

# Book Us Into Your Spring Schedule

Seventeen selected symposium volumes are now being offered at a special, reduced price.

☐ **Separation and Depression**  
Edited by John Paul Scott and Edward C. Senay. 256 pages, 1974.  
Was \$19.95      **Reduced to \$12.00**

☐ **The Maturing of American Science**  
Edited by Robert H. Kargon. 250 pages, 1974.  
Was \$15.95      **Reduced to \$6.00**

☐ **Research in the Antarctic**  
Edited by Louis O. Quam. 784 pages (oversized map included), 1971.  
Was \$24.95      **Reduced to \$13.00**

☐ **Apollo 11 Lunar Science Conference**  
Papers presented at the Lunar Science Conference, Houston, Texas. 336 pages, 1970.  
Was \$14.00      **Reduced to \$9.00**

☐ **Biology of the Mouth**  
Edited by Philip Person. 320 pages, 1968.  
Was \$10.00      **Reduced to \$7.00**

☐ **Folk Song Style and Culture**  
Edited by Alan Lomax. 384 pages, 1968; second printing 1971.  
Was \$16.75      **Reduced to \$10.00**

☐ **Ground Level Climatology**  
Edited by Robert H. Shaw. 408 pages, 1967; second printing 1970.  
Was \$12.50      **Reduced to \$6.00**

☐ **Agriculture & the Quality of Our Environment**  
Edited by Nyle C. Brady. 476 pages, 1967; second printing 1970.  
Was \$13.50      **Reduced to \$8.00**

☐ **Civil Defense**  
Edited by Henry Eyring. 136 pages, 1966.  
Was \$4.00      **Reduced to \$3.00**

☐ **Environmental Variables in Oral Disease**  
Edited by Seymour J. Kreshover and F. J. McClure. 328 pages, 1965.  
Was \$8.75      **Reduced to \$6.00**

☐ **Science in Japan**  
Edited by Arthur H. Livermore. 475 pages, 1965.  
Was \$13.00      **Reduced to \$8.00**

☐ **Air Conservation**  
The Report of the AAAS Air Conservation Commission. 348 pages, 1965; third printing 1970.  
Was \$8.00 casebound, \$4.95 paperbound;  
**Reduced to \$4.00 casebound, \$2.00 paperbound.**

☐ **Arid Lands in Transition**  
Edited by Harold E. Dregne. 538 pages, 1965; third printing 1970.  
Was \$15.75      **Reduced to \$9.00**

☐ **Mechanisms of Hard Tissue Destruction**  
Edited by Reidar F. Sognnaes. 695 pages, 1963.  
Was \$13.00      **Reduced to \$8.00**

☐ **Oceanography**  
Edited by Mary Sears. 654 pages, 1961; fifth printing 1969.  
Was \$14.75      **Reduced to \$8.00**

☐ **Symposium on Basic Research**  
Edited by Dael Wolfle. 281 pages, 1959.  
Was \$3.00      **Reduced to \$2.00**

☐ **System of Units**  
Edited by Carl F. Kayan. 295 pages, 1959.  
Was \$6.75      **Reduced to \$5.00**

## ORDER FORM

Please send the following at the reduced prices:

☐ Separation and Depression—\$12.00  
☐ The Maturing of American Science—\$6.00  
☐ Research in the Antarctic—\$13.00  
☐ Apollo 11 Lunar Science Conference—\$9.00  
☐ Biology of the Mouth—\$7.00  
☐ Folk Song Style and Culture—\$10.00  
☐ Ground Level Climatology—\$6.00  
☐ Agriculture & the Quality of Our Environment—\$8.00  
☐ Civil Defense—\$3.00  
☐ Environmental Variables in Oral Disease—\$6.00  
☐ Science in Japan—\$8.00  
☐ Air Conservation (CB)—\$4.00  
☐ Air Conservation (PB)—\$2.00  
☐ Arid Lands in Transition—\$9.00  
☐ Mechanisms of Hard Tissue Destruction—\$8.00  
☐ Oceanography—\$8.00  
☐ Symposium on Basic Research—\$2.00  
☐ Systems of Units—\$5.00

TOTAL AMOUNT ENCLOSED \_\_\_\_\_

Check or Purchase Order must accompany all orders.  
**DO NOT SEND CASH.**

Name \_\_\_\_\_

Address \_\_\_\_\_

State/Zip \_\_\_\_\_

Mail to:



AAAS Dept. J1  
1515 Massachusetts Ave., N.W.  
Washington, D.C. 20005

(Please allow 6 to 8 weeks for delivery)

# Personnel Placement

Personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, or handicap.

**Positions Wanted:** 40¢ per word; \$4 extra for use of box number. \$10 minimum charge, per insertion. Prepayment required. This rate is available only to individuals; personnel agencies, companies, colleges, and universities take display rate for all advertising.

**Display (Positions Open, Market Place, and so forth):** \$5.80 per millimeter; \$145 minimum charge, per insertion (covers 25 millimeters on single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads under 1.03 millimeters (4 inches). No cash discount. Prepayment required for foreign advertising. Purchase orders and billing information required for all other ads.

SCIENCE is published weekly, on Friday. Copy must be received in writing by Wednesday, 3½ weeks before Friday issue date required. Send copy for all positions wanted ads and display ads under 5 inches 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:

Box (give number)  
SCIENCE  
1515 Massachusetts Ave., NW  
Washington, D.C. 20005

## POSITIONS WANTED

**Administrator** with master's, in health care setting for 5 years, seeks greater direct program development and service orientations. Experience in large medical school department in Midwest includes: special projects, management, evaluation, budget planning and management, affirmative action, personnel, payroll, purchasing, grants, management and negotiations, travel, S & E, private practice. Box 91, SCIENCE. 4/28; 5/26

**Botanist/Phycologist/Ecologist.** Experienced in marine and freshwater algal-phytoplankton taxonomy and ecology, including primary productivity. Ph.D.; publications. Seeks academic/industrial position. Box 119, SCIENCE. 4/28; 5/19

**Chemist.** M.S. Experience in analytical toxicology, marine and analytical chemistry. Broad background in AA, GC, GC/MS, and electrochemistry. Seeking challenging position in government, university, or private firm, anywhere. Box 126, SCIENCE. X

**Earth Scientist.** Employment interests, credentials, and ice-sheet-tectonics synthesis are detailed in SUBDUE THE EARTH (Delacorte). R. F. Walworth, P.O. Box 11711, St. Petersburg, Fla. 33733. Telephone: 813-360-4947. 4/28; 5/5, 12, 19, 26; 6/2

**Medicinal Chemist.** Ph.D. 1973. Substantial industrial experience since 1960. Three years of academic experience. Medicinal research background is in betalactam antibacterials, antihypertensives, and antitumor agents. Ten publications. Background includes biochemistry and microbiology. Professionally active; elected officer of various societies. Seeking an academic position where enthusiasm for both teaching and research is expected. Box 151, SCIENCE. X

**Patent Agent/Biological Sciences.** As a scientist (ABD-biophysics; B.A. chemistry) and a registered U.S. patent agent, am looking for special type of employment, and have special skills to offer: extensive biophysics, biochemistry, and molecular biology training; detailed experience with physical methods and research laboratory instrumentation; working knowledge of electronics; familiarity with biomedical, clinical laboratory, and nuclear instrumentation. Seeking position in which scientific acumen needed to appreciate advances and translate them into effective patent protection. Box 152, SCIENCE. X

## POSITIONS WANTED

**Microscopist.** M.S. Microscopic anatomy. Extensive experience in all aspects of TEM and light microscopy of biological tissues. Image analysis, optical diffraction, and image reconstruction. Broad background in microbiology, molecular and cellular biology, and biochemistry. Professional photographic and graphic arts skills. Teaching experience in electron and optical microscopy. Desires stable position. Immediate availability. Box 149, SCIENCE. X

**Pharmacologist.** Ph.D. Postdoctoral, teaching, and research experience. Strong background in gastrointestinal and hepatic pharmacology, biological transport, and drug toxicity studies. Publications. Seeks industrial, government, or academic position. Box 128, SCIENCE. X

**Science Editor:** M.S. (physiology). Experienced, efficient, free-lance. Biochemical, biological, medical manuscript preparation and review. Box 150, SCIENCE. X

**Toxicologist/Biochemist/Neurochemist—Ph.D.** Experienced in proteins, enzymes, isozymes, receptors, drugs, and pesticides. Many publications. Extensive research, teaching, and supervisory experience. Wide experience in analytical instrumentation, biochemical, toxicological, and immunological techniques. Desires industry, government, institute, or academic position. Available immediately. Box 148, SCIENCE. 4/28; 5/12

## POSITIONS OPEN

### UNIVERSITY OF CALIFORNIA, BERKELEY ASSISTANT INTEGRATED PEST MANAGEMENT SYSTEMS ANALYST

Research position for a Ph.D. with training and experience in the use of mathematical optimization techniques applicable to programs in integrated pest management or similar systems. The assignment stresses implementation procedures in pest management, and will require effective interaction with research and extension staffs from various disciplines, including entomology, plant pathology, nematology, weed science, crop production, economics, and engineering. Position available 1 September 1978. Send full curriculum vitae, official transcripts, copies of all publications or manuscripts, and names of three references by 15 June 1978 to: **Dr. Robert van den Bosch, Chairman, Division of Biological Control, University of California, 1050 San Pablo Avenue, Albany, Calif. 94706.** *Equal Opportunity/Affirmative Action Employer. Women and minority candidates urged to apply.*

**ASSISTANT/ASSOCIATE PROFESSOR—**Department of Osteopathic Sciences. Candidate must possess Ph.D., with background in biomechanics. Will teach and perform research in new aspects of biologic mechanics as related to disease. Send curriculum vitae to: **Charles Steiner, D.O., Chairperson, Department of Osteopathic Sciences, College of Medicine and Dentistry of New Jersey, New Jersey School of Osteopathic Sciences, P.O. Box 55, Piscataway, N.J. 08854.** *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR POSITION IN ANATOMY.** Medical school full-time faculty to participate in the existing medical anatomy courses and advanced courses for graduate students. An active research program, preferably in ultrastructure, is highly desired. Salary negotiable, depending on qualifications and experience; starting 1 January 1979. Send résumé and three letters of recommendation to: **Dr. P. G. Iatridis, Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408.** *Indiana University is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR: BIOCHEMISTRY

The Department of Biochemistry at the University of North Carolina invites applications for a tenure-track position of assistant professor, to start September 1978. Candidates should have at least 3 years of postdoctoral experience and demonstrated ability in teaching and research. Preference will be given to applicants experienced with the enzymology of protein synthesis or of nucleotide metabolism. Send application, including curriculum vitae and three letters of reference by 15 May 1978 to: **Chairman, Department of Biochemistry, University of North Carolina, Chapel Hill, N.C. 27514.** *Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR OF BIOLOGY, Ph.D.** Permanent position beginning 16 August 1978. Broadly trained biologist with advanced training in microbiology and botany. Duties include teaching general biology, botany, other basic courses, and certain courses in microbiology for new microbiology program. Salary: \$11,500 to \$12,500. Small teaching university, but research funding from outside sources definitely encouraged. Send curriculum vitae, three letters of recommendation, and transcripts to: **Dr. Portia U. Ashman, Chairperson, Department of Biology, Xavier University of Louisiana, New Orleans, Louisiana 70125.** *Xavier University is an Equal Opportunity Employer. Applications from minorities and women are especially welcome.*

### RUTGERS UNIVERSITY ASSISTANT PROFESSOR OF BOTANY TENURE-TRACK, BEGINNING 1 JULY 1978

The Department of Botany has an opening for a botanist. We are interested in someone who has excellent training in fundamental botany and who has experience in horticulture. Preference will be given to such candidates who do research in developmental botany and who might play a major role in our electron microscope facility. Other specialties will be given careful consideration and are not to be discouraged from applying.

The principal duties will include teaching and supervision of general horticulture and general horticulture laboratory. Some involvement in general biology or similar elementary botany course will be expected during the fall or spring semester.

The applicant will be expected to conduct research and publish the results. Opportunities will exist to develop a course in his or her specialty. The applicant must participate in work with graduate students.

Applicants should send a letter of application, curriculum vitae, and have three confidential letters of recommendation sent directly to: **Dr. John H. Crow, Chairman, Department of Botany, Rutgers University, Newark, New Jersey 07102.**

Applicants should have all materials sent to us as soon as possible. Teaching duties will begin approximately 1 September 1978.

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

**ASSISTANT PROFESSOR, MICROBIOLOGY,** to begin August 1978. Ph.D. qualified to teach introductory and advanced microbiology courses and freshman biology. Desirable advanced courses include medical microbiology, epidemiology, microbial ecology, and microbial physiology and genetics. Tenure-track position. Application deadline: 1 June 1978. Send brief statement of teaching and research interests, curriculum vitae, transcripts, and three letters of recommendation to: **Dr. Jerry W. Warner, Biological Sciences, Northern Kentucky University (NKU), Highland Heights, Ky. 41076.** *An Equal Opportunity/Affirmative Action Employer. NKU is in the greater Cincinnati area.*

### ASSISTANT PROFESSOR OF PATHOLOGY

The candidate should be an academically trained pathologist and must be Board-certified in anatomic pathology. He/she must have had experience in teaching medical students and residents as well as research experience resulting in several publications in reputable journals. Experience and interest in diagnostic electron microscopy is highly desired. Please reply to: **Chairman, Pathology Department, Temple University School of Medicine, Philadelphia, Pa. 19140.** *An Equal Opportunity/Affirmative Action Employer.*

### BIOCHEMISTRY FACULTY POSITION

The Department of Biochemistry, Eastern Virginia Medical School, invites applications for an assistant or associate professorship in a growing research environment. Candidates should have a demonstrated ability to successfully initiate and develop research projects, as well as participate in teaching of medical students. Applicants should send curriculum vitae and the names of three references to: **Dr. Karl A. Schelleng, Department of Biochemistry, Eastern Virginia Medical School, 700 Olney Road, Norfolk, Virginia 23501,** no later than 1 July 1978.

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

### DEPARTMENT OF PSYCHOBIOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

Position anticipated at level of **ASSISTANT PROFESSOR**. Preference will be given to area of synaptic transmission; particular interests might include regulation of catecholamine metabolism, small peptide neurotransmitters, and so forth. A multidisciplinary approach is preferred and candidates should have strong background in biochemistry, emphasizing this approach in research. Postdoctoral experience desired. Applicants should submit curriculum vitae, references, publications, and a detailed statement of research plans for the next 3 to 5 years to: **Chair, Department of Psychobiology, University of California, Irvine, California 92717**. *Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.*

**AUDITORY SCIENTIST**. The Parmlly Hearing Institute and the Psychology Department of Loyola University, Chicago, have a nontenure-accruing, research position for a visiting assistant professor with interests in psychoacoustics, vertebrate auditory physiology, or speech perception. Please send curriculum vitae, reprints, and letters of recommendation to: **W. A. Yost, Parmlly Hearing Institute, Loyola University, 6525 North Sheridan Road, Chicago, Ill. 60626**.

### MASSACHUSETTS GENERAL HOSPITAL HARVARD MEDICAL SCHOOL

Position available for a **BIOCHEMIST** (surgery-urolology) at the assistant professor level, Urological Service, Massachusetts General Hospital, and Department of Surgery, Harvard Medical School. Candidates' qualifications must include extensive experience in enzyme chemistry and purification of enzymes as well as development of radioimmunoassays, and be self-supporting via granting mechanisms. *We are an Equal Opportunity/Affirmative Action Employer.* Send reply with curriculum vitae to: **George R. Prout, Jr., M.D., Chief of the Urological Service, Massachusetts General Hospital, 32 Fruit Street, Boston, Mass. 02114**.

**BIOCHEMICAL GENETICS**. Two positions for research associate or research assistant professor. Includes studies of human lysosomal phospholipases, regulation of hemoglobin biosynthesis, or opportunity to develop independent project on biochemical basis of human dominant disease, particularly tuberous sclerosis. Salary: \$11,000 to \$17,000. Send curriculum vitae and three references to: **Arthur L. Beaudet, M.D., Department of Pediatrics, Baylor College of Medicine, Houston, Texas 77030**. *Equal Opportunity Employer.*

### BIOCHEMISTRY FACULTY POSITIONS

The Department of Biological Chemistry, Wright State University, invites applications for several positions and seeks applicants at the level of assistant professor (although candidates at other ranks will be considered). Although we have a preference for persons with a background in either physicochemical or regulatory aspects of biochemistry, applications from individuals in all areas of biochemistry will receive serious consideration. Applicants are expected to have several years of postdoctoral training and to have demonstrated the potential for developing a successful independent research program.

The department participates in the training of medical, graduate, and undergraduate students. The successful applicants will be appointed to the faculty of the School of Medicine and of the College of Science and Engineering. Send complete curriculum vitae, a brief statement of research plans, and the names and addresses of three references to: **Search Committee, Department of Biological Chemistry, Wright State University, Dayton, Ohio 45435**. Applications will be accepted until 10 June or until suitable candidates are located. *Wright State University is an Equal Opportunity/Affirmative Action Employer.*

**CARDIOVASCULAR PHYSIOLOGIST**. Challenging senior position to collaborate with interdisciplinary circulatory assistance research group. We seek hemodynamicist interested in development and evaluation of partial artificial heart systems. Candidate may be M.D., Ph.D., or D.V.M.; early or mid-career; with demonstrated abilities as independent investigator. Medical school-affiliated hospital with excellent research facilities. Midwest. Curriculum vitae will be treated confidentially. Write: **Adrian Kantrowitz, M.D., 6767 West Outer Drive, Detroit, Michigan 48235**.

## POSITIONS OPEN

**ASSOCIATE PROFESSOR**. Position for fall 1978. Applicant must have a Ph.D. and qualifications to teach animal physiology, pathophysiology, human anatomy and physiology, and general biology. Send curriculum vitae to: **Dr. Kenneth E. Landers, Chairman of Biology Department, Jacksonville State University, Jacksonville, Alabama 36265**. *An Equal Opportunity/Affirmative Action Employer.*

**BIOCHEMIST**. Faculty position open in university Department of Medicine for biochemist to work on hormonal regulation of normal and malignant hematopoiesis. Individual should have wide experience and proficiency in glycoprotein isolation and purification as well as knowledge of radioimmunoassay and hormone binding and action. Position requires broad range of technical competence in protein and membrane chemistry. Send curriculum vitae and particulars to: **Box 147, SCIENCE, Equal Opportunity/Affirmative Action Employer.**

### BIostatistician

WAPORA, Inc., an environmental consulting firm, has an immediate opening at our Charleston, Illinois, office for a biostatistician. Applicants should have an M.S. or equivalent in biology with computer programming experience. Duties of this position include establishing computer programs for conversion of raw biological data, developing experimental designs for various programs, and statistically examining the results of sampling programs. Send résumé in confidence to:

**John P. Johnson, Manager  
WAPORA, Inc.  
Rural Route 2  
Charleston, Illinois 61920**

*An Equal Opportunity Employer, M/F*

**BOTANIST-ELECTRON MICROSCOPIST**. To teach general botany, introductory biochemistry, and electron microscopy. Temporary appointment as visiting assistant professor for the academic year, 1978-1979. Please send letter of application, curriculum vitae, and three letters of reference to: **Dr. Patricia Johnson, Chairman, Department of Biology, Vassar College, Poughkeepsie, N.Y. 12601**. *An Equal Opportunity/Affirmative Action Employer.*

**CELLULAR IMMUNOLOGIST**. A tenure-track position at the assistant or associate professor level is available in the Department of Microbiology beginning summer or fall 1978. We are seeking someone with a strong potential for setting up and developing his or her own research program in fundamental cellular mechanisms of the adaptive immune response. Candidates should have postdoctoral research experience. Duties include shared teaching of basic immunology to medical students. Please send, before 15 May, curriculum vitae, references, and a summary of research interests to: **Dr. David C. Parker, Microbiology Department, University of Massachusetts Medical School, Worcester, Mass. 01605**. *Affirmative Action/Equal Opportunity Employer. Minority and women candidates are encouraged to apply.*

**CHAIRPERSON AND PROFESSOR OF FOOD SCIENCE AND HUMAN NUTRITION**: applications and nominations are invited for the position of chairperson of an active, new Food Science and Human Nutrition Department in the College of Human Resources at the University of Delaware. A faculty of ten, curricular programs in food science, nutrition and dietetics, undergraduate, and graduate majors (15), well-equipped laboratories, and recently renovated facilities form the nucleus of the program. The successful applicant must have the Ph.D. or equivalent in food science, nutrition, or food systems management, an established record of scholarly achievement, and demonstrated administrative experience or potential. Applications accepted until 1 May 1978 or until position is filled. Send correspondence and résumé to: **John A. Murray, Search Committee Chair, 214 John M. Clayton Hall, University of Delaware, Newark, Delaware 19711**. Telephone: 302-738-2795. *An Equal Opportunity/Affirmative Action Employer.*

## THE VETERANS ADMINISTRATION IS OFFERING A BASIC RESEARCH PROGRAM TO STUDY THE ETIOLOGY OF ALCOHOLISM AND TO INVESTIGATE THE BIOCHEMICAL- PHARMACOLOGIC AND CELLULAR BIOLOGIC EFFECTS AND RESPONSES TO ALCOHOL.

## THREE YEAR CAREER AWARDS OF SALARY AND SUBSTANTIAL RESEARCH SUPPORT ARE AVAILABLE TO INVESTIGATORS WHOSE BASIC SKILLS CAN BE APPLIED TO RESEARCH IN THE ETIOLOGY OF ALCOHOLISM.

The laboratories will be within the Veterans Administration System. Interested candidates (M.D. or PH.D.) with a background in Basic Science should contact the Chairperson of the Search Committee. Information to be supplied to the Search Committee should include (1) Curriculum Vitae (2) two letters of recommendation and (3) a summary of proposed investigation. This proposal, while not to exceed 5 pages, should include enough detail to spell out methodology, aims and experimental design.

**Chairperson**  
**Dr. Erwin Mosbach**  
**Chief, Department Lipid**  
**Research**  
**Public Health Research**  
**Laboratory**  
**455 1st Avenue**  
**New York, New York 10016**

**Members**  
**Dr. Charles Lieber**  
**Dr. Henry D. Hoberman**  
**Dr. Murray Oratz**

Address administrative inquiries  
to:

**Dr. Marcus Rothschild (151H)**  
**Medical Research Service**  
**Veterans Administration Central**  
**Office**  
**810 Vermont Avenue, N.W.**  
**Washington, D.C. 20420**

Telephone: 202-389-5041

*An Equal Opportunity Employer*

## DEPUTY MEDICAL DIRECTOR

Fortune 100 company located in major midwestern metropolitan area has an immediate opening for the deputy medical director. Qualified candidates will possess a minimum of 5 years professional experience as a medical director, with preferred experience in industrial or process manufacturing companies. Emphasis should include epidemiology and/or toxicology. Prefer Board Certification in preventive medicine. Responsibilities include development of administrative practices in industrial hygiene, epidemiology and toxicology, development of centralized medical records system, field direction of industrial positions, interface with various state and federal regulatory authorities and day to day involvement with operating departments of the company. Attractive compensation package commensurate with skills and experience relating to the position. Please reply in confidence to:

Box: 153

An Equal Opportunity Employer, M/F/H.

Positions available at International Institute of Tropical Agriculture, Ibadan Nigeria and other locations.

**Virologist.** To head a new Virology Unit at IITA. Responsibilities include all aspects of plant virology in relation to crop improvement. Ibadan.

**Soybean Breeder.** To work on soybean improvement program with a multi-disciplinary team at IITA for development of soybean varieties for the tropics. Ibadan.

**Physiologist.** Required for Root and Tuber Program involving cassava, yam, sweet potato crops. Main concern with tissue culture and study of physiological bottlenecks in yield physiology. Ibadan.

**Entomologist.** For out-reach program at Ouagadougou, Upper Volta. Background in Economic Entomology to work on maize and cowpea pests. Knowledge of French language highly desirable.

For above positions send resume and names/address of reference to Dr. William K. Gambie, Director General, IITA, PMB 5320, Ibadan, Nigeria.

**Postdoctoral Fellow Opportunities.** Post-doctoral research interneers assigned to senior principal scientist to develop capability for independent problem-oriented research on foodcrop production and protection in the tropics. Candidates in plant breeding (soybean, maize, rice, cassava, yams), entomology (maize, cowpea), pathology including virology (cowpea, sweet potato, yams), and microbiology. Ph.D. and preferably some research experience. Residential accommodation, car, liberal stipend. Appointment and repatriation travel, modest shipping allowance, leave. Initial appointment one year. Applications to Director General, IITA, P.M.B. 5320, Ibadan, Nigeria.

## POSITIONS OPEN

**CHAIRPERSON, DEPARTMENT OF ANATOMY.** Position open at the University of Massachusetts Medical School. *Applications from women and minority groups are especially encouraged.* Send curriculum vitae and list of publications to: **Dr. G. Majno, Chairman, Anatomy Search Committee, University of Massachusetts Medical School, Department of Pathology, 55 Lake Avenue North, Worcester, Mass. 01605.** *An Affirmative Action/Equal Opportunity Employer.*

### CHAIRMAN, DEPARTMENT OF PATHOLOGY UNIVERSITY OF SOUTH ALABAMA MOBILE, ALABAMA

The University of South Alabama, an independently governed state university, is currently searching for an individual to serve as chairman of the Department of Pathology in the College of Medicine. The responsibilities of the Department of Pathology include not only educational programs at the undergraduate and graduate levels and the development of programs in research, but also the direction of the clinical laboratories at the University of South Alabama Medical Center Hospital. Communications regarding this position should be sent to: **Arthur J. Donovan, M.D., Chairman, Pathology Search Committee, University of South Alabama Medical Center, 2451 Fillingim Street, Mobile, Alabama 36617.** *The University of South Alabama is an Equal Opportunity Employer, M/F.*

### CHAIRPERSON, DEPARTMENT OF PEDIATRICS

The St. Louis University School of Medicine invites applications and nominations for the position of chairperson of the Department of Pediatrics. We are seeking an academically oriented pediatrician with an appreciation of the operation of a pediatric hospital which serves as a major community resource to head the Department of Pediatrics and serve as medical director of the Cardinal Glennon Memorial Hospital for Children. We are searching for an established clinical investigator with strong academic and professional leadership qualities and an awareness of current trends in medical education, research and health care delivery. Salary is competitive. Send applications and nominations to: **Robert M. Donati, M.D., Chairman Pediatric Search Committee, St. Louis VA Hospital (115JC), St. Louis, Missouri 63125.** *St. Louis University is an Equal Opportunity/Affirmative Action Employer.*

### CHAIRPERSON DEPARTMENT OF PATHOBIOLOGY

The University of Pennsylvania, School of Veterinary Medicine is seeking a highly qualified individual to provide leadership for the Department of Pathobiology. This department encompasses the teaching, research, and service activities of the laboratories of microbiology, parasitology, and pathology. Candidates must have demonstrated administrative abilities and a strong commitment to excellence in teaching and research.

Nominations and applications should be sent to:

**Dr. William C. Lawrence  
Chairman of the Search Committee for Pathobiology  
School of Veterinary Medicine  
University of Pennsylvania  
3800 Spruce Street  
Philadelphia, Pa. 19104**

*An Equal Opportunity/Affirmative Action Employer*

### FACULTY POSITION— BIOLOGICAL CHEMISTRY

The Department of Biological Chemistry, University of California, Los Angeles (UCLA) School of Medicine invites applications from qualified individuals for an assistant professorship in the area of mammalian glycoprotein, polysaccharide or oligosaccharide metabolism, enzymology, and chemistry. A strong commitment to teaching and research is required. Applicants should send curriculum vitae, names of three references, and a précis of research plans by 15 June 1978 to: **J. G. Pierce, Chairman, Search Committee, Department of Biological Chemistry, UCLA School of Medicine, Center for Health Sciences, Los Angeles, California 90024.** *UCLA is an Equal Opportunity Employer, conforming to Affirmative Action policies.*

## POSITIONS OPEN

Oakes College at the University of California in Santa Cruz has a lecturer position available for a **CHEMIST** with a background in **computer-information sciences and/or biology.** Oakes College is building an academic program which provides a culturally unbiased education to a diverse and multicultural student body. The central focus of the college is cultural pluralism and the experience of ethnic minorities in the United States. Applicants should have a Ph.D. and demonstrated teaching ability. The person selected will teach courses in the introductory chemistry program and participate in other science courses. Particular attention will be given to applicants with experience in working with minority students. Some research facilities are available on a collaborative basis. This is a 9-month appointment (\$15,264 to \$16,728) for a 2-year period with opportunity for renewal. Please send curriculum vitae, three letters of reference, and a cover letter relating teaching and research interests and experience to: **Science Faculty Search Committee, c/o Kris Krepeski, Academic Affairs Secretary, Oakes College, University of California, Santa Cruz, Calif. 95064.** The closing date is 31 May 1978.

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

### CURATOR—HERPETOLOGY

Conduct herpetological research. Head the department. Qualifications require: Ph.D., significant publications, experience in obtaining grants, demonstrated ability to work well with colleagues and superiors, and at least 4 years of related work experience. Submit credentials to: **Chief Scientist, Natural History Museum, P.O. Box 1390, San Diego, Calif. 92112.** *An Equal Opportunity Employer.*

### DIRECTOR, ISLES OF SHOALS MARINE LABORATORY, AND INVERTEBRATE ZOOLOGIST, CORNELL UNIVERSITY

Cornell University is seeking an invertebrate zoologist who will also serve as director of the Shoals Marine Laboratory. The laboratory, located on the Isles of Shoals off Portsmouth, New Hampshire, has as its primary mission the teaching of summer courses in introductory marine sciences to undergraduates, teachers, and other special groups.

Prospective candidates should have considerable experience in administration and a strong record of teaching and research in invertebrate zoology. It is expected that this position will be filled at a senior level.

In addition to administrative duties, the appointee will be involved in summer teaching at the Shoals Laboratory, offering an introductory upper division course in invertebrate zoology at Cornell in Ithaca, and maintaining an active research program, including the training of graduate students.

The position will be filled as soon as possible. A curriculum vitae, including the names of at least three references, should be sent no later than 22 May to: **Dr. Peter Bruns, Chairman Search Committee, Division of Biological Sciences, 200 Stimson Hall, Cornell University, Ithaca, New York 14853.**

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

**ECOLOGISTS.** Two positions are available for participation in management and research with Maryland's Coastal Zone Management Program: (i) a Ph.D. **SYSTEMS ECOLOGIST** with background in estuarine system modelling, hydrology, and economics with application to management decisions; and (ii) an **ESTUARINE FISHERIES ECOLOGIST** with knowledge of fisheries economics; M.S. minimum requirement. Salaries negotiable. Send résumés to: **Dr. Suzanne Bayley, Energy and Coastal Zone Administration, B-3, Tawes State Office Building, Annapolis, Md. 21401.**

### FACULTY POSITION AVAILABLE

The Department of Mechanical and Environmental Engineering is seeking a **physical oceanographer** to be the first appointment to a faculty group in an ocean engineering specialty. The candidate must have a Ph.D. A strong history in research and an interest in teaching are required. A background in engineering or applied science is desirable. The level of the regular ladder appointment depends upon the qualifications of the applicant. Applications will be accepted until 15 June 1978. *The University of California is an Equal Opportunity/Affirmative Action Employer.* **Department of Mechanical and Environmental Engineering, University of California, Santa Barbara, Calif. 93106.**

## POSITIONS OPEN

### DIRECTOR OF REHABILITATION ENGINEERING

The Ontario Crippled Children's Centre is a leading paediatric rehabilitation centre providing an exciting range of services and professional competence.

The director of rehabilitation engineering will direct and stimulate a staff of 30, combining both an orthotic and myoelectric service program for handicapped children and a wide range of research projects.

The director will also have a unique and challenging role in representing the centre at scientific conferences, preparing papers and developing future direction of research programs.

This position requires proven research experience and broad competence in directing a team effort. Obtaining and allocating research grants is part of the task, as is compatibility with people at all levels.

Career résumés should be directed to:

**David H. Martin, Secretary**  
Search Committee  
Ontario Crippled Children's Centre  
350 Rumsey Road  
Toronto, Ontario, Canada M4G 1R8

Closing date: 30 June 1978.

### THREE FACULTY POSITIONS

The Department of Wildlife and Fisheries Sciences of Texas A & M University invites applications from individuals with the following expertise: **INVERTEBRATE NUTRITIONIST, INVERTEBRATE ENDOCRINOLOGIST.** Each position is for research in conjunction with a penaeid shrimp maturation, mating, and spawning program at Corpus Christi. Immediate. **WATERFOWL AND WETLANDS ECOLOGY AND MANAGEMENT.** Teaching appointment with research opportunities and expectations. Available September 1978. Salaries and ranks are negotiable and interested persons should direct inquiries prior to 1 June to: **Dr. James G. Teer, Professor and Head, Department of Wildlife and Fisheries Sciences, Texas A & M University, College Station, Texas 77843.** Applicants may submit a curriculum vitae and the names of three references who will file letters on their behalf. *Texas A & M is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITIONS IN BIOLOGY

Applications are invited for a tenure-stream position at the rank of assistant or associate professor and a leave replacement position at the assistant professor level in cell biology, microbiology, or ecology. The candidates for both positions must have the Ph.D. degree and relevant research and teaching experience in one of the specified areas. The successful candidate for the on-going position will be expected to establish an independent research programme and teach at the graduate and undergraduate level in the area of specialization. Salaries commensurate with qualifications and experience. (Current salary floor for assistant professor, \$18,000; associate professor, \$23,000.) Applicants should send a recent curriculum vitae and the names of three referees to: **Dr. R. M. Roy, Chairman, Department of Biology, Concordia University, 1455 de Maisonneuve Boulevard West, Montreal, Quebec, Canada H3G 1M8.**

### FACULTY POSITION

**VISITING ASSISTANT PROFESSOR.** One-year appointment beginning 28 August 1978. Applicants should have a Ph.D. degree with teaching experience in general genetics, microbial genetics, and physiological genetics. Applicants should send curriculum vitae and three letters of recommendation by 31 May 1978 to: **Dr. John T. Fales, Chairperson, Biology Department, University of Missouri, Kansas City, Missouri 64110.**

*University of Missouri is an Equal Opportunity Employer.*

**INSTRUCTOR, BIOCHEMISTRY,** September 1978. To team-teach biochemistry and biochemistry laboratory and conduct research on the biochemical mechanism of excitation-secretion coupling in the CNS. Starting at \$13,000 to \$14,000. Position available for 5 years. Send curriculum vitae, bibliography, and three letters of recommendation to: **Dr. J. A. Babitch, Chemistry Department, Texas Christian University, Fort Worth, Texas 76129** by 31 May 1978. **POSTDOCTORAL AND GRADUATE STUDENT STIPENDS** for fall 1978 also available. *Texas Christian University does not discriminate on the basis of sex, religion, handicap, race, or ethnic origin.*

## POSITIONS OPEN

### FACULTY POSITION

Person with interest in mechanisms of host resistance to bacterial/viral infections to develop active research program with excellent opportunities for collaboration. Teaching responsibilities include clinical health sciences and graduate education. Send curriculum vitae and names of three references by 15 June to: **Dr. L. A. Caliguiri, Department of Microbiology and Immunology, Albany Medical College of Union University, Albany, New York 12208.** *An Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION ASSISTANT PROFESSOR OF BIOLOGY

The University of Pittsburgh at Johnstown (UPJ) seeks an assistant professor of biology for 1 September 1978, pending funding. Applicants should have training in cell biology/developmental biology. Ph.D. required.

Teaching responsibilities include courses within the pre-professional and para-professional programs, freshman biology, and biostatistics laboratories. Opportunities exist to develop courses in cell biology, cytology, development, endocrinology, and immunology.

Application deadline: 12 May 1978. Send detailed résumé and three letters of recommendation to: **Dr. Doris Brown, Biology Search Chairperson, University of Pittsburgh at Johnstown, Johnstown, Pa. 15904.** *UPJ is an Equal Opportunity/Affirmative Action Employer.*

The Department of Botany and Plant Pathology at Oregon State University is seeking applications for a 1-year **FACULTY POSITION** which will be available 1 September 1978 through 31 August 1979. Responsibilities will include the teaching of two graduate-level courses in plant physiology (bioenergetics and photobiology), part-time participation in a research program on basic mechanisms of photosynthesis. A Ph.D. degree in plant physiology/plant biochemistry is required and preference will be given to those with some teaching and research experience in the outlined areas. Salary will be negotiable and dependent upon experience. Closing date for receipt of application will be 31 May 1978. Applications should include curriculum vitae, transcripts of academic records, reprints, three letters of recommendation, and other information considered pertinent by the applicant. *Oregon State University is an Affirmative Action/Equal Employment Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.* Send to: **Dr. Norman I. Bishop, Department of Botany and Plant Pathology, Oregon State University, Corvallis, Oregon 97331.**

### THE PENNSYLVANIA STATE UNIVERSITY

The Department of Geosciences is seeking a person with one of the following specific research capabilities:

- 1) A low-temperature aqueous geochemist specializing in ground water, or
- 2) A geophysicist specializing in the physical properties of earth materials.

The duties of the position, for which the Ph.D. is required, include formal teaching at the undergraduate and graduate levels, supervision of graduate student research, and research in the area of specialization. The successful candidate will be offered a tenure-track, academic-year (36 weeks) appointment at the assistant professor level, effective 1 September 1978.

Applications for this position should be accompanied by a résumé and the names and addresses of three references. They should be sent, not later than 15 June, to:

**C. Wayne Burnham, Head**  
Department of Geosciences  
503-B Deike Building  
The Pennsylvania State University  
University Park, Pennsylvania 16802

*Penn State is an Equal Opportunity/Affirmative Action Employer.*

### MAMMALIAN NEUROBIOLOGIST

Extensive experience with motor systems and learning; capability of teaching and directing well-funded research program. Assistant or associate professor rank. Send curriculum vitae to: **Eric R. Kandel, M.D., Department of Physiology, Columbia University, 630 West 168 Street, New York, N.Y. 10032.** *Affirmative Action/Equal Opportunity Employer.*

## THIRD ANNUAL COURSE ON THE PRINCIPLES AND PRACTICE OF GENETIC TOXICOLOGY

at the University of Texas  
Medical Branch at Galveston,  
Texas  
October 22-27, 1978

A five day state of the art program including lectures, laboratory demonstrations and panel discussions directed toward senior scientists from industry, academia, and government agencies. Topics covered range from theoretical considerations of chemically induced mutations, and current methodology, to regulatory implications of chemical mutagenesis.

Outstanding faculty members are selected from the United States and abroad.

This program is accepted for 30 hours of Category 1 credit for the Physician Recognition Award of the AMA.

Co-directors: Marvin Legator and Alex Hollaender.

Registration fee: \$350

A limited number of scholarships are available.

To register for the course please send \$100 deposit to:

**Dr. Marvin Legator**  
Department of Preventive Medicine & Community Health  
University of Texas Medical Branch  
Galveston, Texas 77550, USA  
Telephone: (713) 765-1803

## UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE SCHOOL OF CLINICAL MEDICINE URBANA-CHAMPAIGN

### POSITION OPEN: PHARMACOLOGY

A new 3-year School of Clinical Medicine will admit 12 students in July 1978. The curriculum is based on a problem-oriented approach to medicine. Pharmacology teaching will begin in an introductory phase of the first clinical year but the most significant instruction will occur within the content of on-going clinical experiences.

Urgent need for pharmacologist (Ph.D. or M.D.) or clinical pharmacologist to take leadership in development and delivery of a pharmacology program within the school.

Individual with medical school teaching experience at tenured rank preferred but will consider less experienced applicants. Salary is commensurate with rank. Starting date is 1 June 1978.

In order to receive equal consideration, applications should be received by 1 May 1978. Send curriculum vitae and names of five references to:

**Morton C. Creditor, M.D.**  
Chairperson, Search Committee  
for Pharmacology  
University of Illinois  
School of Clinical Medicine  
190 Medical Sciences Building  
Urbana, Illinois 61801  
Telephone: 217-333-9284

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



## POSITIONS OPEN

Biological education, **DEPARTMENT HEAD**, biological sciences organization. Duties include liaison with governmental agency programs in education and the college/university biological community, identification of trends and related requirements for development of advanced, innovative educational programs in the life sciences. Ph.D. and teaching experience preferred. Position available on or about 1 July. Résumé must include present salary. Salary negotiable. Reply to: **Executive Director, American Institute of Biological Sciences, 1401 Wilson Boulevard, Arlington, Va. 22209.**

**HEAD, Department of Biochemistry, Mississippi State University, Mississippi State, Miss. 39762.** Position open: 1 July 1978. **Duties and responsibilities:** applications and nominations are invited for this position which is joint with the university and the Mississippi Agricultural and Forestry Experiment Station. The department has six additional faculty positions and offers B.S. and M.S. degrees. Ph.D. degrees are administered through joint programs in chemistry, physiology, entomology, and nutrition. **Basic qualifications:** an earned doctorate in biochemistry and demonstrated teaching and research ability. Active participation in research and teaching is expected. Administrative ability and leadership qualities are essential. Experience and interest in agriculturally related research is required. It is expected that the successful candidate have the academic experience commensurate with the rank of professor. **Salary:** competitive and negotiable. **Contact:** recommended nominees or applications, including names of three references, to: **Dr. C. E. Lindley, Dean, College of Agriculture, Drawer AG, Mississippi State, Miss. 39762.** *An Equal Opportunity/Affirmative Action Employer.*

### IMMUNOLOGIST—MICROBIOLOGIST

The Department of Medical Microbiology at the University of Nebraska Medical Center, Omaha, Nebraska, is seeking a person with a Ph.D. and postdoctoral experience for the faculty position of assistant professor. This person will develop a research program in immunology, supervise graduate students, and participate in teaching immunology to graduate students and allied health professionals and microbiology to allied health professional students.

This tenure-track appointment is available on or after 1 July 1978. *The University of Nebraska is an Equal Opportunity Employer.*  
Send résumé and three letters of recommendation to:

**Dr. Robert E. McCarthy**  
Chairman, Graduate Committee  
Department of Medical Microbiology  
University of Nebraska Medical Center  
42nd and Dewey Avenue  
Omaha, Neb. 68105

The deadline for applications: 15 June 1978.

**INSTRUCTOR IN MICROBIOLOGY AND IMMUNOLOGY:** medical school full-time faculty to participate in the existing medical microbiology course and in advanced courses for graduate students. An active research program, preferably in microbial physiology, is highly desired. Salary, negotiable depending on qualifications and experience; starting 1 September 1978. Send résumé and three letters of recommendation to: **Dr. P. G. Iatridis, Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408.** *Indiana University is an Equal Opportunity/Affirmative Action Employer.*

### MARINE BIOLOGIST

Position available with Ecological Analysts, Inc., a nationwide environmental consulting firm, for a Ph.D. or M.S. marine biologist with broad experience in the ecology and taxonomy of Pacific Coast planktonic and benthic invertebrates. Pacific Coast academic training and work experience required. Strong background in quantitative methods also required. Position responsibilities include the design, implementation, and analysis of marine environmental studies; business development and marketing, quantitative analysis and modeling, and technical writing. Qualified applicants are invited to submit curriculum vitae, summary of research interest, and names of three references to:

**Ecological Analysts, Inc.**  
1910 Olympic Boulevard  
Suite 150  
Walnut Creek, Calif. 94596

prior to 1 June 1978.

*An Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

**INTERNIST**—The Division of General Medicine of the Department of Medicine at the University of Alabama in Birmingham (UAB) has two positions available at the instructor/assistant professor level. These positions are open to qualified individuals at a senior level. Individuals applying must have expertise in the care and management of complicated medical patients of the type referred to a teaching hospital; also, individuals must have a firm commitment to teaching programs involving medical students and house staff. Applicants should have experience in the administration of a general medical program and in the development of new programs of house staff training in general medicine. Apply to: **Division of General Medicine, Department of Medicine, University of Alabama Medical Center, Birmingham, Alabama 35294, Attention: Dr. Alwyn A. Shugerman.** Deadline for applications is 15 May 1978. *UAB is an Equal Opportunity/Affirmative Action Employer.*

The Department of Biology invites applications for a **LABORATORY LECTURER IN HUMAN PHYSIOLOGY** to teach and coordinate human physiology laboratories for health science students. The successful applicant will also be expected to teach laboratories in elementary human anatomy. This is a nontenure-track, full-time position, beginning in August 1978, at a salary of \$12,000 on a 10-month appointment. The potential candidate should hold at least a master's degree or equivalent. Applicants should forward curriculum vitae, three letters of reference and official undergraduate and graduate transcripts before 15 May 1978, to: **Dr. Ralph Ockerse, Chairman, Department of Biology, Indiana University-Purdue University at Indianapolis, 1201 East 38th Street, Indianapolis, Indiana 46205.**

*An Affirmative Action/Equal Opportunity Employer*

### LECTURER IN BIOCHEMISTRY UNIVERSITY OF CALIFORNIA, DAVIS

The Department of Biochemistry and Biophysics is seeking a qualified full-time lecturer in biochemistry, starting on 1 October 1978. The lecturer will be expected: (i) to teach undergraduate (junior-senior level) lecture and laboratory courses during each of the three quarters of the academic year, and (ii) to participate in the academic and career advising of undergraduate biochemistry majors. A Ph.D. degree (preferably in biochemistry) is required. *The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

This is a 9-month teaching position with no research responsibilities or facilities. Initial appointment is for 1 year. Possible reappointment for two additional years will be considered on an annual basis.

Applicants should submit a letter describing their qualifications and experience together with a résumé and copies of graduate transcripts. Also arrange for three letters of recommendation (with emphasis on **teaching experience or potential**) to be sent to:

**Professor E. E. Conn, Chairman**  
Lecturer Search Committee  
Department of Biochemistry and Biophysics  
University of California  
Davis, California 95616

Telephone: 916-752-3521 or 752-3611

The deadline for applications is 15 June 1978.

### CALIFORNIA ORAL PATHOLOGY

The Department of Oral Medicine and Hospital Dentistry, School of Dentistry, and the Department of Pathology, School of Medicine, University of California at San Francisco (UCSF), are seeking a full-time faculty member at the assistant professor level. The successful applicant will assume responsibilities for teaching in the dental, medical, and dental hygiene curricula, in dental and medical specialty programs, and to graduate students. If qualified, the appointee will have service responsibilities in oral pathology and in pathology. Candidates should have a dental/medical degree or a Ph.D. in pathology. Formal training in pathology and oral pathology and a demonstrated ability to conduct research are required. This position will be available 1 July 1978. Applications must be received by 30 April 1978. *UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.* Send applications or nominations with curriculum vitae to: **John S. Greenspan, B.Sc., B.D.S., Ph.D., M.R.C. Pathology, Department of Oral Medicine and Hospital Dentistry, University of California, San Francisco, Calif. 94143.**

## POSITIONS OPEN

### MEMBRANE BIOCHEMISTRY IN NEUROLOGICAL DISEASES

Postdoctoral positions; 2 to 3 years. Membrane biochemical techniques to study human neurological diseases. Research focused on erythrocyte membrane, skin fibroblast tissue culture cells, and muscle protein chemistry in Duchenne muscular dystrophy and myotonic muscular dystrophy. Studies of the spinocerebellar degenerations and multiple sclerosis also in progress. Opportunity for Ph.D. or M.D. with biochemistry background to obtain training in laboratory with active Ph.D./M.D. interactions. Must be U.S. citizen or permanent resident. *Minorities and women encouraged to apply.* Please send curriculum vitae and names and addresses of three references to:

**Allen D. Roses, M.D.**  
Division of Neurology  
P.O. Box 2900  
Duke University Medical Center  
Durham, N.C. 27710

**NEUROANATOMIST** with electron microscopic training to work with multidisciplinary neurobiology group in West Coast medical school. Doctoral degree required. Submit curriculum vitae to: **Box 145, SCIENCE.**

**NEUROBIOLOGIST**—Department of Anatomical Sciences has a faculty position open for a neurobiologist with an active research program in the structure and function of the mammalian nervous system. Teaching responsibilities include neuroanatomy and/or microscopic anatomy for medical and dental students, as well as participation in graduate courses and training in neurosciences. Rank and salary will be determined by qualifications. Reply to: **Maynard M. Dewey, Chairman, Department of Anatomical Sciences, Health Sciences Center, State University of New York, Stony Brook, New York 11794.** Application deadline: 15 May 1978. *Equal Opportunity/Affirmative Action Employer.*

**THE DEPARTMENT OF NEUROLOGICAL SURGERY**—Columbia University, Columbia-Presbyterian Medical Center in New York, invites applications for a full-time university position at the assistant professor level; applicants should be Board-certified or -eligible. Preference will be given to candidates with a proven record of innovative research in the fields of neurology and neurological surgery, and with commensurate clinical skills. A special interest in the study of the nervous system; vascular disease and pituitary mechanisms would be useful. Individual will be expected to take a vigorous part in teaching at the undergraduate and resident levels. Salary: \$25,000 with some incentives. Applications including biographies and copies of publications should be sent to: **Chairman, Department of Neurological Surgery, Columbia-Presbyterian Medical Center, New York, New York 10032.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

### NEUROPATHOLOGIST

The Department of Pathology of the University of Pennsylvania invites applications for a faculty position in the Division of Neuropathology. Candidates must possess the M.D. degree with certification or eligibility for National Boards in Pathologic Anatomy or Neuropathology. Interests should encompass a serious research program, service functions, and teaching. Send curriculum vitae to:

**Dr. Nicholas K. Gonatas**  
Laboratory of Neuropathology  
454 Johnson Pavilion/G2  
University of Pennsylvania  
School of Medicine  
Philadelphia, Pennsylvania 19104

*Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION** available immediately. Photosynthesis research for candidates with biochemistry, biophysics, or instrumentation background. Send inquiry and résumé to: **Dr. Bacon Ke, Charles F. Kettering Research Laboratory, Yellow Springs, Ohio 45387.**

## SCIENTIST TECHNICAL INTELLIGENCE

The Upjohn Company is seeking an information-oriented scientist to assume responsibility for its Pharmaceutical R & D Division's technical intelligence function.

Focal responsibilities: search literature and interpret significance of competitors' published laboratory and clinical testing results (for example, assessing competitors' drug development progress in fields of interest to The Upjohn Company, drawing conclusions regarding the medical usefulness and/or market potential of drug candidates being researched worldwide, and so forth); maintain input and improve on extensive technical data base on these experimental drugs; retrieve information and prepare reports on own initiative or upon request for other scientists and members of management.

Qualifications: Ph.D. in biology with chemistry minor (or chemistry-biochemistry Ph.D.) and 2 years of relevant experience beyond Ph.D., or M.S. plus 8 years relevant experience; extensive literature search background; knowledge of biomedical principles, terminology, and testing methods; ability to derive structures from chemical names; aptitude for technical report preparation and interpersonal interaction.

Kalamazoo is a medium-sized southwestern Michigan community with an excellent mix of cultural/recreational options.

Submit résumé in confidence to:

**Dennis Nevala**  
**The Upjohn Company**  
**7171 Portage Road**  
**Kalamazoo, Mich. 49001**

*An Equal Opportunity Employer, M/F*



Beim **Bundesgesundheitsamt in Berlin** ist sofort die Stelle eines/einer  
**DIREKTORS UND PROFESSORS/DIREKTORIN UND PROFESSORIN**  
—Besoldungsgruppe B 1 BBO—  
mit einem/einer

**Toxikologen/in, Pathologen/in oder Dermatologen/in zu besetzen.**

Den künftigen Stelleninhaber erwartet eine interessante, verantwortungsvolle und selbständige Tätigkeit in leitender Position in der Abteilung Toxikologie des Max von Pettenkofer-Instituts.

Das Bundesgesundheitsamt ist eine Bundesoberbehörde, die anwendungsorientierte wissenschaftliche Forschung mit den Schwerpunkten Mikrobiologie, Umwelthygiene, Chemie und Hygiene der Lebensmittel und Bedarfsgegenstände, Sozialmedizin und Epidemiologie, Strahlenhygiene, Veterinärmedizin, Pharmazie und Pharmakologie betreibt. Es nimmt ferner eine Reihe von Exekutivaufgaben wahr und beschäftigt 1 400 Mitarbeiter, davon 350 Wissenschaftler.

In der Abteilung Toxikologie wird auf gesetzlicher Grundlage die gesundheitliche Beurteilung der Einwirkung chemischer Stoffe auf den Menschen vorgenommen. Betroffen sind sowohl Inhaltsstoffe von Lebensmitteln und Trinkwasser, als auch Genußmittel sowie Fremdstoffe (Zusatzstoffe, Pflanzenschutzmittel, Kosmetika und sonstige Bedarfsgegenstände). Es werden auch sicherheitstechnische Fragen der angewandten Toxikologie und anwendungstoxikologische Grundlagen für die Giftgesetzgebung bearbeitet und die chemische Umweltsituation des Menschen toxikologisch bewertet. Die technischen Voraussetzungen für experimentelle Forschungsarbeiten sind gegeben.

### Anforderungen:

Bestallung als Arzt, Promotion, Anerkennung als Facharzt für Pathologie oder Pharmakologie oder Dermatologie, gute englische Sprachkenntnisse.

Bewerber sollten über mehrjährige Erfahrungen in der tierexperimentellen oder toxikologischen Untersuchung und Bewertung von Arznei- und/oder Fremdstoffen verfügen und einer interdisziplinären Zusammenarbeit aufgeschlossen gegenüberstehen.

Bewerbungen mit Lebenslauf, Lichtbild und kurzer Darstellung des beruflichen Werdeganges sowie Zeugnisausschnitten und einem Verzeichnis der Veröffentlichungen sind unter Kenn-Nummer 308 N 1 umgehend an den.

**Präsidenten des Bundesgesundheitsamtes**  
**Postfach, 1000 Berlin 33**

zu richten

Für auswärtige Bewerber ist das Amt bei der Wohnraumbeschaffung behilflich. Trennungentschädigung wird nach den entsprechenden Vorschriften gewährt.

## POSTDOCTORAL RESEARCH FELLOW/ RESEARCH SCIENTIST DIVISION OF ANIMAL PRODUCTION PROSPECT, N.S.W.

CSIRO has a broad charter for research into primary and secondary industry areas. The organization has approximately 7,000 employees, 2,300 of whom are research and professional scientists, located in divisions and sections throughout Australia.

**Field: immunology of pregnancy.**

**General:** the division has a broadly based program of research on "Improvement in Reproduction Efficiency." Part of the research in this program involves evaluation of immunological methods for the early diagnosis of pregnancy in domestic animals as a means of estimating fertilization rate and early embryonic wastage.

**Duties:** to evaluate the immunological method of pregnancy diagnosis already in use in this laboratory, and to investigate the occurrence, nature, and function of foetal-derived immunosuppressive substances with a view to developing alternative methods. The appointee will join a group with expertise in reproductive endocrinology and protein fractionation.

**Qualifications:** a Ph.D. degree in immunology or equivalent qualification, together with proven research experience, is required. Familiarity with the techniques of lymphocyte fractionation, and rosette formation would be an advantage.

**Salary:** research scientist or senior research scientist: A\$14,639 to A\$21,267 per annum. An outstanding applicant may be offered appointment at a higher level.

**Tenure:** a fixed term of 1 to 3 years or an indefinite appointment may be negotiated.

Applications, stating full personal and professional details, the names of at least two referees, and quoting reference number 245/685 should reach:

**The Chief**  
**CSIRO**  
**Division of Animal Production**  
**P.O. Box 239**  
**Blacktown, N.S.W. 2148**  
**Australia**

by 19 May 1978.

28 APRIL 1978



## BUNDESGESUNDHEITSAMT

Für die Leitung des Bereiches

**ERFASSUNG, DOKUMENTATION UND BEWERTUNG VON  
UNERWÜNSCHTEN ARZNEIMITTELWIRKUNGEN  
(DRUG MONITORING)**

in unserem Institut für Arzneimittel suchen wir einen (eine)

**Direktor(in) und Professor(in)**  
—Besoldungsgruppe B 1/B 2 BBO—  
je nach wissenschaftlicher Qualifikation.

**Aufgaben:** Die Aufgaben des Bereiches umfassen die Bearbeitung klinisch-pharmakologischer Fragestellungen im Rahmen der Erfassung, Dokumentation und Bewertung von unerwünschten Arzneimittelwirkungen. Die Betreuung klinischer Erfassungssysteme und wissenschaftlicher epidemiologischer Studien gehören ebenso zu den Aufgaben des künftigen Stelleninhabers wie die Koordinierung der Datenerfassung und -aufbereitung sowie die Vorbereitung und Durchführung von Maßnahmen (z.B. Warnhinweise, Verschreibungspflicht) im Rahmen der Arzneimittelsicherheit aufgrund fortlaufender Nutzen- und Risikoabschätzung.

**Anforderungen:** Bewerber/innen sollten neben der Bestallung als Arzt und der Promotion die Anerkennung als Arzt für Innere Medizin sowie möglichst die Habilitation nachweisen. Eine breite klinische Ausbildung im Fach Innere Medizin sowie umfangreiche eigene Erfahrungen in der Bearbeitung wissenschaftlicher—möglichst epidemiologischer—Fragestellungen und gute englische Sprachkenntnisse werden verlangt. Die Bereitschaft zum engen Zusammenwirken mit nationalen und internationalen Fachgremien auf dem Sektor des Drug Monitoring sowie zu kooperativer Teamarbeit sind unabdingbare Einstellungsvoraussetzungen. Gesucht wird eine kreative Persönlichkeit mit Erfahrungen in der Lösung schwieriger organisatorischer Probleme.

Das Bundesgesundheitsamt ist eine Bundesoberbehörde, die anwendungsorientierte wissenschaftliche Forschung mit den Schwerpunkten Mikrobiologie, Umwelthygiene, Chemie und Hygiene der Lebensmittel und Bedarfsgegenstände, Sozialmedizin und Epidemiologie, Strahlenhygiene, Veterinärmedizin, Pharmazie und Pharmakologie betreibt. Es nimmt ferner eine Reihe von Exekutivaufgaben wahr und beschäftigt etwa 1 300 Mitarbeiter, davon 300 Wissenschaftler.

Bewerbungen mit Lebenslauf, Lichtbild und kurzer Darstellung des beruflichen Werdeganges sowie Zeugnisausschnitten und einem Verzeichnis der Veröffentlichungen sind unter Kenn-Nummer 316 N 1 umgehend zu richten an den.

**Präsidenten des Bundesgesundheitsamtes**  
**Postfach, 1000 Berlin 33**

Für auswärtige Bewerber ist das Amt bei der Wohnraumbeschaffung behilflich. Trennungentschädigung wird nach den entsprechenden Vorschriften gewährt.

## POSITIONS OPEN

**POSTDOCTORAL AND ASSISTANT RESEARCH POSITIONS IN VIROLOGY AND EXPERIMENTAL HEMATOLOGY.** Must have experience in molecular virology relative to antigens on cell surface and/or experimental hematology studying effects of MuLV. Applications must be received prior to 1 July 1978. Send curriculum vitae and references to: **L. Crumplar, Laboratory of Nuclear Medicine and Radiation Biology, University of California, Los Angeles, 900 Veteran Avenue, Los Angeles, Calif. 90024. An Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL FELLOW.** Position available immediately for research on cardiac cell proliferation, differentiation, and injury as part of Cardiovascular Training Program. Seeking cell biologist or anatomist with experience in EM and another area. Excellent research facilities in cell culture and microscopy. Opportunity to get some teaching experience in medical school histology and cell biology. Travel to one annual meeting. Stipend at level of NIH fellowships. Send curriculum vitae and three letters of recommendation to: **Dr. Frederick H. Kasten, Department of Anatomy, Louisiana State University Medical Center, 1100 Florida Avenue, New Orleans, La. 70119. An Equal Opportunity Employer.**

### INTERNATIONAL LABORATORY FOR RESEARCH ON ANIMAL DISEASES (ILRAD)

ILRAD is an international institution whose first assignment is to find a solution to African trypanosomiasis and theileriosis using up to date fundamental scientific knowledge and modern technology. Disciplines represented at ILRAD are biochemistry, entomology, immunology, molecular biology, parasitology, pathology, and tissue culture. A few positions are open immediately for:

#### BRIGHT, IMAGINATIVE POSTDOCTORAL FELLOWS IN IMMUNOLOGY

who will work in both fields of cellular immunology and immunochemistry. Excellent facilities and equipment are available for sophisticated immunological studies. Research will involve the production of monoclonal antibodies by cell fusion and the use of a fluorescence activated cell sorter (FACS II).

Salaries will range from U.S.\$10,000 to U.S.\$15,000 depending on training and experience. Perquisites include housing and commutation allowances.

The successful candidates will work with Dr. George E. Roelants of ILRAD.

Applications or requests for further information should be sent to:

**Associate Director for Administration  
ILRAD  
P.O. Box 30709  
Nairobi, Kenya**

### THE UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF ZOOLOGY

Applications are invited for **TWO POSTDOCTORAL FELLOW POSITIONS** in the Department of Zoology, University of British Columbia, for studies on cardiovascular and respiratory physiology of diving birds and mammals. Salary: \$10,000 to \$12,000 per annum, depending on experience. Successful candidates may be expected to do some teaching. Curriculum vitae and references should be submitted to: **Dr. D. R. Jones, Department of Zoology, University of British Columbia, 2075 Westbrook Place, Vancouver, British Columbia, Canada V6T 1W5. Closing date when positions filled.**

**POSTDOCTORAL POSITION** available immediately to work on hemoglobin synthesis. Candidates should have experience in the preparation and assay of elements of the protein biosynthetic apparatus of animal cells. Send sufficiently detailed résumé to permit preliminary evaluation of qualifications and references to: **Dr. David W. E. Smith, Professor of Pathology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Illinois 60611. An Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION.** For research on interaction of chemical carcinogens with liver cells in culture. Recent Ph.D. required. Position available 1 May 1978; annual salary: \$12,000. Submit curriculum vitae to: **Gary M. Williams, M.D., Chief, Division of Experimental Pathology, Naylor Dana Institute for Disease Prevention, American Health Foundation, 1 Dana Road, Valhalla, N.Y. 10595. An Equal Opportunity Employer, M/F.**

## POSITIONS OPEN

### POSTDOCTORAL POSITIONS—ELECTRICAL CERAMICS

Two postdoctoral positions are available immediately for research on electrical ceramics for energy conversion and detection systems. Doctorate required in ceramic engineering, materials science, or other materials related field. Background in ferroelectricity, crystal growth, materials processing, or dielectric ceramics is desirable. Send résumé to:

**Dr. D. A. Payne  
Department of Ceramic Engineering  
University of Illinois at Urbana-Champaign  
Urbana, Illinois 61801**

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

**POSTDOCTORAL POSITION** available 1 July 1978 for research in somatic cell genetics. Experience in tissue culture and biochemistry desirable. Research will involve explant cultures, isolation of specific cell lines, and examination for cell specific proteins. Please send curriculum vitae to: **Dr. Barbara F. Crandall, Mental Retardation Center, University of California, Los Angeles/Neuropsychiatric Institute, 760 Westwood Plaza, Los Angeles, California 90024. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION:** conduct team greenhouse and field research on breeding, culture, and physiology of hops (*Kumulus lupulus* L.), to identify and develop improved varieties. Salary: \$15,000 for 1 year; grant expected to be renewed annually. Applications accepted until 31 May 1978 or until suitable candidate identified. Applicants send curriculum vitae, copy of transcripts, thesis summaries, and arrange for three letters of recommendation to be sent to: **Dr. L. R. Faulkner, Washington State University (WSU), Prosser, Wash. 99350. WSU is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION—TISSUE OXYGENATION AND BLOOD FLOW.** Available immediately for a researcher interested in investigating potential clinical applications of tissue gas and blood flow measurements. Background in neuromuscular physiology or bioengineering desirable. Send résumé and three references to: **Frederick A. Matsen III, M.D., Limb Viability Laboratory, Department of Orthopaedics, School of Medicine, University of Washington, Seattle, Wash. 98195. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION—**Immediately available in research project on adrenergic receptors. Work involves both pharmacological and biochemical studies to differentiate and characterize types and subtypes of receptors. Previous experience in radioligand binding studies and cyclic nucleotide analysis highly desirable. Please send résumé and names of two references to: **Dr. Robert F. Furchgott, Department of Pharmacology, State University of New York, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York 11203. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITIONS IN BIOCHEMISTRY:** available immediately for the study of cytochromes and mechanisms of biological reduction of nitrogenous oxides. Strong graduate background in biochemistry and/or microbiology essential with interest in physicochemical techniques. Starting salary: \$12,000 per annum. Send résumé and names of references to: **D. C. Wharton, Ph.D., Department of Biochemistry, The University of Texas Health Science Center, San Antonio, Texas 78284. An Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available immediately to study connective tissue changes with aging. Ph.D. in biochemistry with background and experience in protein chemistry, knowledge of tissue culture and immunology helpful. Curriculum vitae and references should be sent to: **Dr. Donald J. Cannon, Medical Research Service, VA Hospital, 300 East Roosevelt Road, Little Rock, Arkansas 72206. University of Arkansas for Medical Sciences is an Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available immediately for a recent Ph.D. Research deals with the structure and function of membrane proteins with emphasis on the localization, isolation, and characterization of cell surface receptors on normal and tumor cells. Send curriculum vitae and references to: **Dr. Robert S. Molday, Department of Biochemistry, University of British Columbia, Vancouver, British Columbia, Canada V6T 1W5.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION IN ANATOMY:** medical school full-time research associate to develop an independent and/or collaborative biomedical research program in either connective tissue histochemistry or neuroendocrinology. Salary negotiable depending on qualifications and experience; available 1 July 1978. Send résumé and three letters of recommendation to: **Dr. P. G. Iatridis, Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN BIOCHEMISTRY:** medical school full-time research associate to develop an independent and/or collaborative biomedical research in biochemistry of platelets, with emphasis on effects of nucleotide analogs. Salary negotiable depending on qualifications and experience; available 1 July 1978. Send résumé and three letters of recommendation to: **Dr. P. G. Iatridis, Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN PHYSIOLOGY:** medical school full-time research associate to develop independent and/or collaborative biomedical research in blood coagulation and/or platelet aggregation. Salary negotiable depending on qualifications and experience; available 1 July 1978. Send résumé and three letters of recommendation to: **Dr. P. G. Iatridis, Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN PHYSIOLOGY:** medical school full-time research associate to develop independent and/or collaborative biomedical research program in fibrinolysis. Salary negotiable depending on qualifications and experience; available 1 July 1978. Send résumé and three letters of recommendation to: **Dr. P. G. Iatridis, Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION

Available 1 June 1978 for a recent Ph.D. in biochemistry for studies on the structure and mechanisms of regulation of enzymes in amino acid metabolism. Training and research experience in enzymology and/or protein chemistry required. Submit curriculum vitae, graduate transcript, abstract of doctoral dissertation (or reprints of papers), and have three letters of recommendation sent to:

**Professor Prasanta Datta  
Department of Biological Chemistry  
The University of Michigan Medical School  
Ann Arbor, Mich. 48109**

A 1- to 3-year **POSTDOCTORAL POSITION** available immediately for research related to binding of fluoride by bacteria. Background in handling radioisotopes, bacteria, and in permeability kinetics is desirable. Salary: \$12,000 to \$14,000. Send curriculum vitae to: **Dr. William W. Yotis, Department of Microbiology, Loyola University Medical Center, 2160 South First Avenue, Maywood, Illinois 60153.**

*Equal Opportunity Employer and Educator, M/F*

**POSTDOCTORAL RESEARCH—DEVELOPMENTAL NEUROCHEMISTRY:** an immediate position for research on the effects of prenatal exposure to inhalation anesthetic on CNS development. A working knowledge of GLC techniques is preferred but not essential. A strong interest in developmental neurobiology and neurochemistry is required. The minimum starting salary is \$10,000. Please send curriculum vitae and the names of three references to: **Dr. R. C. Wiggins, Department of Neurobiology and Anatomy, The University of Texas Medical School, P.O. Box 20708, Houston, Texas 77025.**

**PRE- AND POSTDOCTORAL POSITIONS** are available for studies on the protein synthesizing system with special emphasis on ribosomes (topography, biogenesis, and function) under various conditions of growth and development. Teaching opportunities available. Reply with résumé to: **Professor Bruce H. Sells, Laboratories of Molecular Biology, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3V6.**



**Re-advertised post**

## free university amsterdam

The Institute of Earth Sciences of the Free University, Amsterdam (The Netherlands) invites applications for the position of

### full professor

in the Department Ore Geology-Petrology-Mineralogy.

Candidates should have a sound knowledge of physical chemistry and geochemistry and substantial research and teaching experience in the application of that field to (ore) petrological and (ore)mineralogical problems.

The duties of the appointee will include teaching graduate students in the discipline mentioned. He will be expected to take active part in the research projects of the department, including supervision of post-graduate studies.

The appointee will be expected to contribute to the organizational duties of the department and to promote close cooperation with the corresponding department of the University of Amsterdam.

The salary range is between Dutch guilders 77,000 and 121,000/year, (exclusive holiday-allowance), depending on age and experience.

The Free University is a private, fully state financed, university with a Christian charter. Further information on this point will be sent to applicants.

Additional information can be obtained from Prof. dr. J.R. van de Fliert, telephone 020 - 548 24 34.

Applications, including a curriculum vitae, a list of publications and the names of three referees should be submitted before 30th September 1978 to the Personnel Department, De Boelelaan 1105, P.O. Box 7161, Amsterdam, quoting reference number 330-438.



### CSIRO POSTDOCTORAL RESEARCH FELLOW DIVISION OF ENVIRONMENTAL MECHANICS CANBERRA, A.C.T.

CSIRO has a broad charter for research into primary and secondary industry areas. The organization has approximately 7,000 employees, 2,300 of whom are research and professional scientists, located in divisions and sections throughout Australia.

**General:** research in the division is aimed primarily at gaining a better understanding of biological and physical processes of the soil-plant-atmosphere system. Attention is directed particularly to the transport of energy, water, nutrients, and other materials in this system. Facilities include laboratories for soil physics, solar radiation, fluid mechanics, micrometeorology, and physiology, as well as mobile laboratories for study of the field environment. The laboratory has a large and well-instrumented boundary layer wind tunnel and is linked by teletype with the CSIRO CYBER76 computer. There is access to CERES, CSIRO's large controlled environment facility, which is also nearby. The division has a permanent micrometeorology field site located 45 km from Canberra.

The staff at present includes eight research scientists (biologists, physicists, and mathematicians) together with experimental officers and technical staff. Appointments are, at present, proposed for at least two of the following four positions:

#### **AERODYNAMICS OF THE ATMOSPHERIC BOUNDARY LAYER (416/34)**

The appointee will work within the micrometeorology program where research is concentrated upon the problems of momentum, mass, and heat transfer in turbulent shear flows over irregular and spatially variable surfaces, and in the wakes of bluff bodies in such flows. Parallel and complementary investigations are conducted in the field and in the wind tunnel. The tunnel has a working section of 2 m by 0.7 m and 12 m long, is suitable for simulation of atmospheric shear flows, and is fully instrumented and on-line to a PDP11/40 digital computer with magnetic tape and disk storage for data recording and analysis.

**Duties:** to contribute to the theory of atmospheric transport processes in the lower atmosphere, with special reference to turbulent shear flows over natural surfaces and around bluff bodies; and to design and participate in associated field and/or wind tunnel experiments.

#### **PHYSICS OF FERTILIZER USE (416/35)**

The appointee will work within the physical ecology program which is already investigating the exchange of gaseous nitrogen compounds between soils, plants, and the atmosphere in collaboration with soil scientists and agronomists from other CSIRO divisions. The research is to be broadened to embrace various physical aspects of fertilizer use, such as the efficacies of fertilizer placement, the transport of nutrients by leaching, dispersion, and absorption by plants and soils, the effects of the soil microclimate on microbiological activity and chemical transformations in soils and the exchange of other elements such as sulfur between soils, plants, and the atmosphere. The work is aimed at improving agronomic techniques for fertilizer use.

**Duties:** to investigate in the field, and in the laboratory, soil physical processes involved in the transport, absorption, and loss of fertilizers applied to the soil.

#### **HYDRODYNAMIC DISPERSION IN POROUS MEDIA (416/36)**

The appointee will work within the soil physics program where investigations of aspects of the movement of dissolved substances by water through soil and porous materials are under way.

**Duties:** to investigate theoretically and experimentally hydrodynamic dispersion in porous materials, and in particular to consider situations relevant to inorganic fertilizer placement and movement.

#### **FIELD APPLICATIONS OF SOIL PHYSICS (416/37)**

The laboratory has contributed substantially to theoretical and experimental investigations of water and solute movement in soils and other porous materials. We seek to encourage the wider practical use of these results in agriculture, hydrology, and so forth. Preference will be given to applicants combining theoretical insight with experimental skills.

**Duties:** field application of contemporary soil physics theory, especially results from this laboratory.

#### **The following conditions apply to all positions:**

**Qualifications:** applicants should have a Ph.D. degree or equivalent, supported by evidence of proven ability in research.

**Salary:** research scientist/senior research scientist: A\$14,639 to A\$21,267 per annum. A scientist with an outstanding research record may be offered appointment at a higher level.

**Tenure:** a fixed term appointment of 3 years is envisaged. In exceptional circumstances an indefinite appointment may be offered. Both carry superannuation benefits.

Applications, stating full personal and professional details, the names of at least two professional referees, and quoting the appropriate reference number should reach:

The Chief,  
CSIRO Division of Environmental Mechanics  
P.O. Box 821  
Canberra City, A.C.T., 2601  
AUSTRALIA

by 19 May 1978.

## POSITIONS OPEN

- 1) **POSTDOCTORAL POSITION** for electrochemist. Research on electrodeposition of metals in magnetic fields. \$12,000 per year.
- 2) **GRADUATE RESEARCH ASSISTANTSHIPS:**
  - (i) electrodeposition of metals in magnetic fields, \$5,000 per year.
  - (ii) in-situ electron microscope studies of aerosol-gas interactions, \$5,000 per year.

Contact: **J. Dash, Physics Department, Portland State University, Portland, Oregon 97207. Equal Opportunity/Affirmative Action Employer. All interested persons are encouraged to apply.**

**POSTDOCTORAL RESEARCH ASSOCIATE IN BIOCHEMISTRY**—An active research group investigating several problems of biologic interest has an opening for an ambitious scientist with training in the physical and organic chemistry of proteins. The research will involve the modification and labeling of proteins to be used for the study of protein-protein and protein-cell interactions. Salary will be competitive and dependent on training and experience. Send curriculum vitae and names of three references to: **Department of Biochemistry, Box 8F, State University of New York, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York 11203. Equal Opportunity/Affirmative Action Employer.**

### THE NATIONAL RESEARCH COUNCIL

The Division of Medical Sciences of the Assembly of Life Sciences, National Research Council, seeks candidates for three professional staff positions.

**PROFESSIONAL STAFF OFFICER** for programs in maternal, child, and family health research and in the field of genetics. Responsibilities will include development of programs and proposals in the above fields and specifically in childhood statistics, placental metabolism of toxic agents, and consequences to mother and child of teenage pregnancy. Applicants should have Ph.D. or M.D. and experience in human genetics, pediatrics, or reproductive biology.

**PROFESSIONAL STAFF OFFICER** for program in the health effects of low-level ionizing radiation. Responsibilities will include the professional staffing for this program, arranging meetings and site visits, and participating in the development of the report. M.S., Ph.D., or M.D. preferred, plus experience in radiation-biology, medicine, or related fields.

**PROFESSIONAL STAFF OFFICER** for program in trauma research. Responsibilities will include professional staffing of this program on analysis of data on automobile crash restraints, collection and distribution of analytic data, arranging meetings, and participation in preparation of an analytic report. M.D. or Ph.D. in biological science preferred and experience in trauma or biological engineering is highly desirable.

Salaries commensurate with education and experience. Submit curriculum vitae and references to: **Daniel L. Weiss, M.D., Executive Secretary, Division of Medical Sciences, National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418.**

*An Equal Opportunity Employer*

**RESEARCH ASSOCIATE** position available from 1 July 1978 for Ph.D. biochemist. At least 2 years of research experience with eukaryotic DNA polymerases, purification of chromosomal nonhistone proteins, and maintenance of tumor cells in culture are desirable. Please send résumé and the names of three referees to: **Dr. Subhash Basu, Department of Chemistry, Biochemistry and Biophysics Program, University of Notre Dame, Notre Dame, Ind. 46556.** Deadline: 24 May 1978.

**RESEARCH ASSOCIATE—PEDIATRICS:** Ph.D. in physiology or biochemistry relating to CHO metabolism with emphasis on the role of glucagon. Must have experience in radioimmunoassay procedures including that of insulin, glucagon, and cAMP, radioreceptor assays using plasma liver membranes, glucose kinetic analyses and animal surgery including fetal sheep catheterization. Duties are to plan and conduct experiments relating to the mechanisms of action of glucagon, ontogenesis of hormone secretion and action, and mechanism controlling nutrient transfer in utero as well as adaptation to newborn life. Submit curriculum vitae and letters of recommendation to: **William K. Schubert, M.D., Chairman, Search Committee for Pediatric Endocrinology, Children's Hospital Medical Center, Elland and Bethesda Avenue, Cincinnati, Ohio 45229.**

## POSITIONS OPEN

**PROFESSOR AND CHAIRMAN**—The Department of Medical Care Organization, School of Public Health, has an active teaching (master's and doctoral) and research program, with a current faculty of 12. The teaching program is developing close links with two related departments, Hospital Administration and Health Planning and Administration. The search committee is seeking an established scholar, who is able to develop and maintain balanced excellence in teaching and research in the field of medical care, and to exercise leadership within the department and among his/her school colleagues. Contact: **Fred Munson, Chairman, Search Committee, School of Public Health, University of Michigan, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer.**

### PROFESSOR DEPARTMENT OF MICROBIOLOGY

Our most senior professor is moving on to become a department head, providing an opportunity for an outstanding research scientist and teacher to join our department. A candidate for this position is expected to mount a major program in molecular and genetic aspects of bacteriology (for example, recombinant DNA), virology (for example, oncogenic), or immunology (for example, tumors, transplantation). The candidate must be able to direct the training of six to ten pre- and/or postdoctoral students and secure the operating research resources for their work. We can provide prime space, an enthusiastic and productive research environment, a challenge in professional and graduate education, and a stimulating urban setting. Salary negotiable.

Please send letters of interest with curriculum vitae, or nominations, to: **Dr. Sheldon Dray, Professor and Head, Department of Microbiology, University of Illinois at Medical Center, P.O. Box 6998, Chicago, Ill. 60680.**

**RESEARCH ASSOCIATE.** Positions will be available July or August 1978 at the Lady Davis Institute, Montreal, for molecular biologists to join group investigating legume gene activity during symbiotic nitrogen fixation. Experience with mRNA and cDNA characterization or restriction endonuclease mapping would be an asset. Salary range: \$11,000 to \$13,000. Apply to: **Dr. H. M. Schulman, John Innes Institute, Colney Lane, Norwich, England NR4 7UH.**

**RESEARCH SCIENTIST—ESTUARINE DYNAMICS.** Applications are invited for a 2-year research position specializing in the physical aspects of estuarine and coastal circulation. We are expanding the present base of estuarine research which includes interest in the theoretical and experimental aspects of bottom boundary layer processes, sediment transport, and numerical hydrodynamic and dispersion modelling. Interested candidates should be prepared to take a leadership role in their area of expertise. Minimum qualifications: doctorate or equivalent professional degree and closely related research experience. Salary range: \$14,700 to \$22,884, depending upon experience. Send résumé, names of three references, and summary of research interests, no later than 15 May 1978, to: **Wendell S. Brown, Department of Earth Sciences, James Hall, University of New Hampshire, Durham, N.H. 03824. Affirmative Action/Equal Opportunity Employer.**

### RESEARCH SCIENTIST

**BIOCHEMISTRY—NUTRITION:** the Port Aransas Marine Laboratory of the University of Texas Marine Science Institute is seeking a research scientist for a program of research and training in mariculture. The successful applicant will be expected to elucidate the basic nutritional requirements of selected species of marine organisms and to collaborate in the establishment of managed self-sustaining food chains. A Ph.D. in biochemistry and several years experience in the field are required. Send résumé to: **Dr. Oswald Roels, Director, The University of Texas Marine Science Institute, Port Aransas Marine Laboratory, Port Aransas, Texas 78373.** For further information, telephone 512-749-6757. *An Equal Opportunity/Affirmative Action Employer.*

### RESEARCH VIROLOGIST—M.S. or Ph.D.

Training and experience in fields of virology and immunology are essential. Responsibilities: to assist in developing new poultry biologics for the largest producer.

Applicants should submit a curriculum vitae and at least three references to: **Dr. Hiram N. Lasher, Sterwin Laboratories Inc., Hillsboro, Del. 19966.**

## POSITIONS OPEN

# RESEARCH BIOCHEMIST

B.S. or M.S. with a strong background in biochemistry; at least 1 or 2 years of experience working in enzymology and with radioisotopes, column chromatography, spectrophotometry, small laboratory animals and other standard biochemical techniques desired to conduct basic studies on hormone action and structure and function of membrane receptors. Opportunity to publish and continue schooling toward doctorate in a professional environment with excellent equipment, facilities, and fringe benefits. Please send résumé in confidence to: **W. T. Jackson, Employment Supervisor.**

## MERCK & CO., INC.

P.O. Box 2000  
Rahway, N.J. 07065  
*Equal Opportunity Employer, M/F*

### SCIENCE WRITER

*Science* is looking for a scientist with interests and ability in writing to prepare material for the Research News section of the magazine. The position requires good judgment as to what is significant, ability to seek out and gather information from others, and related journalistic skills, some of which may be acquired on the job. This position offers the chance to broaden one's experience and to gain a unique perspective on research with some of the best scientists in the country as tutors.

Individuals who do not wish to follow traditional academic career patterns may find in this opportunity an alternative to postdoctoral research appointments. We are interested in applicants with training in one or more of the physical sciences. Training to the Ph.D. and some journalistic experience are preferable. Address applications, including résumé and statement of interests, to **Allen L. Hammond, Science, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. An Equal Opportunity Employer.**

### SENIOR ICE PHYSICIST

U.S. Coast Guard R & D Center, Groton, Connecticut. Responsible for the planning and performance of all ice research conducted at the Research and Development Center, including projects in support of Coast Guard operations in polar latitudes and such domestic areas as directed. Work requires in-house laboratory and field research, as well as external cooperation with other governmental agencies, international organizations, and universities. Results of research are used to support Coast Guard missions by providing techniques for determination of ice characteristics and the dynamics of ice movement. Applicants should be familiar with ice field measurement techniques and be conversant with the use of computers and modern methods of remote sensing ice characteristics. Incumbent must be able/willing to perform fieldwork including cruises on icebreakers, for at least 1 month per year. Ph.D. in physics, oceanography, or equivalent required. Salary commensurate with education/experience. Career Civil Service position. Submit SF-171 and current list of publications to: **Civilian Personnel (S), U.S. Coast Guard R & D Center, Groton, Conn. 06340.** Applications close 15 June 1978. *Equal Opportunity Employer, M/F. U.S. citizenship required.*

### STAFF ASSOCIATE

Staff position with research group available 1 July 1978 for studies of coronary blood flow. Required: B.S.-Ph.D. and 2 years of investigative experience; prior use of radiopharmaceuticals, scintillation cameras and radioactive microspheres. Send curriculum vitae to: **Dr. Paul J. Cannon, Columbia University, College of Physicians and Surgeons, 630 West 168 Street, New York, New York 10032.**

*Equal Opportunity/Affirmative Action Employer*

# NEW ZEALAND SENIOR AND POSTDOCTORAL RESEARCH FELLOWSHIPS

The New Zealand National Research Advisory Council invites applications for ten senior and postdoctoral fellowships to be taken up in New Zealand in 1979. The awards will be for scientific research in government departments. A good working knowledge of English is required. There is no restriction regarding nationality of applicants, but successful candidates must meet the requirements of the New Zealand immigration authorities.

A grant equivalent to return economy class air fares from the fellow's home to the New Zealand institution will be made. While in New Zealand reasonable travelling expenses incurred in connection with the research work will be paid.

All emoluments are taxable.

**Senior Research Fellowships**—Applicants should possess a Ph.D. degree or higher qualification or have a distinguished record of scientific research. The fellowships are intended for persons who have had considerable professional experience and possess specific expertise in a field of particular interest to New Zealand. Fellowships are normally for a period of from 9 months to 1 year. If a fellow's spouse accompanies him/her, a grant equivalent to his/her return fare will be paid provided the fellowship is for a term of at least 9 months. If applicable, the employer's contribution to a superannuation scheme will be paid. The emoluments will range from NZ\$14,966 to NZ\$22,403 per annum at 15 May 1977 rates.

**Postdoctoral Research Fellowships**—Applicants should possess a Ph.D. or equivalent degree. The fellowships are intended for research workers who are recent graduates and have had some research experience since graduation. Fellowships are normally for a period of from 2 to 3 years. A grant equivalent to return economy class air fare for a fellow, spouse, and dependent children will be paid provided they join him/her within 6 months. A grant will also be made towards the cost of transport of personal effects. The emolument will be NZ\$12,044 per annum at 15 May 1977 rates.

Application forms and further particulars may be obtained from: **National Research Advisory Council, Box 12240, Wellington, New Zealand; the Senior Scientific Adviser, New Zealand High Commission, New Zealand House, Haymarket, London S.W.1 Y4TQ England; from the New Zealand Embassy, 19 Observatory Circle, NW, Washington, D.C. 20008; from the New Zealand High Commission, Suite 804, Commonwealth Building, 77 Metcalfe Street, Ottawa, Canada K1P 5L6; from the New Zealand High Commission, Commonwealth Avenue, Canberra 2600, A.C.T., Australia; from the New Zealand Embassy, 20-40 Kamiyama-cho Shibuya-ku, Tokyo 150, Japan; from the New Zealand Embassy in Athens, Bangkok, Bonn, Brussels, The Hague, Jakarta, Lima, Paris, Rome, Santiago, Seoul, Vienna; from the New Zealand Consulate-General in Geneva, Sydney; from the New Zealand Commission in Hong Kong; and from the Office of the High Commissioner for New Zealand in Kuala Lumpur and Singapore.**

Applications must reach the council's office by 1 September 1978. Late or incomplete applications will not be accepted.

# DIRECTOR BIOSCIENCES RESEARCH LABORATORY

3M, a major R&D-minded organization has an immediate opportunity for an imaginative bio-science professional with a strong ongoing interest in research. This position calls for an advanced degree in Pharmacology, Biochemistry, or Bioengineering and at least 10 years biologically oriented research and administrative experience.

Responsibilities involve management of central research laboratories' expanding group of pharmacologists, immunologists, biochemists, bio-engineers and biomaterial scientists. This research is directed to provide a broad technology base for new products that support the continued growth of 3M's health care business.

Located at 3M Center in St. Paul, Minnesota, we offer a competitive salary, excellent benefits and a challenging opportunity. Send your resume including salary history/requirements in confidence to:

**Dennis G. Nelson**  
**Technical Placement Manager**  
3M COMPANY 3M CENTER  
St. Paul, Minnesota 55101



People still count here

We Are An Equal Opportunity Employer M/F

# CSIRO RESEARCH SCIENTIST (SENIOR MARINE CHEMIST) DIVISION OF FISHERIES AND OCEANOGRAPHY SYDNEY, N.S.W.

**Field: marine chemistry.**

**General:** CSIRO has a broad charter for research into primary and secondary industry areas. The organization has approximately 7000 employees, 2,300 of whom are research and professional scientists, located in divisions and sections throughout Australia.

The division is Australia's principal marine research institution with an annual budget of about A\$5.5 million and about 60 scientists and 100 support staff investigating the physical, chemical, and biological features including fisheries of the oceans around Australia. Headquarters of the division are at Cronulla, Sydney, with regional laboratories in Perth, Brisbane, and a field laboratory in Karumba, Queensland. On-line access to a Cyber 76 computer is available. Two well-equipped medium-sized chartered vessels are available for oceanographical research and there are several smaller CSIRO vessels. Generous removal and resettlement costs including rental assistance for a reasonable period will be paid.

**Duties:** as head of the division's Chemistry Group, the appointee will be responsible for developing new expanded research programs in marine chemistry, involving the recruitment of additional staff and facilities. Present fields of interest are concerned with metal speciation nutrient cycling and tagging in open sea and estuarine waters. The appointee will be expected to plan an expansion of the division's chemistry program into other fields, including his/her own specialty.

**Qualifications:** for this senior appointment, a person of outstanding research experience and ability, and with experience in leading a research group is required. Minimum qualifications are a Ph.D. or equivalent together with considerable postdoctoral experience in marine chemistry.

Prospective applicants should contact D. J. Rochford, the Chief of the Division, if further details are required.

**Salary:** dependent upon experience within the ranges: principal research scientist: A\$22,066 to A\$25,029 per annum or, senior principal research scientist: A\$26,378 to A\$28,979 per annum.

**Tenure:** indefinite with superannuation.

Applications quoting reference number 320/597 and stating full personal and professional details, and the names of at least two referees should reach:

**The Chief, Division of Fisheries and Oceanography**  
**CSIRO**  
**P.O. Box 21**  
**Cronulla, N.S.W. 2230, Australia**

by 19 May 1978.

# AAAS Memberships and Subscriptions

• Whenever you write us about your membership or subscription, please attach a **Science** address label to ensure prompt service.

• **Mail to:** Membership and Subscription Records, AAAS, 1515 Massachusetts Ave., NW, Washington, D.C. 20005.

☐ **Change of Address:** Please provide 6 weeks' notice. Paste an address label from a recent issue in the space provided. Print new address below.

☐ **Query:** If you have a question, place your address label here and attach this form to your letter.

• **To join or subscribe:** Mail this form with your payment, mark the appropriate boxes, and print your name and address in the space below. (For renewals, attach label.)

☐ **Membership rates** (individual only)  
☐ \$31 USA ☐ \$41 Canada, PUAS ☐ \$44 Foreign  
☐ \$61 Air-surface delivery via Holland

☐ **Subscriber rates**  
☐ \$65 USA ☐ \$75 Canada, PUAS ☐ \$78 Foreign  
☐ \$95 Air-surface delivery via Holland

☐ Payment enclosed ☐ Bill me later

Name Please print

Address

City State Zip

MT04

ATTACH  
LABEL  
HERE

## POSITIONS OPEN

### RESEARCH INSTRUCTOR

Department of Pathology, University of Alabama in Birmingham. Position is non tenure-track. Applicant should be self-supporting (have own research funds and provide own salary), and will be expected to participate in federally sponsored (NASA) contract research. The research will be in two areas: study of the interaction of lipid vesicles with mammalian cells in culture and applications of electrophoretic separation techniques to model whole-cell systems, that is, murine lymphocytic leukemia and thymoma cells in suspension culture. Ph.D. in cellular physiology or related discipline with postdoctoral experience is required. Applicant should have experience in the following techniques: thin section and freeze-fracture electron microscopy; cell culture techniques; induction of mitotic synchrony and cell cycle analysis; iodination of plasma membrane proteins and SDS-polyacrylamide gel electrophoresis; and complement-mediated cytotoxicity assays.

Send applications to: **Dr. Jere P. Segrest, Department of Pathology, University of Alabama in Birmingham, Birmingham, Alabama 35294.** Deadline for applications: 30 April 1978. *An Affirmative Action/Equal Opportunity Employer.*

### RESEARCH INSTRUCTOR (HALF-TIME)

Salary is dependent upon grant support. Half-time salary is \$9000 per year. Duties are entirely related to cell separation experiments. Candidates must have previous experience in the separation of cells by centrifugation in continuous gradients and must have either a Ph.D. or an M.D.

Write: **Thomas G. Pretlow, II, M.D., Department of Pathology, University of Alabama in Birmingham, Birmingham, Alabama 35294.** Deadline for applications: 30 April 1978. *An Affirmative Action/Equal Opportunity Employer.*

Applications from Ph.D.'s are invited for **TEACHING POSITIONS** in the following courses:

<b>Gross Anatomy</b>	<b>Neuroanatomy</b>
<b>General Biological</b>	<b>Histology</b>
<b>Chemistry</b>	<b>Nutrition in</b>
<b>Biomedical</b>	<b>Medical Practice</b>
<b>Statistics</b>	<b>Pharmacology</b>
<b>Medical Writing</b>	<b>Haematological</b>
<b>Techniques</b>	<b>Studies</b>
<b>Genetics</b>	<b>Microbiology</b>
<b>Embryology</b>	<b>Pathology</b>
<b>Physiology</b>	<b>Immunology</b>
<b>Epidemiology</b>	<b>Parasitology</b>

The University is located in the West Indies. Please send curriculum vitae to:

**St. George's University**  
c/o Foreign Medical School Service Corp.  
One East Main Street  
Bay Shore, New York 11706

### TEACH SCIENCE AND/OR MATHEMATICS IN AN INDEPENDENT SCHOOL

A number of excellent opportunities at middle and secondary school levels in independent (private) schools throughout the United States. Positions in chemistry, physics, biology, earth sciences, and general science (as well as math). Please write, if possible enclosing résumé, to: **Independent Educational Services, 80 Nassau Street, Princeton, N.J. 08540.** (A nonprofit corporation.)

**TISSUE TYPING TECHNOLOGIST**—Supervisory technologist position in Transplantation Immunology Laboratory in Southeast. Responsibilities include HLA typing, antibody screening, mixed lymphocyte culture, and other immunological testing for lymphocyte function. Must be able to develop new procedures. Interested parties please reply with curriculum vitae and salary requirements to: **Personnel Department, University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216.** *An Equal Opportunity Employer, M/F.*

## POSITIONS OPEN

**RESEARCH ASSOCIATE GEOCHEMIST.** Research position in geochemistry to conduct independent research projects in the chemistry and flux dynamics of oceanic particulate matter and to initiate seagoing programs. A Ph.D. in geology or geochemistry is required, plus 1 or 2 years of postdoctoral experience. Familiarity with particulate matter sampling and analysis, SEM-EDAX atomic absorption, and data reduction techniques is highly desirable. Seagoing experience is preferred. Please submit résumé to: **Dr. Allen Z. Paul, Lamont-Doherty Geological Observatory of Columbia University, Palisades, N.Y. 10964.** *An Equal Opportunity/Affirmative Action Employer, M/F.*

### STAFF POSITION— AQUACULTURE RESEARCH DEVELOPMENT THE INTERNATIONAL CENTER FOR LIVING AQUATIC RESOURCES MANAGEMENT INC. (ICLARM)

Applications are invited for a senior staff appointment in aquaculture research development at ICLARM headquarters, Manila, Philippines, to be filled by fall 1978. Applicants should have Ph.D. in the biological sciences and demonstrable experience and competence in the organization and conduct of research, preferably on reproductive physiology, nutrition, or pathology of aquatic organisms. Strong personal initiative and familiarity with current aquaculture research and development efforts on the international level are highly desirable. The successful candidate will be expected to assist in the formulation, implementation, and evaluation of cooperative research programs to be undertaken with national institutions in the context of national and/or regional programs. Initial salary is negotiable, not subject to Philippine income tax, with excellent fringe benefits, including removal cost. Application deadline is July 1978. Applicants should submit curriculum vitae, statement of research experience, and the names and addresses of three references to: **Dr. Ziad Shehadeh, ICLARM, P.O. Box 1501 MCC, Makati, Metromanila, Philippines.**

The University of California, Irvine, Department of Pathology, is recruiting for a **VETERINARY PATHOLOGIST** with a D.V.M. and a Ph.D. in pathology. Faculty appointment at professor level. Required: administrative experience in a Department of Pathology in a school of veterinary medicine; experience in the direction and organization of research programs; experience in teaching of comparative pathology and the practice of comparative pathology related to vivarium and zoos. Must be interested in establishing a course at the graduate level in comparative pathology. *All qualified candidates welcome; minorities and women encouraged to apply.* Send curriculum vitae and references to: **E. R. Arquilla, M.D. Ph.D., Department of Pathology, University of California, Irvine, Medical Center, 101 City Drive South, Orange, California 92668** by 31 May 1978.

## TRAINING PROGRAM

### ENVIRONMENTAL PROGRAMS

The School of Public and Environmental Affairs, Indiana University, seeks qualified individuals interested in pursuing a M.S. degree in environmental science. A degree in science, mathematics, or engineering is necessary for admission to the program. Financial support is available to qualified applicants. Internship and placement services are provided. For further information write: **Director, Environmental Programs, SPEA, Indiana University, Bloomington, Ind. 47401.**

## GRADUATE STUDY

### PREDOCTORAL TRAINING IN REPRODUCTIVE BIOLOGY— ENDOCRINOLOGY

#### DEPARTMENT OF BIOLOGICAL SCIENCES NORTHWESTERN UNIVERSITY

Applications are being accepted for fall 1978. The department offers training in a diverse number of fields related to reproductive biology including: neuroendocrinology, behavioral endocrinology, photoperiodism, immunoreproduction, neuroreceptors, and immunocytochemistry. Send inquiries to: **Fred W. Turek, Reproductive Biology-Endocrinology Program, Department of Biological Sciences, Northwestern University, Evanston, Illinois 60201.**

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIPS IN NEUROBIOLOGY.** Open to holders of Ph.D., M.D., D.Sc. Stipends (depending on experience): \$11,000 to \$16,000. Available preceptors: Doctors Wayne Albers, Gilbert Ashwell, Roscoe Brady, Harold Gainer, Helen Hess, William Jakob, Philip Nelson, Marshall Nirenberg, Sean O'Reilly, Thomas Reese, and Henry DeF. Webster. Send curriculum vitae and names of three referees to:

**Dr. Sean O'Reilly**  
**George Washington University Medical Center**  
2150 Pennsylvania Avenue, NW,  
Washington, D.C. 20037

### POSTDOCTORAL RESEARCH FELLOWSHIPS IN PRIMATE REPRODUCTIVE ENDOCRINOLOGY

Current studies emphasize neuroendocrine control of gonadotropin secretion and related systems in the rhesus monkey. Stipends, provided by NIH and Ford Foundation training grants, dependent on years of postdoctoral experience at time of entry. **E. Knobil, Department of Physiology, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania 15261.**

### POSTDOCTORAL FELLOWSHIPS GEOSCIENCES

Applications are invited for postdoctoral research fellowships in geology, geophysics, geochemistry, and planetary sciences. Six or more openings may be funded in the 1978-1979 academic year. Included, subject to funding, is a seismologist interested in synthesis of earthquake data in terms of global tectonic models and thermal-mechanical processes at plate boundaries. Contact: **Dr. Barclay Kamb, Chairman, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, Calif. 91125.** *Caltech is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWSHIP in human biochemical genetics.** Available for Ph.D. or M.D. with strong laboratory interest to study collagen biosynthesis in human fibroblasts and inborn errors of collagen metabolism. Experience in enzymology, collagen chemistry, or cell culture is desirable. Applicants should respond with curriculum vitae and references to:

**Dr. Sheldon R. Pinnell**  
**Associate Professor of Medicine**  
**Duke University Medical Center**  
Box 3135 Hospital  
Durham, N.C. 27710  
*An Equal Opportunity Employer*

**POSTDOCTORAL RESEARCH FELLOWSHIP** for candidate with experience in lipid chemistry, lipid biochemistry, and/or nuclear magnetic resonance spectrometry who is interested in studying lipid interactions and membrane structures by use of NMR techniques (carbon-13, and so forth). Send curriculum vitae, list of publications, and names of three references to: **the Hormel Institute, University of Minnesota, Austin, Minnesota 55912.** *An Equal Opportunity/Affirmative Action Institution.*

Yale University, Department of Psychiatry, has **POSTDOCTORAL FELLOWSHIP** openings for training in research in the biological sciences related to psychiatry. Includes research experience with a faculty member. Supply curriculum vitae, transcript, references, statement of goals, and a research proposal. Apply by 5 May to: **J. P. Flynn, Ph.D., Department of Psychiatry, Yale University School of Medicine, 34 Park Street, New Haven, Conn. 06519.**

### POSTDOCTORAL FELLOWSHIPS FOR RESEARCH TRAINING IN HYPERTENSION

Fellowships for postdoctoral hypertension research are available to individuals with the M.D. or Ph.D. degree starting July 1978. This multidisciplinary training program provides opportunities for research in pharmacological, physiological, and biochemical approaches to cardiovascular, renal, neural, and endocrine mechanisms in hypertension. For further information contact:

**Dr. E. G. Schneider**  
**Department of Physiology and Biophysics**  
**University of Tennessee Center**  
**for the Health Sciences**  
874 Union Avenue  
Memphis, Tenn. 38163

*An Equal Opportunity/Affirmative Action Employer*

Sponsored by The American Association  
for the Advancement of Science, Carnegie  
Institute of Washington and The MITRE  
Corporation...

*The Proceedings of the Conference on Na-  
tional Energy Policy*

**ENERGY**

Retail Price \$6.00 AAAS Member Price \$5.40

Send name, address and remittance to:



AAAS  
Department N4  
1515 Massachusetts Avenue, NW  
Washington, DC 20005

**Exclusive**  
**Cystine** [<sup>35</sup>S]  
**>300Ci/mmol**

HIGHEST SPECIFIC ACTIVITY AVAILABLE.  
FOR USE IN PROTEIN SYNTHESIS, PEPTIDE  
MAPPING, AND PROTEIN SEQUENCING.

**Cystine, L-<sup>35</sup>S-** >300Ci/mmol  
Aqueous hydrochloric acid solution  
(pH~2): ethanol, 9:1, shipped in dry ice.  
NEG-020 1mCi 5mCi

Not for use in humans or clinical diagnosis



**New England Nuclear**

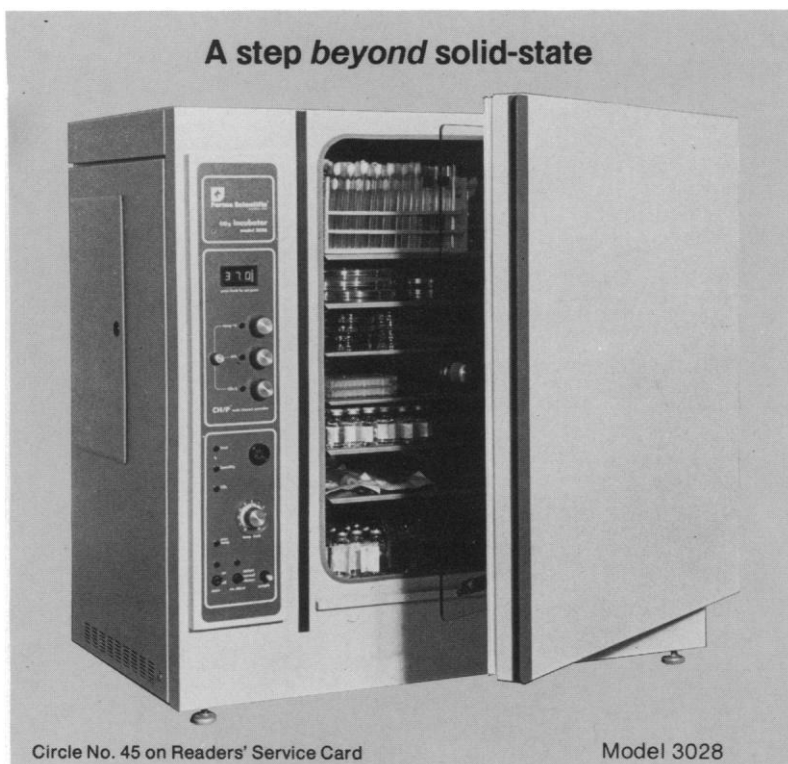
549 Albany Street, Boston, Mass. 02118  
Call toll-free: 800-225-1572  
(In Massachusetts and International: 617-482-9595)

NEN Chemicals GmbH, Dreieich, W. Germany; NEN Canada Ltd., Lachine, Quebec

Circle No. 283 on Readers' Service Card

**If it isn't Forma, it isn't CH/P™**

**A step beyond solid-state**



Circle No. 45 on Readers' Service Card

Model 3028

Forma incubators are the only incubators with the CH/P mini-computer—a multi-channel controller that delivers direct digital setpoint and digital display of temperature, CO<sub>2</sub>, and relative humidity.

CH/P eliminates obsolete hot-wire CO<sub>2</sub> sensors prone to corrosion in high humidity. A *unique* CO<sub>2</sub> Deviation Alarm guards against CO<sub>2</sub> drift from setpoint.

We've done away with outdated wet/dry bulb humidity probes; CH/P computes and controls *independent* heat sources to balance RH% against temperature setpoint.

Temperature in tenths of a degree; CO<sub>2</sub> and RH% in tenths of a percent. Only with CH/P. And only from Forma.



**Forma Scientific**  
DIVISION OF MALLINCKRODT, INC.

BOX 649 MARIETTA OHIO 45750 TELEX 24-5394  
TOLL FREE USA 800-848-3080. OHIO 614-373-4763



# AO<sup>®</sup> announces NO-FUSS PHASE.

# AO

## The new AO PHASESTAR<sup>®</sup> microscope makes phase contrast easier than ever.

There's a phase aperture viewing unit that allows you to view binocularly and quickly focus on the phase plate of the objective and the image of the annular diaphragm. This makes for fast and easy centration of annulus to phase plate.

The unit is positioned beneath the body and can be oriented to make the operating lever accessible from either side of the instrument.

The AO PHASESTAR microscope also features one-time centering of annuli.

Align each of the four annuli to its corresponding objective, and that's it. You can then rotate the turret from one position to another without centering annuli again.

Other conveniences: change working distance by changing one annulus; change to brightfield by sliding an annulus out of the optical path; adjustable illumination intensity; exclusive AO nosepiece focusing; planachromatic objectives for superior image quality and edge-to-edge flatness of field.

See for yourself how easy phase contrast can be. Ask your AO dealer representative for a demonstration. Or write for a brochure to American Optical, Scientific Instrument Division, Buffalo, NY 14215.

**AO**<sup>®</sup>  
American  
Optical