

# Personnel Placement

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Send copy for all **Positions Wanted** ads and **Display** ads less than 1/6 page in size (125 millimeters) to:

SCIENCE, Room 207  
1515 Massachusetts Ave., NW  
Washington, D.C. 20005  
Telephone: 202-467-4456

Send copy for **Display** ads 1/6 page and larger to:

Scherago Associates, Inc.  
1515 Broadway  
New York, N.Y. 10036  
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

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SCIENCE  
1515 Massachusetts Ave., NW  
Washington, D.C. 20005

## POSITIONS WANTED

**CNS Pharmacologist**, Ph.D. Highly motivated and productive and interested in movement disorders, narcotics, hallucinogens, neuroleptics, and central stimulants; wants a senior research position. Will test own hypothesis on the involvement of a new neurotoxic substance in the etiology of behavioral and/or movement disorders. Will also work in the other fields of interest. Box 215, SCIENCE.

8/31; 9/14

**Entomologist/Biologist**: Ph.D. 1963; 20 years of university teaching/research; 40 publications. Postdoctoral research associate, Berkeley campus (1967-1968). Fields of expertise: entomology (morphology, taxonomy, and applied), invertebrate zoology, comparative anatomy, evolution and zoogeography, embryology, and general biology. Extensive museum work experience. Desires teaching/research position. Available immediately. Box 245, SCIENCE.

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## POSITIONS OPEN

### ASSISTANT PROFESSOR, BIOLOGICAL SCIENCES UNIVERSITY OF PITTSBURGH

The Department of Biological Sciences invites applications from highly qualified individuals with a strong research commitment in one or more of the following areas: theoretical ecology, population genetics, evolutionary ecology, physiological ecology, aquatic ecology, and microbial ecology. Curriculum vitae, list of publications, names of at least three references, and a summary of research interests and plans should be sent to: **Chairman, Ecology/Population Genetics Search Committee, Department of Biological Sciences, University of Pittsburgh, Pittsburgh, Pa. 15260.** Starting date: January 1980. Closing date for application: 30 October 1979. *The University of Pittsburgh, acting in the spirit and the letter of Affirmative Action regulations, actively encourages applications from women, minority members, and other individuals covered by the mandates of Title IX.*

## POSITIONS OPEN

Position available in the academic research series, **DEPARTMENT OF ANESTHESIOLOGY**, University of California, San Diego, Ph.D. with at least 3 years of postdoctoral experience in the biological sciences is required, with background experience in computer programming and pulmonary gas exchange analysis preferred. Salary range: \$17,500 to \$19,200 dependent upon experience. Please send letter, curriculum vitae, and names of three references to: **Ronald Dueck, M.D., Anesthesia Research, VA Medical Center, 3350 La Jolla Village Drive, San Diego, Calif. 92161.** *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF GUELPH Department of Animal and Poultry Science ANIMAL BREEDER

Ph.D. in animal breeding with background in statistical genetics. Experienced in data analyses methodology and interested in working with animal industry breeding developments. Responsible for developing a research program and teaching undergraduate and graduate students. Appointment at assistant professor level on a contractually limited basis. Position subject to final budgetary approval. Applications accepted to 30 September 1979 or until position filled. Direct replies to: **W. D. Morrison, Professor and Chairman, Department of Animal and Poultry Science, Ontario Agricultural College, University of Guelph, Guelph, Ontario, Canada N1G 2W1.**

### AQUATIC MICROBIOLOGIST

The Chesapeake Biological Laboratory of the University of Maryland Center for Environmental and Estuarine Studies will fill a tenure-track faculty position in one of two areas: (i) viruses in estuarine/marine systems or (ii) estuarine/marine microbial ecology, particularly heterotrophic processes. We are seeking a full professor, but will consider applicants at the associate professor level and assistant professors with well-established research programs. The successful candidate will provide evidence of a strong research program and will be eager to participate in graduate education. A letter of application, curriculum vitae, and names of four references should be sent no later than 30 September 1979 to: **Chairman, Search Committee, Chesapeake Biological Laboratory, Solomons, Maryland 20688.**

**ASSISTANT PROFESSOR OF BIOCHEMISTRY.** Southern Illinois University School of Medicine at Carbondale has an opening for an assistant professor of biochemistry starting summer 1980. Outstanding individuals with postdoctoral experience and potential of developing strong research programs in significant problems of contemporary biochemistry, whose research interests complement those of the existing faculty, and who have the ability to teach at all levels (undergraduate, medical, and graduate students) will be considered. Candidate selected will be cross-appointed with the Department of Chemistry and Biochemistry. Send curriculum vitae, names of three references, and a description of research interests to: **Office of the Associate Dean, Biochemistry Search Committee, School of Medicine, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.** Applications must be postmarked by 15 November 1979. *Southern Illinois University is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR OF PATHOLOGY

The candidate should be an academically trained pathologist. Must be Board-certified in anatomic pathology and have had experience in research and in teaching medical students and residents. Experience in diagnostic electron microscopy or other specialized field is highly desired. Please reply to:

**Chairman, Pathology Department  
Temple University School of Medicine  
3400 North Broad Street  
Philadelphia, Pa. 19140**

*An Equal Opportunity/Affirmative Action Employer*

### ASSOCIATE PROFESSOR/PROFESSOR OF ANATOMY

Must have a good research record and an ongoing research program. Experience in teaching neuroanatomy required. Send curriculum vitae to: **Dr. R. G. Hibbs, Department of Anatomy, Louisiana State University School of Medicine, P.O. Box 33932, Shreveport, La. 71130.**

*An Equal Opportunity Employer*

## POSITIONS OPEN

**CORNELL UNIVERSITY**, Department of Chemistry, seeks an **ASSISTANT PROFESSOR OF BIOPHYSICAL CHEMISTRY**. Candidates should be able to develop strong programs in both research and teaching (biophysical and physical chemistry). Postdoctoral experience highly desirable. Interested candidates should supply curriculum vitae, a brief summary of pre- and postdoctoral research, and a résumé of plans for a future research program. Three letters of recommendation and a graduate transcript are also required.

All material should be sent to: **Professor B. W. Baker, Baker Laboratory of Chemistry, Cornell University, Ithaca, N.Y. 14853** by 1 November 1979. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

### TWO ASSISTANT PROFESSORSHIPS IN CHEMISTRY

The Chemistry Department of the Johns Hopkins University plans to fill several faculty positions over the next few years, and presently we seek two assistant professors whose research interests lie either at the interface of chemistry with physics or at the interface of chemistry with biology. Some examples include experimental chemical physics, solid-state, biophysical, and bio-organic chemistry. One of these appointments is for the 1980-1981 academic year and the second for the following year. Applicants should (i) send curriculum vitae and a statement of research plans and (ii) arrange for three letters of recommendation to be sent to: **Professor H. J. Silverstone, Chairman, Search Committee, Department of Chemistry, The Johns Hopkins University, Baltimore, Maryland 21218.**

*The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

It is anticipated that an **ASSISTANT RESEARCH ENGINEER** position in the Institute for Pure and Applied Physical Sciences (IPAPS) will become available in October 1979. Applicants should have substantial experience in the fields of laser physics, gas dynamics, quantum electronics, discharge physics, and rare gas-halide excimer laser system. The applicant must also have hands-on experience with analog and digital electronics, high vacuum ( $< 10^{-7}$  torr) systems, and must also be very knowledgeable in the field of high voltage ( $> 2 \times 10^5$  volts) pulse technology (that is, ceramic thyristors, spark gaps, Blumlein transmission lines, Marx banks, saturable reactors, and so forth). Education: Ph.D. in physics or engineering. Salary range: \$19,700 to \$25,900. Send inquiries to: **Barbara E. Stewart, B-029, University of California, San Diego/IPAPS, La Jolla, Calif. 92093.** Only candidates with the above qualifications need apply. No replies will be accepted after 20 September 1979. *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

**BIOCHEMIST** with experience in handling and separation of membrane associated components. Familiarity with immunological techniques is desirable. Will work with researchers interested in genitourinary tumors and with individuals within the Immunobiology Research Center. Reply to: **Dr. Paul Lange, Department of Urology, Box 394, or Dr. Fritz Bach, Department of Laboratory Medicine and Pathology, Box 198, University of Minnesota Medical Center, Minneapolis, Minn. 55455.**

**BIOPHYSICS-BIOCHEMISTRY POSTDOCTORAL POSITION** available winter 1979. Studies on photosynthetic electron transport and energy coupling in plants and algae. Pathways and mechanisms of electron and proton transfer in chloroplasts and reconstituted artificial membranes. Experimental approaches include kinetic spectrophotometry, fluorescence polarization-lifetime, EPR, and DSC. Send curriculum vitae and names of three references to: **W. A. Cramer, Department of Biological Sciences, Purdue University, West Lafayette, Indiana 47907.** *An Affirmative Action/Equal Opportunity Employer.*

**CELLULAR IMMUNOLOGIST.** Tenure-track position, assistant professor level, starting January or September 1980. Teaching duties: undergraduate laboratory course in microbiology annually and graduate course in cellular immunology in alternate years. Expected to develop independent research program and supervise graduate students. Send curriculum vitae, statement of research plans, and names of four references to: **Dr. Peter Abramoff, Biology Department, Marquette University, Milwaukee, Wis. 53233.**

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

### CELL BIOLOGIST

The Department of Biology at the University of California, Riverside, has a faculty position at the level of assistant professor available 1 September 1980. Candidates must have postdoctoral experience and show evidence of ability to develop and sustain a productive, independent, high-quality research program. The department is especially interested in candidates with research experience in biochemical, genetic, and/or electron microscopical approaches to the study of cell ultrastructure, development, cell surfaces, and/or cell interactions. Teaching responsibilities will be in the area of microbiology and cell biology at both the undergraduate and graduate levels. Applicants should provide curriculum vitae, reprints, a brief description of research and teaching interests, and should arrange for at least three letters of reference to be submitted in their behalf. *The University of California is an Equal Opportunity/Affirmative Action Employer. Applications are invited from all qualified individuals, especially women and minority groups.* Address correspondence concerning this position to:

**Professor R. Ruibal, Chairman**  
Department of Biology  
University of California  
Riverside, California 92521

### CHEMICAL ECOLOGIST

The Cary Arboretum of The New York Botanical Garden is seeking a research scientist in chemical ecology. This person will be expected to develop his/her own research program and cooperate in on-going studies of plant-animal interactions and of plant defense mechanisms. Preference will be given to someone interested in North American woody plants. The chemical ecologist will supervise the operation of the existing analytical laboratory which includes a PE 900 Gas Chromatograph, PE 503 Atomic Absorption Spectrophotometer, and a PE 552 UV Spectrophotometer. A Ph.D. is required. Salary is commensurate with qualifications and experience. Nominations and applications are invited. Applicants please send résumé, representative publications, and the names of three to five references to: **Dr. Thomas S. Elias, Cary Arboretum, Box AB, Millbrook, N.Y. 12545.** *The Cary Arboretum of The New York Botanical Garden is an Equal Opportunity/Affirmative Action Employer.*

The Department of Radiological Sciences invites applications for the position of **CHIEF OF NUCLEAR MEDICINE** at the University of California, Irvine Medical Center. This appointment will be at the associate professor or full professorial level.

Applicants must have expertise in clinical nuclear medicine administration, experience in the formulation and implementation of original research, and teaching at both graduate and undergraduate levels. Two resident positions in nuclear medicine are presently funded; the new chief will have the opportunity of designing and directing the residency training program in nuclear medicine. A major extension to the hospital is under construction and will necessitate planning and redesigning the nuclear medicine area.

*Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.* If you are interested in this position please write to the address below, including curriculum vitae and an autobiographical letter.

**Harris S. Moyed, Ph.D., Acting Chair**  
Department of Radiological Sciences  
University of California, Irvine  
Irvine, California 92717

Closing date: 30 September 1979.

The Department of Radiological Sciences invites applications for a position as **NEURORADIOLOGIST** at the University of California, Irvine Medical Center. The appointment will be at the assistant or associate professor level.

Requirements include Board-certification in diagnostic radiology with completion of a fellowship, or equivalent experience, in neuroradiology. Preference will be given to candidates with training in pediatric neuroradiology and those whose bibliographies document original contributions to neuroradiology.

*Minorities and women are encouraged to apply.* Applications from qualified candidates should include curriculum vitae and should be directed to:

**Harris S. Moyed, Ph.D., Acting Chair**  
Department of Radiological Sciences  
University of California, Irvine  
Irvine, California 92717

Closing date: 30 September 1979.

## POSITIONS OPEN

### BIostatistician-Epidemiologist

Assistant professorship offered to a candidate with Ph.D. or equivalent in biostatistics. Support based on long-term training grant and research funds in a medical school department with programs in occupational and environmental medicine.

Functions include: teaching medical students and residents introductory biostatistics, participation in development of experimental designs, and statistical and computer analyses in toxicology and epidemiology.

Experience in the above fields desirable. Applications will be accepted until the position is filled.

*Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.*

Send résumé and names of references to: **Hoda A. Guirgis, Ph.D., Associate Professor, Department of Community and Environmental Medicine, University of California, Irvine, Irvine, California 92717.**

### CHIEF, ILLINOIS STATE WATER SURVEY.

The State of Illinois is seeking a distinguished scientist or engineer with administrative capability to serve as chief of the Illinois State Water Survey, a division of the Institute of Natural Resources. The major facility of the State Water Survey is located on the campus of the University of Illinois at Urbana. The chief is responsible for the scientific and administrative direction of a multidisciplinary organization staffed by about 200 persons. The position requires the ability to deal with relevant agencies at all levels of government.

Education and experience can be in any of the disciplines pertinent to water resources including meteorology/climatology, hydrology/hydraulics, chemistry, and environmental engineering. Please send nominations and expression of interest by 1 October 1979 to: **Search Subcommittee for Chief, Illinois State Water Survey, P.O. Box 232, Urbana, Illinois 61801; telephone: 217-333-0238 or 217-333-2512.** To ensure consideration, a completed application, curriculum vitae, and letters of recommendation should be in the hands of the Search Subcommittee by 1 November 1979. *Illinois is an Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF MICHIGAN

The Department of Neurology at the University of Michigan is now seeking **CLINICAL NEUROLOGISTS** for appointments to the faculty. Two positions are available at the **assistant professor** level; candidates should have demonstrated interest and ability in clinically based research and have some training beyond residency. Two positions are available at the **associate professor** or **professor** level, one with primary interest in research and teaching in the Ambulatory Care Facility and the other as Chief of the Neurology Service at the Veteran's Administration Hospital. Interested individuals should submit a description of their research interests and curriculum vitae to: **Kenneth L. Casey, M.D., Department of Neurology, University of Michigan, Ann Arbor, Mich. 48109.** *A nondiscriminatory, Affirmative Action Employer. Code 400B0.*

**DEVELOPMENTAL BIOLOGIST**, Ph.D., postdoctoral experience desired. We anticipate a tenure-track opening at Swarthmore College beginning in September 1980. Candidates sought whose experience in developmental biology is broad but whose special interest is concerned with multicellular animal development. Responsibilities include teaching in developmental biology and a specialty area (preferably endocrinology), research, and participation in an introductory biology course. Anticipate making appointment at assistant professor level, though higher ranks will be considered for experienced candidates. Send curriculum vitae, statement of interests, three letters of recommendation, and transcripts by 19 October 1979 to: **Dr. John B. Jenkins, Acting Chairman, Department of Biology, Swarthmore College, Swarthmore, Pa. 19081.** *An Equal Opportunity Employer.*

### DIRECTOR OF TISSUE TYPING LABORATORY.

Responsible for histocompatibility testing for kidney transplantation, platelet and leukocyte transfusions, disease associations, and paternity evaluation. Midwest location. Opportunities for research, teaching, and academic appointment. Candidates should have a doctoral degree, a solid foundation in immunology/immunohematology, and management capability. Experience in histocompatibility testing highly desirable but candidates with otherwise outstanding credentials will be considered for training program. Send inquiries to: **Box 246, SCIENCE.**

## POSITIONS OPEN

Central Michigan University is seeking a **DEAN** for the School of Arts and Sciences. Duties commence 1 July 1980. Minimal requirements include: an earned doctorate in a discipline within the school, administrative experience and ability commensurate with the position, teaching experience, and research or scholarly productivity.

**Application:** Letters of application, complete curriculum vitae, and names of five references must be received by 15 September 1979. Send to:

**Professor Calvin Enders**  
Chairperson, Dean's Search Committee  
Box 116, Warriner Hall  
Central Michigan University  
Mt. Pleasant, Michigan 48859

*Central Michigan University is an Equal Opportunity/Affirmative Action Employer. Women and minority persons are encouraged to apply.*

### Simon Fraser University Burnaby, British Columbia, Canada DEPARTMENT OF BIOLOGICAL SCIENCES DIRECTOR OF MASTER OF PEST MANAGEMENT PROGRAM

Applications are invited for the vacant position of director of the Master of Pest Management (M.P.M.) program and related activities at Simon Fraser University.

The appointment will be at the rank of associate professor or professor, with level and salary commensurate with training and experience. The successful candidate should have an established professional and academic reputation in pest management and a current research program in at least one aspect of pestology. Responsibilities will include the development and organization of the M.P.M. program as well as research and teaching in the individual's area of expertise. The position is available immediately, subject to budgetary approval. The current salary range for the associate professor and professor rank is, respectively, \$25,636 to \$41,018 and \$31,552 to \$55,216 per annum.

Applications, including up-to-date curriculum vitae, copies of representative recent publications, and the names of at least three referees, should be sent to: **Dr. M. Mackauer, Chairman, Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia, Canada V5A 1S6,** from whom further information may be obtained. Applications will be received until 31 October 1979 or until the position is filled.

### EVOLUTIONARY ECOLOGIST

To join group with emphasis on behavioral ecology. Preference will be given to candidates who combine theoretical, quantitative, and empirical approaches. Teaching responsibilities include supervision of graduate student research and introductory and advanced ecology courses. Level: assistant professor, tenure-track. Candidates must demonstrate clear evidence of past research productivity and of a promising research program; publications and postdoctoral experience expected.

Send curriculum vitae and names of three references to: **Jerram L. Brown, Department of Biological Sciences, State University of New York, Albany, New York 12222.**

*The State University of New York at Albany is an Equal Opportunity/Affirmative Action Employer. Applications from women, minorities, and handicapped persons are especially welcome.*

### FACULTY POSITIONS MICROBIOLOGY

The Department of Microbiology, Cell Biology, Biochemistry, and Biophysics of The Pennsylvania State University invites applications for several tenure-track positions available at the assistant/associate professor level. Candidates should have a strong background in microbiology; have postdoctoral experience, and be capable of developing an independent research program in microbial physiology, molecular genetics, or immunology. We provide excellent physical facilities, competitive salary, and benefits, and a stimulating research environment. Applications should consist of curriculum vitae, copies of recent publications, a brief but detailed description of research goals, and the names of three or four references. Send applications by 28 September 1979 to: **Dr. R. W. Bernlohr, Department of Microbiology, Cell Biology, Biochemistry, and Biophysics, The Pennsylvania State University, 108 Althouse Laboratory, University Park, Pennsylvania 16802.**

*An Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

The Deep Sea Drilling Project, Scripps Institution of Oceanography, University of California, San Diego, is currently seeking to fill a position for a qualified **EARTH SCIENTIST** as a manager of an ongoing scientific program prior to January 1980. Appointment as chief scientist will be in the academic administration series; salary commensurate with experience. Ph.D. in earth sciences required. Demonstrated ability in research and research planning required. Experience in research management desirable. Please send complete résumé and names of at least five referees to: **Dr. M. N. A. Peterson, Deep Sea Drilling Project, Mail Code A-031, University of California, San Diego, La Jolla, California 92093.** *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

### ELECTRONIC ENGINEER

To participate in research studying structure of macromolecules. Initial responsibilities include operation and maintenance of fluorescence decay and gamma-ray cascade instrumentation and a small computer; also some programming. Available immediately. Hours flexible.

Please respond to: **Dr. Renata Cathou, Department of Biochemistry and Pharmacology, Tufts University School of Medicine, Boston, Massachusetts 02111.**

*An Affirmative Action Employer*

Postdoctoral position open for **ELECTRON MICROSCOPIST** interested in supramolecular, biological structures and who is prepared to use various specimen preparation techniques, for which instruction is provided. Some proficiency in electron microscopy in any biological field is required. Well-equipped laboratory (including STEM); will work in close collaboration on many biological research projects. Send curriculum vitae and names of three references to:

**Professor Edward Kellenberger**  
Department of Microbiology  
Biozentrum, University of Basel  
Klingelbergstrasse 70  
4056 Basel, Switzerland

**ENVIRONMENTAL CHEMISTRY.** Three postdoctoral research associate positions on the environmental chemistry of toxic substances are available starting between October 1979 and June 1980. Projects include: (i) polycyclic aromatic compounds in combustion effluents, ambient air, and marine sediments; and (ii) fates of synthetic industrial organic chemicals in rivers. We are seeking people with a background in analytical chemistry, organic geochemistry, environmental chemistry, or even synthetic organic chemistry. Those interested should send their résumés to: **Professor Ronald A. Hites, School of Public and Environmental Affairs, 400 East 7 Street, Indiana University, Bloomington, Ind. 47405,** and should have three letters on their behalf sent to the above address.

*An Equal Opportunity/Affirmative Action Employer*

**EXECUTIVE DIRECTOR,** Pacific Science Center. Chief administrator of major science/technology museum; 55 full-time staff with \$2 million annual operating budget. Director has responsibility for all fiscal matters, fund raising, personnel, public relations, and membership, as well as the development of programs and exhibits. Individuals should have strong science background with proven administrative and fund-raising abilities. (Science museum experience preferred.) Salary commensurate with experience. Send curriculum vitae to: **A. Dan Ayrault, Chairman, Search Committee, Pacific Science Center, 200 Second Avenue North, Seattle, Washington 98109.** Application deadline: 1 October 1979. *An Equal Opportunity Employer.*

The Department of Chemistry at Purdue University solicits applications for a **FACULTY POSITION** in any area of **analytical chemistry**, effective August 1980. Applicants will be considered at any professional rank. Minimum requirements include a Ph.D. in chemistry and exceptional promise in research and teaching at the undergraduate and graduate levels. Applicants for more senior ranks must have demonstrated distinguished research and teaching abilities. Curriculum vitae, including undergraduate and graduate transcripts for applicants at the assistant professor level, a summary of planned research, and three letters of recommendation should be sent by 1 December 1979 to: **Professor D. W. Margerum, Head, Department of Chemistry, Purdue University, West Lafayette, Indiana 47904.** *Purdue is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

The Department of Chemistry at Purdue University solicits applications for a **FACULTY POSITION** in any area of **inorganic chemistry**, effective August 1980. Applicants will be considered at any professional rank but preference may be given applicants at the assistant professor level. Minimum requirements include a Ph.D. in chemistry and exceptional promise in research and teaching at the undergraduate and graduate levels. Applicants for more senior ranks must have demonstrated distinguished research and teaching abilities. Curriculum vitae, including undergraduate and graduate transcripts for applicants at the assistant professor level, a summary of planned research, and three letters of recommendation should be sent by 1 December 1979 to: **Professor D. W. Margerum, Head, Department of Chemistry, Purdue University, West Lafayette, Ind. 47907.** *Purdue is an Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF CHICAGO FACULTY POSITIONS IN CELL OR TISSUE BIOLOGY

The Department of Biology invites applicants for two faculty appointments from individuals with research interests in cell or tissue biology. Applicants should have demonstrated aptitude to develop independent research programs, and willingness to participate with others in a course in cell and tissue biology for freshman medical students. Send curriculum vitae, bibliography, and reference names and addresses to: **Dr. Hewson Swift, Department of Biology, University of Chicago, 1103 East 57 Street, Chicago, Illinois 60637.**

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

### FACULTY POSITION

The Department of Biochemistry, State University of New York at Buffalo, Schools of Medicine, Dentistry, and Pharmacy, has an opening for an assistant professor in a tenure-track position. Qualifications include a positive, long-term commitment to teaching, a demonstrated proficiency in research, and interest in training Ph.D. candidates. Preference will be given to applicants interested in protein-membrane interactions, protein processing, or supramolecular structures. Complete applications must include curriculum vitae, a statement of long-term research objectives, and preprints or reprints of publications. Applicants should also have three letters of reference sent to:

**Dr. Alexander C. Brownie, Chairman**  
Department of Biochemistry  
State University of New York at Buffalo  
102 Cary Hall  
Buffalo, New York 14214

Applications should be postmarked no later than 30 September 1979.

*An Equal Opportunity/Affirmative Action Employer*

**FACULTY POSITION IN ECOLOGY.** The Department of Zoology, University of Maryland, College Park, invites applications for position in behavioral or evolutionary ecology to become available in August 1980. Rank and salary negotiable. We are seeking person with Ph.D. to teach ecology and vertebrate zoology, at several levels; to direct graduate student thesis and dissertation research; and to be involved in active research with strong experimental approach preferred. Some postdoctoral experience favored, as well as evidence of ability to obtain grant support for own research program. Send curriculum vitae, names of four references, synopsis of research interests, and available reprints by 5 October 1979 to: **Dr. J. David Allan, Chairman, Ecology Search Committee, Department of Zoology, University of Maryland, College Park, Md. 20742.** *An Affirmative Action/Equal Opportunity Employer.*

**INSTRUCTOR—EAST TENNESSEE STATE UNIVERSITY, COLLEGE OF MEDICINE, DEPARTMENT OF PHARMACOLOGY.** Ph.D. with background in medicinal chemistry/mass spectroscopy to assume responsibility as gas chromatography/mass spectrometry operator in clinical pharmacology-toxicology laboratory. Appointee will be expected to participate in the instruction of medical and graduate students. Send résumé and three reference letters to: **Ernest A. Daigneault, Ph.D., Chairman, Department of Pharmacology, East Tennessee State University, College of Medicine, P.O. Box 19,810A, Johnson City, Tennessee 37601.**

*East Tennessee State University is an Equal Opportunity/Affirmative Action Employer, M/F.*

## POSITIONS OPEN

### FACULTY POSITION IN PHYSIOLOGY

The Department of Physiological Sciences in the School of Veterinary Medicine at the University of California at Davis invites applications from qualified individuals for a position in **RUMINANT PHYSIOLOGY**. Appointment level depends on qualifications (assistant professor preferred). Qualifications: Ph.D. degree in physiology or related field. A veterinary degree strongly preferred. Competence and advanced training in ruminant physiology. The candidates must have demonstrated interest, aptitude, and experience in classroom teaching and demonstrated interest and achievement in research. Teaching: professional—lecture and laboratory instruction in the area of ruminant physiology. Lecture and laboratory instruction in other fields of systemic physiology in accordance with departmental teaching responsibilities in the professional curriculum. Graduate—opportunity to instruct graduate students in formal courses and/or individual study in the area of the candidate's interest and competence. Research: the development of a creative productive research program in the field of ruminant physiology is a fundamental and indispensable requirement of the position. Send curriculum vitae, a list of publications, and names of three referees to: **Dr. J. R. Gillespie, Search Committee Chair, Department of Physiological Sciences, School of Veterinary Medicine, University of California, Davis, Calif. 95616.** This position will remain open until filled. *University of California is an Equal Opportunity/Affirmative Action Employer.*

**FACULTY POSITION.** Nontenure-track position in physiology available immediately for Ph.D. or M.D. with 2 years of postdoctoral experience. Candidate must be able to work independently in cardiovascular group and make intracellular measurements in cardiac muscle with ion selective electrodes. Send résumé and two letters of recommendation to: **Dr. C. Eyzaguirre, Department of Physiology, University of Utah College of Medicine, Research Park, Salt Lake City, Utah 84108.** *The University of Utah is an Affirmative Action/Equal Opportunity Employer.* Deadline for applications: 15 September 1979.

### FISH POPULATION BIOLOGIST

Assistant professor (tenure-track) to conduct research on the population biology of freshwater or anadromous fishes, to teach a course on dynamics of populations of wildlife and fish, and to participate in a fisheries field course and an introductory course for nonmajors in wildlife and fisheries. Ph.D. in an appropriate field required. Applicants should send curriculum vitae, abstract of dissertation, transcripts, reprints, a description of their research interests and plans, and names and addresses of three references to: **Search Committee, Division of Wildlife and Fisheries Biology, University of California, Davis, Calif. 95616.** Applications must be received by 15 October 1979. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

**INSTRUCTOR** with teaching experience in clinical physiology for a course aimed at physician assistants. M.D. or Ph.D. preferred. Starting date: 17 September 1979. Temporary position. Candidates should submit curriculum vitae and three letters of reference immediately to: **T. W. Fonville, M.D., City College, Physician Assistant Program, 510 Lenox Avenue-Room 6207, New York, New York 10037.** *City College is an Equal Opportunity Employer.*

### LECTURER IN NEUROPATHOLOGY

The Department of Pathology, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York, is seeking a candidate to join the faculty as lecturer in neuropathology. The position entails the usual teaching, research, and service responsibilities of departmental faculty, with emphasis on diseases of the central nervous system.

The successful candidate must be experienced in diagnostic pathology and eligible for specialty Board-certification by the American College of Veterinary Pathologists. Previous research activity in the neural sciences is essential.

The appointment is available 1 January 1980. Salary is commensurate with background and experience. Application and inquiries should be directed to: **Dr. Robert M. Lewis, D.V.M., Chairman, Department of Pathology, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853.**

*Cornell University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### HEAD, DEPARTMENT OF OCEANOGRAPHY TEXAS A & M UNIVERSITY

The College of Geosciences of Texas A & M University is searching for a head for its Department of Oceanography. Applications are sought from persons with superior records of teaching and research who have demonstrated leadership and administrative abilities. Applicants must be able to qualify for the rank of professor on the academic faculty of the university.

The department offers M.S. and Ph.D. degrees with specializations in biological, chemical, geological/geophysical, and physical oceanography. It has 32 academic faculty and 112 graduate students. Facilities include approximately 63,000 square feet of office, classroom, and laboratory space in a 15-story Oceanography and Meteorology Building on the College Station campus; storage and laboratory space at a nearby research annex; office, shop, and dock facilities at Moody College, Galveston, Texas; the R/V *Gyre*, a 174-foot oceangoing research vessel; the R/V *La Mer*, a 38-foot shelf and coastal research boat; and the DRV *Diaphus*, a two-man research submersible. Annual levels of support are now about \$1.1 million from the state of Texas and \$4.5 million from federal grants and contracts.

*Texas A & M University is an Affirmative Action/Equal Opportunity Employer.*

Applicants should provide curriculum vitae, a list of publications, a statement of teaching and research interests, and three letters of recommendation. Apply to:

Dean Earl Cook  
College of Geosciences  
Texas A & M University  
College Station, Texas 77843  
Telephone: 713-845-3651

**JUNIOR FACULTY POSITION as medical engineer/radiological physicist.** Ph.D. required. Some post-doctoral experience desirable. Applicant should be capable of developing a research program in the area of radiation and radioisotope applications in biology and medicine and directing graduate student research programs. The applicant will be expected to teach courses in the biological effects of radiation and related topics. *Massachusetts Institute of Technology is an Equal Opportunity Employer.* Write to:

Professor Norman C. Rasmussen  
Massachusetts Institute of Technology  
24-102  
Cambridge, Mass. 02139

**MEMBRANE BIOCHEMIST.** An assistant research series position in the Department of Psychobiology, University of California, Irvine, is available to study the molecular mechanisms of synapse formation and specificity. Applicant must have a Ph.D. in biochemistry and extensive postdoctoral experience in membrane protein/enzyme isolation and characterization, and expertise in each of the following: subcellular fractionation of brain, analytical and preparative gel electrophoresis, optical methods for the study of macromolecular conformation and interaction with ligands, electron microscopy, peptide synthesis and sequencing, and immunology. Previous experience in the study of cell-cell interaction would be highly desirable. Salary range: \$17,500 to \$19,200, depending upon experience. Send curriculum vitae, list of publication, and three references to: Carl W. Cotman, Ph.D., Department of Psychobiology, University of California, Irvine, Irvine, California 92717. All qualified candidates welcome; women and minorities are encouraged to apply.

### MEMBRANE BIOLOGIST

The Department of Physiology and Biophysics at the University of Miami, School of Medicine, has an opening at the assistant, associate, or full professor level. We have a preference for a membrane biophysicist or membrane biochemist with research interests at the cellular or molecular level. The individual will be expected to pursue an independent research program and to participate in graduate training and in the teaching of physiology to medical students. Ample time and facilities are available for research. Those with outstanding accomplishments and high promise are encouraged to apply. All inquiries will be considered confidentially. Send curriculum vitae, list of publications, representative reprints of papers, and references to: Faculty Search Committee, Department of Physiology and Biophysics, University of Miami School of Medicine, P.O. Box 016430, Miami, Florida 33101.

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### MICHIGAN STATE UNIVERSITY COLLEGE OF OSTEOPATHIC MEDICINE ASSISTANT DEAN FOR CURRICULUM

The College of Osteopathic Medicine, a state supported osteopathic medical school, seeks candidates for a leadership position in curriculum development and implementation. The assistant dean will be charged with providing leadership to continuing the college's commitment to excellence in medical education for a presently well-managed program with a reputation for innovative education. Reporting to the associate dean for academic affairs, the assistant dean is administratively responsible for educational support services, implementation of basic science and clinical instruction including budgetary preparation and management, and liaison with academic departments. The assistant dean is also responsible for the management of faculty, coordinators, and staff personnel assigned to all interdisciplinary academic programs.

Candidates must have a doctoral degree, with training and/or experience in medical education and administration. Teaching experience in a basic science or clinical discipline of medicine and experience in curriculum development and management are desirable. Candidates should possess academic and professional credentials that would allow an academic appointment at or above the assistant professor level.

Salary is negotiable. Preferred date of appointment is 1 January 1980; nominations or applications for the position, including curriculum vitae and the names of three individuals well acquainted with candidate's work, should be submitted before 15 September 1979 to:

Chairperson of Search Committee  
for Assistant Dean for Curriculum  
Michigan State University  
College of Osteopathic Medicine  
309 East Fee Hall  
East Lansing, Michigan 48824

*Michigan State University is an Equal Opportunity/Affirmative Action Employer.*

### THE UNIVERSITY HOSPITAL

A 540-bed, tertiary care, teaching hospital, located in Suffolk County, Long Island, will open early next year and is currently seeking to fill the following positions:

#### DIRECTOR OF MEDICAL INSTRUMENTATION

The Director of Medical Instrumentation will be responsible for the development and administration of the Bio-Medical Engineering Department for the hospital and related research efforts of the Health Sciences Center faculty. A master's degree in an appropriate field is required; a doctorate is preferred. A minimum of 5 years of responsible administrative and supervisory experience in a related activity is required.

#### TECHNICAL SPECIALIST

The incumbent will supervise the electronic instrumentation section of the Bio-Medical Engineering Department. Provide technical assistance and advice, supervise staff, oversee maintenance, calibration and repair of electronic instrumentation, design electronic circuits, fabricate items. A bachelor's degree in an appropriate discipline is required with 3 years of experience in the design and manufacture of electronic equipment in a hospital or research setting.

#### TECHNICAL SPECIALIST

The incumbent will supervise the mechanical instrumentation section of the Bio-Medical Engineering Department. Provide technical advice and assistance, translate design concepts into prototypes, supervise staff. An associate degree in a technical discipline is required; a bachelor's degree preferred. Three years of experience in design and fabrication of mechanical equipment is required.

Forward résumé, salary history, and a copy of this advertisement to:

Personnel Director,  
University Hospital  
Health Sciences Center  
State University of New York at Stony Brook  
Long Island, New York 11794

*An Equal Opportunity/Affirmative Action Employer*

## ENERGY RESEARCH

Oak Ridge Associated Universities is seeking scientists for its Institute for Energy Analysis. The Institute was established in 1974 to address broad questions of energy policy such as energy supply and demand projections, nuclear siting, biological risks of various energy technologies, and the consequences of alternative energy systems. The multidisciplinary staff, about 30, has been recruited from universities and scientific institutions throughout the world.

The Institute is now staffing two projects—a regional geothermal and energy resource assessment study, and an assessment and evaluation of energy data requirements and economic analysis of energy-related industries.

The positions listed require a Ph.D., 6 to 10 years of experience, and a demonstrated publication record.

**SENIOR RESEARCH GEOLOGIST/GEOPHYSICIST**—Supervise the assessment and evaluation of TVA-area geological survey data in relation to the identification of thermal gradients in the earth's crust and potential low grade geothermal heat sources. Strong orientation toward interpretation of seismic, gravimetric, and magnetic survey data, and experience in identifying major geological anomalies required.

**SENIOR RESEARCH ENGINEER/CHEMIST**—Supervise the analyses and evaluations of various industrial processes related to the use of low-grade geothermal and waste heat, the application of alternative energy resources, and the potential roles for synthetic fossil fuels. Academic training in chemistry, chemical engineering, or industrial engineering with experience in engineering design for industrial processes desired.

**SENIOR RESEARCH ECONOMIST**—Develop, conduct, and supervise the assessment and evaluation of economic data of energy-related industries as it relates to energy system regulation and decision-making. Analyze current Department of Energy data collection procedures in light of economic, technical, and institutional factors and develop appropriate recommendations. Quantitative research skills and experience in use of computers and energy research desired.

Send résumé, salary requirements, and names and addresses of references to:

Employment Office  
Oak Ridge Associated Universities  
P.O. Box 117  
Oak Ridge, Tenn. 37830  
*An Equal Opportunity Employer*



## POSITIONS OPEN

The Deep Sea Drilling Project, Scripps Institution of Oceanography, University of California, San Diego is currently seeking to fill a position for **MARINE SEDIMENTOLOGIST**, Ph.D. level. Strong background in mineralogy and sedimentary petrology is required. This position exists as a project staff scientist, who will engage in project-related and independent scientific research. Appointment anticipated in the assistant through associate professional research series. Salary commensurate with experience. Please send complete résumé and names of at least three referees to: **Dr. David G. Moore, Deep Sea Drilling Project, Mail Code A-031, University of California, San Diego, La Jolla, California 92093. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.**

### MUSEUM DIRECTOR

The Commission of the Louisville and Jefferson County Museum of Natural History and Science is seeking a candidate for the position of museum director. The museum opened in July 1977 and covers 129,000 square feet. The average yearly attendance is 70,000 persons. Candidate should possess a bachelor's degree in natural science, history, fine arts, or humanities with 4 years of professional level experience in administration. Salary negotiable. Interested persons should send curriculum vitae, letters of recommendation, and other supporting information to: **James E. Hardy, Chairman, Museum Commission, 340 East Main Street, Louisville, Ky. 40202. An Equal Opportunity Employer**

### MYCOLOGIST—HAWAII

Assistant professor. Mandatory qualifications: ability to teach courses in general mycology and conduct research related to basic aspects of mycology. Desirable qualifications: experience in electron microscopy. Write for details: **Dr. D. J. C. Friend, Acting Chairman, Department of Botany, University of Hawaii, 3190 Maile Way, Honolulu, Hawaii 96822. An Equal Opportunity/Affirmative Action Employer. Closing date: 15 September 1979.**

### NEUROBIOLOGIST

Faculty position available, 1979 and 1980, for an individual with a research background in vertebrate neurobiology. Preference will be given to applicants in cellular and developmental neurobiology. Investigators with biochemical and electrophysiological as well as anatomical approaches are invited to apply. Please send applications to: **Dr. Donald Fischman, Chairman, Department of Anatomy and Cell Biology, State University of New York, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn N.Y. 11203. Equal Opportunity/Affirmative Action Employer.**

**NEUROCHEMIST-BIOCHEMIST**—Research assistant professor or postdoctoral research associate. Position open for scientist with biochemical experience in CNS amines, amino acids, and peptides and their relation to the metabolism of alcohols, aldehydes, and other endogenous substances. The appointee will work with a team of neuroscientists whose medical research interests center on the brain's mechanisms underlying alcohol and drug problems. Excellent facilities, staff, pre- and post-doctoral students available. Starting date: late 1979-early 1980. Send complete curriculum vitae, including bibliography and names of four references, to:

**John A. Ewing, M.D., Director  
Center for Alcohol Studies  
University of North Carolina at Chapel Hill  
335 Medical School Building, 207H  
Chapel Hill, North Carolina 27514**

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

### NEUROPHYSIOLOGIST UNIVERSITY OF CALIFORNIA SAN FRANCISCO

The Division of Neurobiology, Department of Physiology, seeks applicants for a new tenure-track position as assistant professor. We wish to hire a physiologist investigating integrative aspects of the vertebrate central nervous system, and are particularly interested in those investigating motor systems. *We encourage applications from women and members of minority groups and emphasize that the recruitment is an open one.* Please send curriculum vitae, a brief description of research plans, and three letters of reference to:

**Dr. Zach Hall  
Department of Physiology  
University of California  
San Francisco, Calif. 94143**

## POSITIONS OPEN

### SCIENTIFIC COMMITTEE ON OCEANIC RESEARCH (SCOR)

SCOR/IOC Committee on Climate Change and the Ocean (CCCCO) seeks applications from internationally experienced **OCEANOGRAPHERS** for a 2-year position as scientific secretary. Appointee will be stationed in Paris in UNESCO headquarters of Intergovernmental Oceanographic Commission (IOC) and will work closely with WMO/ICSU Joint Scientific Committee for the World Climate Program as well as with CCCC and national SCOR committees. Basic salary dependent on present position, to be supplemented by post allowance, fringe benefits, moving expenses, and adequate travel allowance. Apply to: **Roger Revelle, Mail Code B-031, University of California, San Diego, La Jolla, Calif. 92093. Telephone: 714-452-4849.**

**PEPTIDE SEQUENCING**—Ph.D. or individual with comparable experience to operate and maintain service facility for peptide sequencing and amino acid analysis. Must have experience in automated peptide sequencing. Opportunity for collaborative research. Salary: \$18,000 per year. Available 1 October. Send résumé and names of three references to: **Dr. D. J. Hanahan, Chairman, Department of Biochemistry, The University of Texas Health Science Center, San Antonio, Texas 78284. An Equal Opportunity/Affirmative Action Employer.**

### PEST MANAGEMENT MODELING

Postdoctoral position available for scientist or engineer with experience in systems analysis and in pest management, population dynamics, or forestry. Prior training in optimization methods, computer science, or economics desirable. Openings available in forest insect management and in alfalfa pest management. Send curriculum vitae, transcript, and names of references to: **Dr. Christine A. Shoemaker, Department of Environmental Engineering, Cornell University, Ithaca, New York 14853.**

### PHYSICAL OCEANOGRAPHY PROGRAM COORDINATOR

Applications and/or nominations are now being received for the position of Physical Oceanography Program Coordinator, College of Marine Studies, University of Delaware. This individual will play the key role directing and developing the physical oceanography program. The individual must be committed to the highest quality of academic excellence and research as well as being capable of developing interdisciplinary programs. This is a tenure-track position with salary and rank compatible with experience. Contact: **Dr. Jin Wu, Chairman, Search Committee, College of Marine Studies, University of Delaware, Newark, Del. 19711. The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.**

### PHYSIOLOGY FACULTY POSITION WEST VIRGINIA UNIVERSITY SCHOOL OF MEDICINE

Tenure-track position available January 1980. Appointment at assistant professor level preferred, but associate professor also possible. Candidates must have postdoctoral research experience and be able to develop strong independent research program. Responsibilities include teaching of graduate, medical, and other health science students. Deadline for receipt of all application materials is 15 October 1979. Send curriculum vitae, brief description of research interests, and three letters of reference to: **Dr. George A. Hedge, Professor and Chairman, Department of Physiology, West Virginia University Medical Center, Morgantown, West Virginia 26506. West Virginia University is an Equal Opportunity/Affirmative Action Employer.**

### PHYTOPLANKTON ECOLOGIST

A postdoctoral position in an interdisciplinary group studying frontal processes in shallow seas will become available (subject to funding) in January 1980. Field experience in continuous sampling methodology, phytoplankton counting, and <sup>14</sup>C productivity measurements essential. Familiarity with automated nutrient analyses and computer programming desirable. Salary: \$16,000 per annum.

Send résumé and names of three references to:

**Dr. Malcolm J. Bowman  
Marine Sciences Research Center  
State University of New York at Stony Brook  
Stony Brook, N.Y. 11794  
Telephone: 516-246-8306/7710**

## POSITIONS OPEN

### DEPARTMENT OF PHYSIOLOGY UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE

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

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

*An Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION.** A postdoctoral position is available immediately to work on various aspects of regulation and control of metabolism in bacteria. This involves study of gene-enzyme interactions, gene expression, isolation and characterization of regulatory elements. Background desirable in bacterial genetics, enzymology, protein and nucleic acid biochemistry. Send curriculum vitae and references to: **Dr. J. S. Gots, Department of Microbiology, School of Medicine, University of Pennsylvania, Philadelphia, Pa. 19104. An Equal Opportunity Employer.**

### POSTDOCTORAL POSITION—BIOCHEMIST

Available for 2-year appointment to study interrelationships between transfer RNA and cancer.

Ph.D. in biochemistry or other related fields with strong background in biochemistry. Salary range: \$11,000 to \$13,000, depending on experience.

Submit curriculum vitae and supporting documentation to: **Personnel Management Branch, COLLEGE OF MEDICINE AND DENTISTRY OF NEW JERSEY—Rutgers Medical School, P.O. Box 101, Piscataway, N.J. 08854. Equal Opportunity/Affirmative Action Employer, M/F.**

**POSTDOCTORAL FELLOW** wanted to study metabolism of polycyclic aromatic hydrocarbons. Background in organic chemistry and biochemistry highly desirable. Position is available for 2 years. Send curriculum vitae and three letters of reference to: **Dr. E. Eisenstadt, Department of Microbiology, Harvard School of Public Health, 665 Huntington Avenue, Boston, Mass. 02115. Harvard University is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN IMMUNOLOGY.** Research involves study of immunologic aspects of multiple sclerosis and experimental allergic encephalitis. Recent Ph.D. in immunology preferred. Write: **Lynn E. Spittler, M.D., University of California Medical Center, San Francisco, California 94143.**

### POSTDOCTORAL POSITION AVAILABLE

Transcriptional control of gene expression, mechanisms of chemical carcinogenesis. Preferred background: recent Ph.D. in biochemistry with experience in nucleic acid and protein research. Salary: \$12,000 to \$14,000, dependent upon experience. Submit résumé and references to:

**Dr. Fu-Li Yu  
Department of Biomedical Sciences  
Rockford School of Medicine  
1601 Parkview Avenue  
Rockford, Illinois 61101**

*An Equal Opportunity/Affirmative Action Employer*

### RESEARCH ASSISTANT PROFESSOR

Ph.D. in metabolic endocrinology required, plus at least 2 years of postdoctoral work in the area of neural/peptidergic control of endocrine pancreas and regulation of glucose and free fatty acid metabolism. Experience with peptide hormone assays and electronics associated with peripheral nerve stimulation very desirable. Send curriculum vitae and three letters of recommendation to: **Daniel Porte, Jr., M.D., VA Medical Center, 4435 Beacon Avenue South, Seattle, Washington 98108. The University of Washington is an Equal Opportunity Employer.**

## Dean, School of Dentistry

The San Francisco campus of the University of California, one of the nine campuses of The University, is devoted entirely to the health sciences with professional Schools of Dentistry, Medicine, Nursing and Pharmacy, plus a Graduate Division awarding advanced degrees within the health sciences. The School of Dentistry is responsible for the undergraduate educational programs leading to the DDS degree, the BS degree in Dental Hygiene and various post-doctoral specialty training programs. Graduate academic work leading to the PhD degree in various basic science fields may also be pursued in the School of Dentistry. The School operates both on and off-campus dental clinics and has a number of hospital affiliations. Facilities for intramural private practice are also available.

Applicants or nominees must be professionally qualified in Dentistry or have earned a doctorate in a health science field related to dentistry, have had administrative, teaching and research experience in a health science related field in a university or similar institution, and present evidence of administrative ability and leadership. The position is open July 1, 1980. The salary is negotiable, commensurate with qualifications.

Send applications or nominations with complete curriculum vitae, bibliography and names of three references to the Search Committee, Chancellor's Office, Room 126, Medical Sciences Building, University of California, San Francisco, CA 94143. Closing date for applications is October 30, 1979.

**UCSF**

An Affirmative Action Employer M/F/H

## TECHNICAL SERVICE SCIENTIST /TECHNICAL SPECIALIST

Ortho Instruments is one of Johnson & Johnson's fastest growing, most dynamic companies. We have grown to be a leader in the development and manufacture of clinical and research laboratory instrumentation.

In these newly created positions, you will be providing marketing and technical support for our Research Instrument Systems. This will involve working with our users to improve their full use and satisfaction with our Flow Cytometry Systems which perform cell analysis and sorting. Specific responsibilities include installations, trouble-shooting, demonstrations, work shops, and most important, assisting in developing new applications for Ortho's Flow Cytometry instrumentation.

An M.S. or Ph.D. in Biological Sciences required. You must be conversant in the fields of cell genetics, immunology, cell biology and cancer cytology. Independent experimental work with flow cytometry as well as experience involving instrumentation of comparable complexity is strongly preferred.

These are excellent opportunities for self motivators with strong interpersonal skills or for someone who is in academia or with related industrial experience with a strong interest in pursuing a career in marketing.

Ortho offers an excellent starting salary/benefits package including health, dental and life insurance as well as a realistic opportunity for professional growth.



**Ortho  
Instruments**

Individuals are invited to send a resume to: DIANE COLETTI, ORTHO INSTRUMENTS, 410 University Avenue, Westwood, Ma. 02090

*A Johnson & Johnson Company*  
an affirmative action employer

## HEALTH SCIENTIST ADMINISTRATOR

### Division of Heart and Vascular Diseases

The National Heart, Lung, and Blood Institute is seeking applicants for the position of Health Scientist Administrator, GS-15 (Starting at \$38,160). The individual selected will serve as Chief of the Cardiac Functions Branch, which is responsible for planning and administering a program of basic and applied research, primarily nonclinical, in the areas of cardiac and circulatory structure and function. Its scope encompasses all forms of cardiac and peripheral vascular disease, exclusive of hypertension and the etiology of atherosclerosis. The staff is involved chiefly in the management of regular and program project grants.

Applicants should have a Ph.D. (or the qualitative equivalent) in a relevant field, extensive postdoctoral cardiovascular research experience, and at least one year of experience in research program administration. The position to be filled is in the career Civil Service. Those interested in being considered for this position should submit a completed Standard Form 171, Personal Qualifications Statement, along with a Curriculum Vitae and Bibliography, to the NHLBI Personnel Office, NATIONAL INSTITUTES OF HEALTH, Public Health Service, 9000 Rockville Pike, Bethesda, Maryland 20205. For additional information, please call (301) 496-6477 and ask for Mr. Lowengart. Applications will be accepted until September 28, 1979. An Equal Opportunity Employer.

**NATIONAL INSTITUTES  
OF HEALTH**

## POSITION AVAILABLE University of British Columbia

## DIVING OFFICER

To be responsible for training, testing, and certification of all university divers engaged in academic activities; equipment monitoring; and monitoring of SCUBA diving activities. Must have NAUI Instructor-level qualifications, or equivalent, with several years of experience; some academic specialization is preferred. Depending on interest, experience, and qualifications, the appointee may be invited to participate on a part-time basis in an appropriate capacity in the School of Physical Education. Salary to \$25,000 per annum, depending on qualifications and experience. Applications, with complete curriculum vitae and names of three persons from whom letters of reference can be obtained, to be submitted not later than 15 October 1979 to: **Dr. R. F. Scagel, Chairman, President's Permanent Committee on SCUBA Diving, c/o Department of Botany, University of British Columbia, 2075 Westbrook Mall, Vancouver, British Columbia, Canada V6T 1W5.**

## POSITIONS OPEN

An NIA POSTDOCTORAL POSITION is now available in the Developmental Psychology/Neurobiology Laboratories at the Andrus Gerontology Center, University of Southern California (USC). Research areas include mechanisms of age changes in (i) basal ganglial function, as monitored by behavioral, electrical, and biochemical parameters, or (ii) behavioral and hormonal aspects of ovarian and circadian rhythms. Contact: Dr. Patrick Randall, Andrus Gerontology Center, USC, Los Angeles, Calif. 90007. Telephone: 213-741-5170.

**POSTDOCTORAL POSITION.** To study the regulation of nitrogenase in photosynthetic bacteria. Experience in enzyme purification desirable. Available 1 October 1979. Salary starts at \$12,700 per year. Send curriculum vitae and two letters of reference to: Paul Ludden, Department of Biochemistry, University of California-Riverside, Riverside, Calif. 92507.

**POSTDOCTORAL POSITION** available immediately for structural and chemical studies of sickle cell hemoglobin fiber formation. Applicants with experience in protein chemistry and electron microscopy will be preferred. The position is available for 1 year in the first instance. Salary is dependent upon experience. Send copy of curriculum vitae and two letters of reference to: Professor M. W. Makinen, Department of Biophysics and Theoretical Biology, The University of Chicago, Chicago, Ill. 60637. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL (RESEARCH ASSOCIATE) POSITION IN COMPARATIVE ENDOCRINOLOGY** available September 1979. Applicant will conduct investigations on the role of the renin-angiotensin and adrenergic nervous system in cardiovascular and renal homeostasis in nonmammalian vertebrates. Opportunities for participating in teaching physiology and in presenting seminars are available. Preference will be given to individuals with work experience in physiology, biology, or chemistry. Salary negotiable, depending on qualifications. Send curriculum vitae, a brief statement of research interest, and names of two references to: Dr. Hiroko Nishimura, Department of Physiology and Biophysics, University of Tennessee Center for the Health Sciences, Memphis, Tennessee 38163. The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL POSITION** available immediately for a Ph.D. to study the degradation of LIPO-SOMES and their encapsulated pharmacological agents. Experience with protein biochemistry desired. Previous experience with liposomes not required. Salary: \$12,000 to \$14,000. Send résumé and two references to: Dr. Karl J. Hwang, Department of Pharmaceutical Sciences, University of Washington, Seattle, Wash. 98195. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION** available now for studies of the molecular mechanisms by which cyclic nucleotide derivatives exert cytotoxic actions on cultured tumor cells. Experience in cell culture and biochemical techniques desirable. Send résumé and two or more references to: Dr. Wesley Wicks, Department of Pharmacology, University of Colorado Health Sciences Center, Box C-236, 4200 East 9 Avenue, Denver, Colorado 80262.

Equal Opportunity/Affirmative Action Employer

**POSTDOCTORAL RESEARCH ASSOCIATE** to join suburban university group investigating immunoglobulin binding and receptors on oocytes and yolk sac tissue. Experience in cell biology or biochemistry required, \$11,000 to \$14,000. Dr. Thomas Roth, Department of Biological Sciences, University of Maryland Baltimore County, Catonsville, Maryland 21228. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL/RESEARCH ASSOCIATE, CANCER CENTER, UNIVERSITY OF LOUISVILLE.** A position for a minimum of 2 years is available immediately at the new Cancer Center of the University of Louisville. The emphasis of the position involved will be the study of intermediary metabolism in normal and tumor-bearing animals. Ph.D. in biochemistry or nutrition is required, with experience in metabolite assays, amino acid determination and metabolism. Previous experience in organ perfusion and protein turnover studies helpful. Salary: \$12,000 per year. Send résumé and names of three references to: Dr. G. de Rosa, M.D., Ph.D., Cancer Center, University of Louisville, Health Sciences Center, P.O. Box 35260, Louisville, Kentucky 40232. The University of Louisville is an Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

### POSTDOCTORAL POSITION

Position available in fall 1979 for research on biochemistry and regulation of nitrogen fixation in *Rhizobium*. Strong background in biochemistry or biochemical genetics is required. Send résumé and three letters of reference to: Plant Growth Laboratory, University of California, Davis, California 95616. An Equal Opportunity Employer.

### RESEARCH ASSOCIATE

Ph.D. biochemist with established research record for studies of biochemistry of root nodule bacteria (*Rhizobium japonicum*). Strong background in biochemistry with specialty in cyclic mononucleotide enzymology preferred; also experience with microbial systems. Please send curriculum vitae and three letters of reference to: Plant Growth Laboratory, University of California, Davis, California 95616. An Equal Opportunity Employer.

**POSTDOCTORAL POSITION** available for research to study aspects of regulation of eukaryotic gene expression. Studies will involve restriction analyses, southern blots, prenatal diagnosis, nucleic acid sequencing, and recombinant DNA technology. A Ph.D. is required; some experience in biochemistry is desirable. Send curriculum vitae and names of three references to: Dr. John T. Wilson, Department of Cell and Molecular Biology, Medical College of Georgia, Augusta, Ga. 30912. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL RESEARCH**—Positions available starting immediately for the study of the biochemistry, pharmacology, and mechanism of action of the phorbol related diterpene ester tumor promoters. Applicants should have a strong background in biochemistry or biochemical pharmacology. Please forward curriculum vitae, three letters of recommendation, copies of publications, and full transcripts to: Personnel Manager, Lifesystems Company, 1254 Chestnut Street, Newton, Mass. 02164. An Equal Opportunity/Affirmative Action Employer.

## POSTDOCTORAL RESEARCH ASSOCIATE

Immediate opening in research group developing techniques for in vivo measurement of elemental composition in human beings. Candidates must hold a Ph.D. in nuclear physics or nuclear engineering, with experience in nuclear resonance and X-ray fluorescence methods and instrumentation, and Monte Carlo computations. Apply to and arrange for three references to be sent to:

Dr. Donald C. Borg, Chairman, Medical Department, Brookhaven National Laboratory, Associated Universities Inc., Long Island, New York 11973.

Equal Opportunity Employer, M/F.

**BROOKHAVEN NATIONAL LABORATORY**



**POSTDOCTORATE IN TOXICOLOGY**—To study pulmonary- and hepatotoxicology. Projects deal with mechanisms of chemically perturbed hepatobiliary function and pulmonary uptake of drugs. Experience with lipid and protein biochemistry and/or in vitro drug metabolism techniques preferred. Toxicology background or interest in toxicology training desired. Mail curriculum vitae and three letters of reference to: Dr. H. M. Mehendale, Department of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, Mississippi 39216. The University of Mississippi Medical Center is an Equal Opportunity Employer, M/F.

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Available immediately for research in gliding motility of prokaryotic cells. Previous experience in biochemistry and bacterial genetics desirable. Salary: \$11,000. Send curriculum vitae, summary of research interest, and names of three references to: Jack L. Pate, Department of Bacteriology, University of Wisconsin, 1550 Linden Drive, Madison, Wis. 53706. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL RESEARCH ASSOCIATE** for investigations on bases for defective melanization and associated immunological defects in avian vitiligo model. Background in immunobiology and/or pigment cell biology. Available immediately. Send résumé and names of three references to: J. Robert Smyth, Ph.D., Department of Veterinary and Animal Sciences, University of Massachusetts, Amherst, Mass. 01003. An Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately to study gene expression in cancer cells. Experience in nucleic acid and protein biochemistry is desirable but not essential, \$12,000 per year initially. Send curriculum vitae to: Dr. Jen-Fu Chiu, Department of Biochemistry, University of Vermont, College of Medicine, Burlington, Vermont 05405.

**POSTDOCTORAL RESEARCH NEUROPHYSIOLOGIST** for electrophysiological investigations related to learning in mammalian brain. Prior experience with single neuron recording and programming of laboratory computer preferred. Send curriculum vitae and detailed résumé of neurophysiological training and research to: Dr. Norman M. Weinberger, Department of Psychobiology, University of California, Irvine, Calif. 92717. The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.

### FULL PROFESSOR OCCUPATIONAL HEALTH ENGINEERING

To fill joint appointment in a College of Medicine and School of Engineering and to assume the associate directorship of a new center for Occupational Health and Safety.

Qualifications will include an engineering degree and earned doctorate. A high level of achievement in research, teaching, and administration with current active research programs are essential. Experience at governmental policy levels in occupational health and safety highly desirable. Applications will be accepted until the position is filled. Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.

Please send curriculum vitae, a statement of current research interests, and the names of three or more references to:

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

### RESEARCH ASSOCIATE HUMAN TUMOR BIOLOGY

A postdoctoral research associate position is available in the laboratory of Dr. Sydney Salmon for studies of factors influencing the growth of clonogenic tumor stem cells from fresh biopsies of human cancers. Candidates with strong academic background and experience in experimental hematopoiesis and tissue culture preferred. Send résumé and three references to: Dr. Sydney E. Salmon, Director, Cancer Center, University of Arizona College of Medicine, Tucson, Ariz. 85724. Equal Opportunity/Affirmative Action Employer.

**RESEARCH ASSOCIATE.** To perform all technical, supervisory, and administrative duties of diversified clinical and research laboratory. Knowledgeable in the use of radioisotopes, AA spectrophotometer, column chromatography, care of research animals, preparation of chemical solutions and micromethods used in neonatal setting, and so forth. Salary open. Send résumé to:

Director of Personnel  
Personnel Department  
Louisiana State University Medical Center  
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## CHEMIST-G.C.-M.S.

The Analytical Research Section of our Corporate Research and Development Division has an opening for a Chemist experienced in G.C.-M.S. The ideal candidate will have a Ph.D. degree in organic or analytical chemistry, three to five years industrial experience, experience on a Finnigan Series 4000 G.C.-M.S.-D.S. and interest in, and an aptitude for, assuming increasingly responsible assignments. A high degree of initiative, above average communication skills, and mechanical and electronic aptitude will be additional assets.

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## General Motors Research Laboratories

### The Transportation and Traffic Science Department of the General Motors Research Laboratories has openings for:

Ph.D. Transportation Engineers, Transportation System Engineers, Planners, Economists, Statisticians, and Physical Scientists with backgrounds and interests in transportation system and policy analysis, traffic flow theory, micro-economics, econometrics, operations research or applied statistics.

Successful candidates would contribute to on-going projects on automobile usage, freight transportation, highway financing, traffic safety and efficiency, energy consumption, and driver behavior. Applicants must demonstrate the ability to conduct research and communicate results effectively.

Interested professionals with U.S. Citizenship or Visa Status that permits legal acceptance of permanent employment under U.S. Immigration Laws, should send their resume to:

**Mr. William H. Spritzer**  
Head, Transportation & Traffic Science  
Research Laboratories/GM Technical  
Center  
Warren, Michigan 48090

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## U.S. ENVIRONMENTAL PROTECTION AGENCY

### The Environmental Sciences Research Laboratory,

Environmental Protection Agency, located in Research Triangle Park, North Carolina, currently has openings for candidates with academic degrees in engineering and the physical sciences to conduct research to detect, define and quantify air pollution and its effects on urban, regional, and global atmospheres. It is desirable that candidates have some experience in air pollution research and possess good verbal and written communication skills.

Salaries range from \$19,263 to \$32,442 commensurate with experience. The positions are in the Federal Civil Service with the customary fringe benefits.

Send resumes to:



# EPA

Administrative Officer  
Environmental Science Research  
Laboratory, MD-59  
Research Triangle Park, N.C. 27711

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## POSITIONS OPEN

**POSTDOCTORAL IN ENVIRONMENTAL MICROBIOLOGY** (research associate). Must have demonstrated interests in environmental/aquatic microbiology; \$11,000 per year on 2-year grant. Start 1 November 1979. Contact: Dr. R. J. Seidler, Department of Microbiology, Oregon State University, Corvallis, Oregon 97331. *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

### SYDNEY—AUSTRALIA UNIVERSITY OF NEW SOUTH WALES PROFESSOR SCHOOL OF CHEMICAL ENGINEERING

Salary: A\$34,119 per annum. Details relating to this chair, together with details of application procedure, superannuation, and conditions of appointment are available from: Senior Academic Appointments Unit, P.O. Box 1, Kensington, New South Wales 2033, Australia.

Applications close 30 November 1979.

**RESEARCH POSITIONS** (two) available immediately for research on the interaction between ultrasound and biological tissues and blood. Background in biochemistry, physiology, and biological structures preferred. Salary: \$12,000 to \$25,000 depending on experience and ability to do independent work. Initial appointments will be for 1 year and may be extended. Send curriculum vitae and two references to: Dr. J. M. Reid, Institute of Applied Physiology and Medicine, 701 16th Avenue, Seattle, Washington 98122, or telephone: 206-442-7330.

### SENIOR ENVIRONMENTAL MODELER

Multimedia modeling and environmental assessment effort seeks an individual with experience in use/development of computer-based mathematical models for multimedia, atmospheric, terrestrial, or aquatic environments. Advanced degree in applied mathematics or environmental science/engineering. Background in chemistry, biochemistry, or biology. Prior managerial responsibility for multidisciplinary teams desirable. Salary commensurate with qualifications. Submit résumé, salary history, and references to:

**UPGRADE Project**  
Sigma Data Computing Corporation  
2021 K Street, NW, Suite 207  
Washington, D.C. 20006  
Attention: Laurence Milask

### ZOECON CORPORATION SENIOR FORMULATION CHEMIST

Zoecon, a leader in innovative agri-chemical research, seeks a senior formulation chemist of proven ability to execute all chemistry-related phases in development of novel agri-chem and specialty products for pest control. Experience in microencapsulation and controlled release systems is preferred. Submit detailed résumé in confidence to: Margret Heath, Zoecon Corporation, 975 California Avenue, Palo Alto, Calif. 94304. *An Equal Opportunity Employer.*

### VETERINARY PATHOLOGIST

A position is immediately available for a D.V.M. pathologist to become part of a multidisciplinary research team engaged in a program related to problems of high national priority in food safety, nutrition, natural toxicants, and environmental contaminants. Participation in research planning is expected, and opportunity to develop lines of investigation based on special interest is encouraged. Board-certification or -eligibility is desirable. Experience in rodent pathology would be advantageous. Attractive fringe benefits with this Civil Service position located in the San Francisco Bay area. Salary and grade commensurate with experience and qualifications. Please forward curriculum vitae to:

**Bonnie Price**  
U.S. Department of Agriculture  
Western Regional Headquarters Staff  
Employment and Placement Section  
1333 Broadway, Suite 400  
Oakland, Calif. 94612.

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## POSITIONS OPEN

**PERMANENT RESEARCH POSITION.** The Illinois Natural History Survey has an opening in pollution research beginning in early 1980. The successful applicant will be expected to work with either atmospheric or soil pollutants, except pesticides. The exact area of research is open but it should involve crop plants. A Ph.D. degree or equivalent, with evidence of significant experience, is required. The position will be at a level equivalent to assistant/associate professor.

Submit your application, which should include curriculum vitae, the names of four references, a brief statement of research interests and goals, and reprints of published research. Your application should be sent to: Dr. Claus Grunwald, Head, Section of Botany and Plant Pathology, Illinois Natural History Survey, 172 Natural Resources Building, Urbana, Illinois 61801, by 1 November 1979.

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**SENIOR RESEARCH ASSISTANT** (electron microscopist). B.S. in chemistry/physics; specialized training in electron microscopy; minimum of 5 years of related experience. Design, construct, service, and supervise electronic and electron microscopy equipment, and participate in government-funded biological research, 40 hours per week; salary: \$15,000. Send résumé to: St. Louis University Medical Center, Personnel Services, 3556 Caroline Street, St. Louis, Mo. 63104. *Equal Opportunity Employer, M/F/H.*

## SYMPOSIUM

**BRAIN BIOCHEMISTRY AND BEHAVIOR** is the title of the third annual CIBA-GEIGY DREW Symposium on Frontiers in Biomedical Research to be held 25 October 1979 at Drew University. This year's awardees and symposium speakers are Dr. Paul Greengard of Yale and Dr. Seymour Kety of Harvard. Moderating the afternoon symposium will be Dr. Julius Axelrod of NIMH. Address inquiries to: Frontiers in Biomedical Research, Drew University, Madison, New Jersey 07940.

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIP.** Position available for 2 to 3 years for Ph.D. or M.D. interested in the biology of endogenous C-type viruses. Send curriculum vitae to: Dr. Christoph Moroni, Friedrich Miescher-Institut, P.O. Box 273, CH-4002 Basel, Switzerland.

**POSTDOCTORAL FELLOWSHIP** available for a study of endocrine responsive rat mammary cancer and apothogenesis of plasmacytomas. Applicants should possess basic biochemical or immunological and tissue culture techniques. Send curriculum vitae and three references to: Research Institute, HOSPITAL FOR JOINT DISEASES AND MEDICAL CENTER, 1919 Madison Avenue, New York, N.Y. 10035. *An Equal Opportunity Employer, M/F.*

### FELLOWSHIP AVAILABLE

A RESEARCH ASSOCIATESHIP is available immediately for developmental and experimental work in biological applications of 1 MeV electron microscopy. Major projects currently in progress include the activation and evaluation of a recently completed helium-cooled cryostage for the direct observation of frozen hydrated specimens and completion of a novel electronic imaging system. A Ph.D. degree is required and background in physics, biophysics, and/or biology is preferred. Specialized experience is expected in electron microscopy, cell biology, cryogenics, electronics, and minicomputer interfacing. Appointment is for 1 year with possibility of renewal. Salary commensurate with experience. Qualified applicants with good references should send curriculum vitae and arrange for three letters of recommendation to be sent to: Professor M. Fotino, Laboratory for High-Voltage Electron Microscopy, Department of Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder, Colorado 80309. *An Equal Opportunity/Affirmative Action Employer.*

## FELLOWSHIPS

**ENDOCRINOLOGY METABOLISM DIABETES RESEARCH FELLOWSHIPS.** NIH postdoctoral fellowships for research training in endocrinology, metabolism, and diabetes with an option for one or more years of clinical training for qualified applicants are available at the Mayo Clinic-Mayo Graduate School of Medicine. For further information write to: Colum A. Gorman, M.D., or John E. Gerich, M.D., Mayo Clinic, Rochester, Minnesota 55901.

*Mayo Foundation is an Equal Opportunity/Affirmative Action Institution.*

**POSTDOCTORAL FELLOW.** An immediate opening is available for a recent Ph.D. biochemist with experience in: (i) in vitro translational systems, and/or (ii) purification and characterization of phosphatases and phosphokinases. The person chosen will have the opportunity to interact with several interdisciplinary groups and the fellowship will run for 2 to 3 years. All interested candidates should send a résumé and names of three references to: Dr. George Thomas, Friedrich Miescher-Institut, P.O. Box 273, CH-4002 Basel, Switzerland.

## TRAINEESHIPS

### NEURAL AND BEHAVIORAL SCIENCES THE UNIVERSITY OF IOWA

Postdoctoral traineeships for research in neural and behavioral sciences are available in anatomy, pharmacology, physiology and biophysics, psychology, zoology, and related disciplines through a university Program in Neural and Behavioral Sciences. Send curriculum vitae, list of references, and statement of research interests to: Neural and Behavioral Sciences Committee, 201J Gilmore Hall, The University of Iowa, Iowa City, Iowa 52242. *An Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL TRAINEESHIPS IN NEUROBIOLOGY

Traineeships are interdisciplinary, but the specific project undertaken will relate to ongoing research. Current areas of investigation include: interhemispheric transfer of visual information in split-chiasm macaques; analysis of single-unit activity in striate cortex in relation to detectability of electrical microstimulation; morphology of and role of surface specific compounds in normal and abnormal cerebellar development; myelin regeneration, morphology, and function; neuropeptides and membrane receptors; physiology of echolocation. Stipend: \$10,400 per year for up to 3 years. Send curriculum vitae and three reference letters to: Traineeships, Center for Brain Research, Box 605, University of Rochester Medical Center, Rochester, N.Y. 14642.

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## STAFF FELLOWSHIP

The Clinical Branch, National Eye Institute, offers a Staff Fellowship in the Retinal and Ocular Connective Tissue Diseases Section. Applicants should be M.D.'s who have completed a certified ophthalmology residency program and may have up to four additional years of training and experience. In addition, applicants must be U.S. citizens or resident aliens who would be eligible for citizenship within four years. Activities would include major effort with the Early Treatment Diabetic Retinopathy Study (ETDRS) Center, clinical studies in macular and retinal degeneration and laboratory training and experience. The initial appointment will be made for 2 years with possible extensions. Salary ranges from \$22,000 to \$37,500 and would be commensurate with the level of training and experience.

Interested persons should send curriculum vitae no later than December 1, 1979, to Karen M. Wright, Deputy Personnel Officer, National Eye Institute, National Institutes of Health, Public Health Service, Bethesda, Maryland 20205. Phone (301) 496-4274 for further information. Equal Opportunity Employer.

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Applicants with real interest in both basic research and its applications should send their curriculum vitae (with a description of previous experience and a list of publications) to BIOGEN Laboratory, 3 Route de Troinex, 1227 Geneva, Switzerland.



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We are seeking a Scientist or Engineer with electrochemical job experience, or with graduate or postdoctoral experience in electrochemistry, for pioneering research in a rapidly moving and exciting field of chemistry and materials science. The work will be interdisciplinary and creative in character, including both exploratory and fundamental research. It will involve the initiation, implementation and direction of both applied and long-range research programs in electrochemistry.

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Resumes may be sent in confidence to:

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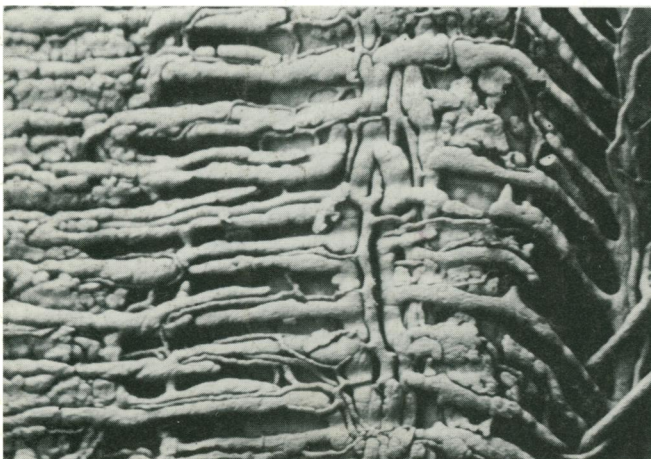
**Exposure Index 6400 through improper development!** Let us have no protests—not one peep—if you expose Kodak Ektachrome 400 film at E.I. 6400 and get poor results. People who have invested years of their lives in bringing the product to market-readiness shudder. Complaints about color quality hurt them. They foresee pathetic attempts to depict one's sweetheart's complexion by the pure light of the planet Venus. They know how easily a mis-treated emulsion can slide from the film base into the sink. But these are just two shots of a series by an accomplished biological photographer of an event that's all over in 5 seconds. They depict cerebral blood flow in an animal. They were made by little more than fluorescence from the blood stream itself, respectively 1.72 sec and 3.66 sec after intracarotid injection of 1.6 mL of 1% sodium fluorescein. In the second shot the venous circulation has already lit up. Filtering is chosen to illuminate almost exclusively by blue light and to permit very little of it to reach the film. In conversation the photographer speaks pleasantly enough of E.I. 6400. That's his privilege. We tell you: *the speed of Kodak Ektachrome 400 film is ASA 400.* That's the exposure index for normal development and best results.

## Atrocities in color photography, but admirable

One can learn a lot about making photography do one's bidding by reading the *Journal of the Biological Photographic Association* and even more by becoming friends with its coterie of contributors. "Fluorescein angiography of the brain—the photographic procedure" is to be found in the April, 1978 issue (46:2); "Preparation of multicolored slides from black-and-white light and electron micrographs," in the January, 1979 issue (47:1). The Biological Photographic Association's address is P.O. Box 2603, West Durham Station, Durham, N.C. 27705.



**Color pencilled in. Quite, quite artificial!** On the other hand, color has no reality in scanning electron microscopy but can have meaning if the meaning is assigned arbitrarily. A slide like the picture on the left is not very instructive on the screen in a lecture hall. By the technique of corrosion casting (liquid methyl methacrylate injected into the circulation, then tissue dissolved away), it depicts the interdigitating vasculature in a fish gill. What's coming and what's going? Now if the lecturer has used a few of those transparent-ink pens with which students study their textbooks and with them has hand-colored differently the various elements of the vasculature on an 8" x 10" black-and-white print of the SEM, which is then rephotographed on color film to make the slide, comprehension comes more readily.



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K. R. Olson, Indiana U. School of Medicine