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Gordon Wolman.  
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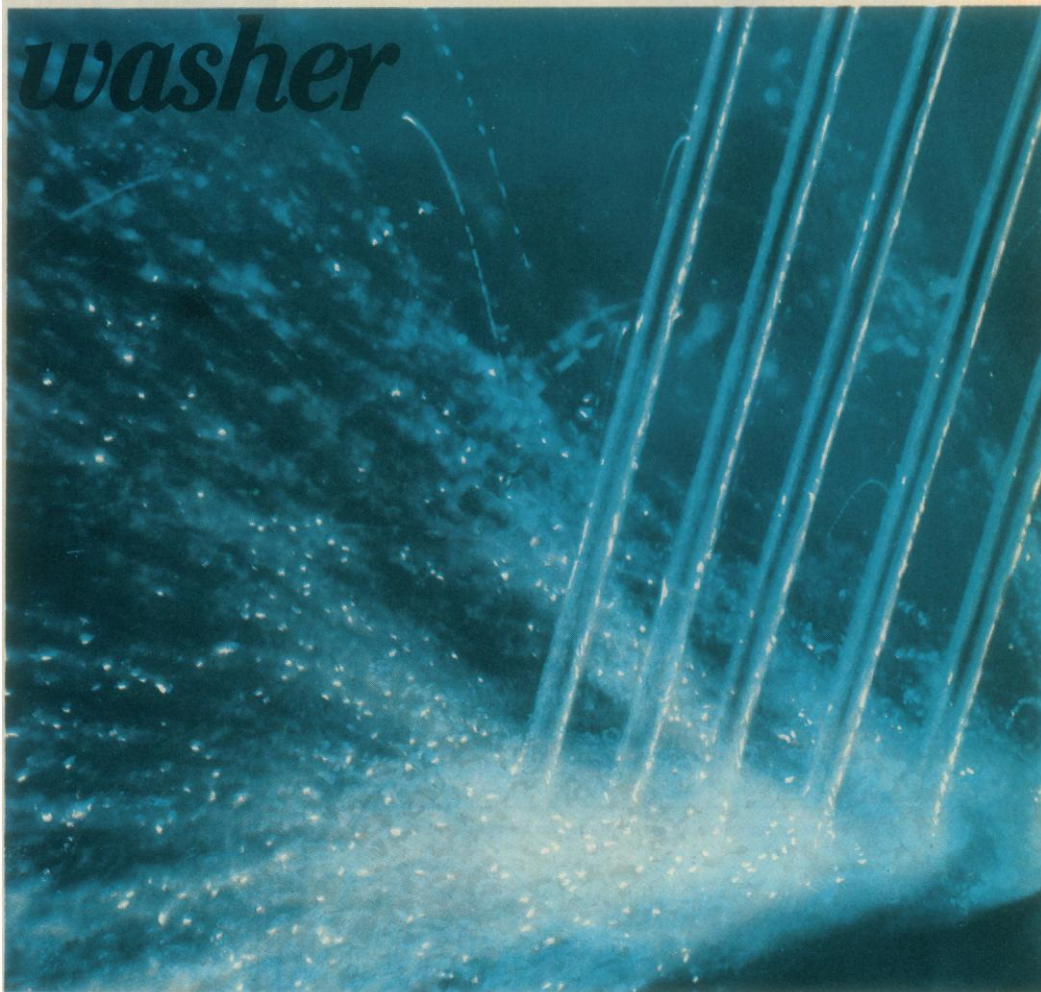
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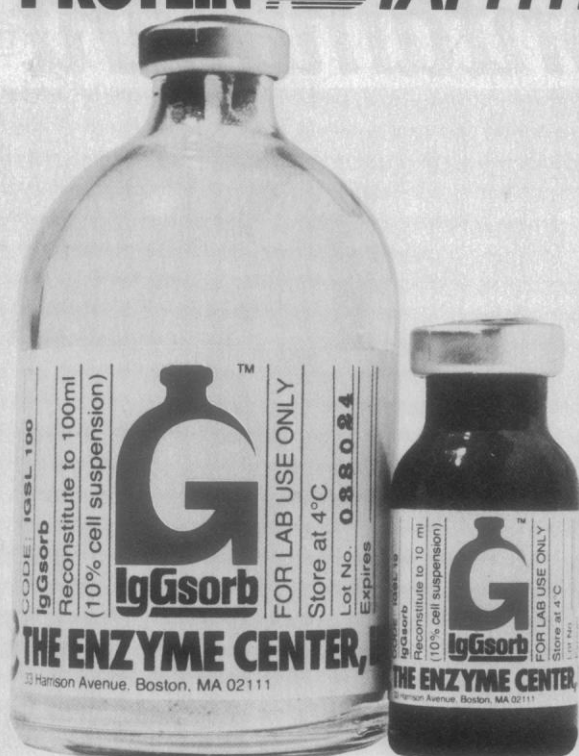
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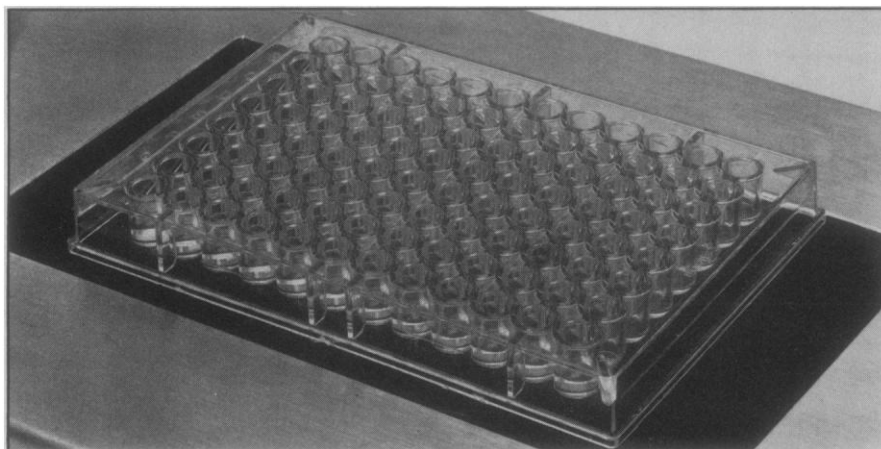
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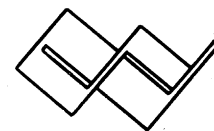
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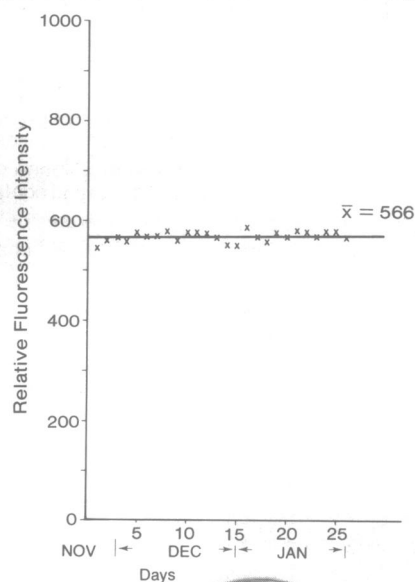
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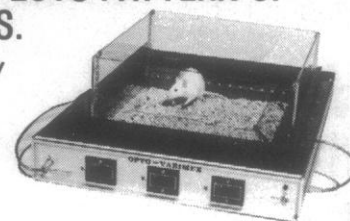
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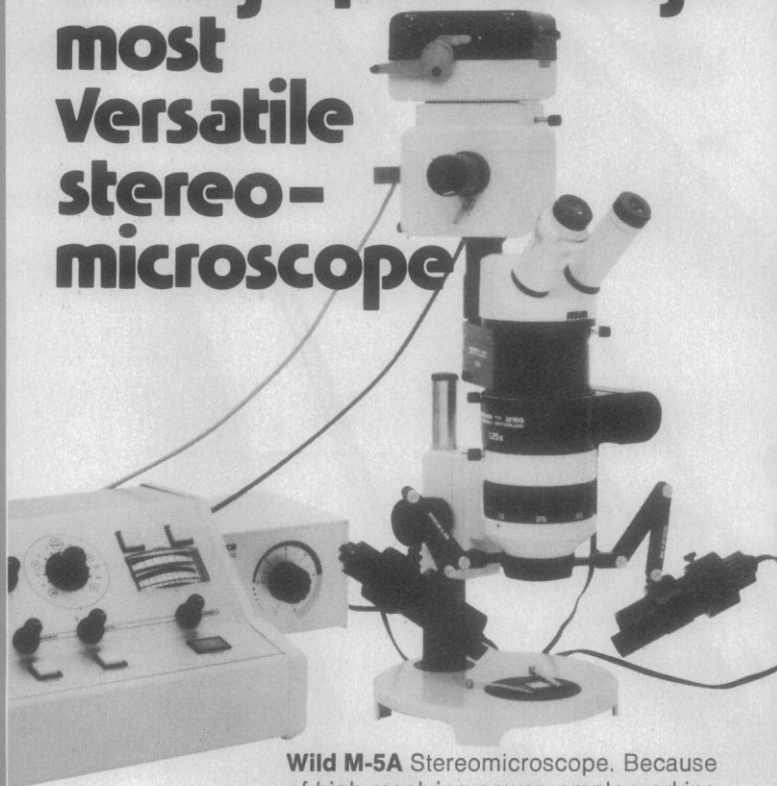
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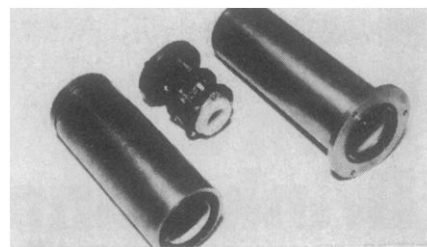
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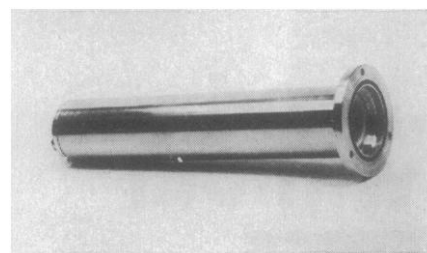


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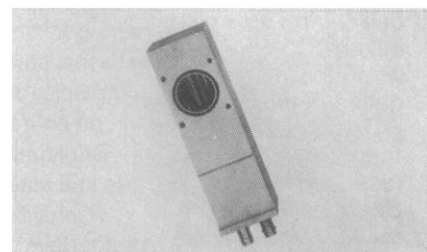
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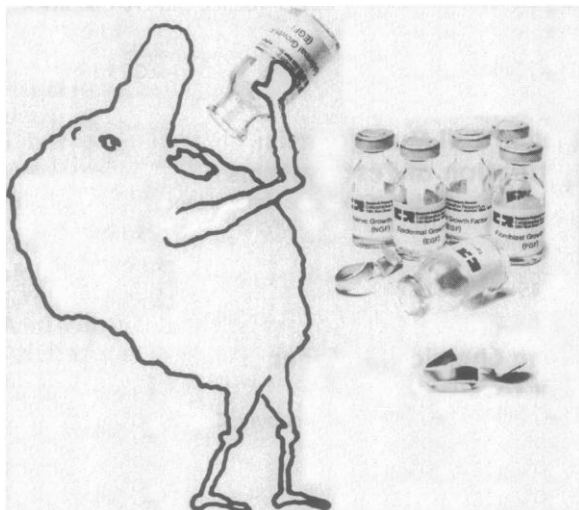
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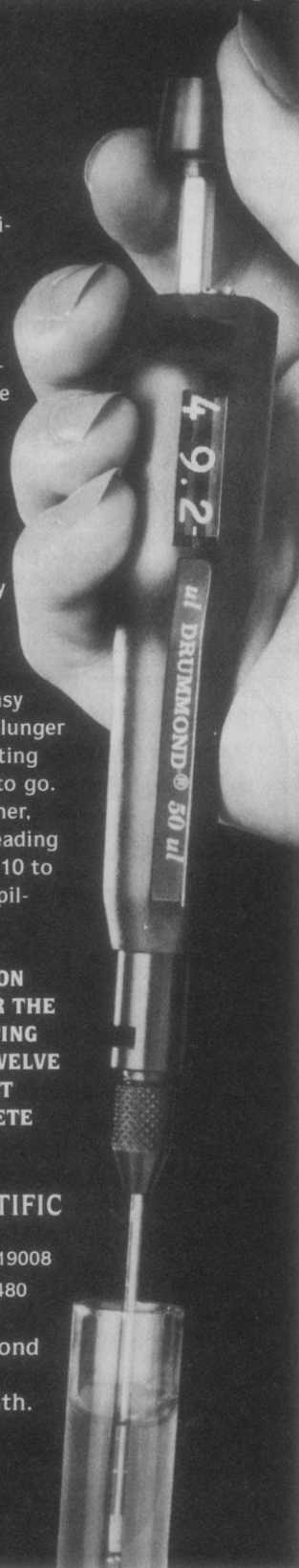
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**ASSISTANT ADJUNCT PROFESSOR OF TOXICOLOGY.** The Laboratory for Energy-Related Health Research and Department of Physiological Sciences, School of Veterinary Medicine, University of California, Davis, are seeking a Ph.D. toxicologist with training and some experience in biological screening methods for complex samples of energy-related pollutants. Emphasis will be upon mutagenesis testing and cellular toxicity health effects screening bioassay systems applied to size-classified samples of combustion effluents from power plants. The candidate should have training and experience in carcinogen handling, bacterial and mammalian mutagenesis, as well as human and experimental toxicology. This team research position will be at the academic research level equivalent to assistant professor. Teaching responsibilities to be arranged. Send curriculum vitae and the names of three references to: **Dr. Marvin Goldman, Laboratory for Energy-Related Health Research, University of California, Davis, Calif. 95616.** Applications will be accepted through 6 June 1980 or until the position is filled.

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### CHAIRPERSON DEPARTMENT OF ANATOMY

The School of Medicine of Case Western Reserve University seeks a chairperson for the Department of Anatomy. The successful candidate should be innovative, a demonstrated successful administrator, and have strong leadership abilities to carry on and expand the current teaching, clinical, and research programs. The department is outstanding in the areas of neuro and developmental biology, and has a faculty of 50, including research associates and postdoctoral fellows. There are excellent space and equipment facilities spanning two floors. *Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority persons.* Send curriculum vitae and three references to: **Dr. Brian Little, Chairman, Anatomy Search Committee, Department of Obstetrics/Gynecology, 2105 Adelbert Road, Cleveland, Ohio 44106.** Deadline for receipt of applications is 1 July 1980.

**CHEMIST/BIOCHEMIST POSTDOCTORAL POSITION** available July 1980. Bio-organic chemist for research program on the metabolism and mode of action of chemicals, drugs, carcinogens, and mutagens. Send curriculum vitae and references to: **A. Skowronski, American Health Foundation, Valhalla, N.Y. 10595.**

**CYTOGENETIC TECHNOLOGIST** required—Science background and experience in human amniotic fluid cell and skin fibroblast cell cultures, harvesting, chromosome preparations, banding procedures, microscopic analysis of chromosomes, karyotyping, and so forth. Will also be involved in blood and bone marrow cytogenetics. Competitive salary and benefits. Send résumé to:

**K. L. Ying, Ph.D., Director**  
Cytogenetics and Prenatal Detection Laboratory  
Valley Children's Hospital  
3151 North Millbrook  
Fresno, Calif. 93703  
Telephone: 209-225-3000, extension 1131

Postdoctoral research associate: **DEVELOPMENTAL IMMUNOLOGY.** To work on the immunobiology and membrane biochemistry-immunochemistry of differentiating lymphoid cells. Particular interest in the interaction of T cell vesicles and those shed from lymphoma systems with functional classes of B cells. Strong background in immunobiology-chemistry, cell biology, and genetics is encouraged. Salary range: \$14,000 to \$17,000 per year. Send names of three references and curriculum vitae to: **Dr. Harold C. Miller, Department of Microbiology and Public Health, Michigan State University, East Lansing, Mich. 48824.** Michigan State University is an Affirmative Action/Equal Opportunity Employer.



## POSITIONS OPEN

**CONSORTIUM FOR INTERNATIONAL CROP PROTECTION (CICP)** with headquarters in the College of Natural Resources, University of California, Berkeley, invites applications for positions in the nontenure series. The staff of the CICP Pest Management Project are engaged in a variety of overseas research, teaching, and technical assistance activities. Appointments are normally for 1 year or more; however, some overseas assignments may be as short as 3 months. CICP is soliciting applications in a wide range of areas from which specific qualified candidates will be selected. Candidates must hold a Ph.D. degree in one of the following areas: pesticide or agricultural chemistry, entomology, plant pathology, weed science, nematology, or plant breeding, and must have experience and demonstrated ability in pest and pesticide management; overseas experience in agricultural development is desirable but not essential. Starting salary is dependent upon experience. Send curriculum vitae, publication list, college transcripts, and letters of professional reference to: **Dr. Ray F. Smith, Executive Director, Consortium for International Crop Protection, 2288 Fulton Street, Suite 310, Berkeley, California 94704. The University of California and the Consortium for International Crop Protection are Affirmative Action Employers.**

**EARTH SCIENTIST.** Small, rural, liberal arts college seeks broadly trained Ph.D. earth scientist with additional expertise in paleobiology, biology, or forestry, for half-time position commencing 1 September 1980. Possible future expansion to full time. Thorough commitment to undergraduate science education is primary selection criterion. Applicants should send curriculum vitae, three letters of reference, and description of academic interests by 30 June 1980 to: **T. Hunter Wilson, Acting Dean of Faculty, Marlboro College, Marlboro, Vermont 05344. A Title IX/Equal Opportunity Employer.**

## ENVIRONMENTAL CHEMISTRY POSTDOCTORALS

Three postdoctoral research associate positions on the environmental chemistry of toxic substances are available starting between September and December 1980. Projects include: polycyclic aromatic compounds in diesel exhaust, coal liquids, combustion effluents, and recent sediments; identification and fates of anthropogenic organic chemicals in rivers and lakes. Backgrounds in analytical chemistry, organic geochemistry, environmental chemistry, or even synthetic organic chemistry are sought. Résumés to: **Professor Ronald A. Hites, School of Public and Environmental Affairs, Indiana University, 400 East Seventh Street, Bloomington, Ind. 47405. An Equal Opportunity/Affirmative Action Employer**

## UNIVERSITY COLLEGE CARDIFF EXTRAGALACTIC ASTRONOMER

A postdoctoral research assistant is required to work with Professor Mike Disney and others on an SRC-funded project to look into the role of very low and very high surface brightness galaxies in the mass density of the universe. Foreign observing trips will be necessary and it is envisaged that the appointee will spend several months in Australia. A Ph.D. training in astronomy is preferred, but candidates with qualifications in physics, mathematics, or engineering may be suitable.

The appointment will be for 3 years with a starting salary in the range £5,725 to £6,062 per annum, now under review. Enquiries to: **Professor M. Disney, Department of Applied Mathematics and Astronomy, Cardiff 44211, extension 2692.**

Applications (two copies), together with the names and addresses of two referees, should be forwarded to: **Vice Principal (Administration) and Registrar, University College, P.O. Box 78, Cardiff, U.K. CF1 1XL. Closing date: 15 July 1980. Reference 2020.**

## POSITIONS OPEN

**CYTOGENETICIST**, Ph.D., assistant professor, to establish and direct genetic analysis laboratory, in association with a developing tertiary genetic health care facility, and to participate in teaching genetics to medical students. Send letter of application, statement of goals, curriculum vitae, and three or more reference letters by 1 July 1980 to: **Cytogeneticist Search Committee, Division of Human Genetics, Department of Pediatrics, East Carolina University Medical School, Greenville, N.C. 27834. An Equal Opportunity/Affirmative Action Employer.**

## DEAN SCHOOL OF MEDICINE WAYNE STATE UNIVERSITY

Nominations of and applications from qualified individuals are invited for the position of dean of the School of Medicine at Wayne State University.

The dean is responsible for the academic leadership of its departments and for liaison both with institutions comprising the Detroit Medical Center Corporation and with other affiliated institutions in the metropolitan Detroit area.

Candidates should have a strong record of scholarly and professional accomplishment and demonstrated leadership in academic medicine.

Nominations or applications, including curriculum vitae and three letters of reference, should be sent to: **Vice Provost Martin Barr, Chair, Search Committee for a Dean of the School of Medicine, 1107 Mackenzie Hall, Wayne State University, Detroit, Michigan 48202.**

*Wayne State University is an Affirmative Action/Equal Opportunity Employer, and women and minorities are encouraged to apply.*

**ELECTRON MICROSCOPIST (Ph.D.)** to provide EM services and to collaborate on projects in lipid metabolism and membrane biochemistry. Please send résumé and salary requirements to: **Dr. H. H. O. Schmid, Chairman, EM Search Committee, The Hormel Institute, University of Minnesota, 801 16th Avenue, NE, Austin, Minn. 55912. An Equal Opportunity Employer.**

Applications are being accepted for several tenure-track **FACULTY POSITIONS** (assistant professor to professor) available in active Medical School Microbiology Department. Responsibilities include teaching during respective medical and graduate student courses, develop elective courses, and establish active research program in area such as molecular virology, viral genetics, immunochemistry or immunobiology of infectious microorganisms. Applicants with a doctoral degree should send a résumé and the names of three references to: **Dr. Herman Friedman, Professor and Chairman, Department of Medical Microbiology, University of South Florida, 12901 North 30 Street, Box 10, Tampa, Fla. 33612 by 16 June 1980. An Affirmative Action/Equal Opportunity Employer.**

## FACULTY POSITION Department of Anatomy Loyola University of Chicago Stritch School of Medicine

A full-time, tenure-track faculty position is available in the Department of Anatomy. The responsibilities of the position include participation in the gross anatomy course taught to medical and graduate students and the maintenance of an active research program. Applicants should possess the Ph.D. or M.D. degree. Rank will be according to the qualifications and experience of the successful applicant. Applications should be addressed to: **Charles C. C. O'Morchoe, M.D., Ph.D., Professor and Chairman, Department of Anatomy, Loyola University, Stritch School of Medicine, 2160 South First Avenue, Maywood, Ill. 60153.**

*Loyola University is an Equal Opportunity Employer.*

## RESEARCH ASSOCIATE—POSTDOCTORAL POSITION

A postdoctoral position is open in the Department of Anatomy, Loyola University of Chicago, Stritch School of Medicine, for research in the field of microcirculation. Applicants should have experience in electron microscopy, or in functional aspects of the circulation. Inquiries should be addressed to: **Charles C. C. O'Morchoe, M.D., Ph.D., Professor and Chairman, Department of Anatomy, Loyola University, Stritch School of Medicine, 2160 South First Avenue, Maywood, Ill. 60153.**

*Loyola University is an Equal Opportunity Employer.*

## POSITIONS OPEN

Applications are invited for the position of **DIRECTOR** of the Metabolic Research Unit at the University of California, San Francisco (UCSF). This unit conducts fundamental and applied research in endocrinology and metabolism as related to human disease. The director will be responsible for the conduct of research in the unit and for the development and operation of a campus-wide interdisciplinary program for postdoctoral research training in endocrinology and metabolism. Applicants should submit curriculum vitae, bibliography, and the names of four referees to:

**Richard J. Havel, M.D., Chairman  
Metabolic Research Unit Search Committee  
Cardiovascular Research Institute  
University of California  
San Francisco, Calif. 94143**

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

Two **FACULTY POSITIONS**, tenure-track, level open, are available 1 October 1980 at the Michigan State University (MSU)—U.S. Department of Energy (DOE) Plant Research Laboratory, to develop innovative research programs in molecular genetics and/or regulation of gene expression. The research is to be done on higher plants, but we welcome applications from adaptable scientists possessing relevant backgrounds, regardless of organisms studied previously. Applicants should have experience, achievements, and ideas in areas such as: transmission genetics of physiologically or biochemically characterized mutations; mRNA and gene isolation and characterization; DNA cloning; restriction analysis and sequencing of DNA; regulation of differential gene expression; control of protein synthesis; organelle-directed protein synthesis; and so forth. Send curriculum vitae, bibliography, a brief description of future research program, and names of at least three references, as soon as possible, to: **Dr. Deborah Delmer, Chairperson of Search Committee, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing, Michigan 48824. MSU is an Affirmative Action/Equal Opportunity Institution.**

## NEW CHIEF FOR THE ILLINOIS NATURAL HISTORY SURVEY

**Position:** Chief, Illinois Natural History Survey. **Available:** 1 September 1980. **Job description:** The Illinois Natural History Survey is a division of the Institute of Natural Resources, an agency of state government. The survey began as the Illinois Natural History Society in Bloomington, Illinois, in 1858, and was moved to its present location on the University of Illinois campus in Urbana in 1885. The survey is a center of basic and applied research and service in areas associated with its five sections: aquatic biology, botany and plant pathology, economic entomology, faunistics and insect identification, and wildlife research. The chief of the Illinois Natural History Survey directs a staff of over 200 persons and is responsible with the section heads for the scientific leadership and administrative direction of the organization. The chief prepares the budget and defends it in the executive and legislative branches of government, reports progress in research and service to the Board of Natural Resources and Conservation, deals with representatives of other state and federal agencies and the general public, and aids research personnel in obtaining grant and contract support. **Qualifications:** Must be a person who is an established scientist with proven capabilities in leadership and guidance of others engaged in research. Background must be in some discipline of biology represented in the State Natural History Survey or a closely related discipline. Should be familiar with procedures in obtaining grants from federal, state, regional, or private sources. Must be articulate and persuasive, both in oral and written efforts, and be able to listen and counsel effectively and to delegate authority. **Salary:** Determined by the State Board of Natural Resources and Conservation. **Contact:** Please send nominations and expression of interest by 6 June 1980 to: **Wallace E. LaBerge, Chairman, Staff Search Committee for Chief, Illinois Natural History Survey, 172 Natural Resources Building, The University of Illinois, Urbana, Ill. 61801.** To ensure consideration, a formal application, including curriculum vitae and letters of recommendation, should be in the hands of the Staff Search Committee by 1 July 1980.

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

### FACULTY POSITION IN ANATOMY

Histology/reproductive biologist sought for position in the Department of Anatomy with primary teaching commitment in histology and with a joint appointment in the Division of Reproductive Biology of Obstetrics and Gynecology. Demonstrated commitment and excellence in research and teaching with special interest in reproductive biology relative to follicular and oocyte involvement in concert with a newly established Human In vitro Fertilization Clinic. Two or more years of experience after the doctoral degree is necessary. Send complete curriculum vitae, including a statement of research interest and names of at least three references, to: **Dr. Robert H. Brownson, Chairman, Department of Anatomy, Eastern Virginia Medical School, P.O. Box 1980, Norfolk, Virginia 23501.**

*Affirmative Action/Equal Opportunity Employer*

### FACULTY POSITION—BIOCHEMISTRY

The Department of Biochemistry, University of Kansas Medical Center, is seeking to fill a tenure-track faculty position. The rank is open, but preference will be given to a more senior investigator with an established research program. Candidates should have a Ph.D. in biochemistry or in a closely related field and have an active research program in biochemical genetics and/or related areas. Teaching is in medical and graduate biochemistry. Candidates should send curriculum vitae, summary of current research, and the names of three references to: **Dr. K. E. Ebner, Chairman, Department of Biochemistry, University of Kansas Medical Center, Kansas City, Kans. 66103.** *An Equal Opportunity/Affirmative Action Employer.*

### TENURE-TRACK FACULTY POSITION/ELECTRON MICROSCOPIST

The Materials Engineering Department, Rensselaer Polytechnic Institute, invites applications for a tenure-track position at the assistant, associate, or full professor level in the area of materials characterization. Position includes responsibility for departmental TEM, SEM, microprobe, and X-ray diffraction laboratories. Opportunity exists to teach courses, both at the undergraduate and graduate levels, in X-ray diffraction, quantitative microscopy, microanalysis, and scanning and transmission electron microscopy. Successful candidate is expected to build a strong, externally funded research program in metallurgy, ceramics, or polymers. A Ph.D., D.Sc. or equivalent earned degree in materials science or related field is required. Qualified applicants should send curriculum vitae, a statement of research interests, and names of three references to: **Dr. M. E. Glicksman, Chairman, Materials Engineering Department, Rensselaer Polytechnic Institute, Troy, N.Y. 12181.** Position available 1 September 1980. Applications will be accepted through 15 August 1980, or until a suitable candidate is identified. *Rensselaer is an Equal Opportunity/Affirmative Action Employer.*

**FACULTY-LEVEL OR POSTDOCTORAL POSITION** in cell and molecular biology of mammalian cells in culture. Gene cloning, gene transfer, somatic cell genetics, tumor biology (its viral transformants), biochemistry of cell division and of membranes and transport, growth factor mechanisms, bacterial physiology, and plasmid regulation/technology are all aspects of our present research scope for which we seek able collaborator(s) with appropriate prior experience. Competitive salary; sprawling grasslands campus 25 minutes from Manhattan. Address inquiries to: **Dr. J. Hochstadt, Department of Microbiology, New York Medical College, Valhalla, N.Y. 10595** or telephone: 914-347-5678.

**FACULTY POSITION**, tenure-track, level open, is available 1 October 1980 at the Michigan State University (MSU)—U.S. Department of Energy (DOE) Plant Research Laboratory to develop an innovative research program in **cellular regulation of physiological processes in higher plants.** We seek applications from individuals with experience, interests, and ideas in environmental physiology, natural products chemistry, developmental biology, physiological aspects of genetic variability, or similar areas of plant sciences. Send curriculum vitae, bibliography, and names of at least three references as soon as possible to: **Dr. Andrew D. Hanson, Chairperson, Search Committee, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing, Mich. 48824.** *MSU is an Affirmative Action/Equal Opportunity Institution.*

## POSITIONS OPEN

**FACULTY POSITION—BIOLOGY.** A full-time, tenure-track position beginning 16 September 1980. Teaching duties include cell physiology, invertebrate zoology, marine biology, and general biology. Ph.D. in a biological science, proven teaching ability, and a strong commitment to undergraduate education are required. Rank and salary dependent on educational preparation and experience. Applications, including résumé, transcripts, and three letters of reference, should be sent by 1 July 1980 to: **Dr. Margaret L. Hudson, Chairperson, Department of Biology, Seattle University, Seattle, Wash. 98122; telephone: 206-626-5620.** *Seattle University is an Equal Opportunity Employer.*

### FACULTY POSITIONS IN PHARMACOLOGY UNIVERSITY OF COLORADO SCHOOL OF MEDICINE

The Department of Pharmacology, University of Colorado School of Medicine, has openings for two faculty members at the assistant professor rank. Applicants must have a Ph.D. degree and/or the M.D. degree and at least 2 years of postdoctoral research experience. Special consideration will be given to individuals with research background in molecular pharmacology, neuroendocrine pharmacology, immunopharmacology, or drug metabolism and disposition, but applications from outstanding candidates from all areas relevant to pharmacology will be welcome.

The Division of Clinical Pharmacology, Department of Pharmacology, University of Colorado School of Medicine, has an opening at the rank of instructor of pharmacology. The individual must have a Ph.D. (pharmacology) or M.D. and have postdoctoral experience in cardiovascular pharmacology and prostaglandin research. He/she will have a modest teaching commitment in the Department of Pharmacology, but at least 85 percent of the time will be available for laboratory research.

Inquiries, which should include curriculum vitae, list of publications, reprints or preprints of selected papers, and at least three letters of reference, should be addressed to:

**Faculty Search Committee  
Department of Pharmacology (Box C-236)  
University of Colorado School of Medicine  
4200 East 9 Avenue  
Denver, Colorado 80262**

*Applications from female and minority persons are especially encouraged. University of Colorado is an Equal Opportunity/Affirmative Action Employer.*

### FOREST ECOLOGIST: RESEARCH ASSOCIATE

Applications are invited for a 2-year postdoctoral position (\$13,000 to \$15,000) with a small, multidisciplinary research group studying stream and river ecology, landscape evolution, and geomorphology. Interactions of land use, vegetation, channel and valley geometry, biology, and biogeochemical linkages are a prime group concern. Candidate must have specific training and experience in forest ecology, silviculture, and management strategies for Eastern hardwood forests. Send curriculum vitae and references to: **Robin L. Vannote, Stroud Water Research Center, Academy of Natural Sciences of Philadelphia, Box 512, R.D. Number 1, Avondale, Pennsylvania 19311.** *An Equal Opportunity/Affirmative Action Employer.*

**HUMAN CYTOGENETICIST.** Utah State University (USU), Exceptional Child Center, Manage ongoing clinical-research cytogenetics laboratory. Duties: preparation and interpretation of karyograms, tissue cultures, banding techniques, research and service programs. Ph.D. or M.D. required. Résumé and three letters of recommendation by 6 June 1980 to: **Marilyn Jaacks, UMC 68, USU, Logan, Utah 84322.** Telephone: W. S. Thain, M.D., 801-752-3225. *An Affirmative Action/Equal Opportunity Employer.*

### INSTRUCTOR

Applications are invited for the position of instructor. Experience in the areas of protein chemistry, protein-protein interactions, immunology, and cell surface biology is desirable. Candidates will be expected to have had several years of research experience in a biochemistry laboratory. Please send curriculum vitae and the names of three references to: **Isaac Coe, Department of Orthopedics and Rehabilitation, University of Virginia Medical Center, Charlottesville, Virginia 22908,** by 16 June 1980. *The University of Virginia is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**IMMUNOCHEMIST, Ph.D. in biochemistry or biology.**

The successful candidate will have extensive experience in RIA or other nonisotope immunoassays. This individual will evaluate and purify antibodies and participate in new immunoassay formulations.

**SENIOR CLINICAL CHEMIST, Ph.D.**

This individual will have extensive experience and will perform the formulation and development of clinical diagnostic enzyme reagents.

Beckman Instruments—Microbics offers an excellent combination of opportunity, salary, benefits, and working conditions. We are located 30 miles north of San Diego in an uncrowded and beautiful site close to the Pacific Ocean. We are interested in meeting with professionals committed to excellence. Please send your curriculum vitae or résumé personally to:

**Jeff Lindquist  
Beckman Microbics Division  
6200 El Camino Real  
Carlsbad, Calif. 92008**

*An Equal Opportunity/Affirmative Action Employer*

**IMMUNOLOGIST POSITION.** The University of Florida, Department of Immunology and Medical Microbiology in the College of Medicine, invites applications for an appointment as **assistant professor**; applications will also be considered at **associate professor** level. Salary: commensurate with experience and qualifications. Teaching responsibilities involve professional (M.D., D.V.M., D.D.S.) and graduate students in immunology. The position is anticipated to be open as of January 1981. Candidates should send curriculum vitae and names of three references to: **Dr. Parker A. Small, Jr., Department of Immunology and Medical Microbiology, University of Florida, College of Medicine, Box J-266, Gainesville, Florida 32610.** Closing date: 1 July 1980. *Equal Opportunity/Affirmative Action Employer, M/F.*

**LECTURE AND CONSERVATION AND RESOURCE STUDIES.** University of California, Berkeley, College of Natural Resources, Department of Conservation and Resource Studies, as of 1 July 1980. A lecture position with possible security of employment either in conjunction with or after initial appointment will be available. Appointment level and salary will be commensurate with training, experience, and publication record. Applicants should hold a doctoral degree or have commensurate professional experience, and have experience in teaching, public/university service, and research/creative activity. The preponderance of the responsibilities will be in teaching of undergraduate courses and in program organization and coordination. Strong interest in interdisciplinary teaching at the undergraduate level and the commitment to innovative approaches to environmental problem-solving is required. Preference will be given to those with experience in analysis in environmental and conservation issues at local, national, and international levels and in working with public, private, and community organizations dealing with environmental issues. Experience with the use of media for public education around environmental problems is also desirable. Closing date for applications is 6 June 1980. Submit letters of application with curriculum vitae, list of publications, and the addresses of at least three references to: **Dr. Paul L. Gersper, Chairman, Department of Conservation and Resource Studies, College of Natural Resources, University of California, Berkeley, Berkeley, Calif. 94720.** *University of California is an Affirmative Action Employer.*

**LIMNOLOGIST/AQUATIC ECOLOGIST.** The Rutgers University, Camden College of Arts and Sciences, Biology Department, has a tenure-track assistant professor opening for fall 1980.

Duties include major responsibility for an undergraduate course in general ecology plus a graduate course in limnology/aquatic ecology and development of an additional offering (graduate or undergraduate) in his/her speciality.

In addition to the above, the appointee will be expected to contribute to instruction in introductory courses in biology, develop a productive research program, handle committee assignments, and direct and advise students. Applications, including curriculum vitae, reprints, and three letters of reference, should be sent to: **Dr. Ralph E. Good, Chairman, Biology Department, Rutgers University, Camden, N.J. 08102** by 15 June 1980. *Rutgers, the State University of New Jersey, is an Equal Opportunity/Affirmative Action Employer.*



## POSITIONS OPEN

### IMMUNOLOGY DEANS PROFESSORSHIP UNIVERSITY OF ROCHESTER SCHOOL OF MEDICINE AND DENTISTRY

A Deans Professorship is available for a cellular immunologist whose appointment will be jointly in the University of Rochester Cancer Center and in the Department of Microbiology. Deans professorships are designed to provide positions with minimal administrative duties to allow full-time for scholarly research and teaching. Salary for a second investigator (assistant or associate professor) is also available. Applicants should send curriculum vitae and names of references to: **Chairperson of Search Committee for Immunology, Deans Professorship, University of Rochester Cancer Center, Box 704, 601 Elmwood Avenue, Rochester, New York 14642.** An Equal Opportunity Employer, M/F.

**LIMNOLOGIST.** The Department of Biology, University of Southern Mississippi, invites applications for a tenure-track position, assistant professor level, starting September 1980. Ph.D. required. Teaching responsibilities will include limnology, aquatic biology, and general ecology. Appointee will be expected to develop a vigorous research program. Expertise in population dynamics of plankton and in water chemistry is desirable. Send curriculum vitae, three letters of reference, and copies of major publications to: **Chairman, Department of Biology, Box 5018, University of Southern Mississippi, Hattiesburg, Miss. 39401.** An Equal Opportunity/Affirmative Action Employer.

### MANAGER, INFORMATION PROCESSING CENTER

The Woods Hole Oceanographic Institution seeks a manager for the Information Processing Center. The center serves the research, instructional, and administrative computer needs of the institution and some of the research needs of other institutions in the Woods Hole Scientific Community. The position carries general management responsibility for all phases of work related to central computers; shipboard computer systems, communications and navigation equipment; programming, analysis and consulting staff (including statistic and electronic engineering); and a computer-electronics technician group. Other closely related responsibilities may be added in the future. Functions include planning and proposal writing; equipment selection and acquisition; vendor contract negotiations; operations; budgeting and fiscal control; coordinating work of approximately 30 people; liaison with a Computer Advisory Committee and with the research staff and administration of the institution. The institution now has a Honeywell (Xerox) Sigma 7 and a VAX 11/780 as central computers and many Hewlett-Packard computers for shipboard work. A major task at the present time is planning for the replacement of the Sigma 7. Requirements for the position include a scientific or technical education (advanced degree preferred); management experience in a research environment; a broad and general knowledge of the use of computers in such an environment; and a desire to lead a highly technical service organization rather than to perform research in computer science. However, there will be some opportunity to pursue individual interests. Salary based on qualifications and experience; position may be on the scientific staff or the technical staff. Send résumé to: **Bernard L. Zentz, Personnel Manager, Woods Hole Oceanographic Institution, Woods Hole, Mass. 02543** before 16 June 1980. Equal Opportunity Employer, M/F/H.

**MARINE BOTANIST.** Jacksonville University invites applications for a tenure-track undergraduate position in the Department of Biology beginning September 1980. Ph.D. required; background in physiology desirable. Duties include general biology and courses in specialty. Submit résumé, transcripts, and three letters of recommendation to: **Dr. Jesse S. Robertson, Search Committee, Box 146, Jacksonville University, Jacksonville, Fla. 32211.** Application deadline: 30 June 1980. Equal Opportunity/Affirmative Action Employer.

**MICROBIOLOGIST/MOLECULAR BIOLOGIST.** Assistant professor. Qualifications: broad-based training in biology and specialization in microbiology, cell biology, and molecular biology. Should have a strong background in biochemistry. Previous teaching experience is desirable. Send curriculum vitae and three letters of recommendation by 15 June to: **Dr. Donald Alsum, Biology Department, Saint Mary's College, Winona, Minnesota 55987.** An Equal Opportunity/Affirmative Action Employer.

## PHYSIOLOGICAL RESEARCH SCIENTIST

Company growth and expansion of our Research Department has created the need for a research scientist to do basic research and hemodynamics with cardiologists and other research scientists.

Ph.D. in cardiovascular physiology required with postdoctorate experience preferred.

## CLINICAL ENGINEER

Will be responsible for initiating and coordinating research studies designed to gather human data.

B.S.E.E. or biomedical degree, plus 2 to 3 years of experience in clinical cardiovascular laboratory preferred.

Cardiac Pacemakers, Inc. offers an excellent benefit package, including profit sharing, dental insurance, and 100 percent paid tuition program.

Please send your résumé in confidence to:

**CARDIAC PACEMAKERS, INC.**  
4100 North Hamline Avenue  
P.O. Box 43079  
St. Paul, Minnesota 55164

We Are An Equal Opportunity Employer



# Research Virologist

A challenging opportunity to continue a successful research career is available with American Cyanamid's Medical Research Division where our Infectious Disease Research Section is involved in the isolation and immunological evaluation of antigens from human viral pathogens.

We seek an investigator with a proven record of success in application of the techniques of molecular virology to this area. The position requires 2-3 years of accomplishment at post doctoral level. Strong background in biochemistry with experience in orthomyxovirus research is preferred.

American Cyanamid offers competitive salaries and comprehensive benefits, including dental and savings plan. To further explore this opportunity, please send resume and salary history, in confidence to:

Ms. S. L. Johnson  
Professional Employment Coordinator  
Medical Research Division  
Lederle Laboratories  
Pearl River, N.Y. 10965



**CYANAMID**

American Cyanamid Company

An Equal Opportunity Employer Male/Female

## POSITIONS OPEN

**MICROBIOLOGIST/BIOCHEMIST.** Research (75 percent) on *Brucella* antigens; teaching (25 percent). Salary and rank dependent on qualifications. Ph.D. required. Send résumé, copies (Xerox or other) of transcripts, and the names of three references to: Dr. L. G. Adams, Department of Veterinary Pathology, Texas A & M University, College Station, Texas 77843.

### MICROPALAEONTOLOGIST (SEARCH EXTENDED)

The Geosciences Program, The University of Texas at Dallas, is seeking applications for a tenure-track faculty position at the assistant professor level beginning fall 1980 or spring 1981 in micropaleontology.

Departmental research facilities of special interest to the new faculty include SEM, luminoscope, automated microprobe, and computer.

The position requires a Ph.D. and a commitment to excellence in teaching and research. Duties will include teaching at the upper-level undergraduate and graduate levels, supervision of M.S. and Ph.D. student research, and research in area of specialty (nanofossils and/or planktonic Foraminifera preferred). Preference will be given to scientists with broad interests who will interact with faculty in clastics, carbonates, micropaleontology, and sedimentary geochemistry.

Applicants should submit a résumé (indication of sex and ethnicity for Affirmative Action statistical purposes is requested, but not required), names of three references, and a statement of research interest by 1 August 1980 to:

Academic Search Number 221  
The University of Texas at Dallas  
P.O. Box 688  
Richardson, Texas 75080

The University of Texas at Dallas is an Affirmative Action/Equal Opportunity Employer.

### MOLECULAR BIOLOGY, Ph.D.'s

The INTERNATIONAL PLANT RESEARCH INSTITUTE (IPRI) anticipates new positions throughout 1980. Research scientists who have an outstanding record of achievement and innovation, ability to solve tough problems, and spirit of adventure: here is a unique opportunity to work with others with the same record in San Francisco Bay area.

Send (in confidence) curriculum vitae, salary history, names of references, publications, and summary of your most innovative work to: Division of Molecular Biology, IPRI, 887 Industrial Road, San Carlos, Calif. 94070.

Equal Opportunity Employer, M/F

### NEUROBIOLOGY POSTDOCTORAL RESEARCH ASSISTANT

Available 1 September 1980 to join group working on analysis of neural development in vivo and in vitro using monoclonal antibody techniques [Curr. Top. Dev. Biol. 13, 215-236 (1979)]. Laboratory is in medical center mental retardation unit. Experience in neurohistology, immunology, and/or cell culture desirable. Salary: \$13,500 to \$15,000 in the initial year. Please respond with résumé, including names, addresses, and telephone numbers of three references, to: Dr. Richard Akeson, 616 IDR Building, Children's Hospital Research Foundation, Cincinnati, Ohio 45229.

Equal Opportunity/Affirmative Action Employer

### THE JOHNS HOPKINS UNIVERSITY SCHOOL OF HYGIENE AND PUBLIC HEALTH is seeking a PHYSIOLOGIST

The Johns Hopkins University School of Hygiene and Public Health is now accepting applications for the position at the assistant professor level. Persons with experience and interest in cardiopulmonary, environmental, and/or exercise physiology and a record of accomplishment in this discipline are invited to apply. The position will offer both research and teaching opportunities.

Applications and nominations should be sent to:

Division of Environmental Physiology  
Search Committee  
The Johns Hopkins University  
School of Hygiene and Public Health  
615 North Wolfe Street  
Baltimore, Maryland 21205

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## POSITIONS OPEN

### ORGANIC/ANALYTICAL CHEMIST

Immediate opening for an M.S.- or Ph.D.-degreed organic/analytical chemist, required to interact between organic synthesis and analytical chemistry groups. Self-initiated and collaborative research opportunities are available. Creative and publication-oriented individuals are encouraged to apply.

Please send résumé and names of three references to:

Personnel  
Position Number 1565  
FREDERICK CANCER RESEARCH CENTER  
Litton Bionetics, Inc.  
P.O. Box B  
Frederick, Md. 21701  
Equal Opportunity Employer, M/F

**PATHOBIOLOGY—PROFESSOR.** Salary: \$26,505 to \$42,180. Chief of Diagnostic Testing Services Section of the department. Responsible for the regulatory testing of the disease of food animals, companion animals, and poultry. Supervise diagnostic microbiology. Program development of new tests and laboratory technique will be encouraged. This person will be expected to represent the department on regulatory testing procedures and state and national meetings. Veterinarian with advanced training in veterinary and/or public health microbiology. Experience in regulatory veterinary medicine preferred. This is a tenure-track, 11-month appointment. Reply by 1 July 1980 to: Dr. E. S. Bryant, U-89, University of Connecticut, Storrs, Conn. 06268.

An Equal Opportunity Employer

Applications are invited to fill a faculty position in **PHARMACOLOGY** at the University of Illinois School of Clinical Medicine at Urbana. Candidates should possess a Ph.D. or M.D. degree and have a strong interest in both teaching and research. Teaching responsibilities include participation in pharmacology courses offered to medical and graduate students. Successful candidate will assume substantial responsibility in research related to salivary pharmacology. Rank and salary will be commensurate with experience. Available 1 July 1980. To ensure full consideration, please submit curriculum vitae and three letters of reference by 6 June 1980 to: Dr. I. Siegel, Chairman, Search Committee for Pharmacology, School of Clinical Medicine, 190 Medical Sciences Building, University of Illinois, Urbana, Ill. 61801.

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

**POSTDOCTORAL ASSOCIATE.** Position available immediately for independent research on antiprostaglandin drugs affecting cyclic nucleotide systems in prostate cancer. Renewable for 1 year. Strong background in relevant biochemical techniques preferred. Minimum of \$16,000. Send curriculum vitae and two letters of reference to: Dr. Radhey Singhal, Pharmacology Department, Ottawa University Medical School, Ottawa, Canada K1N 6N5.

**POSTDOCTORAL FELLOW** available immediately to work in the field of transplantation immunology. Background in basic immunological techniques is desirable. Tissue culture experience preferred. Appointment is for 12 months with an opportunity for renewal. Send curriculum vitae and two letters of recommendation to: Dr. Magdalena Eisinger, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, N.Y. 10021.

### POSTDOCTORAL FELLOW

Position available involving the experimental and analytical study of energy transfers in a diffusion flame burning in a fire-vitiated hot layer. Experimental experience in aerodynamics, thermodynamics, or heat transfer and corresponding graduate applied mathematics are necessary. Contact: Professor H. W. Emmons, Harvard University, 308 Pierce Hall, Cambridge, Mass. 02138. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION—BIOPHYSICS,** available July 1980. One possible project involves lipid-protein binding in membranes using fluorescence spectroscopy. Another project involves small molecule location, conformation, and dynamics in membranes using (totally) perdeuterated lipids and <sup>1</sup>H-NMR. Salary: \$13,000. Send curriculum vitae and three letters of reference to: Dr. Gerald Feigenson, Biochemistry Department, Clark Hall, Cornell University, Ithaca, N.Y. 14853. Cornell University is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available. Must have Ph.D., M.D., or D.V.M. in hand. Available 1 July 1980. Organ System Toxicology with emphasis on the kidney. Experience in drug metabolism and pharmacokinetics desirable. Salary commensurate with qualifications and experience. Send curriculum vitae and three letters of recommendation to:

Dr. Jerry B. Hook, Director  
Center for Environmental Toxicology  
Michigan State University  
East Lansing, Mich. 48824

Michigan State University is an Affirmative Action/Equal Opportunity Institution.

**POSTDOCTORAL POSITIONS**—Available under combined program of viral oncology and immunology, supported by NIH Training Grant. Areas of research of participating staff: (i) mechanism of integration and expression of DNA and RNA tumor viruses; (ii) immunocytochemistry of tumor antigens, immunoglobulin surface receptors; (iii) cellular immunology, with particular emphasis on macrophages and thymic cells; and (iv) genetics of cell differentiation and growth regulation. Background in cell biology, biochemistry, or immunology desirable. Candidates must be U.S. citizens or permanent residents; stipend level based on experience. Send curriculum vitae and references to: V. Defendi, M.D., Department of Pathology, NEW YORK UNIVERSITY SCHOOL OF MEDICINE, 550 First Avenue, New York, N.Y. 10016. An Equal Opportunity Employer, M/F.

**POSTDOCTORAL POSITION** at the Johns Hopkins University School of Medicine. Available 1 July 1980. Research and training in the neurobiology of cardiovascular control. Strong background in modern techniques of neurophysiology or neuroanatomy recommended. Applicants should send their curriculum vitae and bibliography to: Dr. Lawrence Schramm, The Johns Hopkins University School of Medicine, 726 Traylor Building, 720 North Rutland Avenue, Baltimore, Maryland 21205.

**POSTDOCTORAL POSITION**—Available immediately for studies on the ultrastructural basis of passive mechanical properties of heart muscle. Must have skills in muscle mechanics and/or electron microscopy. Salary competitive. Send curriculum vitae and names of three references to: Dr. S. Bloom, Department of Pathology, George Washington University Medical Center, Washington, D.C. 20037.

**POSTDOCTORAL POSITION** available after 1 July 1980 to study aspects of genetic recombination in *E. coli*. Analysis of dependence of enzymatic requirements on particular parental structure used, and development of in vitro assays. Analysis of cellular functions involved in transposition. Send curriculum vitae and names of references to: K. B. Low, Radiobiology Laboratories, Yale University School of Medicine, New Haven, Connecticut 06510.

**POSTDOCTORAL POSITION** available immediately. Electrophysiological studies on opiate receptors. Salary: C\$13,000 to start. Send curriculum vitae and the names of three references to, or for further information, write to: Dr. George B. Frank, Department of Pharmacology, University of Alberta, Edmonton, Alberta, Canada T6G 2H7.

**POSTDOCTORAL POSITION** in biochemical endocrinology beginning 1 July 1980. Research on the role of the gonadotropin receptor-adenylyl cyclase system in the regulation of primate corpus luteum during the menstrual cycle. Experience in cell biology and cyclic nucleotide research desirable. NIH fellowship stipend. Send résumé and addresses of three references to: Dr. Richard L. Stouffer, Department of Physiology, University of Arizona, College of Medicine, Tucson, Ariz. 85724. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION** available immediately for research into the regulation of amino acid biosynthesis in yeast. Topics include structure-function relationships of regulatory enzymes, uptake of enzymes by mitochondria, the mechanism of coordinate control of unlinked genes, and the isolation and characterization of regulatory mutants. Recombinant DNA techniques are frequently used as tools. Stipend: \$14,000 for individuals without prior postdoctoral experience. Send résumé and the names of two references to: Dr. G. B. Kohlhaw, Department of Biochemistry, Purdue University, West Lafayette, Indiana 47907. An Equal Opportunity/Affirmative Action Employer.



# SCIENTIFIC RESEARCH

## UNIVERSITY RESIDENT RESEARCH PROGRAM

The Air Force Office of Scientific Research seeks faculty members with unique scientific expertise to carry out challenging research in Air Force laboratories. One year appointments are available at research organizations located in Arizona, California, Colorado, Florida, Massachusetts, New Mexico, New York, Ohio, Texas and Washington, D.C. Appointment starting date and salary are negotiable.

The following areas are of particular interest in Air Force research:

**Aerospace Sciences**  
**Chemical and Atmospheric Sciences**  
**Electronic and Material Sciences**

**Life Sciences**  
**Mathematical and Information Sciences**  
**Physical and Geophysical Sciences**

To be eligible for participation, individuals must be U.S. Citizens currently serving as full-time faculty members of U.S. institutions of higher education; have an earned PhD in a scientific discipline or engineering; and have a publication record in their proposed area of research. All qualified applicants will receive consideration without regard to age, color, race, religion, sex or national origin. Successful applicants will require letters of endorsement from the university dean and department chairperson.

Interested individuals are requested to send a resume, list of publications, and one-page summary of proposed research to:

Major Richard W. Kopka  
AFOSR/XOP-80-8  
Bolling Air Force Base, Washington, DC 20332  
Phone (202) 767-5016

**AIR FORCE OFFICE OF SCIENTIFIC RESEARCH**  
Air Force Systems Command  
Equal Opportunity Employer

## CAREER OPPORTUNITIES

Exxon Production Research Company, located in Houston, Texas, has immediate openings for a variety of well-qualified personnel who are interested in a challenging career in the rapidly expanding fields of:

### COAL AND OIL SHALE EXPLORATION

#### •Coal Petrographers (PhD/MS)

To apply petrographic techniques to a variety of coal geology research problems. Candidates should have appreciable experience with studies of coal using transmitted and reflected light, be innovative in the development of petrographic techniques and able to direct and train others in all phases of coal petrography.

#### •Sedimentologists-Geochemists (PhD/MS)

To design and conduct research projects on the origin, distribution and quality of organic-rich, fine-grained sediments [oil shale].

### EXXON PRODUCTION RESEARCH COMPANY

# EXXON

#### •Coal Geologists (PhD/MS)

Candidates should have strong background in areas of clastic facies and diagenesis as applied to environments of deposition of coals. Training should include stratigraphy, field geology, facies of ancient clastic deposits, sedimentary geochemistry and sedimentary petrography.

#### •Coal Geophysicists (PhD/MS)

Candidates should have special interest in coal geology and experience in seismic investigation as well as interpretation of well logs. Training should include sedimentary petrology and clastic sedimentation.

#### •Paleobotanists/Palynologists (PhD/MS)

To apply paleobotany to research on environments of deposition of coals of Paleozoic to Recent age.

This equal opportunity employer offers an outstanding employee benefit program and excellent opportunities for advancement and travel. Salaries commensurate with education and/or experience. Please send resume [and copies of transcripts if available] to:

C.C. Rix  
Exxon Production  
Research Company  
Dept. 84  
P.O. Box 2189  
Houston, Texas 77001

An Equal Opportunity Employer, M/F

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available for theoretical polyelectrolyte calculations of intercalative dye binding to DNA and specific ion effects on DNA conformation. Start September 1980; \$12,000. Résumé and references to: **Dr. Gerald Manning, Rutgers University, School of Chemistry, P.O. Box 939, Piscataway, N.J. 08854. Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available immediately. A traineeship supported by NIH Training Grant (National Research Service Awards) for recent M.D. or Ph.D. (U.S. citizen or permanent resident) interested in basic cancer chemotherapy, clinical cancer chemotherapy and biology, or cancer drug development. Before 6 June, send curriculum vitae and the names of two references to, or telephone: **Dr. Sungman Cha, Brown University, Box G, Providence, R.I. 02912. Telephone: 401-863-3114. An Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION IN DEVELOPMENTAL NEUROPHYSIOLOGY

Beginning summer 1980. Research aimed at elucidating the role of hypoxia in Sudden Infant Death Syndrome (SIDS). Salary: approximately \$14,000 per year. Please send curriculum vitae and three letters of recommendation to: **Dr. Toke Hoppenbrouwers, Director, SIDS Research Project, Room 4L40B, Women's Hospital, Los Angeles County—University of Southern California Medical Center, 1240 Mission Road, Los Angeles, California 90033.**

*Affirmative Action/Equal Opportunity Employer*

**POSTDOCTORAL POSITIONS** (two) available at Harvard Medical School for study of cardiac metabolism by variety methods including P-21 and C-13 nuclear magnetic resonance of intact perfused hearts, high-pressure liquid chromatography, cell and organ culture. Background in biochemistry, physiology, or magnetic resonance preferred. Send curriculum vitae and names of three references to:

**Dr. J. S. Ingwall  
Department of Physiology  
Harvard Medical School  
25 Shattuck Street  
Boston, Mass. 02115**

*Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION** (assistant specialist) available 1 July 1980 to isolate and characterize compounds determining ice nucleation in bacteria. Applicants should have previous experience in appropriate fields involving cell fractionation and protein isolation and characterization. The position is for 18 months and salary will be commensurate with experience. Send résumé and names of references to: **Dr. S. E. Lindow, Department of Plant Pathology, University of California, Berkeley, Calif. 94720, by 30 June 1980.**

*The University of California is an Affirmative Action Employer.*

**POSTDOCTORAL POSITIONS.** Two postdoctoral appointments are available to study biological nitrogen fixation: (i) legume nodule senescence, and (ii) associative symbiosis. Applicants should have experience in biochemistry, plant physiology, or microbiology. Salary: \$14,000. Send curriculum vitae and names of three references to: **Robert Klucas, Laboratory of Agricultural Biochemistry, University of Nebraska, Lincoln, Nebraska 68583. An Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** available about 1 September 1980. For studies using optical techniques to examine synaptic mechanisms in invertebrate visual systems; in particular, use of metalochromic indicators for measurement of Ca changes, and voltage-sensitive dyes to measure synaptic potentials. NIH salary scale. Send résumé to: **Dr. W. N. Ross, Department of Physiology, New York Medical College, Valhalla, N.Y. 10595. An Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATESHIP** available 1 July 1980. Ph.D. in microbiology/biochemistry with experience in enzyme kinetics and protein chemistry. Research on anaerobic carbon monoxide metabolism [see *PNAS* 73, 3298 (1976)] to describe the physical and chemical properties of the co-oxidizing protein system. Starting salary: \$13,380. Send curriculum vitae and names of three references to: **Dr. R. L. Uffen, Department of Microbiology, Michigan State University, East Lansing, Mich. 48824. Michigan State University is an Affirmative Action/Equal Opportunity Institution.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available to study the ultrastructural immunocytochemical distribution of ( $\text{Na}^+ + \text{K}^+$ )-ATPase in central nervous system and in neuronal tissue culture, with particular emphasis on plasmalemmal and intracellular localization during development and differentiation of neural tissue. Exposure to techniques of enzyme purification and immunochemistry also available. Background in neuronal ultrastructure and/or immunocytochemistry preferred. Collaborative project with Dr. George J. Siegel (neurosciences). Send curriculum vitae and three letters of recommendation to: **Dr. Stephen A. Ernst, Department of Anatomy, Medical Sciences II, University of Michigan, Ann Arbor, Mich. 48109.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available 1 June 1980 in areas of neuropharmacology/neurochemistry and developmental neurobiology. Please send curriculum vitae and names of three references to: **Dr. R. K. Bhatnagar, Department of Pharmacology, 2-310 BSB, University of Iowa, College of Medicine, Iowa City, Iowa 52242. An Equal Opportunity/Affirmative Action Institute.**

### TRUDEAU INSTITUTE, INC.

A **POSTDOCTORAL RESEARCH POSITION IN MICROBIOLOGY** will be available September 1980 to study the cellular mechanisms of acquired antimicrobial immunity. The successful candidate will participate in studies of the role of suppressor cells in the modulation of delayed sensitivity and cell-mediated immunity in chronically infected mice. Experience in tissue culture techniques would be useful. The salary will be \$13,500 per annum and on-campus housing is available.

Send résumé and names of references to: **Dr. Frank M. Collins, P.O. Box 59, Saranac Lake, N.Y. 12983.**

**RADIATION SAFETY OFFICER**—Full-time position available 15 August 1980, supervising and providing operational health physics services to the Radiation Safety Offices of both Old Dominion University and the Eastern Virginia Medical School in Norfolk, Virginia. Both institutions have broad-scope NRC licenses. Duties include training to meet 10CFR19 and professional needs (credit and non-credit). Responsibilities include licensing, personnel dosimetry and bioassays, hazards evaluations and surveys, air and water sampling, waste disposal, consulting with faculty, X-ray safety and surveys, and record keeping. Clerical and technical support is provided. M.S. in health physics or in a related field of science and several years of experience in applied university or biomedical health physics required. ABHP certification desirable. For full consideration send application materials by 20 June 1980 to: **Dr. Marvin E. Wyman, Associate Provost For Research and Sponsored Programs, Old Dominion University, Norfolk, Va. 23508. An Affirmative Action/Equal Opportunity Employer.**

**RESEARCH ASSISTANT PROFESSORSHIP**—Department of Physiology, School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania 19104, invites application for the position of research assistant professor (nontenure-accruing). Candidates should have Ph.D. or M.D. degree. Salary will be commensurate with experience and qualifications. Candidates should have two or more years of experience in cardiac muscle cell physiology, including voltage clamping technique experience. Research experience sufficient to seek grant support as an independent investigator desirable. Send curriculum vitae and names of three references to:

**Dr. Robert E. Forster, Chairman  
Department of Physiology  
School of Medicine  
A-201 Richards Building/G4  
University of Pennsylvania  
Philadelphia, Pa. 19104**

**RESEARCH ASSOCIATE—AGRONOMY.** Available 1 June 1980. Temporary, 2-year assistant rank position to conduct research on the foliar application of phosphate to cereals. Requires basic knowledge of plant physiology and biochemistry, with experience in cell isolation and fractionation and in measurement of photosynthesis and respiration. Salary: \$14,000 per year. Send résumé, transcripts, and names and addresses of three persons who have been asked to submit letters of reference by 6 June 1980 to: **Dr. J. C. Engibous, Chairman, Department of Agronomy and Soils, Washington State University, Pullman, Wash. 99164. An Equal Opportunity/Affirmative Action Employer. Women, minorities, and handicapped persons are encouraged to apply and identify themselves as such in their applications.**

## POSITIONS OPEN

**RESEARCHER**—Major cancer center seeks an experienced investigator to head a basic research program on the metastatic spread of cancer. Qualified individuals should forward curriculum vitae and bibliography to:

**Box 136, SCIENCE**

**RESEARCH ASSISTANT.** Immediate opening available for M.S. or B.S. graduates of chemistry or related areas to work in a research laboratory. Responsibilities involve assisting research in trace element metabolism in humans and cell cultures system. Strong background in analytical chemistry, experience in trace element analysis using atomic absorption spectrophotometry and GC/LC is preferred. Send résumés to: **Dr. Wai-Yee Chun, Oklahoma Children's Memorial Hospital, Department of Pediatrics, P.O. Box 26901, Oklahoma City, Oklahoma 73190.**

**RESEARCH ASSOCIATE/POSTDOCTORAL POSITION** immediately available to study the effect of nucleoside analogues on specific DNA restriction modification systems. Experience in nucleic acid research or enzymology desired. Salary: \$14,500. Send curriculum vitae and names of three references to: **Dr. Stanley Friedman, Department of Pharmacology, State University of New York/Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York 11203. Equal Opportunity/Affirmative Action Employer.**

**RESEARCH POSITION**, permanent, at university hospital in Midwest. Immunochemist or immunologist with biochemical background. Doctorate required. Work on immunological aspects of human cancer. Experience in radioisotopic work, antibody fractionation, labeling, and immunoassays desirable. Excellent salary and benefits.

**Box 137, SCIENCE**

### UNIVERSITY OF ARIZONA

A position as **RESEARCH SCIENTIST** is open at the NSF Regional Instrumentation Facility at the University of Arizona. The facility will use a tandem accelerator and associated equipment to perform charge and mass spectrometry on long-lived radioisotopes such as  $^{10}\text{Be}$ ,  $^{14}\text{C}$ , and  $^{36}\text{Cl}$ . The appointment will be for 2 years, with the possibility of extension. The starting date is about 1 October, and the salary is in the range from \$18,000 to \$22,000, depending on qualifications and experience. Applicants should be at the postdoctoral level. It is desirable, though not necessary, that they be familiar with electrostatic accelerators, computers, programming, nuclear-physics instrumentation, and target fabrication.

The successful applicant will play an important role in the establishment of the NSF-Arizona radioisotope dating facility, and will deal with scientists of many disciplines from around the world.

Send résumé and names of references by 31 July 1980 to: **D. J. Donahue, Department of Physics, University of Arizona, Tucson, Arizona 85721.**

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

**APPOINTMENT IN SATELLITE-RELATED BIOLOGICAL OCEANOGRAPHY.** A joint appointment is available at the Jet Propulsion Laboratory (JPL) and Scripps Institution of Oceanography (SIO) for research on the use of remote sensing capabilities (airborne and satellite) to investigate significant problems in biological oceanography. At SIO, the appointment will be as adjunct professor or professor (carrying one-third tenure), the level depending upon ability. At JPL, the appointment will be to the research staff with comparable rank. Appointee will have responsibilities at both institutions, including graduate teaching at SIO; demonstrated background and experience in order to interact effectively with other JPL and SIO scientists; and background and training in long-range planning of oceanographic programs in order to advise management of JPL and NASA Headquarters. Compensation is negotiable. Inquiries and résumés should be sent to either of the following: **Dr. M. T. Chahine, Chairman, Oceanography Search Committee, Jet Propulsion Laboratory 183-301, 4800 Oak Grove Drive, Pasadena, Calif. 91103; telephone 213-354-2433, or Professor M. M. Mullin, A-008, Scripps Institution of Oceanography, La Jolla, Calif. 92093; telephone: 714-452-2711. Equal Opportunity/Affirmative Action Employers.**

**SUPERVISORY METEOROLOGIST or SUPERVISORY PHYSICAL SCIENTIST**, GS-15 Competitive Service (salary range \$40,832 to \$53,081) subject to Merit Pay. Environmental Research Laboratories of NOAA in Boulder, Colorado, is seeking an individual to serve as the director of the Geophysical Monitoring for Climatic Change Program (GMCC) of the Air Resources Laboratory (ARL). The GMCC Program is a national and international focal point for measurements and the theoretical and experimental research to understand the fundamental physical and chemical processes in the atmosphere that are responsible for climatic change. The incumbent is responsible for the scientific direction and the day-to-day management of the measurements, quality control, and analysis activities of the GMCC Program. The staff includes meteorologists, physicists, chemists, electronics engineers, and computer specialists. **QUALIFICATIONS:** in addition to basic bachelor degree requirements with specific study in an appropriate field (or equivalent experience), candidates must have completed all requirements for a doctoral degree or demonstrated equivalent experience **PLUS** three additional years of professional experience which has equipped the applicant with the required knowledge. One year of this experience must have been at a level of difficulty comparable to the GS-14 level. Candidates must have demonstrated in their work experience or training that they possess or have the potential to develop the qualities of a successful supervisor/manager. Applicants must indicate via their application or a transcript the possession of 20 semester hours in meteorology (including six semester hours in dynamic meteorology and integral calculus and six semester hours in college physics). **SELECTIVE FACTORS:** all applicants must have experience which demonstrates a broad research background in atmospheric turbulence and diffusion and have experience in managing research programs. Applicants who have never worked for the federal government or those without competitive status must submit the complete application packet for physical science positions (CN1300), available at any Office of Personnel Management, to: Department of Commerce, NOAA/NTIA, Personnel Services Division (R566), 325 Broadway, Boulder, Colo. 80303, attention: Vern Pape, Refer Vacancy NOAA/ERL 80-103VP. Applications must be received not later than 14 June 1980. Telephone: 303-499-1000, extension 3949. An Equal Opportunity Employer, M/F.

# PHARMACEUTICAL SCIENTISTS

Armour Pharmaceutical R&D Department is in the process of relocating from Kankakee, Illinois, to Tuckahoe, New York, and is setting up its operation as part of the Revlon Health Care Group. As a result, we have several outstanding career opportunities. We are seeking professionals with competency in the following areas:

## PHARMACEUTICAL DEVELOPMENT SCIENTISTS

Responsible for innovative formulation of new oral, topical and parenteral dosage forms. Two positions MS plus PhD; each requires 5 years industrial pharmaceutical experience.

## BIOCHEMICAL COAGULATIONIST

Responsible for biochemical characterization of coagulation factors and participation in the development of new therapeutic agents from human plasma. PhD in Biochemistry and 3 years experience desired.

## PHARMACOLOGIST, PHYSIOLOGIST

Responsible for instituting In Vivo assay systems and evaluating potential new therapeutic agents in experimental animals. An MS in Pharmacology or Physiology and 3 years experience required.

Successful applicants will be offered competitive salary and an exceptional benefits package. Qualified candidates should forward curriculum vitae, including salary history and requirements, to:

Manager of Professional Staffing

## ARMOUR PHARMACEUTICAL COMPANY

One Scarsdale Road, Tuckahoe, New York 10707

Member Company of

THE REVLOX HEALTH CARE GROUP

An equal opportunity employer M/F

## MARINE BIOLOGICAL LABORATORY

Woods Hole, Massachusetts

*Assistant Director, Administration and Development*

The Laboratory invites applications from qualified candidates for the position of Assistant Director for Administration and Development. Desirable experience includes some, but not necessarily all of the following: a scientific background such as would be acquired by service as a faculty member or investigator; administrative skills, especially in education or in sponsored research; highly developed communications skills; fund raising and public relations.

Position responsibilities will to some extent depend upon the background and interests of the successful applicant, but will be concerned at least initially with administration and development. The appointee will work closely with the Laboratory Directorate. Salary is adjustable, within broad limits, to the applicant's age and experience.

Qualified persons willing to accept the challenge of management in a distinguished biological laboratory should write, including curriculum vitae, bibliography, and the names of three qualified referees to:

Assistant Director Search  
c/o Office of the Director  
Marine Biological Laboratory  
Woods Hole, MA 02543

Applications will be held strictly confidential.

The Marine Biological Laboratory is an Equal Opportunity Employer and welcomes applications from qualified women and minorities.

## FACULTY POSITION

**DIRECTOR, JOHN J. SPARKMAN  
CENTER FOR INTERNATIONAL  
PUBLIC HEALTH EDUCATION**

**UNIVERSITY OF ALABAMA  
IN BIRMINGHAM**

The University of Alabama in Birmingham, Department of Public Health, an accredited School of Public Health, is seeking a Director for its newly established John J. Sparkman Center for International Public Health Education, a program funded from the income of a \$4 million endowment from the U.S. Congress. The goal of the Center is to provide comprehensive, graduate-level training in public health on site to students in developing parts of the world—students who would become a core source of public health knowledge and leadership within their own countries.

The Director will be responsible for planning, implementing and coordinating all program activities. Knowledge of international health agencies, programs and key personnel elsewhere is essential. This individual must also have proven administrative ability, particularly in new program development, and must be qualified for a senior, tenured faculty appointment in the Department of Public Health. Fluency in at least Spanish or French is desired, and expertise in one of the public health disciplines is essential. Salaries and fringe benefits are highly competitive.

APPLICATION CLOSING DATE: June 30, 1980

Send Curriculum Vitae to: Dr. William F. Bridgers, Chairman—Department of Public Health, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294. An Equal Opportunity/Affirmative Action Employer.



## POSITIONS OPEN

**RESEARCH ASSOCIATE AND POSTDOCTORAL POSITIONS NOW AVAILABLE.** Research program encompasses neuroanatomical and correlated electrophysiological studies in the cat. Areas of emphasis are: (i) intracellular staining of neurons (horseradish peroxidase, radiolabeled compounds, and so forth); (ii) electrophysiology of motor, sensory, and reticular systems; and (iii) intracellular recording in chronic cats. Individuals will carry out research individually or collaboratively with Dr. Michael H. Chase, Dr. Arnold Scheibel, and Dr. Charles D. Woody. Salary commensurate with experience. Send curriculum vitae to: **Dr. Michael H. Chase, Brain Research Institute, Center for Health Sciences, University of California, Los Angeles, California 90024.** An Equal Opportunity Employer.

### SENIOR FACULTY POSITION IN VIRAL ONCOLOGY

Applications are invited for a tenure-track position at the associate professor level at the University of Pennsylvania School of Veterinary Medicine. The position is to conduct research primarily on the bovine leukemia virus system. The appointee will be expected to develop an active and independent research program in coordination with the ongoing studies in the Leukemia Unit. Candidates should have a strong background and experience in both the molecular and biological aspects of mammalian viruses, preferably tumor viruses. They should also have a demonstrable ability to obtain research funding. Minimum qualifications are a Ph.D., D.V.M., or M.D. Salary is open and will depend on qualifications and experience. The position is available immediately. Applicants should submit curriculum vitae, copies of representative publications and the names of three referees to:

**Dr. Jorge F. Ferrer**  
Chief, Comparative Leukemia Studies Unit  
University of Pennsylvania  
School of Veterinary Medicine  
New Bolton Center  
382 West Street Road  
Kennett Square, Pa. 19348

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

### SENIOR FACULTY POSITION IN TUMOR IMMUNOLOGY

Applications are invited for a tenure-track position at the associate professor level at the University of Pennsylvania, School of Veterinary Medicine, to conduct research on the virus-host and tumor-host immunological interactions in the bovine leukemia system. Priority will be given to those with experience in viral immunology. Candidate should have demonstrable ability to obtain research funding. Salary will depend on qualifications and experience. Minimum qualifications are a Ph.D., D.V.M., or M.D. The position is available immediately. Applicants should submit curriculum vitae, copies of representative publications, and the names of three referees to:

**Dr. Jorge F. Ferrer**  
Chief, Comparative Leukemia Studies Unit  
University of Pennsylvania  
School of Veterinary Medicine  
New Bolton Center  
382 West Street Road  
Kennett Square, Pa. 19348

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

USDA's Science and Education Administration is recruiting for a **SOIL SCIENTIST** position at the Southern Weed Science Laboratory in Stoneville, Mississippi. Salary: \$20,611 to \$24,703, depending on qualifications. Incumbent will establish a fundamental research program on the activity, persistence, and movement of herbicides and other chemicals in soils. Preference will be given to individuals with knowledge in soil chemistry and modern analytical laboratory techniques. Applicants will find instructions on how to apply by locating a copy of "A Listing of Positions in LIFE SCIENCE RESEARCH with the U.S. Department of Agriculture offered by the Office of Personnel Management." This monthly listing is mailed approximately the first date of the month to colleges/universities and to Federal Job Information Centers, the locations of which are shown in local telephone directories. This position will appear in the August 1980 listing and applications will be accepted for approximately 3 weeks thereafter. For information about the position, contact: **Dr. R. D. Wauchope, P.O. Box 225, Stoneville, Miss. 38776.**

## POSITIONS OPEN

**RESEARCH INSTRUCTOR.** A position is now available to work with the medical genetics group at University of Utah: a research instructor, Division of Medical Genetics, Department of Pediatrics, M.D. or Ph.D. applicants should have experience in biochemical and population genetics, especially with new techniques in isoenzyme electrophoresis. Send names of three references and curriculum vitae to: **Dr. Robert Fineman, Division of Medical Genetics, Department of Pediatrics, University of Utah Medical Center, Salt Lake City, Utah 14132.** An Equal Opportunity/Affirmative Action Employer.

The Department of Botany and Plant Pathology, Colorado State University, announces the availability of a position in **VASCULAR PLANT MORPHOLOGY**, effective 1 January 1981. This is a 9-month, tenure-track teaching-research appointment.

Responsibilities will include teaching courses in plant morphology, some involvement in the general botany program, and development of a graduate program in plant morphology.

Development of a research program in the individual's area of interest will be expected; preference will be given to those specializing in ecological morphology.

Candidates must possess a Ph.D. in botany or biology. Rank and salary are negotiable. Three letters of recommendation, curriculum vitae, and other pertinent data should be submitted to:

**Dr. Gary A. McIntyre, Chairman**  
Department of Botany and Plant Pathology  
Colorado State University  
Fort Collins, Colorado 80523

Application deadline is 1 September 1980.

*Colorado State University is an Equal Opportunity/Title IX Employer. Equal Opportunity Office: 314 Student Services Building.*

### VIROLOGIST

Full-time position available for postdoctoral associate. Research and training in genetics and replication of DNA invertebrate viruses. Experience in contemporary nucleic acid and/or protein synthesis techniques required, and experience in tissue culture preferred. Application deadline and position available: August 1980. Qualified applicants send curriculum vitae and names of three references to: **Dr. H. Alan Wood, Boyce Thompson Institute at Cornell University, Tower Road, Ithaca, New York 14853.** An Affirmative Action/Equal Opportunity Employer.

### VISION RESEARCHERS

As the parent organization for a planned interdisciplinary unit to be identified as the Indiana Visual Science Institute, the Indiana University School of Optometry has openings for three outstanding scientists who have active research programs in the basic and/or clinical visual sciences. Although exceptional junior and intermediate level candidates will be considered, priority will be given to established persons who have international reputations and a history of high productivity. Successful applicants can expect strong support in terms of salary, research facilities, and teaching load.

Indiana University was founded in 1820 and is one of the oldest state universities west of the Alleghenies. It currently enrolls about 23,000 undergraduates and 6,600 graduate students on the Bloomington campus. Many of our graduate programs rank among the best in the country; the library's collection is outstanding and the School of Music is ranked first in the country. Accordingly, Bloomington is considered by many to be an oasis of culture in the Midwest.

Bloomington itself is a relaxed community located in a beautifully wooded and hilly area of the state where housing costs are less than half of those prevailing in areas of high population density. It is possible to drive to work from a secluded country home in 10 minutes.

Address letter or telephone inquiries or send your résumé with names of references (from whom letters will be solicited only after our initial screening) to:

**Dr. S. Lee Guth**  
Director of Research and Graduate Education  
School of Optometry  
Indiana University  
Bloomington, Ind. 47405

## TRAVEL SUBSIDIES

A limited number of **SUBSIDIES** (up to \$400 per person) will be available to assist active participants from the United States in traveling to the International Symposium on Inborn Errors of Metabolism in Humans, 2 to 5 September 1980, Interlaken, Switzerland. To apply, send copies of your submitted abstract (forms A and B) and curriculum vitae to: **Dr. Louis J. Elsas, Division of Medical Genetics, Drawer AM, Emory University, Atlanta, Ga. 30322.** Abstracts must be received by 6 June 1980.

## TRAINEESHIPS

**POSTDOCTORAL TRAINING IN DENTAL CARIES RESEARCH**—The School of Dentistry, University of Minnesota, offers NIH 3-year postdoctoral traineeship funded through the National Caries Program beginning fall 1980. Prepare for an exciting research and teaching career in a program that emphasizes a multidisciplinary approach in the investigation of dental caries. Training includes laboratory research rotations, epidemiologic and clinical trial studies, teacher training courses, and the teaching of dental school courses as well as independent and collaborative research opportunities. Special clinical courses provide an orientation to dentistry. This familiarization with existing clinical preventive and restorative techniques should provide a background which enhances the opportunity for employment in Schools of Dentistry and commercial dental research firms. Applications from D.D.S./D.M.D.'s or Ph.D.'s who are U.S. citizens or permanent U.S. residents are now being accepted. *Equal Opportunity/Affirmative Action Educator.* Stipends range from \$13,380 to \$17,040, depending upon experience. For further information, write to: **Dr. Ralph V. Katz, Director, Cariology Postdoctoral Program, School of Dentistry, University of Minnesota, Minneapolis, Minnesota 55455.**

## FELLOWSHIPS

**ASSISTANTS—TWO POSTDOCTORAL VIROLOGY FELLOWSHIPS** available in Department of Microbiology. The Mount Sinai School of Medicine, City University of New York. Immediate starting date. Résumés only to: **Dr. E. D. Kilbourne, Professor and Chairman, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029.** An Equal Opportunity Employer.

### CARDIAC ELECTROPHYSIOLOGY

Postdoctoral research positions (two) to study electrophysiology and pharmacology of human heart muscle and animal models of disease and dysrhythmia. Studies employ standard glass microelectrode, ion selective electrode, and voltage clamp techniques. Experience with glass microelectrode methodology highly desirable. Excellent facilities and environment. Send curriculum vitae and three professional references to: **Dr. D. H. Singer, Department of Pharmacology, Northwestern University Medical School, 320 East Superior Street, Chicago, Ill. 60611.**

## MARKETPLACE

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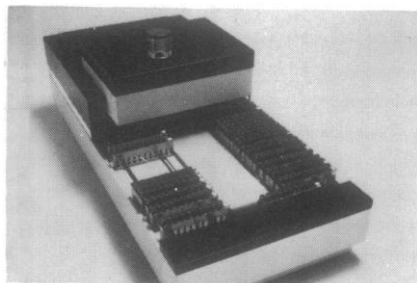
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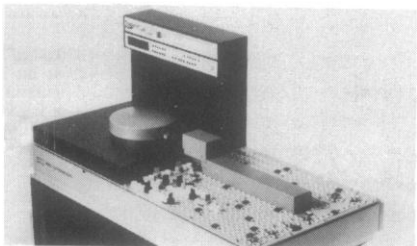
- samples capacity up to 250 · control using built-in keyboard gives single pushbutton operation · preset windows for  $^{125}\text{I}$ ,  $^{57}\text{Co}$ ,  $^{51}\text{Cr}$ , adjustable window up to 400 keV · simple to operate · straightforward CPM results, or concentration with optional RIA data reduction package.



## **RackGamma 1270**

Microcomputer gamma counter using racks, specially designed for the larger lab, includes spectrum stabilizer.

- multi-assay — up to 15 parameter groups can be stored · sample capacity 500 to 2000 · two channel — one fixed  $^{125}\text{I}$ , other adjustable · energy up to 999 keV · complete RIA Data-Reduction built-in · spline function RIA calculation optional · optimised precision counting · quality control program for RIA · concentration error calculation · special screening assay programs.



## **UltronGamma 1280**

Top performance automatic general purpose gamma counter which will count over the widest energy range on the market, includes spectrum stabilizer.

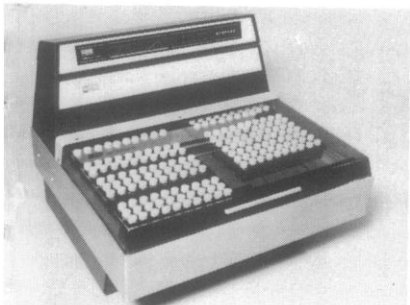
- sample capacity up to 900 · two count channels · energy range up to 4500 keV · RIA and other calculations · spectrum plotting · automatic multi-user operation · comprehensive result print out · plug-in setting of count conditions.



## **MultiGamma 1260**

High throughput multidetector gamma counter with microcomputer control including automatic spectrum stabilizer.

- built-in RIA data reduction using the spline function gives concentration values · cross-talk correction system allows isotopes up to  $^{59}\text{Fe}$  to be measured · multi-user, 15 or more parameter groups can be stored · special sample loading tray allows twelve samples at a time to be measured · large easy-to-read display · simple push-button operation.



## **RackBeta 1215/1216**

High performance microcomputer controlled universal liquid scintillation counter using racks for samples, either normal 20 ml vials or 6 ml minivials, includes spectrum stabilizer.

- sample capacity 300 normal vials or 660 minivials · two count channels, two standardization channels · built-in standard programs for  $^3\text{H}$  and  $^{14}\text{C}$  · up to 15 stored programs · single push button operation · full program editing · external standardization, sample channels ratio standardization · automatic quench calibration and DPM calculation · chemiluminescence monitor.

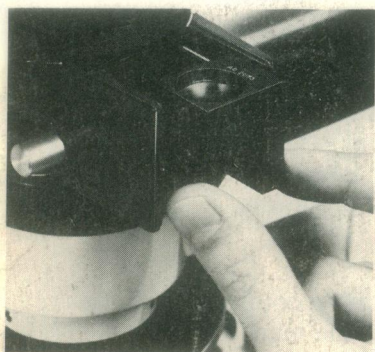
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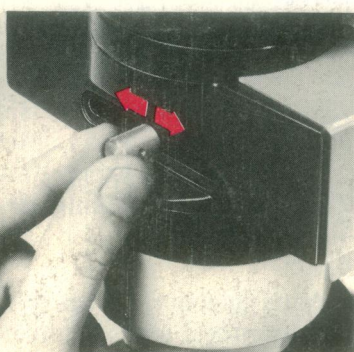
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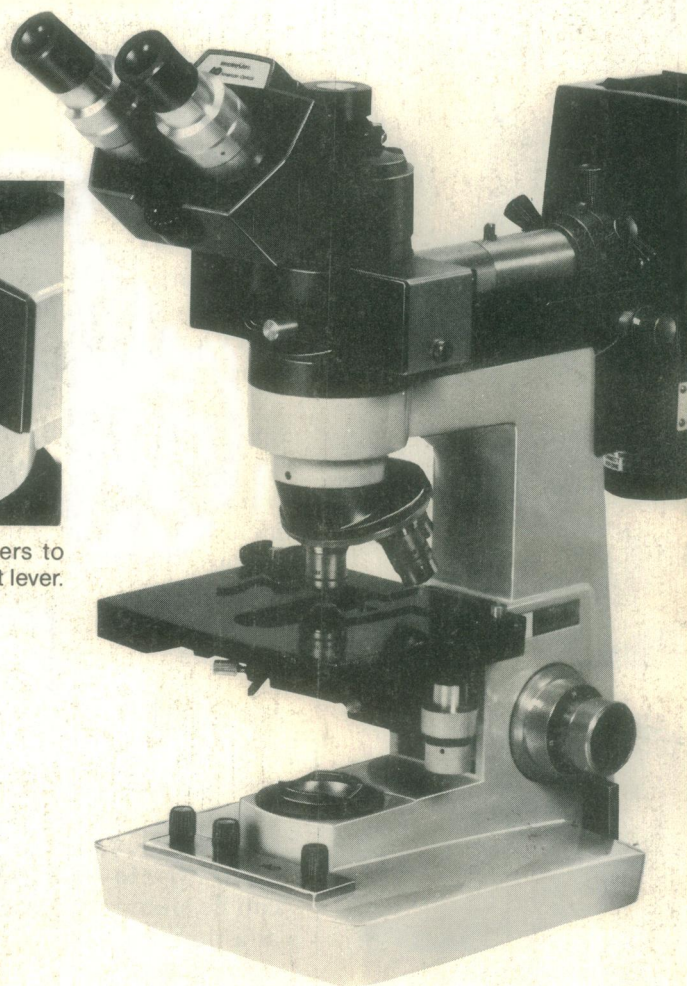
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