospital based and not grant dependent. Salary is negotiable. Send curriculum vitae to: **Vincent DiScala, M.D., Professor of Medicine, Director, Division of Nephrology, Nassau Hospital, 259 First Street, Mineola, Long Island, New York 11501.**

RESEARCH ASSOCIATES (TWO) PATHOLOGY.

Two positions are available immediately to work on biochemical aspects of pulmonary emphysema in cigarette smokers. Doctoral degree required. Reply with curriculum vitae and references to: **Dr. A. Janoff, Department of Pathology, Health Sciences Center, State University of New York (SUNY) Stony Brook, Stony Brook, N.Y. 11794. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK Number 227.**

SENIOR FACULTY POSITIONS FOR PHYSICIANS IN OCCUPATIONAL MEDICINE

One tenure faculty position and one full-time clinical faculty position are announced for participation in a residency program in the Department of Community and Environmental Medicine, California College of Medicine, and in the University of California Southern Occupational Health Center at the University of California, Irvine. Qualifications should include eligibility for medical licensure in California and certification by the Board of Preventive Medicine. Experience should include productivity as principal investigator with significant contributions to the scientific literature, ability to obtain extramural research support, research in an area relevant to occupational medicine, and demonstrated ability either in a clinical field relevant to occupational medicine or with preventive medicine programs in the workplace. Experience in instruction of medical students and occupational medicine residents is highly desirable. Responsibilities will include continued development of existing occupational medicine residency program, medical student instruction in occupational medicine, and development of a research program relevant to occupational medicine in a department that has growing capabilities in toxicology, epidemiology, biochemistry, and immunology.

Send curriculum vitae, statement of current research support, and names of three references to:

T. Timothy Crocker, M.D.
Professor and Chair
Department of Community and
Environmental Medicine
College of Medicine
University of California, Irvine
Irvine, California 92717

An Affirmative Action/Equal Opportunity Employer

STRUCTURAL GEOLOGIST. The Department of Geology at Wayne State University invites applications for a tenure-track faculty position to be filled by September 1982. Ph.D. essential. Specialists in the fields of structural geology and tectonics with some experience in metamorphic petrology will be given special consideration in teaching and field-based research. Teaching duties will be at both the undergraduate and graduate level. Field course participation is necessary and some industrial experience is desirable. Applicants should forward a résumé to: **R. B. Furlong, Chairman, Department of Geology, Wayne State University, Detroit, Mich. 48202. An Affirmative Action/Equal Opportunity Employer.**

VERTEBRATE PHYSIOLOGIST

POSTDOCTORAL POSITION (Ph.D., M.D., D.V.M.) in **VERTEBRATE PHYSIOLOGY, UNIVERSITY OF KANSAS.** Applications are invited for an academic year appointment beginning 15 August 1982 with the possibility of renewal for up to two additional years. We seek someone with a research interest in either cardiovascular, pulmonary, neuro-, or reproductive physiology, who, in addition, will help in team-teaching undergraduate physiology and in supervising physiology class laboratories. Salary: \$16,000 for 9 months, plus possibility of augmentation through summer teaching and/or research. Send curriculum vitae, reprints, and statement of professional goals, and arrange to have three letters of recommendation sent independently, all by 15 February 1982, to: **Dr. Jerome M. Yochim, Department of Physiology and Cell Biology, University of Kansas, Lawrence, Kans. 66045. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

The Faculty of Science of the University of Geneva is looking for candidates to fill a position of

PROFESSOR

of general and/or cellular physiology, for the Department of Animal Biology.

The successful candidate is expected to participate in the teaching of general physiology for biology students and to lead a strong research program.

Applications to be sent before 15 March 1982 to: **Faculté des Sciences, Université de Genève, 20, Quai Ernest Ansermet, CH-1211 Genève 4, Switzerland.**

DEPARTMENT OF ANATOMY AND CELLULAR BIOLOGY TUFTS UNIVERSITY SCHOOLS OF MEDICINE, DENTAL MEDICINE AND VETERINARY MEDICINE VETERINARY ANATOMY POSITIONS

The Department of Anatomy and Cellular Biology, Tufts University Schools of Medicine, Dental Medicine, and Veterinary Medicine, invites applications for two tenure-track positions beginning July 1982. Applicants should possess the Ph.D. in anatomy and/or the D.V.M. (or equivalent). The positions involve the teaching of veterinary gross anatomy. Applicants for assistant professor should have at least 1 or 2 years of postdoctoral research experience and show promise of developing an independent research program. Applicants for associate or full professor must have an extensive record of scholarly achievement and extensive teaching experience in veterinary anatomy. Current research areas in the department include: pulmonary cell biology, reproductive biology and neuroendocrinology, neurobiology, comparative immunology, locomotion and musculoskeletal research and cell biology including secretor mechanisms, cell-to-cell recognition, cell motility, and developmental mechanisms. Salary and rank dependent upon qualifications and experience. Applicants must submit curriculum vitae, names of three references, and a letter describing research and teaching interests to: **Dr. Karen Hitchcock, Chairman, Department of Anatomy and Cellular Biology, Tufts University Schools of Medicine, Dental Medicine and Veterinary Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111. Deadline for receipt of applications is 1 March 1982.**

Tufts University is an Equal Opportunity/Affirmative Action Employer.

CONFERENCE

FORMULATING A NATIONAL MATERIALS POLICY: PUBLIC AND PRIVATE SECTOR ROLES conference will be held at Carnegie-Mellon University, Pittsburgh, Pennsylvania, by the Department of Engineering and Public Policy on 24 March 1982. Conference topics include:

- The Need for a federal materials policy: competition with other policies,
- The role of Congress in developing a national materials policy,
- The aluminum experience with stockpiles,
- Materials education in relation to national policy-making,
- Some industrial views on national materials policy,
- The role of economic analysis, and
- Can materials policy become a part of national policy?

Preregistration by 5 March 1982 is recommended. Persons should contact:

Dr. Paul Wynblatt
Department of Engineering and Public Policy
Carnegie-Mellon University
Pittsburgh, Pa. 15213
Telephone: 412-578-8711

RESEARCH MINERALOGIST

The Department of Mineral Sciences at the American Museum of Natural History is re-opening its search for a tenure-track position for ASSISTANT CURATOR OF MINERALOGY beginning July 1982. This is a research position with an average of 1/4 time responsibility towards departmental activities, collection management, exhibition, and interaction with the mineral community at large. High quality problem-oriented research is the prime responsibility. The field of specialization within the mineral sciences is open, and may include and combine aspects of X-ray crystallography, ultrastructure analysis, crystal growth, spectroscopy, gemology, petrologic mineralogy, mineral geochemistry, crystal and thermochemistry, medical mineralogy, and mineral physics. Major research facilities include a fully automated ARL-SEMQ electron microprobe, X-ray laboratory, minicomputers, and a 100,000 specimen mineral collection. Opportunities exist for research and/or teaching collaboration with nearby institutions such as Columbia (Lamont-Doherty Geological Observatory), Princeton, SUNY at Stony Brook, Yale and Mt. Sinai School of Medicine (TEM facilities).

Requirements are a Ph.D. in hand by time of appointment, an ability to do creative research, and a desire to learn about collections and relate to the public in terms of exhibition and speaking. Applications should include: (1) curriculum vitae, (2) names of three persons familiar with your work who will write letters of recommendation, and (3) a brief statement of research interests.

These must be submitted by February 1, 1982 to:
Dr. Martin Prinz
Chairman, Department of Mineral Sciences

American Museum of Natural History
Central Park West at 79th Street
New York, New York 10024

An equal opportunity (M/F/H) affirmative action employer

The University of Southern California (USC)

announces

THE 1982 SUMMER PROGRAM— CATALINA MARINE SCIENCE CENTER (CMSC), Catalina Island

Four courses, 5 weeks each, designed for graduate students and advanced undergraduates. Enrollment may be in any or all courses. Students live on Catalina Island but have access to Southern California area by USC shuttle boats. Limited financial assistance is available. For information, contact: **Dr. Richard C. Brusca, Director of Academic Program, CMSC, University of Southern California, Los Angeles, Calif. 90007.**

Session I (7 June to 9 July):

EVOLUTIONARY ECOLOGY—A FIELD APPROACH

Dr. Daniel Simberloff (plus numerous guest instructors, including Drs. L. Abele and P. K. Dayton)

BIOLOGY OF OCEANIC ANIMALS

Dr. William Hamner (plus numerous guest instructors, including Drs. A. Fleminger and P. Smith)

Session II (12 July to 13 August):

KELP FOREST ECOLOGY

Dr. Valrie Gerard (plus numerous guest instructors, including Drs. W. North, J. Estes, M. Tegner, R. Bray, M. Foster, G. Jackson, and R. McPeak)

NEUROBIOLOGY

Dr. Alvin Siger (plus numerous guest instructors, including Drs. K. Lukowiak and J. Weeks)

Biochemist Ph. D.

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Contact: **Anthony J. Sinskey**
MIT Sea Grant
E38-348
77 Massachusetts Avenue
Cambridge, Mass. 02139

DOCTORAL PROGRAM

DOCTORAL PROGRAMS AT THE UNIVERSITY OF MIAMI SCHOOL OF MEDICINE

The basic science departments of the Medical School are seeking qualified candidates for its doctoral programs in the Departments of Anatomy and Cell Biology, Biochemistry, Microbiology, Pharmacology, and Physiology and Biophysics. The Medical School is part of the University of Miami/Jackson Memorial Medical Center, and is a major center for biomedical research. In addition to the basic doctoral programs, candidates are also sought for the Cellular and Molecular Biology Program, which is a federally funded training program emphasizing interdisciplinary training. Any of these programs may be included in a M.D./Ph.D. program. Stipend levels for all programs are set at \$7500 per annum, with full tuition remission.

Requests for further information and application kits should be addressed in writing to: **Dr. E. Y. C. Lee, Box 016129, Miami, Florida 33101**, with a statement of the programs for which information is requested.

ASSISTANTSHIPS

PREDOCTORAL ASSISTANTSHIPS IN ANATOMY

Qualified students are invited to apply for graduate study leading to the Ph.D. degree in anatomy with specialization in cell biology, neurobiology, developmental biology, or functional morphology. Stipends are available as teaching assistantships and tuition waivers. For application forms and further information write to: **Chairperson, Graduate Studies Committee, Department of Anatomy, University of Illinois at the Medical Center, Box 6998, Chicago, Illinois 60680**.

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The Medical Scientist Training Program at the Medical University of South Carolina offers assistantships for a select number of individuals for training in an integrated basic and clinical medical science program leading to a combined M.D./Ph.D. degree in 6 to 7 years. For further information, please contact: **Director, Medical Scientist Training Program, Dean's Office, College of Graduate Studies, Medical University of South Carolina, Charleston, South Carolina 29425**.

SCIENCE WRITING ASSISTANTSHIPS available in the University-Industry Research (UIR) Graduate Student Science Writing Program at the University of Wisconsin-Madison beginning summer and fall sessions. Assistants participate in UIR Program as science writers, pursuing higher degree (master's or doctorate) in any field of choice. Candidates should submit evidence of writing ability and should simultaneously seek admission to the University of Wisconsin-Madison Graduate School and the department offering training in the field they will pursue. Apply for science writing assistantships to:

James A. Larsen
University-Industry Research Program
University of Wisconsin-Madison
610 Walnut Street, Room 1215 WARF Building
Madison, Wis. 53706

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SCIENTIFIC EXCHANGES

NAS SCIENTIFIC EXCHANGE PROGRAMS WITH USSR AND EASTERN EUROPE

Applications are invited from American scientists who wish to make professional visits in the USSR, Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania, and Yugoslavia between January and December 1983. Applicants must be U.S. citizens and have a doctoral degree in the natural or social and behavioral sciences by the time of visit. Deadline for requesting applications is Monday, 1 March 1982. Please contact:

Section of USSR and Eastern Europe
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418
Telephone: 202-334-2644/2645

SYMPOSIUM

SYMPOSIUM ANNOUNCEMENT

The Johns Hopkins Center for Alternatives to Animal Testing is sponsoring a symposium on **Product Safety Evaluation—Development of New Methodological Approaches**. The symposium will be held in Baltimore on 13 and 14 May. For information, contact:

Alan M. Goldberg, Ph.D., Director
Center for Alternatives to Animal Testing
The Johns Hopkins School of Hygiene
and Public Health
615 North Wolfe Street
Baltimore, Maryland 21205

GRADUATE STUDY

DOCTORAL PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY AND PATHOBIOLOGY

Interdisciplinary program leading to Ph.D. degree seeks qualified candidates interested in fundamental molecular and cellular biology and its application to disease states in man. Research training is available in a broad range of basic and clinical disciplines.

Stipends are available on a competitive basis. Contact: **Graduate Training Director, Program in Molecular and Cellular Biology and Pathobiology, Dean's Office, College of Graduate Studies, Medical University of South Carolina, Charleston, South Carolina 29425**.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP DEPARTMENT OF OCEANOGRAPHY UNIVERSITY OF BRITISH COLUMBIA

Available 1 January 1982 for studies of the mineralogy and geochemistry of deep ocean ferromanganese nodules and the relationships between nodules and their associated sediments. Salary: \$16,000. Send curriculum vitae, statement of research interests, and names of three referees to: **S. E. Calvert, Department of Oceanography, University of British Columbia, Vancouver, British Columbia, Canada V6T 1W5**.

The National Research Council of the National Academy of Sciences offers a small number of **RESIDENT FELLOWSHIPS** for work on science, technology, and public policy. Scientists and engineers who have received their professional degrees fewer than 10 years before the date of the application are eligible for these 1-year fellowships. The next deadline for completion of the application process (which requires about 1 month) is 1 March 1982.

Inquiries should be addressed to:
National Research Council Fellowship Program
Executive Office
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418

POSTDOCTORAL FELLOWSHIPS IN IMMUNOLOGY funded by an NIH training grant to the Interdepartmental Immunology Program at Tufts University School of Medicine are available. Appointments will be for 1 year with the possibility of an additional year. Research areas include immunobiology, immunogenetics, immunochemistry, cancer immunology, and clinical immunology with an emphasis on interdisciplinary work.

Please submit curriculum vitae, a brief summary of research interests, and names of two references to: **Professor Geronimo Terres, Department of Physiology, Tufts University School of Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111**.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS

Postdoctoral fellowships to begin 1 July 1982 are available in the Division of Metabolism and Nutrition, Department of Medicine, Columbia University.

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The requirements are an M.D. or Ph.D. or equivalent and U.S. citizenship or permanent residency. Annual salaries are standard NIH postdoctoral stipends plus supplement. Submit applications to:

DeWitt S. Goodman, M.D.
Division of Metabolism and Nutrition
Department of Medicine
Columbia University
630 West 168 Street
New York, New York 10032

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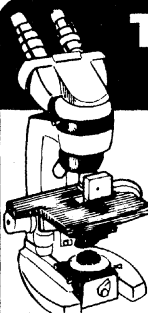
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The University of Maryland is beginning a School of Public Affairs, offering a Master's of Public Management and eventually a Ph.D. Degree. A number of individuals are needed to fill tenure and tenure-track positions to begin teaching in the Fall Semester of 1982, and nontenure research positions as soon as mutually convenient.

Located on the College Park Campus, the School will be a multi-campus program with exchange of students and faculty between campuses of the University of Maryland. The School has an independent, full-time faculty headed by Dean Albert H. Bowker.

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To qualify you should be an advanced graduate or have a professional degree and a demonstrated capability for research appropriate to experience. To be guaranteed full consideration, applications should be *postmarked no later than January 1982*. Please send a curriculum vita, letters of reference and writing samples to:

**Dr. Peter G. Brown, Chairman
Search Committee
School of Public Affairs
Suite 1218—Social Sciences Building
University of Maryland
College Park, Maryland 20742**

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Please send your curriculum vitae including salary requirement in confidence to:

**Mr. John G. Barry,
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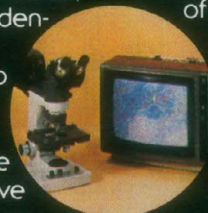
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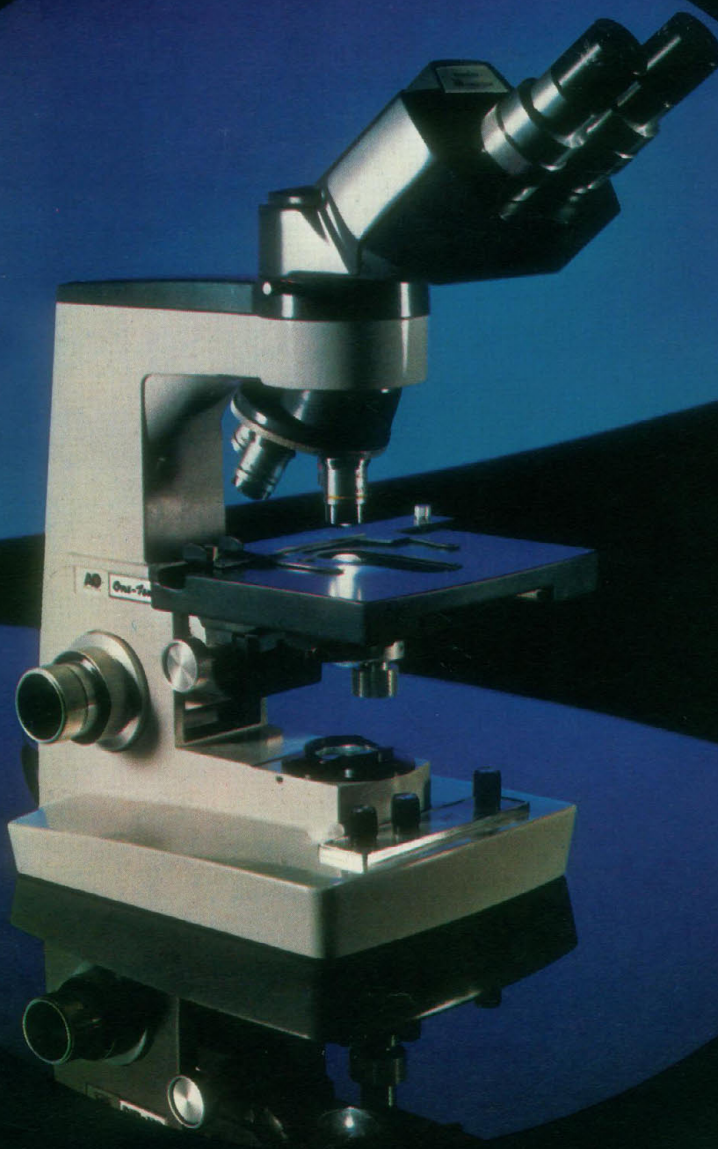
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