

PRODUCTS and MATERIALS

Wind Energy Conversion System

The MP 1-200 supplies 60-cycle, alternating current electricity and can generate 200 kilowatts at wind speeds of 30 miles per hour. It consists of a three-bladed upwind rotor 80 feet in diameter that will extract 59 percent of the wind's power. A sensor locates the prevailing current and an 18-foot cylindrical housing is hydraulically moved to face the rotor into the wind. Electric generation begins when wind speed is 8 miles per hour. A microprocessor controls parameters of operation and electric output. The device automatically shuts down at 60 miles per hour and can withstand winds of 150 miles per hour. A gear assembly provides for maintenance of a steady 30 revolutions per minute. WTG Energy Systems. Circle 709.

Noncontact Measurement of Motion and Position

Selspot is an optical electronic means of precisely measuring movement and position of up to 30 light-emitting diodes simultaneously in two or three dimensions. Ambient light conditions have little effect on uses of Selspot. The system consists of a camera, an LED control unit, and a movement monitor. The camera output (the simultaneous reception of position of the activated diodes) is transmitted to the monitor for processing. Software is available for on-line processing of the information. The heart of the system is the unique detector in the camera. Applications include stress analysis, alignment of broken bones, vibration analysis, and others. Selective Electronic. Circle 714.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card (on pages 1252A and 1304A) and placing it in the mailbox. Postage is free.

—RICHARD G. SOMMER

Electrolytic Conductivity Detector

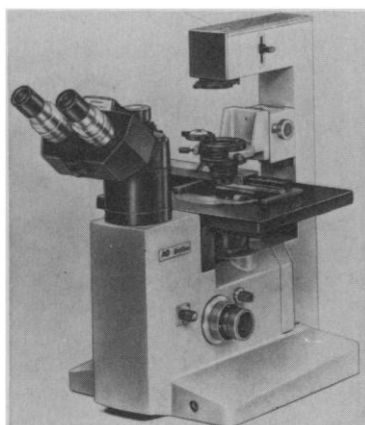
The 700A Hall electrolytic conductivity detector is designed for analysis of chlorinated compounds. The device utilizes bipolar-pulse circuitry for sensitivity improved by up to two orders of magnitude over other conductivity detectors. A microreactor assembly provides fast warm-up and stable operation. Optical kits allow specific detection of nitrogen- or sulfur-containing compounds. Tracor Instruments. Circle 711.

X-ray Fluorescence Analyzer

The TEFA III tube-excited fluorescence analyzer provides complete elemental assays in a matter of minutes. Eighty-two natural elements from sodium to uranium and transuranium elements are analyzed over a broad range of concentrations from parts per million to 100 percent. Microprocessor control and software combine to automate and simplify most steps of analysis. EG&G/Ortec. Circle 713.

Inverted Biological Microscope

Biostar features an infinity-corrected optical system that provides correction for lateral color, astigmatism, and curvature of field. The solid-state illuminator has a quick-change tungsten-halogen



lamp and an integral field diaphragm and dual- or multiview adaptor. An oblique illumination system is available for flask microscopy. Objectives include plan-achromatic, achromatic, bright field, and phase contrast darkfield units. The stage is 8 by 10 inches and the stand is also large and sturdy. American Optical. Circle 710.

Identification of Enterobacteriaceae

Enterotube II contains 12 compartments for the performance of 15 diagnostic tests to identify enteric isolates. The tests include glucose, gas production, lysine decarboxylase, ornithine decarboxylase, hydrogen sulfide, indole, adonitol, lactose, arabinose, sorbitol, Voges-Proskauer, dulcitol, phenylalanine deaminase, urea, and citrate. A discrete bacterial colony is picked from a culture plate with an inoculating needle which is drawn through the compartments. The inoculated tube is incubated at 35° to 37°C for 18 to 24 hours and the results may then be read. Roche Diagnostics. Circle 712.

Literature

Chromatographic Supplies and Pollution Standards is an extensive catalog for environmental scientists studying air and water pollution with biochemical techniques. RFR. Circle 715.

Reversed-Phase HPLC is a guide to the selection of the appropriate micro-particle columns for this technique. Whatman. Circle 716.

Scanning Microscope Observation describes scanning electron microscope and x-ray microanalyzer image disturbances and how to correct them. JEOL USA. Circle 717.

Diagnostic Reagents includes descriptions of more than 100 reagents including control and reference serums, liquid and lyophilized enzyme reagents, and others. Beckman Instruments. Circle 718.

Blood Chemistry Analyzer lists the features and design specifications of the Rotochem IIa centrifugal analyzer with 36-cuvette rotor. American Instrument. Circle 719.

Microscopes details the ten microscope models that are included in the seven for six plan that offers a free item with every purchase of six units of the same type. Fisher Scientific. Circle 720.

Carbon and Oxygen Demand Analysis is a wall chart that compares BOD, COD, TOD, TC, and TOC techniques. Ionics. Circle 721.

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 103 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

Effective 1 January 1979, the display rate for SCIENCE will be \$160 per 25 millimeters, minimum, per insertion.

POSITIONS WANTED

Anatomist (Micro- and Neuro-). Eleven years of experience. Seeking teaching position in college, osteopathic, chiropractic, nursing, paramedical, or similar institute. Foreign M.D. (Ph.D. equivalent). Seeking immigration to the United States. Correspondence should be forwarded to: Dr. E. Z. Goubran, Human Anatomy Department, Ahmadu Bello University, Zaria, Nigeria. X

Aquatic (Environmental) Toxicologist. Ph.D. Postdoctoral and industrial experience. Background in acute and chronic bioassays (aquatic/mammalian), writing proposals and protocols, GLP and environmental legislation. Seeks industrial position. Box 387, SCIENCE. X

Immunologist/Biochemist. Ph.D. Four years of postdoctoral experience in tissue culture and RIA. Salary and rank negotiable. Contact: L. Bahuguna, 3302 Quail Hollow Drive, Apartment 101, Raleigh, N.C. 27609. Telephone: 919-541-3396. X

Microbiologist: Ph.D. Research background in human and bacterial cell membranes, tissue culture, antimicrobial screening, hydrocarbon oxidation, immunology, virology, and laboratory animals in both university and industry. Seeking industrial/university/hospital/research laboratory position. Box 389, SCIENCE X

Microbiologist. Ph.D. genetics, 1976. Postdoctoral experience with tissue culture. Desires research and development position which utilizes microbial ecology, genetics, physiology and/or somatic cell background. Box 390, SCIENCE. X

Pharmacologist. Ph.D. Postdoctoral, teaching, and research experience. Strong background in gastrointestinal and hepatic pharmacology, biological transport and drug interaction studies. Publications. Seeks industrial, government, or academic position. Box 379, SCIENCE. 12/22; 1/5

Technical Writer. Editing or collaboration. Ph.D. 1970, microbiology. Broad experience in biochemistry, genetics, marine biology, radiochemistry, virology, cell culture, cancer research, and grants administration. Publications. Box 388, SCIENCE. X

POSITIONS OPEN

ANATOMISTS

Two assistant professors, Ph.D. or M.D., with postdoctoral research and teaching experience and ability to develop independent research programs; with research interests in cell biology (developmental biology or neurobiology); and with teaching interests in gross anatomy or microscopic anatomy. Send curriculum vitae to: **Dr. G. Gordon Robertson, Department of Anatomy, University of Tennessee Center for the Health Sciences, Memphis, Tennessee 38163.** *Equal Opportunity/Affirmative Action Employer, M/F.*

ANATOMY: ASSISTANT PROFESSORS

The Department of Anatomy at Tufts University School of Medicine invites applications for two tenure-track positions at the assistant professor level beginning 1 July 1979. Applicants should have at least 1 or 2 years of postdoctoral experience and show promise of developing an active and independent research program. Preference will be given to individuals in the following research areas: reproductive biology, mechanisms of hormone action, cell biology (especially secretory mechanisms), reproductive neuroendocrinology, and the effects of alcohol and/or aging on the CNS. Applicants should be qualified to teach either gross anatomy-embryology, histology, or neurosciences to medical, dental, and graduate students. Qualified applicants are invited to submit curriculum vitae, names of three references, and a letter describing research and teaching interests to: **Dr. Karen R. Hitchcock, Chairman, Department of Anatomy, Tufts University School of Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111.** Applications are requested no later than 15 January 1979.

Tufts University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR in Department of Internal Medicine, Section of General Medicine. American Board of Internal Medicine certified or Board-eligible. Dedicated with demonstrated research capabilities. *An Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae, bibliography, and references to: **Robert J. Bolt, M.D., Chairman, Department of Internal Medicine, University of California, Davis, 4301 X Street, Sacramento, Calif. 95817.** Position to remain open until 31 March 1979.

ASSISTANT TO FULL PROFESSOR, Department of Bioengineering, University of Utah, seeks applicants for one or two tenure-track faculty positions. Please submit complete curriculum vitae, representative publications, and three references to: **Dr. J. Janata, Chairman, Search Committee, Department of Bioengineering, University of Utah, Salt Lake City, Utah 84112.** Position(s) available on or after 1 July 1979. *An Affirmative Action/Equal Opportunity Employer.*

Memorial University of Newfoundland Department of Biology ASSISTANT PROFESSOR AQUATIC ZOOLOGY

Applications are invited for a position open at the rank of assistant professor, in the area of aquatic zoology. Enquiries are especially welcome from candidates with specialization in any of the following areas: marine and freshwater fishes, limnology, planktology, and fish population dynamics.

Applicants should submit curriculum vitae together with the names of three referees. Applications close on 31 January 1979. **Dr. G. R. South, Head, Department of Biology, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3X9.**

Memorial University of Newfoundland Department of Biology FISHERIES BIOLOGY

Applications are invited for a position open at senior rank, in the area of fisheries biology. Candidates must demonstrate a strong record of research and publication in fisheries, and a successful background in supervision of fisheries research at the M.Sc. and Ph.D. levels. The successful candidate will play a key role in development of a new fisheries program.

Applicants should submit curriculum vitae and the names of three referees. Applications close on 31 January 1979. **Dr. G. R. South, Head, Department of Biology, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3X9.**

POSITIONS OPEN

ANIMAL PHYSIOLOGIST. The Department of Biological Sciences at Goucher College invites applications for a position as assistant professor beginning September 1979. Ph.D. required. Applicants should demonstrate broad training and research potential. Teaching responsibilities include undergraduate courses in animal and cellular physiology, a senior seminar in an area of specialization, and participation in introductory biology. Active involvement in research is expected. Application deadline: 1 February 1979. Send curriculum vitae and names of three references to: **Dr. Helen M. Habermann, Chairman, Department of Biological Sciences, Goucher College, Towson, Maryland 21204.** *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT CHEMIST

Conduct research in the areas of inorganic and organometallic mechanisms and homogeneous catalysis. Assist with daily supervision of graduate research assistants, with preparation of publications, and with preparation of research proposals.

Ph.D. in chemistry required. Must have experience with conventional and stopped-flow techniques for chemical kinetics. Should have minimum of 2 years of post-Ph.D. research experience in the general field. Starting salary: approximately \$16,000 per year.

Interested parties please submit complete résumé to:

Ames Laboratory
Personnel Office
127 Spedding Hall
Iowa State University
Ames, Iowa 50011

An Equal Opportunity Employer

Marine Sciences Institute/Geology and Geophysics, ASSISTANT/ASSOCIATE PROFESSOR. September 1979. Teach undergraduate and graduate courses in physical oceanography; advise M.S. and Ph.D. candidates; also conduct fundable research in physical oceanography. Require Ph.D. in related area; preference given for postdoctoral experience in research and teaching in coastal and estuarine processes, and a successful record of obtaining extramural grants. Apply by 28 February 1979 to: **A. R. Philpotts/S. Feng, U-45, University of Connecticut, Storrs, Conn. 06268.** *An Equal Opportunity Employer.*

ASSISTANT OR ASSOCIATE PROFESSOR. Responsibilities include teaching food preparation and experimental foods. Opportunity for teaching advanced undergraduate and graduate courses and conducting research. Ph.D. in foods, food science, or related area required; candidate with experience in teaching foods and evidence of research productivity preferred. Application deadline: 15 February 1979 or until position is filled. Apply to: **Dr. Jacqueline Dupont, Department of Food and Nutrition, 107 MacKay Hall, Iowa State University, Ames, Iowa 50011.**

ASSISTANT PROFESSOR OF BIOLOGY, starting September 1979, to teach animal physiology, cellular physiology, and a course in plant physiology taught biennially. Supervise undergraduate research; develop active research compatible with department resources. Broad experience in liberal arts undergraduate preferred; curriculum vitae and three references by 1 February to: **Dr. William Laughner, Biology Department, Hiram College, Hiram, Ohio 44234.** *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR. EXPERIMENTAL PHYSICIST, preferably in nuclear or elementary particle physics, to teach undergraduate physics courses and possibly electronics and astronomy; participate in cross-disciplinary courses and direct undergraduate research. Regular position; begins in September. Ph.D. required. Send résumé immediately to: **D. T. Jacobs, Physics Department, The College of Wooster, Wooster, Ohio 44691.** *An Equal Opportunity Employer.*

SENIOR LEAVE REPLACEMENT—Visiting associate or professor level position for a **physicist** or **astrophysicist** to teach physics courses, laboratories, descriptive astronomy, and direct undergraduate research. One-year position; salary: \$22,000 to \$23,000. Recently retired individuals are also encouraged to apply. Send résumé immediately to: **D. T. Jacobs, Physics Department, The College of Wooster, Wooster, Ohio 44691.** *An Equal Opportunity Employer.*

POSITIONS OPEN

ANIMAL CARE RESEARCH FACILITY DIRECTOR

Licensed D.V.M. with certification in laboratory animal medicine. Must have a minimum of 3 years of experience in management of a laboratory animal facility; to include working in the diagnosis, treatment, and management of animal colonies. Qualified persons contact:

Dr. Wayne Ryan
University of Nebraska Medical Center
42nd and Dewey Avenue
Omaha, Nebraska 68105
Telephone: 402-541-4445

Equal Opportunity Employer, M/F/H

ASSISTANT PROFESSOR—NUTRITION

The Division of Environmental and Nutritional Sciences, University of California, Los Angeles (UCLA), School of Public Health, invites applications from qualified individuals for an assistant professorship in the area of nutrition. The applicant should have a doctorate and be trained in nutrition. The successful applicant will be responsible for lecturing, teaching laboratory courses involving analyses of foods and animal tissues, developing a seminar in nutrition, and directing masters and doctoral candidates in nutritional research. The applicant must have a demonstrated commitment to public health problems and an ongoing research program in an area of experimental nutrition. Curriculum vitae, bibliography, and three letters of recommendation should be submitted to: **Ralph W. McKee, Chairman, Search Committee, Department of Biological Chemistry, UCLA School of Medicine, Los Angeles, Calif. 90024**, by 15 February 1979. *UCLA is an Equal Opportunity Employer conforming to Affirmative Action policies, actively seeking women and minority appointees.*

ASSOCIATE DEAN AND DIRECTOR OF RESEARCH, School of Agriculture and Life Sciences, North Carolina State University. Candidates should have an established reputation in research and ability to administer agricultural and biological research. Send curriculum vitae and the names of three references by 10 January 1979 to:

Dean J. E. Legates
P.O. Box 5847
North Carolina State University
Raleigh, North Carolina 27650

An Equal Opportunity/Affirmative Action Employer

NATIONAL SCIENCE FOUNDATION (Washington, D.C.)

ASSOCIATE PROGRAM DIRECTOR

Salary range: \$27,453 to \$42,171 (depending on qualifications). **Duties:** Serve as Associate Program Director for Fundamental and Advanced Research Program in Division of Information Science and Technology. Participate in review and evaluation of proposals for grants and contracts in basic and applied research in one of the following areas of information science: standards and measures of information; structure of information; behavioral aspects of information transfer; infometric models.

Qualifications: Ph.D. or equivalent in information science or a closely related field, for example, mathematics, computer science, psychology, linguistics, or econometrics. Candidate should have 3 to 5 years of research experience on core problems of information science and should have achieved rank of associate professor or comparable standing in a non-academic setting.

This position will be filled on a rotational basis. Appointment will be for a 1- or 2-year term.

How to apply: Send completed résumé, curriculum vitae, or Standard Form 171 to: **Announcement No. EX-79-8, National Science Foundation, Division of Personnel and Management, Attention: Section A, 1800 G Street, NW, Washington, D.C. 20550**. For further information, telephone: 202-632-4118. Application must be postmarked by 20 January 1979. *An Equal Opportunity Employer.*

ASSOCIATE RESEARCH SCIENTIST position available in the Department of Biology for a biochemical geneticist in the area of gene regulation in *Drosophila*. Must have some postdoctoral experience in *Drosophila* genetics and nucleic acid biochemistry and must be available immediately. Salary: \$11,000 per year. Send résumé and names of two references to: **Box 1330, Johns Hopkins University, Baltimore, Md. 21218**. *An Equal Opportunity Employer, M/F.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF ORGANIC CHEMISTRY—University of Maryland. The Department of Chemistry solicits inquiries for a tenure-track position as assistant professor of chemistry, effective August 1979. The position requires an earned doctorate, and postdoctoral experience is desirable. Research area is open, but the candidate is expected to show high promise in both research and graduate and undergraduate teaching.

Send curriculum vitae and an outline of research proposal and arrange to have three letters of recommendation sent separately to: **Dr. Bruce B. Jarvis, Chairman, Search Committee, Department of Chemistry, University of Maryland, College Park, Maryland 20742**. *The University of Maryland is an Equal Opportunity/Affirmative Action Institution and encourages applications from women and members of minority groups.*

ASSISTANT PROFESSOR OF PHYSIOLOGICAL PSYCHOLOGY

Miami University has a tenure-track opening beginning August 1979. We are primarily interested in a candidate with special research interest in biochemical aspects of brain function and behavior. Teaching responsibilities include undergraduate courses in physiological psychology, graduate seminars in candidate's specialty, and M.A. and Ph.D. research supervision. *We encourage the application of women and racial-ethnic minority candidates.* Send curriculum vitae, statement of research plans, reprints, and three letters of recommendation to: **Dr. Arthur G. Miller, Assistant Chair, Department of Psychology, Miami University, Oxford, Ohio 45056**. Please apply by 1 February 1979. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR, VASCULAR PLANT SYSTEMATIC BOTANIST. The Department of Botany at the University of Montana invites applications for an assistant professorship in a tenure-track position. The successful candidate must hold a Ph.D. degree and be a broadly trained botanist with extensive training in modern vascular plant systematic botany. Strong field orientation is expected with knowledge of and/or interest in the Rocky Mountain flora. Experience and ability as an effective teacher is required. Should be prepared to teach introductory courses—genetics and general botany, as well as upper division courses in systematic botany and related fields. Experience in research is required. The development of an active research program supported primarily by grant funds is expected. Must be able to teach graduate level systematics courses as well as direct research of masters and Ph.D. students and special projects of undergraduates. For full consideration, send curriculum vitae, three letters of reference, reprints and in press manuscripts, a statement of research and teaching interests, and transcripts by 20 January 1979 to: **Dr. S. Preece, Department of Botany, University of Montana, Missoula, Montana 59812**.

The University of Montana is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

AVIAN BIOLOGIST

Tenure-track assistant professorship, beginning 1 September 1979, to teach an ornithology course, plus a graduate course in specialty. Ph.D., postdoctoral experience, and publications required. Send curriculum vitae and names and addresses of several references by 16 February 1979 to: **E. Brooks, Department of Zoology, University of Massachusetts, Amherst, Mass. 01003**. *An Affirmative Action/Equal Opportunity Employer.*

BIOLOGISTS

Applications are invited for two anticipated faculty positions as assistant or associate professors to begin September 1979. One appointee will teach undergraduate courses in cell biology and a graduate course in biological membranes or other special topic. The other appointee will teach undergraduate courses in anatomy and physiology, human biology, and aging, and a graduate course in a special area of interest. The research concentrations will be in the areas of cell biology and physiology, respectively. Ph.D. is required. Submit curriculum vitae before 15 January 1979 to:

Dr. Frank F. Katz, Chairman
Department of Biology
Seton Hall University
South Orange, N.J. 07079

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

BIOCHEMIST—To direct lipid analysis laboratory, teach lipid metabolism, and conduct research in lipid transport and atherosclerosis. This is a full-time, tenure-possibility position. Assistant professor with postdoctoral experience preferred, but extensive experience in the field would qualify for instructorship. Salary commensurate with education and experience. Send curriculum vitae and letters of recommendation to: **Dr. Peter Kuo, Department of Medicine, College of Medicine and Dentistry of New Jersey, Rutgers Medical School, P.O. Box 101, Piscataway, N.J. 08854**. *Equal Opportunity/Affirmative Action Employer, M/F.*

BIOCHEMIST. Applications are being sought from scientists, preferably with experience with tissue culture and study of proteins and glycoproteins, to investigate cell-to-cell interactions and nerve dysfunction. The work is to be done in a separate laboratory within a multidisciplinary Peripheral Neuropathy Clinical Center at Mayo Medical School and Mayo Clinic. Only the most highly qualified and recommended applicants will be considered. Funding for the research program is available. The position could become permanent. Curriculum vitae, reprints, and three letters of reference should be sent to: **Chairman, Selection Committee, Peripheral Neuropathy Clinical Center, Room 812, Guggenheim Building, Mayo Clinic, Rochester, Minnesota 55901**. *Mayo is an Equal Opportunity Employer.*

BIOCHEMIST (Ph.D.)—To collaborate with group of clinical investigators on the studies of blood preservation and cell membrane structure and function. Independent research institution with medical college affiliation. Salary commensurate with training and experience. Will consider candidates now finishing Ph.D. program. *Equal Opportunity Employer.* Send curriculum vitae, bibliography, and references to: **Box 386, SCIENCE.**

BIOLOGY. Opening for Ph.D. in zoology/animal science with experience/teaching interests in following areas: biochemistry, physiology, microbiology, genetics, embryology. Candidate must be committed to teaching and interested in integrating classroom experience with physical resources of college (a 1000-acre beef/pork farm in Blue Ridge Mountains). Send résumé to: **Dr. Samuel Scoville, Dean, Warren Wilson College, Swannanoa, N.C. 28778**. *Equal Opportunity Employer.*

BIOLOGY FACULTY POSITIONS

Two full-time appointments: instructor, assistant, or associate professor rank, dependent upon qualifications. Must be qualified to teach general biology. One position requires expertise in microbiology and cell biology; the other position requires expertise in developmental anatomy histology. Candidates should demonstrate an interest in developing and supervising undergraduate research and/or innovative teaching.

Ph.D. required for professorial rank; A.B.D. required for instructor rank. Starting date: 1 February 1979. Salary: Instructor, \$11,000 to \$14,000; assistant professor, \$12,000 to \$17,500; associate professor, \$16,000 to \$21,000. Deadline for applications: 12 January 1979. Contract length: 1-year initial appointment, tenure-track. Send résumés to: **Search Committee BS, State University of New York/College at Old Westbury, P.O. Box 210, Old Westbury, New York 11568**. *An Affirmative Action Employer.*

UNIVERSITY OF WASHINGTON CHAIRMAN

DEPARTMENT OF GEOLOGICAL SCIENCES

The College of Arts and Sciences invites applications for the position of chairman of the Department of Geological Sciences. The department has a broad teaching and research program leading to B.S., M.S., and Ph.D. degrees. Twenty faculty members supervise the studies of 70 graduate and 140 undergraduate students. Extensive facilities are available for research in crystallography, isotope geology, petrology, quaternary geology, remote sensing and lunar geology, and structural geology. Applicants should submit their curriculum vitae, list of publications, and names of four references to: **Professor Dean A. McManus, Chairman of the Search Committee, University of Washington, WB-10, Seattle, Washington 98195**.

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

BIOLOGY TEACHING OVERSEAS: research-teaching positions available beginning fall 1979 in such specialties as ecology, plant physiology, developmental biology, and invertebrate zoology. Ph.D. required; rank and salary depend on experience and qualifications. Usual contract is for 3 years with round-trip travel and other fringe benefits. Curriculum vitae and letters of recommendation should be airmailed to: **Dr. Samir Deeb, Biology Department, American University of Beirut, Beirut, Lebanon.** Application review will begin March 1979. *An Affirmative Action/Equal Opportunity Employer.*

CELL BIOLOGIST, ASSISTANT PROFESSOR, tenure-track, to participate in undergraduate and graduate teaching and research activities in the Department of Biological Sciences. Responsibilities include development of an active research program and participation in a newly approved interdisciplinary Biomedical Doctoral Program. Ph.D. degree required.

The Department of Biological Sciences presently has 22 faculty, 600 undergraduate majors, and 25 graduate students. Preferred areas of interest: cell physiology or genetics, or biophysics.

Applicants should send curriculum vitae, statement of professional objectives, and have three letters of evaluation sent to:

**Chairman
Department of Biological Sciences
Wright State University
Dayton, Ohio 45435**

Deadline date is 27 January 1979.

An Equal Opportunity/Affirmative Action Employer

CELL PHYSIOLOGIST The Department of Physiology-Anatomy UNIVERSITY OF CALIFORNIA BERKELEY

Invites applications to fill a tenure-track position in physiology at the assistant professor level. Responsibilities will include teaching in undergraduate cellular physiology and advanced courses in the candidate's area of research expertise. In addition to excellence in teaching, candidates should be thoroughly involved in an ongoing, active research project and be successful contributors to that area. Research emphasis should be on physiological problems at the cellular level. Preference will be given to applicants working in areas of membrane biology, receptor function, secretion, or motility. Interested individuals should write a letter explaining their qualifications for the particular position and enclose current curriculum vitae and a list of three or more persons who could act as referees to: **Physiology Search Committee, Department of Physiology-Anatomy, 2519 Life Sciences Building, University of California, Berkeley, California 94720.** Applications must be received by 1 February 1979. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

CELL OR COMPARATIVE PHYSIOLOGIST. Assistant professor to teach undergraduates and graduate students at Ph.D. level. Successful candidate will have demonstrated research ability as evidenced by publications. Research area open but preference will be given to candidates with background in parasitology, immunology, and/or membrane physiology. Experience in procurement and administration of research grants desirable. Applications completed by 31 January 1979; effective date of appointment: 15 August 1979. Résumés to: **Dr. T. T. Dunagan, Physiology, Southern Illinois University, Carbondale, Ill. 62901.** *Southern Illinois University-Carbondale is an Equal Opportunity/Affirmative Action Employer.*

PHYSIOLOGIST, ANIMAL SURGEON. Associate professor to teach advanced animal surgery and elementary human anatomy. Tenure-track position. Extensive research or teaching experience in animal surgery essential. Publications and grant record required. Area of research open. *Southern Illinois University-Carbondale is an Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae, current research and grant status, reprints, and names of three potential references. Write or call **Dr. Lonnie Russell, Search Committee Chairperson, Physiology, Southern Illinois University, Carbondale, Ill. 62901; telephone: 618-536-2033.** Application deadline: 31 January 1979; appointment date: 15 August 1979.

POSITIONS OPEN

BIOMEDICAL ENGINEERING FACULTY. The Biomedical Engineering Department at Boston University is seeking new faculty members: (i) **ASSISTANT OR ASSOCIATE PROFESSOR** with Ph.D. degree, biomedical engineering experience, strong interest in both teaching and research. To participate in new NSP-supported undergraduate curriculum, develop graduate specialty courses, supervise design projects and theses, and advise engineering and premedical students; and to develop sponsored research, and collaborate with Medical School or other department, under joint faculty appointment. (ii) **ADJUNCT PROFESSORS** for part-time teaching of biomedical electronics, biomechanics, diagnostic imaging, or other specialty courses. Send résumé, including detailed teaching and research experience, and names of four referees to: **Dr. R. J. McLaughlin, Chairman, Department of Biomedical Engineering, Boston University College of Engineering, 110 Cummings Street, Boston, Mass. 02215.** *An Equal Opportunity/Affirmative Action Employer.*

BOTANIST (MYCOLOGY)

Assistant/associate professor, Ph.D., beginning 15 August 1979. Teaching introductory mycology, graduate courses in phycomycetes, ascomycetes, and basidiomycetes. Must have a strong background in the higher fungi, undertake a strong research program, and direct graduate students in addition to teaching. Deadline: 15 March 1979. Send curriculum vitae, publication list, and three letters of reference to: **C. R. Dillon, Mycology Search Committee, Botany Department, Clemson University, Clemson, S.C. 29631.**

CHAIRMAN, DEPARTMENT OF CHEMISTRY, Syracuse University. Applications and nominations are invited for this position to start on 1 July 1979 or as soon thereafter as possible. The Department of Chemistry has a commitment to outstanding research and teaching programs and seeks a chairman to provide exceptional leadership in both areas. Rank and salary are negotiable and the area of research is open. Candidates should have an established reputation in research with a strong interest in teaching and administration. Applicants should send curriculum vitae and arrange for three or more letters of reference to be sent to: **Professor George H. Atkinson, Chairman, Search Committee, Department of Chemistry, Syracuse University, Syracuse, New York 13210.** Applications should be completed by 1 February 1979. *Syracuse University is an Affirmative Action/Equal Opportunity Employer.*

CHEMIST with background in geology or environmental science. Available August 1979. Tenure-track position. Teach introductory geology or environmental science and chemistry in specialty. Send résumé and references to: **Van W. Daniel, Clinch Valley College of the University of Virginia, Wise, Virginia 24293.** Deadline: 20 January 1979. *Affirmative Action/Equal Opportunity Employer.*

COMPARATIVE ETHOLOGIST/PHYSIOLOGIST. Assistant professor, tenure-track, fall 1979. Ph.D. required, postdoctorate desired. Teach undergraduate courses in ethology, vertebrate biology, elementary biology; graduate courses in area of expertise. Strong research program necessary. Send application letter and curriculum vitae to: **Dr. Saul B. Barber, Biology Department, Lehigh University, Williams Hall #31, Bethlehem, Pa. 18015.** *Affirmative Action/Equal Opportunity Employer.*

DEVELOPMENTAL NEUROPSYCHOLOGIST

The Department of Psychiatry, School of Medicine, University of California, San Diego, in conjunction with the Children's Hospital of San Diego, is searching for faculty applicants for an academic position, assistant or associate professor, beginning as early as spring 1979. Candidates should be established investigators with a strong basic science background to coordinate and stimulate an active research program in the field of developmental disabilities. Specific expertise in the area of neural processing as related to learning disabilities is important. Evidence of research team and grant management skills will also be looked upon favorably. Level of academic appointment and salary commensurate with experience.

The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer. Send curriculum vitae to:

**Search Committee D
Department of Psychiatry, M-003
University of California, San Diego
La Jolla, Calif. 92093**

POSITIONS OPEN

CHEMISTRY TEACHING OVERSEAS. Faculty positions, available 1 October 1979, in the following fields: analytical (instrumentation); inorganic (coordination and physical); organic (natural products); and physical (spectroscopy). Appointments are normally made at the assistant professor level for a 3-year period. Ph.D. required. Postdoctoral research/teaching experience preferred. Airmail curriculum vitae and inquiries to: **Chairman, Department of Chemistry, American University of Beirut, Beirut, Lebanon.** The department has a faculty of 12, an undergraduate B.S. program, an M.S. program with research and thesis, and plans for a Ph.D. program. *An Affirmative Action/Equal Opportunity Employer.*

COGNITIVE DEVELOPMENTAL PSYCHOLOGIST at assistant professor level, but those with exceptional research records will be considered at advanced level. Ph.D. degree, strong research and teaching interests at the undergraduate and graduate levels required. Department offers a Ph.D. degree, but no clinical training program. Send curriculum vitae, copies of research, and four letters of reference to: **Search Committee, Department of Psychology, University of California, Santa Barbara, California 93106** before 1 January 1979. *An Equal Opportunity/Affirmative Action Employer.*

DEVELOPMENTAL PSYCHOBIOLOGIST. The Psychology Department of Amherst College has a tenure-track opening at the assistant professor level beginning in fall 1979. We are seeking an individual with a specialization in developmental psychobiology to offer courses in that area as well as an introductory course in quantitative methods and an intermediate course in general experimental psychology. Responsibilities of the position include teaching two courses per semester, establishing an active research program, and participating in the college's Neuroscience Program. Amherst College is a coeducational, undergraduate liberal arts college with a strong commitment to interdisciplinary teaching in proximity to three other colleges and the University of Massachusetts. Salaries and benefits are competitive. *Amherst College is an Affirmative Action/Equal Opportunity Employer, M/F/H.* Candidates should submit curriculum vitae and three letters of reference to: **Professor Rose R. Olver, Chairperson, Department of Psychology, Amherst College, Amherst, Massachusetts 01002.** Submission deadline: 1 February 1979.

DIRECTOR

The University of Pennsylvania is seeking a director of multi-disciplinary center for the Study of Aging. Center composed of faculty from Schools of Medicine, Veterinary Medicine, Dental Medicine, Nursing, Social Work, and Arts and Sciences with clinical teaching and research interest in biological, psychosocial, and social policy aspects of aging. Specialized resources include animal, cell bank, and clinical facilities. Director with established credentials in one or more of centers foci, responsible for overall coordination of projects, while pursuing own academic interest. In addition to administrative skills, candidates must qualify for senior faculty appointment in one of participating schools. Application deadline 1 February 1979. Send résumé to: **Chairman, Gerontology Search Committee, The University of Pennsylvania, 110 College Hall/CO, Philadelphia, Pa. 19104.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN MEDICINAL CHEMISTRY. Applications are invited from persons with a Ph.D. in medicinal chemistry or a related field for a full-time position at the assistant or associate professor level in the College of Pharmacy at the University of Minnesota. Candidates for the position must have a strong background in organic chemistry and adequate training in biochemistry or pharmacology. Postdoctoral or equivalent job experience is desirable. An undergraduate degree in pharmacy is preferred. The successful candidate will be expected to develop an independent research program and participate in teaching in the professional and graduate programs of the college.

Interested candidates should send résumés and the names of three references to:

**Mahmoud M. Abdel-Monem, Ph.D.
College of Pharmacy
University of Minnesota
Minneapolis, Minn. 55455**

Applications must be received by 22 January 1979. *The University of Minnesota is an Affirmative Action Employer and welcomes applications from women and members of minority groups.*

POSITIONS OPEN

ECOLOGICAL MODELER

Postdoctoral position available immediately for an ecologist with strong interest and experience in development of mechanistic simulation models. Two-year position at the Natural Resource Ecology Laboratory, Colorado State University, working with a team of scientists investigating effects of air pollution on ecosystems. Please send curriculum vitae, transcripts, and references to:

W. K. Lauenroth
Natural Research Ecology Laboratory
Colorado State University
Fort Collins, Colorado 80523

ENVIRONMENTAL HEALTH SPECIALIST—ASSISTANT PROFESSOR. Teaching and research responsibilities in public health with emphasis on environmental health or industrial hygiene. Ph.D. required in environmental health. Some industrial hygiene background desired. Salary commensurate with experience. Send curriculum vitae, transcripts, and three letters of recommendation to: Dr. Gene W. Miller, Head, Department of Biology, UMC 53, Utah State University, Logan, Utah 84322, by 20 January 1979. An Equal Opportunity/Affirmative Action Employer.

EXPERIMENTAL BIOLOGIST/ZOOLOGIST—Iowa State University seeks one or more experimental biologists. At least one position will be in physiology or endocrinology; other positions will be from the following areas: developmental biology, neurobiology, or behavior. Appointment will be at assistant or associate professor level. A Ph.D. is essential; postdoctoral experience and strong prospects for funding of research are desirable. Responsibilities include the establishment of a vigorous research program and teaching at undergraduate and/or graduate levels. Applicants should submit, by 9 February, detailed curriculum vitae, three letters of recommendation, and a letter describing their research interests and plans to: Chairman, Search Committee, Department of Zoology, Iowa State University, Ames, Iowa 50011. Equal Opportunity/Affirmative Action Employer.

Full-time academic **FACULTY MEMBER** in **ANATOMIC PATHOLOGY** for established Department of Pathology. Title and salary commensurate with credentials. Applications will be received until position is filled. Must be eligible for licensure in the state of California. Send résumé and five references to: George Lundberg, M.D., Chair, Department of Pathology, Room 3453, M.S.I., University of California, Davis, California 95616. The University of California is an Equal Opportunity/Affirmative Action Employer. Applications will be accepted until position is filled.

FACULTY POSITION—ORGANIC CHEMISTRY Bryn Mawr College invites applications for a permanent faculty position beginning at the rank of assistant professor in September 1979. The position involves graduate and undergraduate teaching, and the establishment of an active research program with supervision of student research at both the Ph.D. and A.B. levels. A résumé, brief description of research plans, transcripts, and three letters of reference should be sent by 1 February 1979 to: Dr. George Zimmerman, Chairman, Department of Chemistry, Bryn Mawr College, Bryn Mawr, Pa. 19010. Bryn Mawr College is an Equal Opportunity/Affirmative Action Employer.

GROSS ANATOMY. Applications are invited from individuals interested in a position as assistant or associate professor at Ohio University in the College of Osteopathic Medicine and the Department of Zoology and Microbiology. This teaching-research position involves the instruction of osteopathic medical students in gross anatomy and graduate students at the M.S. and Ph.D. levels in the area of the candidate's speciality. The successful candidate will be expected to develop a strong independent research program. Research area is open. Minimum qualifications include a Ph.D. degree or equivalent; prior medical or dental school training is highly desirable. Interested individuals should submit curriculum vitae and a summary of research plans by 15 January 1979 to:

Biomedical Science Search Committee
Ohio University
College of Osteopathic Medicine
Grosvenor Hall
Athens, Ohio 45701

Ohio University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITION—TOXICOLOGY

Applications are invited for an appointment as assistant biochemist (or biologist) in the tenure-track at the Statewide Air Pollution Research Center, University of California, Riverside, effective summer 1979. Applicants should have demonstrated ability in toxicological research in doctoral or postdoctoral experience. The successful candidate will be expected to establish a vigorous research program on the biological effects of air pollutants. Possible areas of expertise with experimental animals, tissue cultures, or microbial cultures would be in mutagenesis, toxicant caused changes in ultrastructure, biochemical basis for toxicity, and synergism of toxic chemicals. Applicants from other related areas are welcome to apply. Candidates should send biography and bibliography, a statement of current and future research interests, and names of three scientists who have been asked to send letters of recommendation.

Address correspondence to:

Faculty Search Committee
Statewide Air Pollution Research Center
University of California
Riverside, Calif. 92521

Applications will be accepted until 1 February 1979, or until a suitable candidate is located.

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

FACULTY POSITIONS

The Department of Plant Science, University of Delaware, invites applications for two new assistant professor, tenure-track positions in horticulture and soil science. Positions are available immediately with starting dates negotiable in 1979.

1) **HORTICULTURE**—Recent Ph.D. in area of plant science with emphasis in horticultural physiology and ornamental horticulture. Teach courses in greenhouse management, production and management of ornamentals, and develop alternate-year graduate course. Develop research program in horticultural physiology and ornamental horticulture.

2) **SOIL SCIENCE**—Recent Ph.D. in soil science with emphasis in soil chemistry. Develop and teach undergraduate and graduate course in soil chemistry. Develop research program in soil chemistry and plant responses to include crops relevant to Delaware agriculture.

Send letter of application, transcripts, résumé, and three letters of recommendation to: Dr. C. R. Curtis, Chairperson, Department of Plant Science, University of Delaware, Newark, Delaware 19711.

The University of Delaware is an Equal Opportunity/Affirmative Action Employer which encourages applications from qualified minority groups and women.

GENETICS—UCLA. The Department of Biology will appoint a geneticist at the assistant professor level. While the specific area of research is open, applicants must be committed to excellence in undergraduate and graduate education in genetics and have an outstanding research record. Applicants with graduate degrees from Departments of Genetics or from institutions with strong genetics programs are especially sought. Postdoctoral experience is required. Application material, to include the names of three references to be used for letters of reference, curriculum vitae, and list of publications, teaching records, and a summary of research plans, should be sent before 1 February 1979 to: Genetics Search Committee, Department of Biology, University of California, Los Angeles, Calif. 90024. An Equal Opportunity/Affirmative Action Employer.

DEPARTMENT HEAD MICROBIOLOGY

The University of Georgia invites applications and nominations for the position of head of the Department of Microbiology, starting 1 July 1979 or later. Applicants should have qualifications commensurate with the rank of professor including doctoral degree in microbiology or a clearly related field; national/international reputation in microbiological research; and preferably teaching and administrative experience. Deadline for applications, including curriculum vitae and names of references, is 15 February 1979. Send all material to: Dr. Raymond T. Damian, Chairman, Search Committee, Department of Zoology, University of Georgia, Athens, Georgia 30602.

The University of Georgia is an Equal Opportunity/Affirmative Action Institution.

POSITIONS OPEN

UNIVERSITY OF PENNSYLVANIA HISTORICAL ARCHEOLOGY

The Faculty of Arts and Sciences of the University of Pennsylvania would like to make a senior distinguished appointment in the field of the Historical Archeology of the Americas.

The position would be associated with both the University Museum and the Department of American Civilization. Candidates who should possess exceptional qualifications and experience in field research and its publication, should write enclosing curriculum vitae, by 1 January 1979, to: Professor Martin Biddle, Director, University Museum, UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa. 19104.

The University is an Equal Opportunity Employer and invites applications from minorities and females.

IMMUNOLOGIST/IMMUNOPATHOLOGIST. The Department of Pathology, Hematopathology Section, University of Southern California (USC) School of Medicine, is seeking applicants who have recently completed a Ph.D. program in the areas of immunology/immunopathology for full-time appointment as research associate/scholar. Applicants should be qualified in the areas of cellular immunology and tissue culture and should have experience with mice. Salary negotiable. Following appointment, qualified individuals will be encouraged to seek faculty status. Please send curriculum vitae, description of present and future research, and names of references to: Dr. Paul K. Pattengale, USC School of Medicine, 2025 Zonal Avenue, Los Angeles, Calif. 90033. Affirmative Action/Equal Opportunity Employer.

ONE IMMUNOLOGIST AND ONE TOXICOLOGIST, both with Ph.D.'s, wanted by leading Japanese pharmaceutical company to work in their R & D institute in Japan. Top salary contract negotiable. Send résumé to: IMCA, 1111, TBR Building, 2-10-2, Nagatacho, Chiyoda-ku, Tokyo, 100 Japan.

INSECT GENETICIST—RESEARCH LEADER. To assume leadership of an established research group investigating insects of agricultural and veterinary importance. GS-13/14 level position. For information contact: L. E. LaChance, Director, Metabolism and Radiation Research Laboratory, P.O. Box 5674, State University Station, Fargo, N.D. 58105. Telephone: 701-237-5771, extension: 5401. For application forms, contact: James Knox, North Central Region Administrative Office, USDA/SEA/AR-1, 2000 West Pioneer Parkway, Peoria, Ill. 61614. An Equal Opportunity Employer.

MAMMALIAN GENETICIST Research Triangle Institute Chemistry and Life Sciences Group

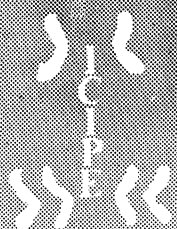
Applications are invited for a permanent staff position as a mammalian geneticist. Present program is aimed primarily at recognition, induction, and maintenance of mutations in rodents. It is expected that the successful applicant will have at least 2 years of postdoctoral experience in this or a closely related field. Experience or training in biochemistry or enzymology would also be advantageous. Applications should include: (i) a résumé, (ii) a brief description of research experience and interest, and (iii) a list of approximately three scientists who may be contacted to provide a letter of reference.

Please reply to: Dr. C. E. Cook, Chemistry and Life Sciences Group, Research Triangle Institute, P.O. Box 12194, Research Triangle Park, N.C. 27709. Equal Opportunity/Affirmative Action Employer

MOLECULAR BIOLOGIST

Excellent opportunity for Ph.D. microbiologist (or biochemist with experience in microbiology) to pursue basic and applied research in cellulose bioconversion, xenobiotic biodegradation, and particulate carcinogenicity. Candidate should have strong academic achievement record, ability to initiate and pursue original research projects, and to contribute to ongoing interdisciplinary life science research programs. We offer a professionally stimulating research environment at an attractive Northeastern location, excellent salary, and benefit plan. Please submit your curriculum vitae and brief summary of research interests to: Box 384, SCIENCE.

An Equal Opportunity Employer, M/F



THE INTERNATIONAL CENTRE OF INSECT PHYSIOLOGY AND ECOLOGY

Nairobi, Kenya

Applications are invited from suitably qualified persons for the following positions:

1. RESEARCH SCIENTIST OR POST-DOCTORAL RESEARCH FELLOW (TSETSE POPULATION DIVERSITY PROGRAMME) REF: SCI/78/24

Qualifications:

Ph.D. with 5 or more years post-doctoral experience in biological sciences and a demonstrable experience in ecological or eco-genetic research with arthropods. High quality research for Ph.D. and evidence for excellence since doctorate will be a distinct advantage.

Responsibilities:

The successful candidate will carry out research in the field of tsetse population dynamics.

2. RESEARCH TRAINING FELLOWSHIPS IN INSECT ECOLOGY (7 POSITIONS) REF: SCI/78/25

Qualifications:

Young African Scientists, holding Ph.D. or M.Sc. degrees in entomology or zoology, with bias towards ecology. High quality research capability should be proven as evidenced by thesis, dissertation, or any other relevant research experience. Scientists completing thesis work from recognised universities are also eligible. The positions will be available in 1979.

Responsibilities:

The successful candidates will undertake research in ecology of livestock ticks, tsetse, medical vectors or tropical diseases (especially mosquitoes and biting flies), stem and pod borers, African armyworm, harvester termites, and sorghum shootfly, collaborating with ICIPE research scientists who are mainly working in eco-physiological research.

Research training will be carried out mainly at the ICIPE Field Stations located in the coastal, semi-arid savannah, and lake-shore regions of Kenya.

Further training in advanced ecological techniques may be implemented in Kenya and abroad as the individual cases may demand. Applicants should indicate their preference in research.

3. CONTROLLER FOR INSECTARY SERVICES— REF: SCI/78/26

Qualifications:

Candidates should be in possession of a Ph.D. or M.Sc. degrees, preferably in insect or animal pathology, but possibly also in zoology, biology, or physiology. They should have strong technical training and a solid scientific or research background at a senior level. They should necessarily be interested in insect breeding problems and techniques.

Responsibilities:

The successful candidate will be required to (a) plan the insect and animal breeding unit; (b) carry out experiments needed to establish routines for the breeding of each of the target insect species and required laboratory animals; (c) supervise the operations of the insect and animal breeding unit; and (d) train staff working under him. It is expected also that he will monitor the health of insects under his care. It is hoped that the successful candidate will be able to commence work immediately.

GENERAL INFORMATION FOR ALL POSITIONS:

Salary:

Negotiable and include attractive benefits.

Applications giving detailed information or general education, professional qualifications, experience, marital status, age, present terms of employment (including salary), names and addresses of four referees (including one personal), and photostat copies of relevant certificates and diplomas should be addressed to:

*Administrative Manager,
I.C.I.P.E.
P.O. BOX 30772,
NAIROBI:*

to reach him as soon as possible.

POSITIONS OPEN

MEMBRANE BIOPHYSICS

Applications are invited for faculty positions at all levels in the Department of Physiology and Biophysics starting in September 1979. We are seeking membrane biophysicists with interests in transport functions of excitable and non-excitable cells. *Applications from all qualified candidates are welcome; minorities and women are encouraged to reply.* Send curriculum vitae and names of three references to: **Donald Marsh, M.D., Chairman, Department of Physiology and Biophysics, University of Southern California, 2025 Zonal Avenue, Los Angeles, California 90033.**

NEUROBIOLOGIST

Cornell University's Section of Neurobiology and Behavior, of the Division of Biological Sciences, announces an appointment in **cellular or molecular neurobiology**. This position may be filled at the rank of assistant, associate, or full professor. *Minority and women candidates are encouraged to apply.* Curriculum vitae with copies of recent reprints and three letters of reference, requested by the candidate, should be sent to: **Dr. K. Adler, 101 Langmuir Laboratory, Cornell University, Ithaca, New York 14853, telephone: 607-256-6569.** Applications will be considered after 1 March 1979. *An Affirmative Action/Equal Opportunity Employer.*

NEUROPHYSIOLOGIST

SUNY—Upstate Medical Center

The Department of Neurosurgery of State University of New York (SUNY) at Upstate Medical Center invites applications from persons trained in neurophysiology who are committed to research and teaching. Appointment will be at the assistant professor level. Responsibilities for teaching and supervision of neurosurgery residents in the applicant's specialty as well as basic neurophysiology are expected.

Candidate should submit curriculum vitae, including a summary of teaching and research experience and interests, and arrange for three letters of reference to be sent to:

**Dr. Robert B. King
Professor and Chairman
Department of Neurosurgery
750 East Adams Street
Syracuse, New York 13210**

ORGANIC CHEMIST. Tenure-track appointment at the assistant professor or instructor level to teach organic chemistry and chemistry for the health sciences, with the possibility of an introductory analytical chemistry course. Ph.D. in chemistry with some teaching experience preferred. Opportunity to become part of a dynamic 2-year college chemistry department committed to teaching the poorly prepared as well as the better student. Begin September 1979. Salary to \$14,000 annually. Send résumé and names of three references to: **Ralph Kreiser, Department of Chemistry, Rhode Island Junior College, Warwick, Rhode Island 02886,** postmarked no later than 15 February 1979. *An Equal Opportunity/Affirmative Action Employer.*

PHYSIOLOGIST—PHARMACOLOGIST at the level of assistant professor in a multidisciplinary department. Available 1 July 1979. Requirements include teaching physiology and pharmacology and developing and pursuing active research program. Ph.D. required and interest in one or more of the following areas preferred: oral physiology, neurophysiology, neuropharmacology, and dental therapeutics. Send curriculum vitae and names of three references to: **Dr. W. Sprague, Chairman, Department of Oral Biology, University of Nebraska College of Dentistry, 40th and Holdrege, Lincoln, Nebraska 68583,** by 1 March 1979.

Equal Opportunity/Affirmative Action Employer

PLANT PHYSIOLOGIST, ECOLOGIST position open September 1979 for Ph.D. to join six-member biology faculty and present courses in plant physiology, ecology, and introductory biology. Applicants should have strong commitment to undergraduate teaching. Salary and rank commensurate with experience. Closing date for applications will be 1 month from the appearance of the advertisement. Send curriculum vitae and three letters of reference to: **Dr. Harry E. Shealy, Division of Science and Mathematics, University of South Carolina at Aiken, 171 University Parkway, Aiken, S.C. 29801.** *The University of South Carolina is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

PH.D. The individual will be expected to teach courses in basic and applied human physiology for students in programs in the College of Health Related Professions. Preference will be given to an individual who can also offer a course in comparative physiology to majors. The successful candidate will be provided with laboratory facilities and will be expected to develop a productive research program. Appointment will be for 9 months and at the assistant professor level. Summer employment is usually available.

This is a regular tenure-track position. Application materials should include detailed curriculum vitae, transcripts, and three letters of recommendation. Applications will be accepted until 19 January 1979. Inquiries should be addressed to:

**Chairperson
Department of Biological Sciences
Wichita State University
Wichita, Kansas 67208**

Wichita State University is an Affirmative Action Employer.

Food and Drug Research Laboratories, Inc. (FDRL), a growing independent testing laboratory, is seeking a certified **D.V.M. PATHOLOGIST** to evaluate microscopic tissues of laboratory animals, summarize and interpret findings, write and review pathology reports; interact with toxicologists, necropsy, and histology personnel.

Send résumé to:

**Dr. Kent R. Stevens, Director
Food & Drug Research Laboratories, Inc.
P.O. Box 107, Route 17c
Waverly, New York 14892**

PATHOLOGIST—UNIVERSITY OF NEVADA. Applications invited for Board-certified pathologist to join expanding department in newly developing medical school. Assistant or associate professor; academic experience desirable. Applications close 18 January 1979. Write: **M. H. Haber, M.D., Chairman, School of Medicine, University of Nevada, Reno, Nevada 89557.** *Affirmative Action/Equal Opportunity Employer.*

PHYSICIST, Ph.D. Experience in ultrasound imaging, clinical ultrasound, image processing, and ultrasound linear array beam forming hardware. Call or write: **Dr. Steven A. Johnson or Dr. Douglas A. Christensen, Department of Bioengineering, University of Utah, Salt Lake City, Utah 84112; telephone: 801-581-7399.** Deadline for applications is 20 January 1979. *An Affirmative Action/Equal Opportunity Employer.*

PHYSIOLOGICAL PSYCHOLOGIST, tenure-track appointment: Ph.D. at beginning assistant professor level, starting August 1979.

Priority given to applicant having research interests in electrophysiology. Duties include undergraduate and graduate teaching and initiating research.

Tulane is an Equal Opportunity/Affirmative Action Employer. Send curriculum vitae and three letters of recommendation to: **Chairperson, Physiological Psychology Search Committee, Department of Psychology, 2007 Stern Hall, Tulane University, New Orleans, La. 70118.** Search closes 15 February 1979.

POSTDOCTORAL FELLOW: BIOENERGETICS required commencing 1 April 1979, for a period of 1 or 2 years, at an annual salary of \$12,000. The appointee will be expected to work on some aspect of cytochrome c oxidase activity, either in solution [see Nicholls and Hildebrandt (1978) *Biochem. J.* 173 65] or in liposomes [see Hansen et al. (1978) *Biochim. Biophys. Acta* 502, 385, 400]. Some teaching may be included if desired. Applications, including curriculum vitae, list of publications, selected reprints if available, and the names of two or three academic referees, should be sent to: **Dr. P. Nicholls, Department of Biological Sciences, Brock University, St. Catharines, Ontario, Canada, L2S 3A1** (from whom further information can be obtained) before 1 February 1979.

POSTDOCTORAL POSITION. Cellular neurophysiologist to investigate ionic conductances underlying pacemaker and burst-generating potentials of crustacean neurons. Voltage clamping experience highly desirable. July 1979, for 1 year; possible extension for another year (both subject to federal funding). Send résumé and have two supporting letters sent by the end of February to: **Ian Cooke, Békésy Laboratory of Neurobiology, University of Hawaii, 1993 East-West Road, Honolulu, Hawaii 96822; telephone: 808-948-8001.**

POSITIONS OPEN

POSTDOCTORAL APPOINTMENTS

The Ames Laboratory of the U.S. Department of Energy has a number of vacancies for postdoctoral fellows in the fields of chemistry, physics, metallurgy, and engineering. The appointments would be for 1 year, renewable for a second year if mutually agreeable. In some instances there may be a possibility for continued employment beyond the 2-year postdoctoral appointment if circumstances warrant.

Interested persons should submit a complete résumé, along with the names and addresses of three professional references, to:

**Ames Laboratory
Personnel Office
127 Spedding Hall
Iowa State University
Ames, Iowa 50011**

An Equal Opportunity Employer

UNIVERSITY OF CALIFORNIA, IRVINE. Two positions available for **POSTDOCTORAL FELLOWS**, beginning summer 1979, in the Center for Pathobiology. Recent Ph.D. required, preferably in the area of cell biology, developmental biology, or genetics. Candidates to work on problems of stem cell differentiation, determination, pattern formation, or morphogenesis in hydra (with Doctors H. R. Bode or R. D. Campbell), *Drosophila* (with Doctors P. J. Bryant or H. A. Schneiderman), or amphibians (with Dr. S. V. Bryant). *Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.* Arrange for three letters of reference to be sent, and submit résumé and brief description of research interests and experience to: **Dr. H. R. Bode, Center for Pathobiology, University of California, Irvine, Irvine, California 92717.** Closing date: 28 February 1979.

POSTDOCTORAL POSITION available now for a biochemical study of capillaries isolated from brain and retina. Goals are to define the cellular basis of capillary failure in diabetes, brain edema, and lead poisoning. Areas under current investigation include membrane transport, pinocytosis, biochemical composition, and cellular metabolism. Experience in tissue culture or cytochemistry is helpful. Salary to \$16,000. Applicants with Ph.D. or M.D. send curriculum vitae and letters of recommendation to: **Dr. G. Goldstein, Department of Neurology, M-794, University of California, San Francisco, Calif. 94143.**

POSTDOCTORAL POSITIONS. Veterans Administration Medical Center (VAMC) is inviting applications from postdoctoral-level scientists to assist with research programs in the areas of: (i) molecular mechanisms of chemical mutagenesis and carcinogenesis, and (ii) metabolism of chemical toxicants. Applicants should have training in chemistry, pharmacology, or biochemistry. Interested persons should send curriculum vitae and three names for reference to: **Dr. K. D. Straub, ACOS for Research, VAMC, 300 East Roosevelt Road, Little Rock, Ark. 72206.**

POSTDOCTORAL POSITION available immediately to study the biochemistry of oil and protein synthesis in soybeans. Applicants should have experience in biochemistry and plant physiology. Salary commensurate with experience. Send résumé and names of references to: **Niels C. Nielsen, Agronomy Department, Purdue University, West Lafayette, Ind. 47907.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION—Immediately available in research project on role of cyclic nucleotide-dependent phosphorylation on the nuclear regulatory function of non-histone proteins. Experience in nuclear regulatory systems desired. Salary: \$13,000 and up based on experience. Send résumé and two letters of recommendation to: **Dr. Thomas E. Donnelly, Jr., Associate Professor, Department of Pharmacology, University of Nebraska Medical Center, Omaha, Nebraska 68105.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION in experimental radiation oncology. Work will include both in vivo and in vitro experiments with transplantable mouse tumor cell lines. Normal tissue and tumor response to hyperthermia and radiation will be evaluated. Send résumé and references to: **Dr. E. L. Gillette, Comparative Oncology Unit, Colorado State University, Fort Collins, Colo. 80523.** Deadline for applications is 15 January 1979. *Colorado State University is an Equal Opportunity/Title IX Employer. Equal Opportunity Office: 314 Student Services Building.*

POSITIONS OPEN

A POSTDOCTORAL POSITION is currently available for studies in the area of control of normal and neoplastic growth. Specific interests of this laboratory have focused on the biochemical regulation of the mammalian cell cycle with emphasis on protein modification by cyclic AMP dependent and independent protein kinases. Other research currently in progress is designed to elucidate specific mechanisms of action of various anti-cancer agents on the growth potential of normal and malignant cells. Interested individuals should have training in any of the following: biochemistry, cellular biology, molecular biology, pharmacology, or radiation biology. Applicants please send résumé and references to: **Eugene W. Gerner, Ph.D., University of Arizona Health Sciences Center, Radiation Oncology Division, Tucson, Arizona 85724.** *Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE

Study of receptors for insulin, estrogens, and progesterone from gynecologic tissues, purification by newly developed high-pressure affinity chromatography resins, characterization by physicochemical and immunological methods. Prior experience desirable. Position (1 to 2 years) available immediately. Salary not less than \$13,000. Please send (before 19 February 1979) résumé and names of three references to:

John C. M. Tsihris, Ph.D.
Department of Obstetrics-Gynecology
University of Florida
Gainesville, Florida 32610

POSTDOCTORAL RESEARCH POSITION available, supported by NIH training grant, for study of biochemical aspects of pulmonary function with emphasis on control of collagen metabolism in the developing lung. Send curriculum vitae and names of three references to: **Robert S. Bienkowski, Ph.D., Room 426, Van Etten Hospital, Department of Pediatrics, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461.**

POSITIONS OPEN

POSTDOCTORAL POSITION available to work on mechanisms of tolerance or sensitivity in plant pathogenic fungi to isoflavonoid phytoalexins. Applicant should have a Ph.D. in a discipline which stresses an understanding of microbial physiology and biochemistry. Salary: \$12,000 with fringe benefits. Appointment for 1 year; renewal possible. Applications will be accepted until 30 January 1979. Send curriculum vitae, transcripts, and three letters of recommendation to: **Dr. Hans D. VanEtten, Department of Plant Pathology, Cornell University, Ithaca, N.Y. 14853.** *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Three-year position available immediately for research on the control of insect reproductive development. Recent Ph.D. (biochemistry, developmental biology, or insect physiology) with experience in nucleic acid chemistry preferred. Send curriculum vitae and references to: **Dr. George M. Happ, Department of Zoology, University of Vermont, Burlington, Vermont 05405.**

An Affirmative Action Employer

POSTDOCTORAL POSITION available immediately for individual with background in biochemistry or cellular genetics. Studies involve somatic cell genetics, purine metabolism, nucleic acid synthesis, and recombinant DNA technology. Salary: \$11,000. Contact: **Dr. Milton Taylor, Biology Department, Indiana University, Bloomington, Ind. 47402.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately to study (in nonhumans) the behavioral, including perceptual, effects and mechanisms of action of hallucinogenic, narcotic, and other drugs. Applications from individuals trained in physiological psychology, behavioral pharmacology, and related areas are welcomed. The position is currently for 1 year, but may be reviewed pending available funds. Send curriculum vitae and letters of recommendation to: **Dr. James B. Appel, Department of Psychology, University of South Carolina, Columbia, S.C. 29208.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for basic research related to the metabolism of drugs of abuse. Experience in high pressure liquid chromatography and gas chromatography methodology desirable. Send curriculum vitae and names of referees to: **Dr. M. R. Franklin, Department of Biochemical Pharmacology and Toxicology, University of Utah, Salt Lake City, Utah 84112.** *The University of Utah is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION. Two positions available immediately for research on transfer RNA: (i) role of hypermodified anticodon adjacent nucleosides; and (ii) Carbon-13 NMR studies on ¹³C-uracil labeled *E. coli* tRNA. Experience in nucleic acid biochemistry and NMR desirable. Send curriculum vitae and names of three references to: **Dr. Martin P. Schweizer, Department of Medicinal Chemistry, University of Utah, Salt Lake City, Utah 84112.** *The University of Utah is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE in membrane biochemistry available immediately. Biochemical studies of the acetylcholine receptor. Experience in protein chemistry, immunological methods, or cell biology desired. Send curriculum vitae, two letters of reference, and names of two other referees to: **Alfred Maelicke, Max-Planck-Institut, Rheinlanddamm 201, 4600 Dortmund, West-Germany.** Until 10 January 1979, Dr. Maelicke can be reached at: **The Rockefeller University, New York, N.Y. 10021; telephone: 212-360-1920.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available for individual interested in areas of gene structure and regulation or molecular mechanisms of site-specific recombination: previous experience with, or desire to learn, DNA cloning, nucleic acid biochemistry, genetics, or in vitro systems. Please send résumé with desired starting date and list of three references to: **Arthur Landy, Division of Biology and Medicine, Brown University, Providence, R.I. 02912.** *An Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF OTAGO Faculty of Medicine The Christchurch Clinical School of Medicine Christchurch, New Zealand

LECTURER OR SENIOR LECTURER IN MEDICINE

Applications are invited from medical graduates for the position of Lecturer or Senior Lecturer in the Department of Medicine in the Christchurch Clinical School of Medicine.

Applicants should have special clinical and research experience in the field of gastroenterology. Specific enquiries should be addressed to Professor D.W. Beaven, Department of Medicine, The Princess Margaret Hospital, Christchurch, New Zealand.

Salary: Lecturer NZ\$14,673-\$17,700; Senior Lecturer NZ\$19,986-\$25,729 per annum. A particularly well qualified applicant could be appointed with the status of Associate Professor NZ\$27,026-\$30,728. An allowance for clinical responsibility may be available in the light of status and duties performed.

Further particulars are available from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, or from the Registrar of the University.

Applications close on 15 February 1979.

ENERGY INFORMATION

This is a national program involving the collection, verification, and analysis of building, industrial, and transportation energy end-use data. This data will be incorporated into national energy data books. Advanced degrees, including the Ph.D., in economics, engineering, or related areas required.

ENERGY DATA MANAGER

To provide direction for the preparation and production of a national data book for industrial energy use. Specific duties include: project organization and methodology; preparation of a data book in final form; supervision of personnel in the subsidiary roles of data book coordination, economic/engineering analysis, and information support; preparation of detailed plans and schedules, periodic, regular, and ad hoc reports; and control of expenditures against budgets.

SENIOR ENERGY DATA ANALYST

Responsible for designing and performing economic/engineering analyses of national data relating to energy end-use in residential and commercial buildings. Specific duties include: defining areas to be investigated; supervising B.S./M.S.-level economists/engineers; performing data analyses; generating analytical reports; and developing and implementing procedures for efficient and timely data collection, analysis, and updating.

ENERGY DATA ANALYSTS

To perform economic/engineering analyses relating to energy end-use in the buildings, transportation, and industrial sectors. Specific duties include: data collection, verification, and analysis; energy economic modeling and forecasting; and preparation of analytical reports.

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

**Employment Office
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, Tenn. 37830**

An Equal Opportunity Employer

Oak Ridge Associated Universities (ORAU) is a private, not-for-profit association of 45 colleges and universities, conducting programs of research, education, and training for government and private organizations. It has particular interest in the fields of energy, health, and the environment. ORAU is noted for its cooperative programs and for its contributions to the development of science and human resources in the South.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately for recent Ph.D. in organic chemistry, preferably in the synthetic area with a background in organo boron chemistry. To join new project (funded by the National Institutes of Health) involving sophisticated synthesis of known compounds and exploratory work on new classes of organo boron compounds. The compounds will be used in a broad neutron therapy and tumor-seeking interdisciplinary program. The successful candidate will join the Medical Department, and work within the Chemistry Department.

Send résumé, transcripts, and request three letters of recommendation be forwarded to: Dr. Eugene P. Cronkite Chairman, Medical Department **Brookhaven National Laboratory** Associated Universities, Inc. Upton, Long Island, N.Y. 11973 An Equal Opportunity Employer, M/F

POSTDOCTORAL RESEARCH OPPORTUNITY in the Mineral Research Unit at Mayo Clinic. Background in organic or medicinal chemistry sought for collaborative investigation involving Vitamin D synthesis and Vitamin D metabolism. Address inquiries to: R. Kumar, M.D., Mineral Research Laboratory, St. Marys Hospital, Rochester, Minnesota 55901.

An Equal Opportunity/Affirmative Action Institution

Interdisciplinary POSTDOCTORAL RESEARCH TRAINING in taste and olfaction; *women and minority candidates are encouraged to apply.* Individuals with interests in the following areas will be considered:

- 1) Age/culture in human food selection.
- 2) Nutritional status and chemical senses.
- 3) Biochemistry of taste and olfactory membrane receptors.
- 4) Electron microscopy of taste and olfactory epithelium.
- 5) Neurophysiology/behavior of feeding in gastropod mollusks and aquatic animals.
- 6) Clinical aspects of taste and olfaction.
- 7) Neuroanatomy/neurophysiology of mammalian CNS.
- 8) Mammalian chemical communication.

Send curriculum vitae and names of three references to: **Chairman, Monell Chemical Senses Center, 3500 Market Street, Philadelphia, Pa. 19104.** *An Equal Opportunity Employer.*

POSTDOCTORAL TRAINING in RNA tumor virology. Stipend from NIH training grant in tumor virology available immediately. Interests include the genetics of avian RNA tumor viruses and the biochemistry of viral gene products in infection and transformation. Applicants should have training in cell or molecular biology. Participating faculty include P. Nieman, R. Eisenman, M. Linial, and R. Rohrschneider. Send curriculum vitae, including names of three references, to: **Dr. Robert Nowinski, Fred Hutchinson Cancer Research Center, 1124 Columbia Street, Seattle, Wash. 98104.**

The deadline for applications will be 1 January 1979. *The University of Washington is an Affirmative Action/Equal Opportunity Employer.*

Two POSTGRADUATE RESEARCH BIOCHEMISTS. One with experience in nucleic acid biochemistry and immuno- and protein chemistry with special interest in the regulatory role of poly (ADP-ribose) in eukaryotic cells; one with interest in enzymology and bioorganic mechanisms—field of research is catalytic mechanism of transport in inner mitochondrial membranes. Salary range: \$11,880 to \$14,916, to begin immediately. Apply to: **Ernest Kun, M.D., 101-SURGE Building, University of California, San Francisco, San Francisco, Calif. 94143.** *University of California, San Francisco is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

The University of California, Berkeley, seeks a **POSTGRADUATE RESEARCH BIOCHEMIST** to work with principal investigator on biochemical reactions of folic acid and Vitamin B₁₂. A Ph.D. and experience in general biochemical work and enzymatic assays. Previous experience in the folic acid field is desirable. \$11,880 to \$14,916 per annum, dependent on experience and qualification. NIH grant; funding guaranteed through 31 December 1980. Applications should be received before 31 January 1979; position available immediately. Send curriculum vitae and references to: **Dr. E. L. R. Stokstad, Department of Nutritional Sciences, University of California, Berkeley, Calif. 94720.**

The University of California is an Affirmative Action Employer.

The Department of Civil Engineering at Carnegie-Mellon University invites applications for the position of **PROFESSOR and DEPARTMENT HEAD.** Applicants should have a strong interest in undergraduate and graduate civil engineering education, administrative experience, and a proven research record in one of the following areas: structural, environmental, or transportation engineering. Applications should be received prior to 1 February 1979 and should be addressed to: **Professor Steven J. Fennes, Search Committee Chairman, Department of Civil Engineering, Carnegie-Mellon University, Schenley Park, Pittsburgh, Pa. 15213.** *An Equal Opportunity/Affirmative Action Employer.*

PROTEIN DATA BANK

The Protein Data Bank anticipates an opening for a scientist to work on the data base. Duties would include solicitation of new data, extraction of information from the primary literature, and processing of contributed data into the standard data bank format. The appointee would be involved in writing computer programs to derive a variety of useful information (for example, Ramachandran plots) from the atomic coordinate entries. There would be limited time available for independent research. Applicants should have an advanced degree, knowledge of macromolecular structure analysis, and computer programming experience. For additional information on the Protein Data Bank, see *J. Mol. Biol.* 112, 535-542 (1977).

This position is expected to commence in January 1979.

To apply, please contact:

Dr. T. F. Koetzle
Chemistry Department
Brookhaven National Laboratory
Associated Universities, Inc.
Upton, Long Island, New York 11973
An Equal Opportunity Employer, M/F

We invite applications for the position of **RESEARCH ASSOCIATE**, available immediately. The applicants must have a Ph.D. degree in molecular biology or biochemistry and must have some experience in microbial cell surface chemistry. The successful applicant will be involved in a project to determine the role of the bacterial cell wall in DNA replication and segregation and cell division. Please send (i) letter of intent and interest in the research area, (ii) full set of transcripts, and (iii) three letters of reference to either: **Dr. R. J. Doyle or Dr. U. N. Streips, Department of Microbiology and Immunology, School of Medicine, University of Louisville, Louisville, Kentucky 40232.** Salary will be competitive. *The University of Louisville is an Equal Opportunity/Affirmative Action Employer.*

University of Utah College of Medicine is seeking a Ph.D. at the **RESEARCH INSTRUCTOR or RESEARCH ASSISTANT PROFESSOR** rank with extensive research background in tumor immunology to coordinate laboratory and clinical investigation in the Department of Obstetrics and Gynecology. *The University is an Equal Opportunity Employer.* Interested persons should send curriculum vitae and names of three references to: **James R. Scott, M.D., Chairman, Department of Obstetrics and Gynecology, University of Utah College of Medicine, Salt Lake City, Utah 84132.**

POSITIONS OPEN

PROVOST OF COLLEGE EIGHT

The University of California, Santa Cruz, invites applications for the Provost of College Eight beginning 1 July 1979. The College Eight theme—**Environment and Society**—is a coherent academic program which embodies a concern for environmental issues within their social, political, scientific, and humanistic contexts. The provost reports to the chancellor of the university and is the intellectual leader and principal administrative officer of College Eight and Environmental Studies. Academic leadership responsibilities involve the on-going planning and development of a strong intellectual community, fostering quality scholarship and teaching. Administrative responsibilities include the direction of all staff operations. The provost will be expected to continue actively in scholarship and teaching albeit at a reduced level. Must be a dedicated scholar-teacher, qualified for a tenured rank in the University of California. Must have demonstrable capacity for strong educational leadership along with good judgment and administrative skills. Must have strong disciplinary and interdisciplinary background with substantial engagement in environmental affairs. Salary is negotiable and appropriate with the highest levels of distinction. Send résumés to: **Pavel Machotka, Chair, Provost Search Committee, College Eight, University of California, Santa Cruz, Calif. 95064** by 31 December 1978. *The University of California, Santa Cruz, is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSISTANT PROFESSOR OR ASSOCIATE. Immediate need for experienced Ph.D. lipid biochemist to study interaction of plasma and biliary lipids. Familiarity with lipoprotein methodology, radiochemical analysis, and lipid characterization from biological specimens required. Salary dependent on previous research achievement. Send curriculum vitae and three letters of reference to: **Dr. R. N. Redinger, Boston University Medical Center, 75 East Newton Street, Boston, Mass. 02118; telephone: 617-247-6256.**

RESEARCH ASSOCIATE/POSTDOCTORAL. Biochemists or physical biochemists to join group to study protein-protein, and protein-membrane interactions in the rapidly emerging area of coated vesicle self-assembly. \$11,000 to \$14,000. Send résumé and telephone numbers of three references to: **Dr. Thomas F. Roth, Department of Biological Sciences, University of Maryland, Baltimore County, Catonsville, Maryland 21228.**

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RESEARCH MANAGER of experimental laboratory investigating innovative engineering education methodologies and equipment. Requirements: advanced degree in psychology; several years practical experience with individual and group testing and coordination in an academic or relevant public environment; working familiarity with physics, mathematics, statistics, electronics, computers, and optical and auditory equipment. Particular emphasis on perception, physiological response, and biofeedback. Considerable evening and weekend work. Salary appropriate to credentials. Start 1 June 1979. Send résumé and three letters of reference to: **J. A. Farrington, School of Engineering/Applied Science, Princeton University, Princeton, N.J. 08540.**

An Equal Opportunity Employer

RESEARCH PSYCHIATRIST

The Department of Psychiatry, University of Michigan, and the State of Michigan Department of Mental Health invite applications for a research psychiatrist position. The successful candidate will be expected to develop a clinical research unit based at Ypsilanti Regional Psychiatric Hospital. Laboratory facilities and support will be provided at the Mental Health Research Institute of the Department of Psychiatry in Ann Arbor. A suitably qualified candidate will have a faculty appointment at the University of Michigan and may also be appointed as director of the Division of Research at Ypsilanti Regional Psychiatric Hospital. Send curriculum vitae, publications list, description of research interests, and three letters of recommendation to:

Dr. Bernard J. Carroll
Associate Director for Clinical Research
Mental Health Research Institute
University of Michigan
Ann Arbor, Michigan 48109

The University of Michigan and the State of Michigan Department of Mental Health are Equal Opportunity/Affirmative Action Employers.

ANNOUNCING THE SECOND INTERNATIONAL SYMPOSIUM ON INVERTEBRATE REPRODUCTION

WHEN: August 27—August 31, 1979
WHERE: University of California, Davis*

For registration material, contact (by January 15, 1978):

Mrs. Carolyn Norlyn
ISIR Conference Coordinator
4475 Chemistry Annex
University of California
Davis, Ca. 95616 U.S.A.

Monday, August 27—Physiology of gamete activation and interaction

Chairs: R. A. Leopold, USDA, Fargo, N. Dakota
V. D. Vacquier, University of California, San Diego

Tuesday, August 28—Gonad-produced hormones

Chairs: A. Schuetz, Johns Hopkins University, Baltimore, Md.
K. G. Davey, York University, Ontario, Canada

Wednesday, August 29 (informal meetings/workshops)

Thursday, August 30—Environmental synchronization of reproduction

Chairs: J. Pearse, University of California, Santa Cruz
R. M. Woollacott, Harvard University, Cambridge, Mass.

Friday, August 31—Artificial manipulation of reproduction

Chairs: D. Morse, University of California, Santa Barbara
L. L. Sower, USDA Forest Service, Corvallis, Oregon

Symposiums will be held in the mornings, and afternoons will be devoted to contributed papers.

ESCUELA DE MEDICINA UNIVERSIDAD AUTONOMA DE CIUDAD JUAREZ PROGRAMA ESPECIAL PARA DOCTORADOS (Ph.D.-M.D.)

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The Universidad Autonoma de Ciudad Juarez School of Medicine has established an additional route to the M.D. qualification whereby selected candidates who already hold a Ph.D. degree in biological, physical, or engineering science can enter an accelerated course of study. Social sciences may be considered provided there is a strong background in the physical, chemical, or biological sciences.

The Ph.D.-M.D. Program is now considering applications for the 5th Class which will commence sessions on June 4, 1979. Successful students will complete the M.D., training within 25 months. Social service of 12 months will be required and probably be devoted to research and clinical service.

LANGUAGE:

Spanish Language instruction will be given during April to September 15, 1979. Proficiency in Spanish must be achieved by September 1979.

APPLICATIONS:

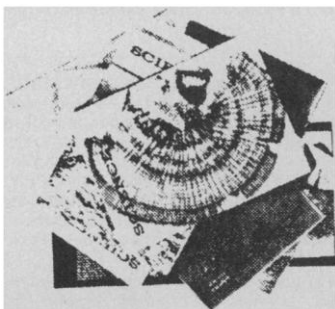
Inquiries for the Ph.D.-M.D. Program and requests for standard application forms should be addressed to:

ELIAS ABBUD ABBUD, M.D.
Chairman, Admissions Committee
LUIS RAUL ABBUD ABBUD, C.P.A.
Administrator
Universidad Autonoma de Cd. Juarez
Apartado Postal 231
Ciudad Juarez, Chih., MEXICO

The Admissions Committee will not accept applications postmarked after March 31, 1979.

TUITION AND FEES:

Tuition is \$6,000 for each of the two academic segments. Spanish Language tuition is \$600. Fees include a registration fee of \$15 and an application fee of \$50. The application fee must accompany each application and is non-refundable. Checks should be made payable to the Universidad Autonoma de Ciudad Juarez School of Medicine Ph.D.-M.D. Program.



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POSITIONS OPEN

RESEARCH ASSOCIATE—Immediate opening for individual with experience in **AMINO ACIDS SEQUENCE ANALYSIS**. Research involves structural analysis on influenza virus proteins. Salary up to \$20,000, depending on experience. Send curriculum vitae and names of references to: **Dr. E. D. Kilbourne, Chairman, Department of Microbiology, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029.** An Equal Opportunity Employer.

RESEARCH ASSOCIATE—AGRONOMY

Available 1 March 1979, temporary, 13-month, assistant rank position to conduct research on regulation of nitrate metabolism in higher plants. Requires basic knowledge of plant physiology and biochemistry. Knowledge and experience in genetics desired. Salary: \$12,000 to \$14,000 per year. Send résumé, transcripts, and names and addresses of three persons who have been asked to submit letters of reference by 15 January 1979, to: **Dr. J. C. Engibous, Chairman, Department of Agronomy and Soils, Washington State University, Pullman, Wash. 99164.** An Equal Opportunity/Affirmative Action Employer. Women, minorities, and handicapped persons are encouraged to apply and identify themselves as such in their applications.

RESEARCH ASSOCIATE with Ph.D. A position is available immediately to study assembly of transcriptionally active chromatin and/or the protease associated with chromosome. Contact: **Dr. Chi-Bom Chae, Department of Biochemistry and Nutrition, University of North Carolina, Chapel Hill, North Carolina 27514.** Equal Opportunity/Affirmative Action Employer.

SUPERVISOR IMMUNOLOGY LABORATORY

Position open for the supervisor of the Clinical Immunology Laboratory in a 600-bed teaching hospital in Atlanta, Georgia. The Clinical Immunology Laboratory performs routine as well as advanced technical procedures such as electrophoresis, immunoelectrophoresis, autoimmune serology, cellular immunology, biochemistry, or microbiology is preferred, but candidates with bachelor's degree and relevant experience in clinical immunology will be considered. All applicants must have a minimum of 4 years of experience in laboratory medicine with three of these 4 years in clinical immunology. Previous supervisory experience desirable. Applicants should submit a résumé and names of references to:

Staffing Center
Personnel Department
EMORY UNIVERSITY
Trimble Hall
Atlanta, Georgia 30322

An Equal Opportunity/Affirmative Action Employer

VIRAL BIOCHEMIST. Postdoctoral position; 1 to 3 years; structure and function of herpesvirus DNA; role of viral genes in oncogenesis. Prefer virologist or biochemist with experience in hybridization and DNA mapping techniques. Send curriculum vitae and names of three references to: **Dr. Dennis J. O'Callaghan, Department of Microbiology, University of Mississippi Medical Center, Jackson, Miss. 39216; telephone: 601-968-5607.** Equal Opportunity Employer, M/F.

VISUAL PSYCHOPHYSICS

Eye Research Institute of Retina Foundation intends to hire two permanent staff members specializing in visual psychophysics. One person will emphasize clinical applications of psychophysical techniques while the other will emphasize basic research. Both should be interested in a physiological approach to explaining visual performance. The successful candidates should be sufficiently advanced to initiate and pursue their own independent program of research and compete successfully for grant funds. Seed money for the initial period will be provided from institutional funds to allow the psychophysics research programs to start immediately.

Send curriculum vitae and names of references to:

Director
Department of Retina Research
Eye Research Institute of Retina Foundation
20 Staniford Street
Boston, Massachusetts 02114

POSITIONS OPEN

WATER CHEMIST. A position in soil and water chemistry. Applicants with a M.S. degree preferred. Knowledge of the chemistry of organic and inorganic substances when transported through soils and sediments essential. Experience or training in ground-water hydrology, soil physics, or related fields advantageous. Ability to communicate effectively both in writing and orally is necessary as preparation of technical reports is a prime responsibility. Salary commensurate with qualifications/experience. Send résumé and three names of references to: **Dr. Olin C. Braids, Geraghty & Miller, Inc., 44 Sintsink Drive, Port Washington, New York 11050.**

CONFERENCE

COMPUTERIZATION OF ANIMAL TOXICOLOGY STUDY DATA

The Society of Pharmacological and Environmental Pathologists will sponsor a symposium on The Computerization of Animal Toxicology Study Data, at the Sheraton International Conference Center, Reston, Virginia, 31 January through 2 February 1979. Major topics are: system design of computer input and output, data base characteristics and manipulations, and use of the computer in management control of a laboratory. Legal implications of GLP's, microcomputer interfaces, and reporting from the point of view of the regulatory official will be discussed. For information and/or registration: **Dr. Thomas Davis, Metpath Inc., 1 Malcolm Avenue, Teterboro, N.J. 07608; telephone: 201-288-3600, extension 662.**

TRAINING PROGRAMS

PREDOCTORAL—POSTDOCTORAL NUTRITIONAL EMPHASIS PROGRAMS

Various departments in five health sciences schools and area hospitals are participating in providing multidisciplinary research and educational opportunities in nutrition.

Brochures are available through: **The Multidisciplinary Graduate Group in Nutritional Sciences, Biochemistry Department, Cary Hall, State University of New York at Buffalo, Buffalo, New York 14214.**

GRADUATE STUDY

TEACHING AND RESEARCH ASSISTANTSHIPS available in biology (emphases in physiology, microbiology/genetics, plant science, population biology, marine science, developmental biology). Salary range: \$3600 to \$4500 for 9 months. M.S./Ph.D. programs. For descriptive brochure, write: **Graduate Chairman, Department of Biology, University of Houston, Houston, Texas 77004.** University of Houston is an Equal Opportunity Employer.

TRAINEESHIPS

NIH PREDOCTORAL TRAINEESHIPS IN THEORETICAL BIOLOGY, NEUROSCIENCE, AND PHYSIOLOGY. Predoctoral traineeships for graduate study in theoretical biology, neuroscience, and physiology through the Graduate Groups of Anatomy, Biochemistry, Biology, Physiology, Psychology and others are available beginning 1 July 1979. Send inquiries to: **Dr. R. E. Forster, Department of Physiology, University of Pennsylvania School of Medicine, Philadelphia, Pa. 19014.**

Equal Opportunity Employer

POSTDOCTORAL TRAINEESHIPS in auditory neurosciences (psychoacoustics of impaired hearing, speech perception by children and the hearing-impaired, auditory physiology, and special diagnostic tests) starting fall 1979. Send résumé, personal letter describing specific research and career goals, and three letters of recommendation (if dissertation is not yet finished, dissertation adviser should confirm completion date) to: **Dr. Lois L. Elliott, Program in Audiology and Hearing Impairment, Northwestern University, 2299 Sheridan Road, Evanston, Illinois 60201.**

FELLOWSHIPS

POSTDOCTORAL TRAINING OPPORTUNITIES at the University of Alabama in Birmingham in molecular and cellular aging. **Research fellowships** (\$10,000 and up) are available from 1 September 1979 under preceptors from the Faculty of Medicine, Dentistry, and Basic Sciences. Individuals interested should send their curriculum vitae with three references to: **Dr. Raymond N. Hiramoto, Department of Microbiology, University of Alabama in Birmingham, University Station, Birmingham, Alabama 35294; telephone: 205-934-4482.**

An Equal Opportunity/Affirmative Action Employer

DOCTOR OF ARTS IN BIOLOGY: FELLOWSHIPS are available for qualified persons interested in the D.A. degree in biology. The program stresses preparation for undergraduate teaching at colleges and universities. Applicants should hold a master's degree in some area of biology. Deadline for receipt of applications is 15 February 1979. For more information contact: **Dr. Donald P. Streubel, Chairman, D.A. Committee, Department of Biology, Idaho State University, Pocatello, Idaho 83209.** An Equal Opportunity Employer.

POSTDOCTORAL POSITIONS

Positions are available for recent Ph.D. graduates interested in advanced training and research on the mechanisms of selectivity of drug action. Areas currently under study are: (i) the biochemical-pharmacological basis for the effects of anticancer and antiviral treatments, inclusive of pharmacokinetics, drug biotransformation and target cell determinants of drug action; (ii) the selective effects of drugs on the various components and interactions involved in immune responses to tumor and nontumor antigens; (iii) the regulation of cell metabolism by hormones, nucleotide pools and cyclic nucleotides, particularly cyclic CMP; (iv) the pharmacological and cellular basis for chemical carcinogenic transformation in animals and in tissue culture; and (v) clinical pharmacological studies on drug selectivity. Nucleosides, antifolates, carbohydrates affecting the plasma membrane, and anthracycline antibiotics are among the classes of agents studied. Reply in writing to: **Dr. E. Mihich, Department of Experimental Therapeutics, Grace Cancer Drug Center, Roswell Park Memorial Institute, Buffalo, N.Y. 14263.** Please include curriculum vitae and indicate at least two references. We are an Equal Opportunity Employer, M/F.

Five **POSTDOCTORAL FELLOWSHIP POSITIONS** will be available in fall 1979 for research in estuarine lagoon and nearshore continental shelf waters. Research areas include macroalgal systematics, zooplankton ecology, invertebrate development, benthic ecology, and hydrocarbon pollution.

For further information contact: **Dr. Marsh J. Youngbluth, Postdoctoral Program, Harbor Branch Institution, Inc., Route 1, Box 196-A, Fort Pierce, Florida 33450.**

The institution admits students of any race, color, age, sex, and national or ethnic origin.

The **UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)** announces a major new **FELLOWSHIP IN EARTH AND SPACE SCIENCES**. Candidates for graduate studies in geology, geochemistry, geophysics, and space physics are encouraged to submit applications by 14 February 1979 for the W. W. Rubey Predoctoral Fellowship to be awarded for the first time for the 1979-1980 academic year. The fellowship provides a stipend of \$5000 per year (plus out of state tuition if required). For applications and further information contact: **Graduate Advisor, Department of Earth and Space Sciences, UCLA, Los Angeles, Calif. 90024.** The University of California is an Equal Opportunity/Affirmative Action Employer.

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EQUAL OPPORTUNITY EMPLOYER M/F

BARROW NEUROLOGICAL INSTITUTE OF ST. JOSEPH'S HOSPITAL AND MEDICAL CENTER PHOENIX, ARIZONA

Five research positions will be available within the Division of Neurobiology beginning July 1, 1979. These positions are intended for highly qualified researchers with either Ph.D. or M.D. degrees who have recently completed their post-doctoral training. Initial appointments for three years will be made. Salary level will be competitive with starting salaries at the Asst. Professor level at major universities.

Neuroanatomist: Position is open to neuroscientist with special interests in the mammalian central nervous system and especially in the visual system. Initial funding for starting the laboratory is available.

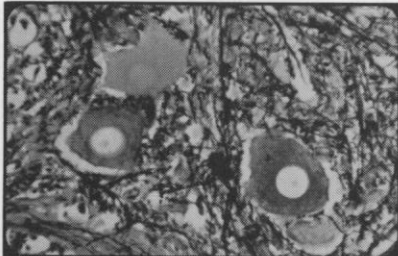
Neurochemist or Neuroendocrinologist: An individual is sought who can develop a brain peptide research laboratory. The position is primarily a basic research position, but opportunities for collaborative work with interested neurologists and neurosurgeons will be available if desired by the successful candidate. Initial funding for starting the laboratory is available.

Neurophysiologist: An individual is sought to join an existing laboratory to work on problems of spatial vision and visual pattern recognition in mammalian visual cortices with Dr. Daniel Pollen.

Neuroscientist with special interest in epilepsy: A new laboratory for the study of epilepsy is available for an individual with a relevant background in either neurochemistry, neurophysiology or neuropharmacology. The individual will be selected on the basis of strength in his or her proposed work rather than on the basis of the subspecialty field from which the problem is approached. Initial funding for starting this laboratory is available.

Neuroscientist with a special interest in pain: The first James R. Atkinson Memorial Pain Research Fellowship will be awarded to a scientist to join an existing laboratory to carry out independent basic research and, if desired, clinically related research work within the Division of Neurosurgery with Dr. Andrew Shetter.

Applicants should send a curriculum vitae, bibliography, names of three references, pertinent reprints, and a statement about intended research objectives to Dr. Daniel A. Pollen, Director of Neurological Research and Chairman, Division of Neurobiology (as of July 1, 1979). Applications should be sent before March 1, 1979 to Dr. Daniel A. Pollen, Massachusetts General Hospital, Boston, Massachusetts 02114. An Equal Opportunity Employer.



Photomicrograph, brain section, neurons.

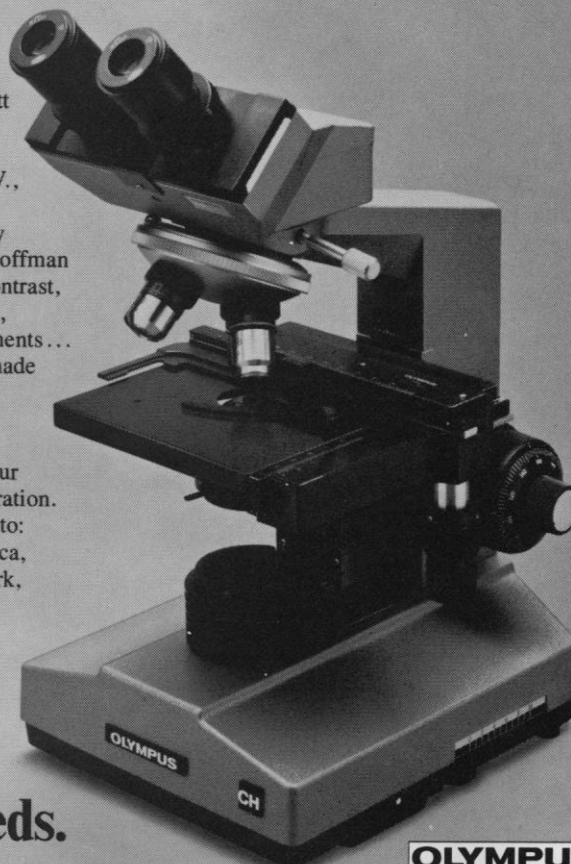
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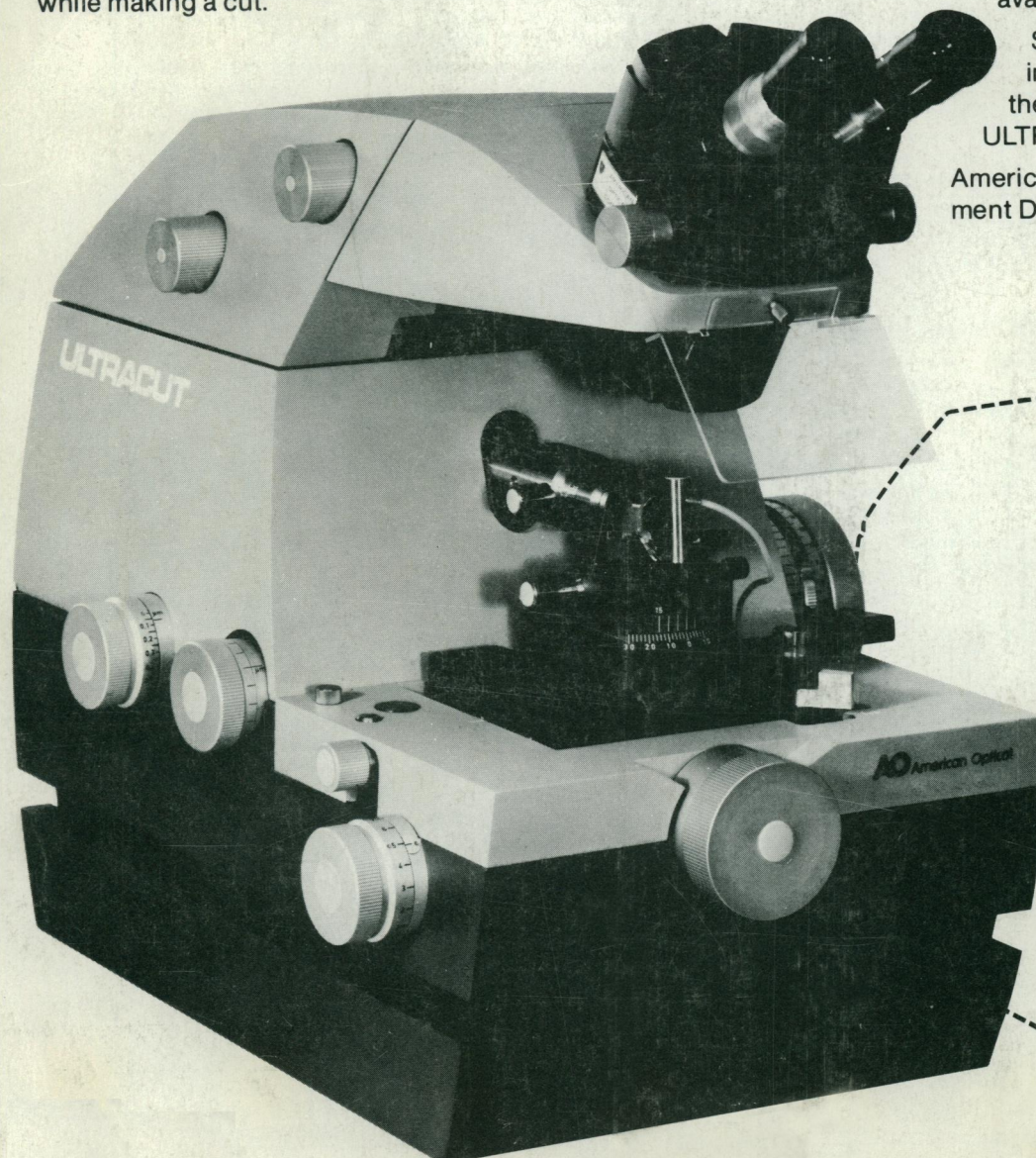
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