#### Interested

#### in Preserving

Science?

If your copies of Science are piling up in the corner, getting dog-eared and torn, then you need our attractive binders to keep your copies in good condition, and available for quick easy reference. Simply snap the magazines in or out in a few seconds-no punching or mutilating. Sturdily constructed, each maroon imitation-leather binder stamped in gold leaf holds one three-month volume of Science. They sell for just \$6.00 each; four binders for \$22.00. For orders outside the United States add 60¢ per binder. Imprint: name of owner, year of issues, etc., add \$1.00 per binder. (Please allow 6 to 8 weeks for delivery)

Send orders to AAAS-Binders



AMERICAN ASSOCIATION for the ADVANCEMENT of SCIENCE 1515 Massachusetts Avenue, N.W. Washington, DC 20005



In order to obtain a 10-day free trial copy of any book listed, circle the number appearing below it on the Readers' Service Card (pages 118A and 182A). All publishers represented reserve the right to bill for books not returned within 10 days after receipt.

NT TITL

Clayton: LIGHT AND LIVING MATTER: A GUIDE TO THE STUDY OF PHOTO-BIOLOGY Vol. 1—The Physical Part

BIOLOGY
Vol. 1—The Physical Part
Orig. ed. 1970 148 pp. \$4.95 Ppb.
Vol. 2—The Biological Part
Orig. ed. 1971 254 pp. 6.50 Ppb.

ROBERT E. KRIEGER PUBLISHING CO., INC. 645 NEW YORK AVENUE OR P.O. BOX 542 HUNTINGTON, N.Y. 11743

Circle No. 6 on Readers' Service Card

NATIVE AMERICAN ASTRONOMY, Edited by Anthony F. Aveni. These articles in the newly developed field of archaeoastronomy cover such topics as the astronomy and calendar of the Inca, the relationship between cosmology and planning in ancient American religious centers, and the Maya and Aztec attempt to mirror the heavens in their earthly abode. 304 pages, \$15.95, University of Texas Press, Post Office Box 7819, Austin, Texas 78712

To order this book
Circle no. 33 on Readers' Service Card

#### MARTIAN SUNSET

Genuine NASA Viking 1 high-quality FULL-COLOR ART PRINT. 22"x34". Ideal for permanent framing & display. Beautiful. \$14.95 plus \$1.05 ins. pstg.

#### WOODSTOCK PRODUCTS

P.O. Box 4087, Dept. S1, Beverly Hills, CA 90213

#### **TIME-LAPSE** photography

A complete, low-priced attachment for your motion-picture camera (8 to 35 mm.)



#### P-A-C-E-R III

P-A-C-E-R III is an adjustable electronic timer which operates the shutter of any (single-frame equipped) movie camera through a 20 inch cable release. The period is infinitely variable from 5 secs to 10 min. Battery operated for portability, it will run unattended for 50 to 600 hours depending on setting. Light sensor stops filming at sunset and starts again at dawn, if desired. Use to record plant growth, animal behavior, cloud formation, chemical reactions, crystal formation, meter readings, time-andmotion studies or any slowly changing scene. Make a low-cost record of your work — the uses are limited only by your imagination.

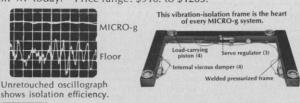
Size 3" × 5" × 6%"; weight 2 lbs. plus batteries; minimum cable release pressure 33 oz.; batteries, 12 "C" cells; battery voltage meter, Price \$159.95 POSTPAID; regulated 120 v. AC power supply \$32.50. (For Bolex specify model number) Catalog sheet available. U.S. manufactured by The Pacer Company, 1673 Woodmen Tower, Omaha, Nebraska 68102.

Circle No. 86 on Readers' Service Card



This MICRO-g<sup>TM</sup> system provides a stable and vibration-free surface for ultra-sensitive equipment, i.e., microscopes, microtomes, mask-alignment tools, wire-bonders, etc. Used for inspection, testing, assembly and quality control. Operators work better and faster. Guaranteed performance.

6 configurations, each in 3 sizes. Special sizes, too. The frame and surface-plate can be purchased separately for use as equally efficient bench-tops. Write or call for new Bulletin M today. Price range: \$910. to \$1265.



**BACKER-LORING CORPORATION**65 WALNUT STREET, PEABODY, MASS. 01960 • 617-531-3600

OS® QH® QS® OF® QU® QI®

Hellma—the largest assortment of highest precision glass and quartz cells.

Standard · Flow-through · Constant-temperature Anaerobic · Special Designs

Also available—ULTRAVIOLET LIGHT SOURCES Deuterium Lamps · Mercury Vapor Lamps

Hollow Cathode Lamps · Power Supplies



Write for literature Box 544 Borough Hall Station Jamaica, New York 11424 Phone (212) 544-9534

# 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, or national origin.

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

Display (Positions Open, Market Place, and so forth): \$145 per 25 millimeters (1 column inch), minimum, per insertion (25 millimeters equals 10 lines of 50 spaces and characters each). Ads over 25 millimeters billed at \$5.80 per millimeter. No charge for use of box number. Rates net. No agency commission for ads under 4 inches. No cash discount. Prepayment required for foreign advertising. Purchase orders and billing information required for all other ads.

Advertising closing is each Wednesday,  $3\frac{1}{2}$  weeks before Friday issue date requested. 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. 11 West 42nd Street New York, N.Y. 10036 Telephone: 212-736-1858

Blind Ad replies should be addressed as follows:

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

#### **POSITIONS WANTED**

Analyst: Ph.D. 1975, postdoctoral, environmental chemistry, physiological, marine, and aerosol experience. Many publications. Seeks research/teaching position. Box 269, SCIENCE.

Aquaculturist/Biochemist, Ph.D. 1968, German. Wide background and experience in limnology and histochemistry. Eight years of research and teaching in biochemistry (cell biology, enzymology), and 4 years in aquaculture (water reuse systems for intensive fish culture, pond fish culture). Publications. Seeks research and/or teaching position in the field of aquaculture in North or Latin America, or overseas. Box 270, SCIENCE.

Biochemical Geneticist, Ph.D. 1971. Seeks industrial, health, or administrative position. Postdoctoral experience. Publications. Experience in fungal genetics, lipid chemistry (TLC, GLC), enzyme analyses, radioisotopes. Will consider master's level position. Box 271, SCIENCE.

**Biochemist**, Ph.D. 1970. Endocrinology. Steroid hormone profiles by RIA. Radioreceptor techniques. Enzyme assays. Experience in supervision of clinical laboratory. Research and development. Box 266, SCIENCE. 7/8, 15

Biochemist-Chemist: Ph.D. Broad research and teaching experience. Publications. Experience in neurochemistry, membranes, proteins, lipid biochemistry, enzymology. Research in diabetes and metabolism. Strong background in analytical methods and radioisotopes. On medical school faculty for 6 years. Desires academic/research, industrial, or government position. Available immediately. Box 272, SCIENCE.

Clinical Chemist, Ph.D. Licensed laboratory director with 20 years of experience in university and private laboratories desires challenging position in university, industry, or private laboratory. Numerous publications. Box 273, SCIENCE.

Cytogeneticist, Ph.D.; 3 years of research experience in mammalian cytogenetics (mice, rabbits, cattle, pigs), tissue culture, lymphocytes, spermatogonia, assessing the mutagenic action of chemicals, embryo culture, testes, parthenogenesis, microscopic analysis of chromosomes; several publications. Desires research position anywhere, including overseas. Box 274, SCIENCE.

#### **POSITIONS WANTED**

Entomologist/Ecologist. Ph.D. Research experience: ecology, fruit insect pest control, and water pollution; 13 years of teaching; several publications. Seeks research/teaching position in university or government. Box 275, SCIENCE.

Environmental Toxicologist, M.Sc., Ph.D., 9 years of experience in nuclear medicine, renal hypertension, heavy metals toxicology and hematology. Seeks position in industry or clinical research. Y. Greener, 3450–14A Wayne Avenue, Bronx, N.Y. 10467. X

Microbiologist-Biochemist. Ph.D. Postdoctoral research experience in separation of small molecules-polyamines. Doctoral research experience in biochemical genetics. Glycoprotein enzyme regulation and purification. Some clinical laboratory experience. Teaching in microbiology, genetics, and general biology. Seeks teaching, research, or administrative position. Box 260, SCIENCE.

Microbiologist. Ph.D. Graduate work on microbiology of wastewater treatment. Postdoctoral work on concentration and detection of enteric viruses in water samples. Seeks position in environmental bacteriology-virology. Box 276, SCIENCE.

Nematologist-Plant Pathologist, Ph.D. Postdoctoral experience; laboratory and field investigations; teaching; fluent English, German, French, Italian. Available October 1977. Seeks research-teaching-industry position. Box 277, SCIENCE.

An experienced Neurobiologist-Neurophysiologist. M.D., principal investigator, and faculty member at medical school seeks research or academic position. Grants. Publications. Box 261, SCIENCE. X

Neurophysicist/Physicist. Ph.D. 1964. Interdisciplinary scientist/technologist. Extensive research experience with energy/information transfer/transduction mechanisms in hierarchically organized physical and biological systems. Established/managed several large RDT & E programs. Strongly interested in establishing a physics-based multidisciplinary neuroscience RDT & E program oriented to studying the hierarchical information/entropy transfer mechanisms in CNS and CVS. Seeks senior level research position in research institute or university. Box 278, SCIENCE.

Nutritionist. Ph.D. 1976, animal science. Post-doctoral experience in diabetes research. Graduate research with ruminant and nonruminant species. Research experience includes amino acid bioassay procedures, radiotracer methodology, <sup>15</sup>N analysis, intestinal fermentation techniques. Broad background in the use of purified diets. Desires academic or industrial research position. Box 279, SCIENCE.

Nutritionist. Ph.D. 1977. Research experience in cholesterol/lipid metabolism and hypocholesterolemic agents. Broad technical/instrumentation background. Seeks postdoctoral or other research position, preferably West Coast. Opportunity for teaching/administrative experience desirable. Box 280, SCIENCE.

Pharmacologist. Ph.D. 1974. Two years postdoctoral plus 1 year temporary staff. Cardiovascular/renin-angiotensin system/prostaglandins and hypertension. Standard in vitro and in vivo preparations, binding studies to brain synaptosomes and smooth muscle cell membranes. Teaching experience, publications. Desires faculty position. Box 281, SCIENCE. X

Research Assistant/Technician desires challenging position in United States/Canada. Firm background in the molecular biology of embryonic chick muscle development. Excellent publications, references. M.Sc. initiated and executed without supervision (advisor abroad). Box 263, SCIENCE.

#### **POSITIONS OPEN**

#### CARDIOVASCULAR PHYSIOLOGIST

Assistant professor (Ph.D. and/or M.D.) with interests in cardiovascular research in conscious and unconscious animals, to collaborate in a fully equipped laboratory studying myocardial ischemia. Basic science department in a large medical center. Send curriculum vitae and two letters of reference to:

Box 268, SCIENCE

#### **POSITIONS OPEN**

#### ANATOMY

The University of South Carolina, Anatomy Department, is seeking a qualified anatomist (assistant or associate professor) to fill a position for teaching human neuroanatomy to medical students. Necessary qualifications include a positive commitment to teaching, knowledge of other anatomical disciplines, involvement in research, and service to the school and university. This medical school is a new and developing school, which will admit its first class of 24 students in 1977. Submit résumé and letters of recommendation to: Professor Richard J. Weymouth, Chairman, Anatomy Department, University of South Carolina School of Medicine, Columbia, S.C. 29208.

An Equal Opportunity Employer

#### **ANATOMIST**

Applications are invited for a faculty position in anatomy that is available immediately. Rank of assistant or associate professor and salary depend on experience and qualifications. Applicants should have a productive and funded research program.

The successful candidate will be expected to continue to develop personal research projects; teach in microscopic anatomy; and to actively participate in a graduate multidisciplinary cell biology program.

Send curriculum vitae and names of three references to: Anthony J. Schmidt, Ph.D., Chairman, Department of Anatomy, Rush College of Health Sciences/Rush Medical College, Rush University Academic Facility of Rush-Presbyterian-St. Luke's Medical Center, 600 South Paulina Street, Chicago, Illinois 60612.

Rush-Presbyterian-St. Luke's Medical Center is an Equal Opportunity/Affirmative Action Employer.

## DEPARTMENT OF BIOCHEMISTRY TEXAS TECH UNIVERSITY SCHOOL OF MEDICINE

Applications are invited for a tenure-track position, ASSISTANT PROFESSOR OF BIOCHEMISTRY, which will open in the summer of 1978. The Ph.D. or an equivalent earned doctorate is required. Applicants also should have at least 2 years of post-doctoral experience and the ability to initiate an effective, independent research program in biological chemistry. The person filling this position will be involved in teaching medical students and graduate students; therefore, a commitment to teaching is essential. Preference will be given to applicants with a strong chemistry background. Send curriculum vitae, list of publications with reprints, names of at least three persons who may be contacted as references, and a summary of future research interest to: Dr. Francis J. Behal, Professor and Chairperson, Department of Biochemistry, Texas Tech University School of Medicine, P.O. Box 4569, Lubbock, Texas 79409.

Texas Tech University School of Medicine is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF BIOCHEMISTRY. A tenure-track position open 1 October 1977 or later. This department has very strong research and graduate programs in physical biochemistry and in biomembrane structure and function. Preference will be given to candidates whose research interests complement these. Candidates must have a Ph.D., post-doctoral experience, and a strong commitment to teaching and research. Send résumé, statement of current research interests and goals, and three letters of recommendation to: Chairman, Department of Biochemistry, University of Virginia, Charlottesville, Va. 22901. Deadline is 1 September 1977. The University of Virginia is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT RESEARCH IMMUNOGENETICIST. Ph.D. or D.V.M./Ph.D. with a thorough working knowledge of blood groups and biochemical polymorphisms in domestic or wild animals to develop and lead a genetics program at a federally funded primate research center. Position available 1 August 1977. Duties will consist primarily of the production and use of alloimmune blood typing reagents. Adjunct appointment in an academic department is available to well-qualified individual which will provide opportunities to participate in professional and graduate teaching. Send complete curriculum vitae including bibliography and names of at least three references to: Director, California Primate Research Center, University of California, Davis, California 95616. Closing date for applications is 1 August 1977. The University of California Employer.

State University of New York at Stony Brook—AS-SISTANT PROFESSOR OF PHYSIOLOGY AND BIOPHYSICS—We invite applications from highly qualified individuals with a commitment to teaching and research. We are especially interested in those with a background in the physiology of the kidney or in epithelial transport systems. Teaching responsibilities for professional, graduate, and some undergraduate students. Excellent facilities and opportunities for research. A curriculum vitae, list of publications, names of three references, and a summary of research interests should be sent to: Dr. William G. Van der Kloot, Professor and Chairman, Department of Physiology and Biophysics, Health Science Center, State University of New York at Stony Brook, Stony Brook, New York 11794. Equal Opportunity/ Affirmative Action Employer.

#### VISITING ASSISTANT PROFESSOR SOIL MICROBIOLOGY

The Department of Agronomy at New Mexico State University is seeking a soil microbiologist. An earned doctorate in soil science with concentration on soil microbiology is required. The initial contract is for the academic year (9 months) starting 29 August 1977, and the deadline for applications is 30 July 1977. Responsibilities will include teaching and research. Salary is negotiable with liberal fringe benefits. Direct requests for information and applications to: K. J. Lessman, Head, Department of Agronomy, New Mexico State University, P.O. Box 3-Q, Las Cruces, New Mexico 88003. New Mexico State University is an Equal Opportunity/Affirmative Action Employer.

## GEORGIA TECH ATMOSPHERIC SCIENCE PROGRAM

Associate or Full Professor positions are open in the new atmospheric science program being developed in the School of Geophysical Sciences, Georgia Tech. Talented individuals who can be dynamic in both teaching and research are being sought with demonstrated experience and background in one or more of the following areas: aerosol chemistry, aerosol physics, atmospheric modeling, boundary layer meteorology, cloud physics, experimental atmospheric studies, global or mesoscale dynamics, and synoptic meteorology. Send résumé to: D. D. Davis or C. G. Justus, School of Geophysical Sciences, Georgia Institute of Technology, Atlanta, Georgia 30332. Georgia Tech is an Equal Opportunity/Affirmative Action Employer.

BIOLOGIST to teach genetics, ecosystem ecology, and freshman biology in a small independent college. A one-semester appointment only, starting February 1978, ending 1 June 1978, while a staff member is on sabbatical. Must have had experience in teaching and have a Ph.D. or at least be in the last stages of acquiring one. Salary depends on experience and qualifications. Interested persons are invited to send curriculum vitae to: Dr. Isabel I. Royer, Chairman of the Biology Department, Western Maryland College, Westminster, Maryland 21157. An Affirmative Action and an Equal Opportunity Employer. Applications from women and minorities are encouraged.

#### CHAIRMAN DEPARTMENT OF ANATOMY

West Virginia University seeks a chairman for its Department of Anatomy. Applicant should have Ph.D. in anatomy or hold M.D. or equivalent degree and have demonstrated competence in teaching and research. Interested individuals are invited to submit credentials to: Nathaniel F. Rodman, M.D., Chairman, Anatomy Search Committee, Department of Pathology, West Virginia University Medical Center, Morgantown, West Virginia 26506 by 15 September 1977. West Virginia University is an Equal Opportunity/Affirmative Action Employer.

CHAIRPERSON, Department of Chemistry, Syracuse University. Applications and nominations are invited for this position to start on or before 1 July 1978. The Department of Chemistry has a commitment to outstanding research and teaching programs and seeks a chairperson to provide exceptional leadership in both areas. Rank and salary are negotiable and area of research is open. Candidates should have an established reputation in research with a strong interest in teaching and administration. Syracuse University is an Equal Opportunity and Affirmative Action Employer. Applicants should send a curriculum vitae and names of three or more references to: D. C. Dittmer, Chairman, Search Committee, Department of Chemistry, Syracuse University, Syracuse, New York 13210.

#### **POSITIONS OPEN**

ASSISTANT/ASSOCIATE PROFESSOR: The Department of Earth Resources is seeking a Ph.D. in forest meteorology for a teaching/research position in forest meteorology/snow hydrology/bioclimatology. The appointment is a 1-year temporary. Duties include undergraduate/graduate teaching and advising and research. Send complete résumé and references to: Dr. W. D. Striffler, Department of Earth Resources, Colorado State University, Fort Collins, Colorado 80523.

Colorado State University is an Equal Opportunity Employer and complies with Title IX requirements. Complaints should be filed with the Office of Equal Opportunity, Student Services Building.

#### BIOLOGICAL RESEARCH STAFF OFFICER

The National Academy of Sciences seeks a professional staff officer to work in such areas as tropical biology, aerobiology, and biological research resources. A doctorate or equivalent training and experience in the biological sciences is indicated, preferably with some background in working with committees in analyzing scientific issues, preparing reports, and dealing with a diversity of people, institutions, and disciplines. Knowledge of ecosystem biology, especially in the tropics, is desirable. The initial assignment will be for 2 years. Salary: \$22,000 to \$26,000. Applicants should submit résumés to: Russell B. Stevens, Division of Biological Sciences, National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418. An Equal Opportunity Employer.

CELL BIOLOGIST-GENETICIST. Teaching/research position, assistant professor, 29 August 1977, in newly established Biomedical Sciences Department. The appointee is expected to coordinate a team taught freshman-sophomore cell biology course, share teaching of a genetics course for majors, and teach a senior-graduate course in area of specialty. Research specialty should include molecular biology techniques applied to human or mammalian systems. Send curriculum vitae, list of publications, summary of research interests, and three letters of reference to: Search Committee, Department of Biomedical Sciences, Western Michigan University, Kalamazoo, Michigan 49008. An Affirmative ActionlEqual Opportunity Employer.

A CELL PHYSIOLOGIST is required by the Faculty of Medicine, Memorial University of Newfoundland. The vacancy exists in this nondepartmental medical school, which is located in the new Health Sciences Centre. The successful candidate will participate in the teaching of the cell sciences program to first-year medical students and also in other areas of the curriculum as appropriate. Opportunities for the teaching and supervision of graduate students are also available. Applicants should have an active research program in an area of eukaryote, preferably mammalian, cell physiology. Faculty members with whom the appointee could interact are working in the areas of molecular and cytogenetics; immunology; growth, development, and regulation in mammalian cells; neurosciences; biochemistry; and others. The appointment will be at the level of assistant or junior associate professor. Submit applications, together with a curriculum vitae and names of three referees to: Dr. R. C. Green, Division of Basic Sciences, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3V6.

#### DEAN OF ENGINEERING

Nominations and applications are invited for the position of dean, School of Engineering, at the North Carolina State University. The appointment is to be effective 1 July 1978, and interested persons should respond prior to 15 November 1977.

should respond prior to 15 November 1977.

The university is a large Land Grant institution with broad academic offerings, and extensive research and public service programs. The School of Engineering is one of the largest in the nation with over 3300 undergraduate and 450 graduate students. There are eight academic departments, all of which offer degree programs through the Ph.D. level, and an Extension Service.

The search committee is interested in candidates whose records of teaching, research, and administration in engineering education indicate outstanding leadership capabilities.

leadership capabilities.
Inquiries and responses should be addressed to W. H. Simpson, Secretary, Search Committee for the Dean of Engineering, "A" Holladay, North Carolina state University, Raleigh, North Carolina 27607.
Equal Opportunity/Affirmative Action Employer.

#### **POSITIONS OPEN**

## EASTERN VIRGINIA MEDICAL SCHOOL CHAIRMAN DEPARTMENT OF ANATOMICAL SCIENCES

Eastern Virginia Medical School of the Eastern Virginia Medical Authority is recruiting a chairman for the Department of Anatomical Sciences. Experience in any of the anatomical sciences is essential and commitment to an interdisciplinary integrated educational curriculum is required.

Applications from qualified candidates are welcome and should be received no later than 15 July 1977. Send curriculum vitae and recommendations to Joseph T. McFadden, M.D., Chairman, Search Committee for Chairman Anatomical Sciences, Eastern Virginia Medical School, Box 1980, Norfolk, Va. 23501. The Eastern Virginia Medical School is an Equal Opportunity/Affirmative Action Employer.

#### EASTERN VIRGINIA MEDICAL SCHOOL CHAIRMAN DEPARTMENT OF PATHOLOGY

Eastern Virginia Medical School of the Eastern Virginia Medical Authority is recruiting a chairman for the Department of Pathology. Experience in any of the areas of pathology is essential and commitment to an interdisciplinary integrated educational curriculum is required.

Applications from qualified candidates are welcome and should be received no later than 15 July 1977. Send curriculum vitae and recommendations to Dr. Joe Mullen, Chairman, Search Committee for Chairman of Pathology, Eastern Virginia Medical School, Box 1980, Norfolk, Va. 23501. The Eastern Virginia Medical School is an Equal Opportunity/Affirmative Action Employer.

#### BIOCHEMISTRY

CHAIRPERSON, with active research interests, for Biochemistry Department, Dalhousie University, Halifax, Nova Scotia. Excellent laboratory facilities in modern medical complex. Active teaching program in undergraduate, graduate, and medical faculties. Please contact J. D. Hatcher, M.D., Ph.D., Dean, Faculty of Medicine.

We are inviting applications for the position of CHAIRMAN OF ASTRONOMY at the University of Minnesota within the School of Physics and Astronomy, starting September 1978. Facilities include the local 30-inch telescope of O'Brien Observatory and the 60-inch telescope at Mt. Lemmon, Arizona. Preference will be given to creative astronomers and astrophysicists with a significant publication record. Send application to:

Professor Wayne A. Stein School of Physics and Astronomy Tate Laboratory of Physics University of Minnesota 116 Church Street, SE Minneapolis, Minnesota 55455

Deadline for receipt of applications is 1 October 1977. The University of Minnesota is an Equal Opportunity/Affirmative Action Employer.

#### CHIEF OF SURGERY

Major midwestern medical center having affiliations with two medical schools is seeking an outstanding surgeon to head the Department of Surgery. This is an immediate opportunity to develop major teaching and research programs as a full time faculty member of the Medical College of Wisconsin.

Please send curriculum vitae to:

Surgical Search Committee c/o Administrative Offices Mount Sinai Medical Center P.O. Box 342 Milwaukee, Wisconsin 53201

FACULTY POSITION, Division of Medical Technology, Department of Laboratory Medicine and Pathology, University of Minnesota. Available 1 January 1978. Doctorate degree required. Clinical laboratory experience highly desirable. Responsibilities include teaching undergraduate and graduate students in large medical technology program, conducting research, supervising section of clinical chemistry. Level of appointment and salary dependent on qualifications. Send résumé to: Verna Rausch, Box 70 Powell Hall, 500 Essex Street, SE, Minneapolis, Minn. 55455.

The University of Minnesota is an Equal Opportu-

The University of Minnesota is an Equal Opportunity Educator and Employer.

#### **BIOLOGY RESEARCH ASSISTANT**

Supported by research grant; available 1 August 1977. To conduct studies on conservation of mam-1977. To conduct studies on conservation of mammalian embryos involving culture and freezing of embryos. Qualifications include demonstrated ability to conduct independent research, either Ph.D. or D.V.M. Additional postdoctoral experience also desirable. Experience in cryobiology would be an asset. Salary will be commensurate with qualifications and experience. Interested candidates should send curriculum vitae, list of publications, and the names of three persons from whom we may solicit letters of reference to:

Dr. Patrick Guay, Director Animal Reproduction Research Centre Faculty of Veterinary Medicine University of Montreal C.P. 5 000

Saint-Hyacinthe, Quebec, Canada J2S 7C6

#### DIRECTOR OF RESEARCH

Washington State University seeks a person with a Ph.D. degree or comparable qualifications in an agri-Ph.D. degree or comparable qualifications in an agricultural or related science with experience in research and research administration to direct its state-wide agricultural research activities. Salary is open. Applicants should submit a résumé, statement of research accomplishments, and administrative qualifications, and names of three references by 30 September 1977 to:

Dr. W. H. Gardner Chairman, Search Committee
Department of Agronomy and Soils
Washington State University
Pullman, Washington 99164

Washington State University is an Equal Opportunity/Affirmative Action Employer.

#### DIRECTORS OF MEDICAL EDUCATION

East Tennessee State University invites applications from, and nominations of, qualified individuals for the positions of directors of medical education to be the positions of directors of medical education to be based at three community hospitals affiliated with its developing College of Medicine and located in Bristol, Kingsport, and Johnson City, Tennessee. The primary responsibility of each of the three directors of medical education will be to coordinate the educational activities within the particular hospital at which based and to serve as liaison between the College of Medicine and the hospital. Each individual will be directly responsible to the associate dean for clinical sciences, and will be expected to reside in the community in which the assigned hospital is located. Applicants should have an M.D. degree with medical education experience. Private practice experience is highly desirable. Letters of application or perience is highly desirable. Letters of application or nomination for these immediate openings should in-clude a curriculum vitae and three personal and pro-fessional references to be sent not later than 30 July 1977 to:

Dr. Jack E. Mobley, Dean East Tennessee State University College of Medicine Johnson City, Tennessee 37601

A search committee will begin action on applicants and nominees on 1 August 1977 and will continue thereafter until all three positions are filled.

East Tennessee State University offers Equal Op-portunity in its employment, admissions, and educa-tional activities and is an Affirmative Action Em-

ECOLOGIST (MARINE). The National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, announces one Civil Service vacancy in the Marine Environmental Protection Office. cancy in the Marine Environmental Protection Or-fice of the Associate Administrator for Marine Re-sources, Rockville, Md. Entrance level salary \$28,725 (GS-14) or \$33,789 (GS-15) depending upon experience and level of the Civil Service rating. In-cumbent will monitor, coordinate, and evaluate NOAA programs related to marine environmental impact of seabed alterations, marine ecosystems analysis, marine environmental assessment, and ma-ning rellution. Qualifortiesus, backleis, decreases analysis, marine environmental assessment, and marine pollution. Qualifications: bachelor's degree or equivalent experience in marine ecology, marine biology, biological oceanography, or a related field, and additionally 3 years of progressive professional experience in the above fields. (Graduate education may be substituted for some of this experience.) Additional information may be obtained by contacting: Dr. Joseph Angelovic at 301-443-8963. Applications (SF-171) should be submitted to: the Personnel Division, AD411, 6001 Executive Boulevard, National Oceanic and Atmospheric Administration, Rockville, Md. 20852, Attention: Mrs. Stevens. The Department of Commerce is an Equal Opportunity Employer. of Commerce is an Equal Opportunity Employer.

#### **POSITIONS OPEN**

# THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE, DEPARTMENT OF CELL BIOLOGY AND ANATOMY

Invites applications for junior and senior faculty po-

Invites applications for junior and senior faculty positions available in July 1978.

CELL BIOLOGY—Individuals with distinguished research accomplishments in cellular or molecular structure, especially in the areas of biological membranes, cell motility, neurocytology, quantitative optics, and image analysis. Preference will be given to applicants whose research approach combines morphological analysis with biochemistry, biophysics, genetics, or immunology. Teaching duties in graduate cell biology, or advanced techniques, or medical histology, or medical neuroanatomy, or medical embryology.

HUMAN ANATOMY—Individuals with strong research programs in the functional anatomy of living or fossil humans or other primates or in primate evolution. Teaching duties in medical gross anatomy. Ph.D. or M.D. required. Level of appointment de-

nution. Teaching duties in medical gross anatomy. Ph.D. or M.D. required. Level of appointment dependent upon qualifications. Submit résumé and names of references to: Dr. Thomas D. Pollard, Director, Department of Cell Biology and Anatomy, The Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore, Maryland 21205. Applicants will be considered without regard to race, religion, sex, or national origin. The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

#### EDITORIAL STAFF OF SCIENCE

The American Association for the Advancement of Science (AAAS) is seeking candidates for a position on the editorial staff of *Science*. The individual will be responsible for assisting in the selection of papers for publication in the Reports section of

Ability to apply critical judgment is essential. Excellent English skills are required. tial. Excellent English skills are required. Qualifications include Ph.D. with at least 1 year of experience in cell science and with a background in more than one of the following areas: molecular biology and genetics, cell physiology, neurobiology, biochemistry. Please send letter of application, résumé, transcripts, list of publications, salary requirements, and names of three references to Carole Dickert-Scherr, Personnel Office. AAAS. 1515 Massachusetts Avenue NW

AAAS, 1515 Massachusetts Avenue, Washington, D.C. 20005.

An Equal Opportunity Employer

#### FACULTY POSITION: BIOCHEMISTRY

Applications are invited for this position at the rank of assistant professor starting fall 1977, or spring 1978. Closing date for application: 15 July 1977. Preference will be given to candidates who have had teaching experience, postdoctoral training and research accomplishments. Teaching responsibilities include participation in general biochemistry, enzymology, and development of a graduate level course in comparative biochemistry. All faculty are expected to occasionally participate in the freshman biology course. Some experience in radioisotope techniques would be desirable. The applicant will be expected to develop an active research program and to direct graduate students. Please send a curriculum vitae graduate students. Please send a curriculum vitae and the names of three references to: Dr. Manuel L. Thanez, Chairman, Faculty Screening Committee, Department of Biological Sciences, University of New Orleans, New Orleans, Louisiana 70122 (a member of the Louisiana State University System). Equal Opportunity/Affirmative Action Employer.

#### FACULTY POSITION: BOTANY

Applications are invited for two positions at the rank of assistant professor starting fall 1977, or spring 1978. Closing date for applications: 15 July 1977. Preference will be given to candidates who have had teaching experience, postdoctoral training, and research accomplishments. Teaching responsibilities include participation in general biology, general botany, and one or more advanced courses in area of specialty. The applicant will be expected to develop an active research program and to direct graduate students. Please send a curriculum vitae and the names of three references to: Dr. Manuel L. Ibanez. names of three references to: Dr. Manuel L. Ibanez, Chairman, Faculty Screening Committee, Department of Biological Sciences, University of New Orleans, New Orleans, Louisiana 70122 (a member of the Louisiana State University System). Equal Optical Sciences (a member of the Louisiana State University System). portunity/Affirmative Action Employer.

#### **POSITIONS OPEN**

CLINICAL CHEMIST. University of Pittsburgh, School of Health Related Professions, Medical Technology Department. Person should have graduate degree (preferably doctorate) in clinical chemistry, biochemistry, or chemistry. Laboratory experience as clinical chemist is required. Registration as MT (ASCP) or Chem. S. (ASCP) viewed as a plus. Position requires teaching clinical chemistry lecture and laboratory course to undergraduates majoring in medical technology, and developing chemistry-related instructional and research activities for medical technologists in graduate degree program. Rank and salary: dependent upon qualifications, including credentials and experience. Address responses to: Anne Pascasio, Ph.D., Dean, School of Health Related Professions, University of Pittsburgh, 106 Pennsylvania Hall, Pittsburgh, Pa. 15261.

An Equal Opportunity/Affirmative Action Employer

## FACULTY POSITION (ENVIRONMENTAL HEALTH)

An individual with a doctoral degree (M.D. or Ph.D.) with interest and experience in the field of environmental or occupational health is sought. The appointment will be joint between the Environmental Studies Program of the Dartmouth Faculty of Arts and Sciences and the Dartmouth Medical School. Affiliation in the medical school will be to any of several departments, typically the Department of Pharmacology and Toxicology or the Department of Community Medicine. The initial appointment is for a 3-year term and preference will be given to applicants at the assistant professor level. This individual will be responsible for teaching undergraduate, graduate, medical students and resi-Inis individual will be responsible for teaching undergraduate, graduate, medical students and residents, and for initiating an independent research program. Applicants should submit their curriculum vitae, lists of publications, and names of three references to: Dr. Roger P. Smith, Dartmouth Medical School, Hanover, N.H. 03755, before 1 July 1977. An Equal Opportunity/Affirmative Action Employer.

#### MARINE BOTANIST

Assistant professorship at Duke Marine Laboratory. Research utilizing marine facilities with specific research area (physiology, ecology, systematics, and so forth) and plants to be studied (phytoplankton, seaweeds, fungi, bacteria, vascular plants) open. A strong research program and a contribution to the teaching and graduate training programs expected. Starting either January or September 1978. Send curriculum vitae, graduate and undergraduate transcripts, and three letters of recommendation to: Dr. R. B. Searles, Chairman, Search Committee, Department of Botany, Duke University, Durham, N.C. 27706.

An Equal Opportunity/Affirmative Action Employer

## FACULTY POSITION PHYSIOLOGIST/BIOPHYSICIST

Strong research program and teaching competence preferably quantitative in orientation. The department prefers a major interest in neurophysiology, particularly spinal cord physiology, cerebral physiology, or the visual system. Exceptionally well-qualified individuals with interest in other areas of physiology will be considered. Rank dependent on qualifiording will be considered. Nank dependent of quantications. Send curriculum vitae and names of three references to: Dr. Arnold L. Towe, Department of Physiology and Biophysics (SJ-40), University of Washington School of Medicine, Seattle, Wash. 98195. An Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately. Organic or biochemistry PLD. Enzyme immobilization and characterization. Enzymology group working pesticides, carcinogenesis, and microcalorimetry. Send résumé to:

S. K. Chatt

Department of Food Science
Cook College, Rutgers University
New Brunswick, N.J. 08903

POSTDOCTORAL RESEARCH ASSOCIATE position available. Biochemist, pharmacologist, or chemist with research experience in drug metabolism to work on the metabolism and toxicity of pyrrolizidine alkaloids in animals. Salary up to \$13,000 will be dependent on experience and qualifications. Applicants should send curriculum vitae and three letters of reference before 1 August 1977, to:

Dr. Donald R. Buhler
Department of Agricultural Chemistry and
Environmental Health Sciences Center
Oregon State University
Corvallis, Oregon 97331

An Equal Opportunity/Affirmative Action Employer

#### HISTOLOGY/EXPERIMENTAL PATHOLOGY

The Department of Oral Medicine and Hospital Den-The Department of Oral Medicine and Hospital Deli-tistry, School of Dentistry, University of California, San Francisco, is seeking a full-time faculty member at the assistant professor level. Responsibilities will include teaching in the dental and dental hygiene include teaching in the dental and dental hygiene curricula, in dental specialty programs, and to graduate students. A dental/medical degree and/or a Ph.D. in anatomy, cell biology, oral biology or pathology required. A demonstrated ability to conduct research is essential, preferably in immunopathology. This position will be available 1 October 1977. Applications must be received by 31 August 1977. The University is an Equal Opportunity/Afirmative Action Employer. Women and minorities are encouraged to apply. Send curriculum vitae to: Professor John S. Greenspan, Department of Oral Medicine and Hospital Dentistry, School of Dentistry, University of California, San Francisco, Calif. 94143.

ORGANIC CHEMIST OR BIOCHEMIST with ORGANIC CHEMIST OR BIOCHEMIST with Ph.D. Research associate or postdoctoral fellow. Research in pharmacologically active peptides. Responsibilities include organic synthesis and metabolic studies. Submit résumé and recommendations to: Box M.O., Department of Pharmacology, MOUNT SINAI SCHOOL OF MEDICINE, 100th Street and Fifth Avenue, N.Y., N.Y. 10029. An Equal Opportunity Emplayer. nity Employer.

POSTDOCTORAL POSITION: available immediately for recent Ph.D. Chemical and biological characterization of an avian, vitamin-transport glycoprotein. Send curriculum vitae and names of three references to: Dr. H. B. White, Department of Chemistry, University of Delaware, Newark, Delaware 19711.

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

RESEARCH ASSOCIATES: (i) Lens proteins (char-RESEARCH ASSOCIATES: (i) Lens proteins (characterization, fluorescence, photoreactions, and (ii) Carcinogenic hydrocarbon-protein interactions (photo-modification of proteins and carcinogens). Experience in protein structure and/or biophysical (organic) chemistry desirable. Send résumé including references to: Dr. E. Fujimori, Boston Biomedical Research Institute, 20 Staniford Street, Boston, Mass. 02114. We are an Equal Opportunity Employer.

### JAMES COOK UNIVERSITY OF NORTH QUEENSLAND DEPARTMENT OF MARINE BIOLOGY MASTER OF SCIENCE COURSE IN TROPICAL MARINE BIOLOGY

Applications are invited for admission to the 1978 Master of Science Course in Tropical Marine Biology, to be offered by the Department of Marine Biol-

The course will extend throughout one calendar year and commence in February 1978. It will be conducted by the staff of the Department of Marine Biology, with assistance from the Departments of Botany, Zoology, and Geology.

The first half of the course provides an introduction to the physical, chemical, and geological aspects of marine studies and an intensive and detailed study of aspects of biology related to the marine environment, with special reference to the tropics.

The second half of the course is devoted to a supervised research project. The results of this work will be presented as a dissertation and submitted for examination towards the degree.

Field work will be conducted with the aid of small boats on local shores and estuaries and also on board the university's research vessel, *James Kirby*.

Applicants must have at least either (i) the degree of particulars must have a least either (i) the tegree of bachelor with second class honours in either botany or zoology of an Australian university which includes at least I year's study at university level in chemistry and mathematics, or (ii) qualifications deemed equivalent to those in (i).

The number of candidates for the degree which can be accommodated is limited.

Further information may be obtained from the registrar. The closing date for the receipt of applications for the 1978 program is 1 November 1977.

K. N. Chester, Registrar Post Office James Cook University Queensland 4811 Australia

#### **POSITIONS OPEN**

#### IMMUNOLOGIST—CELL BIOLOGIST

Full-time position for Ph.D. in biochemistry, pharmacology, or biology with experience in immunology on the cellular level. Opportunity for established investigator to develop programs in cell immunology in conjunction with research team carrying out ongoing programs in enzymology, protein chemistry, pharmacology and biotechnology (including development of new immunoassay systems).

Please write, detailing background, experience, and salary requirements to: Martin N. Schuler, Manager, Personnel Operations,

MIDWEST RESEARCH INSTITUTE
425 Volker Boulevard
Kansas City, Missouri 64110
An Equal Opportunity Employer, M/F

#### INSTRUCTOR

The Anatomy Department seeks to fill a temporary 9-month position beginning 15 August 1977. Candidates should have had course work in comparative or human anatomy as well as embryology and/or histology and a M.S. degree. Responsibilities include teaching laboratory sections and supervising student assistants. Send curriculum vitae transcripts and assistants. Send curriculum vitae, transcripts, and telters of reference to: Dr. G. E. Jacobs, Faculty Search Committee, Northwestern College of Chiropractic, 1834 South Mississippi River Boulevard, St. Paul, Minnesota 55116.

#### UNIVERSITY OF MICHIGAN Instructor

Board-eligible or -certified urological surgeon for full-time position of instructor of surgery, Section of Urology, with duties involving teaching, research, and clinical practice. Send résumé to: Box 282, SCI-NCE. An Affirmative Action, Nondiscriminatory Employer.

Small nutritionally oriented clinic and research facility focusing on preventive medicine, stress, and chronic disease seeks M.D., Ph.D., or NUTRI-TIONIST with strong background in nutritional therapies. Additional background in food allergies, endocrinology, biochemistry, or internal medicine desirable. Box 316 Bolinas, California 94924.

### DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE FOOD AND DRUG ADMINISTRATION BUREAU OF FOODS WASHINGTON, D.C.

SCIENTIFIC POSITIONS: opening for pathologists with a degree in veterinary medicine and postgraduate training in tissue pa-thology to fill the position of petition review pathologist.

Experience in the practice of pathology is desirable. Principle responsibilities will be the review of scientific data contained in pethe review of scientific data contained in petitions filed for food additive, color additive, investigational new animal drug applications, generally recognized as safe (GRAS) petitions, contaminant data review and the like. Special emphasis will be on the gross and histopathology findings with procurement and review of slides when appropriate. ment and review of sinces when appropriate. These activities will consume approximately 3d of the professional time; 1/3 will be concerned with participation in the in-house toxicologic-pathology program involving gross necropsies, histopathology study, and preparation of pathology reports.

Salary: \$20,442 (GS-12) to \$24,308 (GS-13, per annum depending upon qualifications). United States citizenship required.

Send curriculum vitae or Standard Form 171 (Personnel Qualifications Statement), bibliography, and transcript or listing of college and university courses to:

DHEW/Food and Drug Administration Division of Personnel Management, Room 1825

Personnel Operations Branch (HFA-410) 200 C Street, SW Washington, D.C. 20204 Attn: C. J. Boswell

This is a Civil Service position. FDA is an Equal Opportunity Employer.

#### **POSITIONS OPEN**

POSTDOCTORAL POSITION, 2 years, \$11,500 per year, to study organic metals by x-ray diffractometry (Enraf-Nonius CAD-4), bomb calorimetry, theoretical binding energy, and so forth. Crystry, theoretical binding energy, and so forth. Crystallographic or calorimetric experience highly desirable. Send résumé and arrange for three letters of recommendation to be sent to: Professor R. M. Metzger, Department of Chemistry, The University of Mississippi, University, Miss. 38677, by 15 July and no later than 31 August 1977. The University of Mississippi is an Equal Opportunity Employer.

#### POSTDOCTORAL POSITION

Available fall 1977 for a recent Ph.D. in biochemistry or molecular biology. Project: biochemical genetic studies of mutation in somatic cells as described in The Proceedings of the National Academy of Sciences [73, 4589 (1976) and 74, 926 (1977)]. Submit curriculum vitae and names of three references to: Dr. G. Milman, Department of Biochemistry, Johns Hopkins University, 615 North Wolfe Street, Baltimore, Md. 21205. An Equal Opportunity Employer.

POSTDOCTORAL POSITION available summer or POSTIDOCTORAL POSITION available summer or fall 1977. Preference given to recent graduate in molecular biology, protein biochemistry, or biophysics with interest in the functional aspect of protein methylation. Send curriculum vitae and two letters of reference to: Dr. Woon Ki Paik, Fels Research Institute, Temple University School of Medicine, Philadelphia Pa 10140

The Department of Psychiatry at the University of Wisconsin-Madison has a full-time faculty opening at the assistant professor level for a GENERAL PSY-CHIATRIST with special interest and expertise in the inpatient area. Applicants should possess a strong interest in teaching and research in this area. In addition the position involves general psychiatric teaching for medical students, residents, and psychology trainees in the Department of Psychiatry. Applicants should send curriculum vitae and references to: William T. McKinney, Jr., M.D., Chairman, Department of Psychiatry, University of Wisconsin Medical School, 1300 University Avenue, Madison, Wisconsin 53706.

An Equal Employment Education Institution, Title

An Equal Employment Education Institution, Title IX/Title VI.

### PROPERTURAL DE LA COMPANION DE PROFESSIONAL ASSOCIATE

(Proposal Development)
UNIVERSITY OF KENTUCKY
RESEARCH FOUNDATION

Under the direction of the executive director of the Research Foundation and in cooperation with the associate dean for basic science in the College of Medisociate dean for basic science in the College of Medicine, the professional associate will be responsible for gathering and disseminating information relating to grant and contract opportunities relevant to the interests of the faculty of the Colleges of Medicine, Pharmacy, Dentistry, Nursing and Allied Health Professions; stimulating and encouraging proposal development by members of the faculty; and bringing together faculty from various disciplines, departments, and colleges for the purpose of developing interdisciplinary proposals and coordinating the development and writing of such proposals.

The applicant for this position must substantially

The applicant for this position must substantially meet or exceed the following qualifications:

- 1) Possess a doctoral or other professional degree
- 1) Possess a doctoral of other professional degree preferably in one of the biomedical sciences,
  2) Have 3 years experience in program and proposal development and/or program management,
  3) Demonstrated ability to operate with a high de-
- gree of individual initiative and judgment.
  4) Have a high degree of skill in interpersonal relations, and
- 5) Demonstrated strong ability to write and edit effectively and to merge proposal components into a unified whole

Salary: to \$24,000 based on qualifications and salary

history.
Contact: Letter of nomination or application, inofficial curriculum vitae with salary history and a list of three persons competent to comment on the professional qualifications of the candidate should be submitted to:

James Y. McDonald
Executive Director
University of Kentucky Research Foundation
East Wing, Kinkead Hall
Lexington, Kentucky 40506

Application deadline: 1 August 1977

#### NEUROANATOMIST

Applications are invited for a full-time facul-ty position. Formal teaching duties include participation in the teaching of neuroanatomy in an interdisciplinary neurosciences course. Applicants should have an established record of research experience in current neuroanatomical research methodology and the potential of obtaining extra mural re-search support. Rank and salary depend on experience and qualifications. Send curricu-lum vitae, list of publications, and the names of at least three references to: T. Barka, M.D., Chairman, Department of Anatomy, MOUNT SINAI SCHOOL OF MEDICINE, 100th Street and Fifth Avenue, N.Y., N.Y. 10029. An Equal Opportunity Employer.

#### OREGON STATE UNIVERSITY

Two positions. NUMERICAL ANALYST with adanced degree in meteorology or physics with extensive experience in scientific programming to work with E. F. Danielsen on global scale diagnostic methods; experience in tape and disc manipulations of large data sets is required; salary range \$20,000 to \$25,000. COMPUTER PROGRAMMER with extensive programmer and the set of the salary range \$20,000 to \$25,000. \$25,000. COMPUTER PROGRAMMER with extensive scientific programming and tape storage and processing experience; salary approximately \$15,000. Before 1 August 1977, send résumé and names, addresses, and phone numbers of three referees to: Dr. W. G. N. Slinn, Air Resources Center, Oregon State University, Corvallis, Oregon 97331. Oregon State University is an Equal Opportunity/Affirmative Action Employer firmative Action Employer.

POSTDOCTORAL POSITION available immediately to study control of epidermal cell proliferation in disease states and participate in ongoing research in dermatology with emphasis on development of animal models. Strong chemistry/biochemistry background essential. Stipend is \$11,500 with good benefits and position is potentially renewable. Send résumé and names of three references to: Dr. John M. Young, Institute of Biological Sciences, Syntex Research, 3401 Hilliview Avenue, Palo Alto, Calif. 94304. An Equal Opportunity/Affirmative Action Employer.

## UNIVERSITY OF SASKATCHEWAN SASKATOON, SASKATCHEWAN, CANADA

Applications are invited for the following position as a member of a multidisciplinary project on the biology of wild oats (Avena fatua).

#### PROFESSIONAL RESEARCH ASSOCIATE

A plant physiologist with experience in the field of seed physiology with emphasis on the biochemistry and regulation of germination. Minimum requirement a Ph.D.; preferably several years postdoctoral experience

Commencing date: 1 September 1977, with a commitment for 3 years.

Salary: \$16,500 per year, which includes a pension. Annual increments currently equivalent to 7 per-

Duties: the successful applicant will be expected to direct a full-time technician and undertake a study of both the physiological basis of temperature dependence of seed dormancy and control of endosperm function. The successful applicant is also expected to interact with two geneticists, two physiologists, and a herbicide specialist also working in the proj-

Further enquiries and applications which should include curriculum vitae, transcripts of marks, and three letters of reference, should be sent to:

Professor G. M. Simpson
Crop Science Department
University of Saskatchewan
Saskatoon, Saskatchewan, Canada S7N 0W0

#### RESEARCH SCIENTIST POSITION

The Ultrasound Program in Bioengineering at the The Ultrasound Program in Bioengineering at the University of Washington has an opening for a recent B.S. graduate, or equivalent, to be involved in the physiologic and clinical evaluation of new cardiovascular instrument systems. Some training in physical sciences, computers, cardiovascular physiology, and clinical ultrasound essential to this position. On-the-job training possible. Send résumé to: Donald W. Baker, Head, Division of Ultrasound, Center for Bioengineering, FT-15, University of Washington, Seattle, Wash. 98195. An Equal Opportunity/Affirmative Action Employer.

#### **POSITIONS OPEN**

POSTDOCTORAL-BIOINORGANIC. Ph.D. with biochemical or biophysical experience in enzyme manipulation and assay and interest in metal ions. Work involves use of lasers to induce lanthanide ion luminescence to probe protein structure and function. See J. Am. Chem. Soc. 99, 2378 (1977). Position available immediately. Send curriculum vitae and letters of recommendation to Professor William DeW. Horrocks, Jr., 152 Davey Laboratory, Department of Chemistry, The Pennsylvania State University, University Park, Pennsylvania 16802. An Equal Opportunity/Affirmative Action Employer.

The Department of Biological Sciences of Carnegie-Mellon University has the following three positions available: PROTEIN BIOCHEMIST or BIOPHYSICIST; EUKARYOTIC GENETICIST; MOLECULAR BIOLOGIST applying restriction endonuclease technology in the area of structural studies of nucleic acids, genetic analyses, or recombinant DNA techniques. Candidates should have a Ph.D. (or equivalent) and preferably postdoctoral experience. Positions are at the ASSISTANT PROFESSOR level, although higher appointments will be considered. Duttes include teaching at the undergraduate and Duties include teaching at the undergraduate and graduate level. Applicants should forward their curriculum vitae, three or more letters of reference, and a brief résumé of research plans to: Search Committee (1), Department of Biological Sciences, Carnegie-Mellon University, 4400 Fifth Avenue, Pittsburgh, Pa. 15213. Carnegie-Mellon University is an Equal Opportunity/Affirmative Action Employer.

#### SOIL SCIENTIST

Agricultural research service, St. Paul, Minnesota. \$20,442 to start. Research in modeling broad agricul-\$20,442 to start. Research in modeling broad agricultural systems related to soil and water management, and agricultural production. Must have 3 years of experience indicating ability to model—using numerical analysis—crop production and tillage systems. Must have knowledge of soil physics and applied mathematics. For information, telephone Dr. William Larson at 612-373-1444. Send résumés to: Jim Campbell, USDA-ARS, 2000 West Pioneer Parkway, Peorla, III. 61614. The ARS is an Equal Opportunity Employer. tunity Employer.

#### STAFF ASSOCIATE

The National Research Council seeks a staff associate for the International Environmental Programs ciate for the International Environmental Programs Committee (IEPC). Minimum requirements are advanced knowledge corresponding to masters level plus relevant experience. International travel and work experience, foreign language (especially French), background in science, ability to deal with science policy and international affairs, committee staff and administrative experience are desirable. Position requires representation of IEPC to various groups, scientists, and officials. Ability to represent IEPC well and work independently is important. Salary range: \$15,000 to \$20,000. Applications consisting of a complete résumé, three references, and a sample of writing should be sent to: International Environmental Programs Committee, 2101 Constitution Avenue, NW, Washington, D.C. 20418. An Equal Opportunity Employer.

## TEACH SCIENCE IN AN INDEPENDENT SCHOOL

A number of excellent opportunities at middle school 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.)

## TOXICOLOGIST/PHARMACOLOGIST/ BIOCHEMIST

Ph.D. research associate with background in tox-Ph.D. research associate with background in toxicology, pharmacology, and/or biochemistry. The individual has to be capable of carrying out original and creative research on toxicology and pharmacology. The research involves a series of studies on problems of significance to health of the eye and a study on the effect of polycyclic compounds on retinal-pigment epithelial cell growth in culture. Eye research experience not required. Teaching opportunities. Salary: approximately \$18,000, depending upon experience. Position available immediately. Send résumé with list of publications and three names of references to: A. M. Potts, Ph.D., M.D., Chairman, Department of Ophthalmology, University of Louisville, 301 East Walnut Street, Louisville, Kentucky 40202.

An Equal Opportunity/Affirmative Action Employer

#### **POSITIONS OPEN**

#### STRATOSPHERIC CHEMIST

Appointment available at the Smithsonian Astrophy-Appointment available at the Smithsonian Astrophysical Observatory for a person possessing a Ph.D. in physics or chemistry and experience in experimental molecular spectroscopy, far-infrared detection, Fourier-transform spectroscopy, stratospheric chemistry, and digital computer techniques. Responsibilities will include: determining rotational spectra and line strengths of atmospheric constituents; assisting in balloon experiments to observe the far-infrared stratospheric spectrum; reducing data and comparing results with existing theoretical models; publishing research results. Salary: \$12,000 to \$14,000. We encourage applications from women and minor-We encourage applications from women and minorities. Write to our Personnel Department, Smithsonian Astrophysical Observatory, 60 Garden Street, Cambridge, Massachusetts 02138. Deadline for applications is 25 July 1977.

Ecology and evolution at Stony Brook. An assistant professorship for a VERTEBRATE ZOOLOGIST is anticipated for September 1978. Duties include teaching one semester undergraduate courses in anatomy and physiology for students in health-related professions and in general chordate zoology, and maintaining an active program for graduate teaching and research in vertebrate ecology, evolution, behavior, or systematics. Applicants should send a curriculum vitae including a description of research interests and names of four references to: Search Committee, Department of Ecology and Evo-Search Committee, Department of Ecology and Evolution, State University of New York at Stony Brook, Stony Brook, New York 11794. Equal Opportunity/ Affirmative Action Employer.

#### SYMPOSIUM

The American Malacological Union and the Systematics Association announce a SYMPOSIUM ON THE EVOLUTION AND ADAPTIVE RADIATION OF THE MOLLUSCA, 12 to 13 July, Naples, Florida (Beach Club Hotel). Participants include A. J. Cain, J. Murray and B. Clarke, D. Woodruff, N. Runham, P. Calow, E. Yochelson, R. Linsley, G. Oxford, K. E. Hoagland, and others.

Those interested in registering should contact: Dr. George M. Davis, President, American Malacological Union, Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pa. 19103.

#### **TRAINEESHIPS**

#### NIH PREDOCTORAL TRAINEESHIPS

Graduate studies in pharmacology. Applicants are being accepted for the fall semester 1977. Trainees will receive a \$3900 stipend plus tuition. For further information contact: Department of Pharmacology, MOUNT SINAI SCHOOL OF MEDICINE, Fifth Avenue and 100th Street, N.Y., N.Y. 10019. An Equal Opportunity Employer.

POSTDOCTORAL TRAINEESHIPS IN BEHAV-IORAL BIOLOGY are now available at the Univer-sity of Chicago, a Fair Employment/Equal Opportu-nity Employer. Do not send curriculum vitae. Write: Stuart Altmann, Box P, 5712 South Ingleside Avenue, Chicago, Illinois 60637 for further information.

#### MARKET PLACE



Circle No. 1 on Readers' Service Card

# cGMP (8,5'-3H) 35-50Ci/mmol

- Protein binding studies
   Radioimmunoassay
- Assay of 3',5'-cyclic nucleotide hydrolyzing enzymes

## Guanosine 3',5'-cyclic phosphate, ammonium salt, [8,5'-3H]-

35-50Ci/mmol Ethanol:water, 1:1, shipped in dry ice. NET-554 \$85/250 $\mu$ Ci \$215/1mCi

Also:

## Adenosine 3',5'-cyclic phosphate, ammonium salt, $[^3H(G)]$ -

30-50Ci/mmol Ethanol:water, 1:1, shipped in dry ice. NET-275 \$58/250  $\mu$ Ci \$134/1 mCi \$389/5 mCi

Send for our new Nucleotides Brochure.

Not for use in humans or clinical diagnosis.



549 Albany Street, Boston, Mass. 02118 Customer Service 617-482-9595

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

Circle No. 63 on Readers' Service Card



- High specific activity
- Neurotransmitter studies

Taurine, [2-3H(N)]-

20-40Ci/mmol 0.01N HCI

NET-541 \$80/250μCi \$240/1mCi

Taurine, [1,2-14C]-

40-60mCi/mmol 0.01N HCl

NEC-439  $\$81/50\mu\text{Ci}$   $\$347/250\mu\text{Ci}$ 

Send for our new Amino Acids Brochure.

Not for use in humans or clinical diagnosis.



549 Albany Street, Boston, Mass. 02118 Customer Service 617-482-9595

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

Circle No. 64 on Readers' Service Card

## Cell Membrane lodination

lodosulfanilic Acid [125] Labeling Kit

High specific activity agent labels only cell membrane surface proteins. This new iodination agent, when diazotized, does not enter the cell interior, and labels only outer membrane proteins. It may also be useful in fractionation of subcellular particulates and studies designed to follow the fate of autologous viable cells *in vivo*.

**lodosulfanilic acid** [125] Labeling Kit (including reagents for diazotization) > 1000Ci/mmol

*n*-Propanol:water solution, 1:1, in Combi-vial NEX-121 \$124/1mCi \$194/2mCi \$351/5mCi

Not for use in humans or clinical diagnosis

# Protein lodination

Bolton-Hunter Reagent [125]]

Available at two specific activities:

~1500Ci/mmol, ~4000Ci/mmol. The Bolton-Hunter Reagent is now widely used to circumvent the difficulties associated with iodination of labile antigens and polypeptides. Conjugation of the iodinated ester to terminal or lysine amino groups is accomplished with minimal manipulation and under extremely mild conditions.

Bolton-Hunter Reagent [125]

(In benzene solution in Combi-V-Vial)

 $\sim\!$  1500Ci/mmol Prepared fresh weekly. NEX-120 \$162/1mCi \$81 ea. add. mCi

~4000Ci/mmol Prepared every two weeks. NEX-120H \$162/1mCi \$81 ea. add. mCi Not for use in humans or clinical diagnosis



## **New England Nuclear**

549 Albany Street, Boston, Massachusetts 02118 Customer Service 617-482-9595

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

Circle No. 78 on Readers' Service Card



Once you align each of the four annuli to its corresponding objective, you can rotate the microscope's turret to any objective without doing it again—a great timesaving convenience you'll really appreciate when working with living material.

The AO PHASESTAR microscope lets you view transparent unstained specimens with remarkable contrast and sharp definition of detail. And if you want to examine stained specimens under normal brightfield, all you need do is turn the substage turret.

The microscope accepts any combination of phase or non-phase objectives without disrupting parfocality. And, of course, it's adaptable to a variety of alternate parts or accessories. Illumination can be 20-watt tungsten halogen with the Series 10 or 100-watt tungsten halogen with the Series 20.

Ask your AO dealer representative for a demonstration of the AO PHASESTAR microscope. Or write for a brochure to American Optical, Scientific Instrument Division, Buffalo, NY 14215.

American Optical

Circle No. 42 on Readers' Service Card