

*Social Limits to Growth*, F. Hirsch, 14 Apr. 1978, 192  
*Soils of the Polar Landscapes*, J. C. F. Tedrow, 13 May 1977, 779  
*The Solar Output and Its Variation*, O. R. White, Ed., 31 Mar. 1978, 1429  
*Solid State Physics*, N. W. Ashcroft and N. D. Mermin, 19 Aug. 1977, 753  
*Soviet Sociology of Science*, L. L. Lubrano, 26 Aug. 1977, 856  
*Spatial Analysis in Archaeology*, I. Hodder and C. Orton, 27 May 1977, 972  
*The Spirit of System*, R. W. Burkhardt, Jr., 31 Mar. 1978, 1427  
*The Spontaneous Generation Controversy from Descartes to Oparin*, J. Farley, 27 Jan. 1978, 414  
*Sputnik, Scientists, and Eisenhower*, J. R. Killian, Jr., 13 Jan. 1978, 165  
*Statistical Mechanics*, B. J. Berne, Ed., 31 Mar. 1978, 1430  
*The Stone Circles of the British Isles*, A. Burl, 22 July 1977, 360  
*Stromatolites*, M. R. Walter, Ed., 13 May 1977, 780  
*Structural Chemistry of Layer-Type Phases*, F. Hulliger, 9 Dec. 1977, 1030  
*Structure and Evolution of Close Binary Systems*, P. Eggleton, S. Mitton, and J. Whelan, Eds., 29 July 1977, 449  
*The Structure, Biosynthesis, and Degradation of Wood*, F. A. Loewus and V. C. Runckles, Eds., 28 Apr. 1978, 424  
*Structure of Biological Membranes*, S. Abrahamsson and I. Pascher, Eds., 3 Feb. 1978, 526  
*The Structure of Geology*, D. B. Kitts, 3 Mar. 1978, 967  
*Subcellular Mechanisms in Reproductive Neuroendocrinology*, F. Naftolin, K. J. Ryan, and I. J. Davies, Eds., 10 June 1977, 1194  
*Syntony and Spark*, H. G. J. Aitken, 3 June 1977, 1083

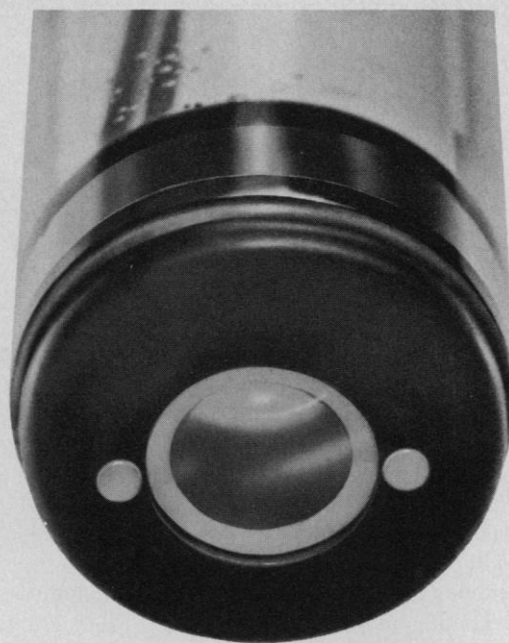
*Theory and Practice of Biological Control*, C. B. Huffaker and P. S. Messenger, Eds., 9 Dec. 1977, 1029  
*Theory of Simple Liquids*, J. P. Hansen and I. R. McDonald, 8 July 1977, 150  
*Theory of Turbulent Plasma*, V. N. Tsytovich, 22 July 1977, 361  
*To Be an Invalid*, R. Colp, Jr., 24 June 1977, 1431  
*Tree Physiology and Yield Improvement*, M. G. R. Cannell and F. T. Last, Eds., 20 May 1977, 865  
*Tree Rings and Climate*, H. C. Fritts, 22 July 1977, 361  
*Two Centuries of American Medicine*, J. Bordley, III, and A. McG. Harvey, 19 Aug. 1977, 750

*The Ultimate Experiment*, N. Wade, 16 Dec. 1977, 1144  
*The Uncertainty Principle and Foundations of Quantum Mechanics*, W. C. Price and S. S. Chissick, Eds., 13 Jan. 1978, 168

*The Valley of Mexico*, E. R. Wolf, Ed., 13 May 1977, 759  
*The Visible Scientists*, R. Goodell, 2 Sept. 1977, 977

*Where Hunters Gathered*, H. J. Deacon, 22 July 1977, 359

12 MAY 1978



## NEW-A FLAT SURFACE ELECTRODE GOOD ENOUGH, FAST ENOUGH TO CARRY THE NAME CORNING

Try one and you'll quickly agree that this is the best combination electrode you have ever used.

It's sensitive enough to take fast, accurate readings on surfaces as flat as 0.015" gel plates or in your beaker for routine pH measurements.

pH range: 0-14 pH

Temperature range:  
-5° to 80°C

Reference junction:  
Ag/AgCl

Resistance:  
<300 Megohm @ 25°C

Response: 99.4% in ten  
seconds in 4.01 buffer

Connector: U.S. Standard

INTRODUCTORY PRICE: \$85  
Suggested list price



### FREE ELECTRODE OFFER

Buy five and get one free! From now until September 30, 1978 we will send you an electrode free for every five warranty cards you send us.

Clip this coupon to your letterhead and we'll send you more information on the flat surface electrode good enough to carry the name Corning and details on our introductory free electrode offer.

Mail to: Science Products Division  
MP-21-5TSK  
Corning Glass Works  
Corning, New York 14830

**CORNING**

S-FE-5

**CORNING™**  
**pHware**

Circle No. 88 on Readers' Service Card

691



### Dilutor-Dispenser

Dilutrol III features a portable pickup and dispensing line. A control board with signals indicates step-by-step operations. The glass and Teflon liquid system snaps out readily and may be autoclaved. The device will dispense one or two liquids in set volumes or it may be adjusted to dispense continuously without trigger action. Manostat. Circle 665.

### Valves and Fittings

The Prop-A-Fit line of connectors, valves, and adapters comprises polypropylene units for many laboratory operations. These translucent fittings are an economic and rapid means of joining flexible tubing. They will accommodate tubing with inside diameters from  $\frac{1}{8}$  to  $\frac{5}{8}$  inch. There are "t," "y," elbow, and four-way configurations; a number of straight, reducer, and quick-disconnect unions; and check valves and special Dura-Clamp flow valves. Tube ends are serrated and tapered for tight grip. Thermoplastic Scientifics. Circle 666.

### Chromatographic Scanner

Model 7230 will detect the activity of all beta-emitting radionuclides and many low-energy, gamma-emitting radionuclides on thin-layer plates and films. Chromatograms up to 20 by 20 centimeters are scanned in two dimensions. A stylus, mounted above the detector, provides a dot impression on sensitized paper as radioactivity is sensed. Because the detector and the stylus are aligned, the distribution of activity on the plate or film is reproduced as a dot pattern on the

paper. The operator sets the limit of detection. Scanning speed may be selected and collimators will restrict the detection areas to provide accurate resolution of closely placed areas of activity. Packard Instrument. Circle 667.

### Antifungal Antibiotic

Fulvicin P/G is a single-tablet/day-strength dose of griseofulvin indicated for systemic treatment of superficial fungal infections caused by species of *Microsporum*, *Epidermophyton*, and *Trichophyton*. After ingestion, griseofulvin is deposited in keratin precursor cells and has a greater affinity for diseased tissue. The substance is fungistatic and is contraindicated for subjects with porphyria, hepatocellular failure, or a history of sensitivity to it. Fulvicin P/G is available in 125- or 250-milligram tablets. Schering Laboratories. Circle 669.

### Temperature Monitor for Cell Disruptor

Model TM-1 monitors sample temperature and controls the ultrasonic Sonifier cell disruptor to protect the sample from the effect of heat build-up during sonification. Heat may be destructive to cellular material being treated to separate cells. The sonification duty cycle is interrupted when the temperature limit set by the operator is reached. The unit is reactivated when the temperature is again acceptable. Branson Sonic Power. Circle 670.

### Programmable Liquid Chromatographs

A modular line of chromatography apparatus is designed such that modules may operate alone or as part of an automated system in which they are coordinated by a programmed microprocessor. Functions that may be programmed include solvent selection, sample injection, flow rate, gradient profile, detector selection, sample collection, recycle, and integration. As many as ten different

programs may be stored and they may be linked in any sequence the operator wishes. The operator can select from two pumping systems, from multiple wavelength and variable wavelength detectors, and from ultraviolet, visible light, and fluorescence detectors. Altex Scientific. Circle 668.

### Standards for Spectrophotometers

The SpectroKit includes filters for measuring wavelength, bandwidth, and linearity and two for stray light. The filters complement an absorbance standard. A manual is also provided with the SpectroKit that explains how to assure proper instrument performance. The operating parameters may be ascertained in less than 5 minutes. Forms are also included so that the operator may record daily checks of an instrument over a protracted period. Gilford Instrument Laboratories. Circle 671.

### Literature

*Derivatives for Chromatography Handbook* has 13 chapters with synoptic charts to direct the investigator to the proper chapter and procedure for each analytic problem. Pierce Chemical. Circle 738.

*Stable Isotopes Labelled Compounds* includes many organic substances labeled with carbon-12, carbon-13, nitrogen-15, and oxygen-16, -17, and -18. Prochem. Circle 672.

*Laboratory Equipment* lists glassware, instruments, apparatus and accessories for teaching and research. Ward's Natural Science Establishment. Circle 673.

*Product Guide* details a line of environmental chambers, enclosures, and controlled-temperature equipment for the laboratory. Vista Scientific. Circle 674.

*Specialty Gas Catalog* features pure gases and mixtures with technical data and regulator recommendations as well as equipment for their handling and storage. Matheson Gas. Circle 675.

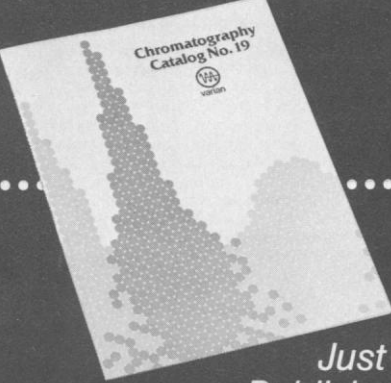
*Pinnacle*, a quarterly newsletter, has an article on a chemical-ionization and electron-impact analyzer for gas chromatography-mass spectrometry. Extracuclear Laboratories. Circle 676.

*Exam-6* describes a new energy-dispersive x-ray spectrometer that has been automated. Philips Electronic Instruments. Circle 677.

*Antisera, Conjugates & Immunochemicals* are included in a new catalog and price list. Cappel Laboratories. Circle 678.

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 598A and 686A) and placing it in the mailbox. Postage is free.

—RICHARD G. SOMMER




.....

Just  
Published

**Varian  
Chromatography  
Catalog No. 19**

This big, new chromatography catalog contains everything you need for both gas and liquid chromatography: chromatographs, columns, data systems, automatic samplers, detectors, valves, flow controllers, vibrators, concentrators, cleaners, filters, standards, reagents, supplies, and much more.



**Get your free copy;** write Varian Instrument Division, 611 Hansen Way, Palo Alto, Ca. 94303, or circle Reader Service Number .

Circle No. 48 on Readers' Service Card



Missed the AAAS Annual Meeting in 1976, 1977, or 1978?

You can make up for lost opportunities with our "instant replay."

We have over 180 titles of the annual meetings on high-quality cassette tapes—only \$9.00 for each cassette.

Listen to the experts debate such topics as *Genetics and Social Policy* or explore the *Technical and Legal Aspects of Weather Modification*.

You can share the information of AAAS meetings with others or review it yourself.

Write CEBAR and ask for a complete list of AAAS tapes and prices.


**AAAS CASSETTES**  
c/o CEBAR Communications, Inc.  
2735 Central Street  
Evanston, Illinois 60201

# The Graduates

Not all of our Iodine-125 candidates pass their final exams, but those that do are exceptionally well qualified to join your laboratory.

Exam #1:  Radiochemical purity—  
The activity must be in the iodide form;

Exam #2:  Radionuclidic purity—  
The amount of  $^{126}\text{I}$  must not exceed 0.05%;

Exam #3:  Base strength—  
Exactly measured and reported with every shipment;

Exam #4:  Labeling efficiency—  
Tested in a sensitive lactoperoxidase iodination.



NEZ-033 Standard package:  
0.1ml of ~ 0.1M NaOH solution  
NEZ-033H High Concentration:  
> 350mCi/ml in ~ 0.1M NaOH solution  
NEZ-033L Low pH (8-10):  
High Concentration (> 350mCi/ml) in aqueous solution  
Send for our new Iodine-125 products brochure.

Not for use in humans or clinical diagnosis.

**NEN New England Nuclear**

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

**NEN Chemicals GmbH:** D-6072 Dreieich, W. Germany,  
Daimlerstrasse 23, Postfach 401240,  
Telephone: (06103) 85034, Telex: 4-17993 NEN D

**NEN Canada Ltd.,** 2453 46th Avenue, Lachine, Que. H8T 3C9,  
Telephone: 514-636-4971, Telex: 05-821808

Circle No. 94 on Readers' Service Card

# 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

## POSITIONS WANTED

**Cell/Developmental Biologist/Toxicology:** Ph.D. 1968. Teaching and independent research experience. Seeks position in industry or government with opportunity to apply expertise in cell/developmental biology and tissue culture to toxicological testing. Box 165, SCIENCE. 5/12, 19

**Clinical Biochemist—M.T., Ph.D.** (biochemistry), specialist in chemistry (ASCP), certified clinical chemist (NRCC). Many years of experience in laboratory service, radioimmunoassay, routine, automated and special chemistry; teaching and administrative experience in university hospital. Clinical research and publications in clinical technology. Highly motivated. Seeks hospital laboratory/medical school/medical technology position. Box 167, SCIENCE. 5/12, 19, 26

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

**Human Geneticist/Biochemistry.** Ph.D. India, 1966 (biochemistry). Diverse experience in protein purification, electrophoresis, immunochemical methods, genetic polymorphism, and pharmacogenetics. Publications. Teaching experience in biochemistry/human genetics. Holding university position in Europe for more than 10 years. Seeking research/academic position in the United States, Australia, India, or Canada. Box 47, SCIENCE. X

**Teaching-Research P.E., M.I.T., Ph.D.** Retiring professor. General microbiology. Introductory biophysics. September 1978. Active in MARC, MISIP research programs. Multilingual; fourth text going to press 1979. Biophysics of EMR. Box 159, SCIENCE. X

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

## POSITIONS WANTED

**Marketing Representative:** entomologist, M.S. 1972, currently on Midwest *arbovirus* team, seeks this position. Prefers to remain in Midwest while completing M.B.A. program; willing to relocate after that. Reply to Box 166, SCIENCE. X

## POSITIONS OPEN

**ACADEMIC NEUROLOGIST** at assistant professor level with primary interest in EMG to join neuromuscular unit. Contact: **James N. Hayward, M.D., Chairman, Department of Neurology, University of North Carolina, Chapel Hill, North Carolina 27514. Equal Opportunity/Affirmative Action Employer.**

**ANATOMY-ETHOLOGY-FUNCTIONAL MORPHOLOGY.** This junior professorial position involves participation in a team-taught veterinary gross anatomy course, plus a one-quarter course in some specialty. Applicants with training in ethology and/or functional morphology are especially desired. Interested persons should send a statement of research interest, representative reprints, curriculum vitae, and three letters of recommendation to: **Search Committee, Laboratories of Anatomy, The School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa. 19104. An Affirmative Action/Equal Opportunity Employer.**

**AQUATIC BIOLOGIST.** Temporary, 10-month, nontenure-track adjunct appointment to replace a faculty member on sabbatical leave from 1 September 1978 to 30 June 1979. Responsibilities will include teaching one quarter courses in biology of fishes, invertebrate zoology, and limnology, respectively, and supervision of a graduate seminar in aquatic biology. Applicant must be a Ph.D. Rank and salary dependent upon qualifications. Curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation should be sent by 31 May 1978 to:

**Dr. John C. Wright, Search Committee  
Department of Biology  
Montana State University  
Bozeman, Montana 59717**

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

Cook College, Rutgers University, New Brunswick, New Jersey 08903. **ASSISTANT PROFESSOR** position. Fall 1978. Tenure-track, 3-year term. Ph.D. required. Individual to teach and engage in research in a multidisciplinary program focusing on environmental policy analysis and implementation with an emphasis on undergraduate teaching. Strong interest in planning, policy, or management as related to environmental concerns required. Send applications including copies of publications and names of three references. Women and minority candidates are encouraged to apply. Closing date: 15 June 1978. Apply to:

**B. Budd Chavooshian, Chairman  
Department of Environmental Resources  
Cook College, Rutgers University  
New Brunswick, New Jersey 08903**

**ASSISTANT/ASSOCIATE PROFESSOR.** Ph.D., with training in cell biology/cell physiology. EM experience desired. Teaching graduates and undergraduates; participation in introductory course possible. Development of a research program. Salary negotiable. Send transcripts, curriculum vitae, reprints, and three letters of recommendation to: **J. H. M. Henderson, Carver Research Laboratories, Tuskegee Institute, Tuskegee Institute, Ala. 36088. Equal Opportunity/Affirmative Action Employer.**

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

## POSITIONS OPEN

**ASSISTANT PROFESSORS.** The Department of Microbiology-Immunology invites applications for positions in: (i) molecular virology and (ii) microbial genetics. Both positions will allow maximum opportunity to initiate research programs while providing teaching opportunities in the graduate, medical, or dental programs. Submit résumé, description of research and teaching interests, and the names of three references to: **Dr. Howard K. Kuramitsu, Genetics and Virology Search Committee, Department of Microbiology-Immunology, Northwestern University Medical School, Chicago, Illinois 60611.**

**ASSISTANT OR ASSOCIATE PROFESSORSHIP IN ANATOMY.** Requires Ph.D. in anatomy or cell biology and postdoctoral experience in ultrastructural cellular research, particularly in the reproductive and/or nervous systems, and in histochemical and immunocytochemical techniques. Tenure-track appointment open 1 September 1978; salary negotiable. Assignment to graduate and occasional upper-division research and teaching in analytical microanatomy and electron microscopy designed in support of an interdepartmental program in cell and molecular biology. Send résumé, three letters of reference, and other supporting materials by 15 June 1978 to: **Screening Committee, Department of Anatomy, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colorado 80523. The University is an Equal Opportunity/Title IX Employer; Equal Opportunity Office: 314 Student Services Building.**

**ASSISTANT PROFESSOR OF ANTHROPOLOGY.** New York University seeks highly qualified new Ph.D. in physical anthropology for autumn 1978. Field of specialization not important at this time. Submit curriculum vitae and names of referees to: **Professor John Buettner-Janusch, Chairman, Department of Anthropology, New York University, 25 Waverly Place, New York, New York 10003. An Affirmative Action/Equal Opportunity Employer.**

Applications are invited for a tenure-track faculty position in **BIOCHEMISTRY** at the rank of **ASSISTANT PROFESSOR**, starting in fall 1978. Applicants should have postgraduate experience and be capable of developing an independent research program. The department has a preference for persons with research interests in the following areas: transcriptional and translational processes in eukaryotic cells, hormonal induction mechanisms, developmental biochemistry of mammalian systems, or physical-biochemical studies of macromolecular function. Teaching responsibilities include participation in medical biochemistry instruction and in teaching biochemistry graduate students. Please send a current curriculum vitae, a description of intended research program, and at least two letters of recommendation to:

**Search Committee  
Department of Biochemistry  
The University of Texas Health Science  
Center at Dallas  
5323 Harry Hines Boulevard  
Dallas, Texas 75235**

*An Equal Opportunity/Affirmative Action Employer*

## ASSISTANT PROFESSOR OF PHYSIOLOGY

Applications are invited for the post of assistant professor of physiology to commence as soon as possible. This position is suitable for a recent Ph.D. graduate (although some postdoctoral experience would be an advantage) with an interest in the area of cellular physiology. The appointee would be expected to participate in the departmental teaching programs to graduate, medical, and paramedical students and in graduate research training.

A new physical facility is well-equipped for most areas of research, including that at the cellular level. Current research activities of the department lie in the fields of epithelial physiology, cellular physiology, neurophysiology, and cardiovascular physiology.

The appointee would be encouraged to develop independent research support. *George Washington University School of Medicine and Health Sciences is an Equal Opportunity/Affirmative Action Employer.*

Applications should be sent to:

**Richard A. Kenney, Ph.D., Chairman  
Department of Physiology  
George Washington University Medical Center  
2300 Eye Street, NW  
Washington, D.C. 20037**



## POSITIONS OPEN

**ASSISTANT AGRONOMIST—RESEARCH.** Conduct field and greenhouse research on potential alternate field and specialty crops for eastern Washington, emphasizing irrigated areas. This is an annual basis, tenure-track research position located at the Irrigated Agriculture Research and Extension Center, Prosser, Wash. Salary is open and competitive. Applications accepted until 15 June 1978, or until suitable candidate is identified. Applicants send curriculum vitae, copy of transcripts, theses summaries, and arrange for three letters of recommendation to be sent to: **Dr. L. R. Faulkner, Washington State University, Prosser, Wash. 99350.** An Affirmative Action/Equal Opportunity Employer.

### THE UNIVERSITY OF MANITOBA

The Department of Earth Sciences invites applications for the position of **ASSISTANT PROFESSOR** effective 1 September 1978. Applicants must have a Ph.D. and must be dedicated to teaching and research excellence in one of the following areas:

- 1) **Engineering Geology**, or
- 2) **Paleontology**.

Appropriate experience would be desirable.

The appointment is subject to budgetary approval as to both status and rank. The salary will be commensurate with experience and qualifications. Canadian citizens and landed immigrants are especially invited to apply.

Applications, including a curriculum vitae and the names of three references, should be addressed to:

**Dr. W. B. Brisbin  
Department of Earth Sciences  
University of Manitoba**

**Winnipeg, Manitoba, Canada R3T 2N2**

to be received by 15 June 1978.

The Department of Physiology and Biophysics at The University of Texas Medical Branch, Galveston, Texas, is seeking an **ASSISTANT PROFESSOR** to teach medical and graduate students, mainly in the area of cardiovascular physiology. The applicant should have a Ph.D. and/or M.D. and should have had at least 2 years of postdoctoral training in one of the following three areas: electrophysiology of smooth and/or cardiac muscle, the renin-angiotensin-aldosterone system, or cardiovascular studies in conscious animals. The position includes an office and laboratory and setup money for equipment. Interested applicants should write: **Dr. Arthur M. Brown, Department of Physiology and Biophysics, University of Texas Medical Branch, P.O. Box 146, Galveston, Texas 77550; or telephone 713-765-2224.** We are an Equal Opportunity/Title IX Employer.

**ASSISTANT RESEARCH SCIENTIST OR POSTDOCTORAL FELLOW—NEPHROLOGY** (Department of Medicine). Research on identification and purification of membrane proteins associated with specific transport functions in high-resistance epithelia. Salary related to rank and step of appointment. Send curriculum vitae to: **D. D. Fanestil, Basic Sciences Building, M-013, University of California, San Diego, La Jolla, California 92093.** The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.

### MASSACHUSETTS GENERAL HOSPITAL HARVARD MEDICAL SCHOOL

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

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

## POSITIONS OPEN

**BIOCHEMIST-IMMUNOCHEMIST.** The Mental Health Research Institute, University of Michigan, is seeking a Ph.D. biochemist to work on radioimmunoassays of psychotropic drugs and related RIA's. The project is part of a broad, multidisciplinary program of research on biology of psychiatric disorder. Experience required in immunochromatography and RIA applications. Salary range: \$13,700 to \$17,000. Send curriculum vitae and three references to: **Dr. Bernard J. Carroll, Mental Health Research Institute, University of Michigan, Ann Arbor, Mich. 48109.** A nondiscriminatory, Affirmative Action Employer.

### BIOCHEMISTRY FACULTY MEMBER

Texas A & M University College of Medicine has a faculty opening in the Department of Medical Biochemistry which can be filled at the assistant, associate, or full professor level. Candidate should have a Ph.D. or M.D. and postdoctoral or faculty research experience. Senior-position candidates should have an ongoing funded research program in a medically relevant area, experience teaching medical students, and exposure to clinical medicine. Duties will include research, course development, and teaching medical students in a new VA-related College of Medicine. Previous applications remain on file and need not be resubmitted. Send complete curriculum vitae to: **Search Committee, Department of Medical Biochemistry, College of Medicine, Texas A & M University, 110 Herman Heep Building, College Station, Texas 77843.**

*Equal Employment Opportunity  
Through Affirmative Action*

**BIOCHEMIST/MICROBIOLOGIST—M.S. or Ph.D.** Production and purification of enzymes. Experience in fermentation, optimization, enzyme immobilization, affinity chromatography, and standard protein purification techniques required. Salary: \$20,000 to \$25,000. Send résumé, copies of all college transcripts, and references to: **DR. TERRY L. WEAVER, BIOCENTRICS, HARLECO DIVISION, American Hospital Supply Corporation, 480 Democrat Road, Gibbstown, N.J. 08027.**

*Equal Opportunity Employer, M/F*

**BIOCHEMIST OR CELL BIOLOGIST** faculty position (assistant professor or above) to perform research on inner-ear endorgans and related neural tissues, is available. Particular experience on membrane structure and function and/or neurotransmitters and more than 2 years of postdoctoral experience as a major investigator in independent research are strongly preferred. Minimal teaching and administrative obligations. Rank and salary level depend on personal qualifications. Applicants should send curriculum vitae, publications, desired research plans, and four letters of reference to: **Dr. M. Igarashi, Department of Otorhinolaryngology and Communicative Sciences, Baylor College of Medicine, Houston, Texas 77030, immediately.**

*An Equal Opportunity/Affirmative Action Employer*

**BIOMEDICAL ENGINEER** with experience or interest in plastics and catheter design to work on existing projects as well as prepare proposals for new areas of investigation in a research laboratory of the Radiology Department of the University of Pennsylvania. Salary commensurate with experience. An Equal Opportunity/Affirmative Action Employer. Contact:

**Stanley Baum, M.D., Chairman  
Department of Radiology  
Hospital of the University of Pennsylvania  
3400 Spruce Street  
Philadelphia, Pennsylvania 19104**

### CELL BIOLOGIST

Applications are invited for a faculty position as an assistant professor in the Department of Biology to begin September 1978. Appointee will teach undergraduate courses in cell biology and anatomy and physiology and a graduate course in biological membranes or other special topic. The research concentration is to be in the cell biology area. Ph.D. required. Preference given to individuals with electron microscope experience. Submit curriculum vitae before 24 May 1978 to:

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

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

**BIOLOGY.** Applications are invited for the position of instructor of biological sciences. Appointee will supervise graduate assistants in laboratory courses in biology and have some administrative work. Requires M.S. in biology, a good working knowledge of both cellular and organismic biology, the ability to organize and direct courses, and a demonstrated ability to interact well with people. Send application and the names of three references to: **Dr. G. C. Webster, Department of Biological Sciences, Florida Institute of Technology, Melbourne, Florida 32901.**

*An Equal Opportunity/Affirmative Action Employer*

**CARDIOLOGIST-PHARMACOLOGIST.** The Cardiovascular Research and Training Center (CVRTC) and the Department of Pharmacology at the University of Alabama Medical Center have available a position at the assistant professor (pharmacology) level. The individual will hold a primary appointment as associate scientist, CVRTC. This position is open to qualified individuals fulfilling three criteria. First, the individual must hold a Ph.D. in pharmacology with postdoctoral training desirable. Second, the individual should have a background of research in the cardiovascular area with extensive experience in studies of the function of the membrane sodium-potassium pump in cardiovascular cells. Finally, the individual must have a firm commitment to teaching programs in pharmacology oriented to medical, dental, and graduate students. Apply to: **Cardiovascular Research and Training Center, University of Alabama Medical Center, University Station, Birmingham, Alabama 35294, attention: Chris Ballard, Administrative Assistant; telephone: 205-934-2580.** An Equal Opportunity/Affirmative Action Employer. Expiration date for receipt of applications: 1 June 1978.

**CELL BIOLOGIST—**Department of Anatomical Sciences has an opening for a cell biologist interested in cell communication and membrane physiology. Teaching responsibilities include human biology for applied health professional students and/or microscopic anatomy. This position is for an assistant professor which will be non-tenure-generating. Reply to: **Maynard M. Dewey, Chairman, Department of Anatomical Sciences, Health Sciences Center, State University of New York, Stony Brook, New York 11794.** Application deadline: 29 May 1978. *Equal Opportunity/Affirmative Action Employer.*

**CELLULAR IMMUNOLOGIST** interested in effects of environmental pollutants. Full-time research position, available 1 July 1978, at assistant professor level, to develop program concerned with immunological and biochemical criteria of lung damage. Candidates must have independent experience in the culture of mononuclear phagocytes and in research on the mechanisms for control of proteins synthesized by these cells. Interested individuals should send a letter of application outlining research interests, complete curriculum vitae, and names of three references to: **Dr. R. B. Painter, Chairman, Search Committee, Laboratory of Radiobiology, University of California, San Francisco, California 94143, by 15 May 1978.**

*University of California, San Francisco, is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

**CHIEF OF MEDICAL ILLUSTRATION.** Three-person unit housed in new studios with potential for considerable growth. University health science center (5 colleges). Medical illustration is one of four sections in the Division of Biomedical Communications. This position reports directly to the Director of Educational Resources. At least 3 years of line experience in medical art and AMI certification desirable. Some administrative experience a definite plus. **Box 170, SCIENCE.**

### COMPARATIVE ANIMAL PHYSIOLOGIST

The Chesapeake Biological Laboratory of the University of Maryland has a tenure-track opening at the assistant or associate professor level for a comparative animal physiologist. Applicant should have demonstrated interest in aquatic organisms. Experience in toxicology or bioassay desirable.

Submit résumé, state of research interests, and arrange for submission of three references by 25 May 1978 to:

**Chairman, Search Committee  
Chesapeake Biological Laboratory  
Solomons, Maryland 20688**

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

### CHAIRMAN DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

The University of Florida College of Medicine seeks a distinguished individual to serve as professor and chairman of the Department of Biochemistry and Molecular Biology. Applications from and nominations of individuals possessing the M.D. and/or Ph.D. are requested. Candidates should have an outstanding record of accomplishment in research and a clear commitment to the education of professional, graduate, and undergraduate students.

Applications should include curriculum vitae, bibliography, and names of at least four references, and should be sent to:

**Dr. Clyde M. Williams, Chairman**  
**Biochemistry Search Committee**  
**Box J-374, JHMHC**  
**University of Florida**  
**Gainesville, Florida 32610**

**THE AUSTRALIAN NATIONAL UNIVERSITY** invites applications for a **CHAIR OF CHEMISTRY** in the Faculty of Science. The university wishes to appoint to the chair a leader in teaching and research irrespective of his or her specialized field of chemistry. The appointee will succeed Professor I. G. Ross, FRACI, FAA, who has been appointed deputy vice-chancellor of the university but who retains a chair in the department. Appointment as professor is immediately to retiring age (65 years). The professor will also be appointed head of the Department of Chemistry for an initial period to be determined by the university after consultation with the professor, with the possibility of reappointment for specific periods. Salary: A\$31,381 per annum; current exchange rates A\$1:60NP:U.S.\$1.14. Reasonable travel expenses, assistance with housing, superannuation benefits. Further information before applying from: **Academic Registrar, Australian National University, P.O. Box 4, Canberra, A.C.T. 2600, Australia**, with whom applications close 2 June 1978.

**CLINICAL PHARMACOLOGIST.** Full-time faculty position at assistant or associate professor level, effective immediately. Send curriculum vitae to: **Chairman, Department of Pharmacology, University of Arkansas College of Medicine, 4301 West Markham Street, Little Rock, Arkansas 72201. Equal Opportunity Employer.**

**FACULTY POSITION—BIOCHEMISTRY**—The Department of Biochemistry at the State University of New York at Stony Brook anticipates that a position will be available at the assistant professor level and another available at the associate or full professor level starting in fall 1978. Applicants should have an outstanding research publication record demonstrating productivity and originality; be prepared to establish a strong productive, independent research program; and be prepared to take an active role in the medical, graduate, and undergraduate teaching activities of the department. Send complete curriculum vitae with reprints, research interests, and names of three references as soon as possible to: **Biochemistry Department Search Committee, 450 Graduate Biology Building, State University of New York, Stony Brook, New York 11794. Equal Opportunity/Affirmative Action Employer.**

### FACULTY POSITION IN BIOCHEMISTRY

The Department of Biochemistry and Molecular Biology at The University of Texas Health Science Center at Houston invites applications for a faculty position from qualified individuals with a commitment to teaching and research in biochemistry and molecular biology. Responsibilities will include participation in the medical school curriculum and in the graduate training program within the Graduate School of Biomedical Sciences, as well as developing and conducting an independent research program. The area of research and the level of appointment are open; applicants should have postdoctoral research experience. Applicants should send curriculum vitae, list of publications, and a summary of research interests, and have three letters of recommendation submitted on their behalf to: **Dr. John A. DeMoss, Department of Biochemistry and Molecular Biology, The University of Texas Medical School at Houston, P.O. Box 20708, Houston, Texas 77025.** Application deadline: 15 June 1978. *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**DIRECTOR OF RESEARCH.** Large, private, non-profit psychiatric hospital seeks full-time director to coordinate existing programs and develop new projects in clinical research. Experience in research needed, and knowledge of funding sources and administration desirable. There is an active research/teaching affiliation with Rutgers University, and faculty appointment is likely. Generous salary plus generous fringes and opportunity for private practice income in addition. Send résumé to: **Robert S. Garber, M.D., P.O. Box 147, Belle Mead, New Jersey 08502.**

### DIRECTOR ANIMAL TOXICOLOGY RESEARCH

**Full-time faculty research position** (tenure-track/rank open) with competitive salary based on background and experience. D.V.M. and/or Ph.D. Applicant must have demonstrated ability and interest in laboratory animal toxicity research evidenced by established accomplishments in clinical research and sponsored support. Position is responsible for the development and direction of animal toxicity studies in conjunction with ongoing human inhalation toxicology research. Teaching is not required and individual research will be encouraged. Laboratory facilities are located in a major animal research center where various animal species are readily available. Animal toxicology laboratory is 4,000 square feet including a 400-square-foot controlled-environment chamber. Full technical support including modern analytical instrumentation (GC/MS/computer, AA, and so forth) is available. Please send curriculum vitae, references, and a statement of research goals to: **Dr. Richard D. Stewart, Chairman, Department of Environmental Medicine, The Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, Wisconsin 53226. An Affirmative Action Employer.**

### DIRECTOR/PROFESSOR

Director, School of Human Resources and Family Studies, University of Illinois, Urbana-Champaign.

A Ph.D. in home economics or closely related field with qualifications for the rank of professor required.

Salary open. *An Equal Opportunity/Affirmative Action Employer.* Applications or nominations received until 1 July 1978 or until a suitable applicant is identified. Send résumé or write for further information to: **Dr. Benjamin A. Jones, Jr., 109 Mumford Hall, University of Illinois, Urbana, Ill. 61801. Telephone: 217-333-0240.**

### ECOLOGIST

Applications are invited for a full-time (12-month) appointment as **ASSISTANT PROFESSOR** in the Department of Entomology, Mississippi State University. The successful candidate will develop programs of research and teaching which contribute to present programs in host-plant resistance and pest management. Available funding presently supports work mainly in cotton, but the position is not a specific commodity assignment. Preference will be given to candidates with interests in host-plant resistance and population biology, and who will work cooperatively with scientists in other disciplines toward the development of integrated pest management systems. The Ph.D. degree is required with postdoctoral work highly desirable. Send a copy of résumé, transcripts, and three letters of recommendation to:

**Dr. Daniel L. Shankland, Head**  
**Department of Entomology**  
**Drawer EM**  
**Mississippi State University**  
**Mississippi State, Miss. 39762**

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

### RESEARCH ASSOCIATE

A 1-year postdoctoral research position is available for a person with training and experience in field-crop pest management. A broad background in aspects of pest control (biological, cultural, chemical, and so forth) required. Knowledge in production agriculture is desirable. Position requires direction and coordination of aspects of research projects in soybean insect pest management. Candidates should have a Ph.D. in entomology. Salary is competitive depending on experience. Send résumé and three letters of recommendation, with a copy of transcripts, to: **Dr. H. N. Pitre, Department of Entomology, Drawer EM, Mississippi State University, Mississippi State, Miss. 39762, no later than 1 May 1978.**

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

## POSITIONS OPEN

**DIRECTOR OF CHEMICAL INSTRUMENTATION CENTER**—Department of Chemistry, The University of Wisconsin, Madison.

The director will be in charge of a center comprising 20 major instruments (NMR, ESR, x-ray, Mass Spectrometers, Raman, FT-IR, ESCA, and so forth) with a technical support staff of five full-time employees plus several part-time technical assistants. The successful applicant will possess an unusual level of technical competence in chemical instrumentation and must be capable of providing continuing state-of-the-art perspective and guidance to the department in this area. The position will be either a faculty or academic staff position depending upon the qualifications of the successful applicant. It is intended that the appointment will be at a senior level. Research will be encouraged and, if the director is made a member of the faculty, teaching responsibilities will be included. *The University of Wisconsin is an Equal Opportunity Employer with an Affirmative Action Program and welcomes applications from women and minority candidates.*

Applications, including curriculum vitae and the names of three references, should be sent to: **D. Gaines, Room 7301 Chemistry Department, University of Wisconsin, Madison, 1101 University Avenue, Madison, Wis. 53706.**

### ECOLOGY POSITION

Faculty position anticipated fall 1978. Rank: assistant professor. Ph.D. or Ph.D. candidate preferred. Candidates should have a broad-based biology background with strength in animal ecology/population biology. Applications should be received before 5 June. Write: **Chairman, Department of Biology, State University of New York, College of Arts and Science, Genesee, N.Y. 14454. An Equal Opportunity/Affirmative Action Employer.**

### ENERGY POLICY SPECIALIST

The University of California is seeking an energy policy specialist. The position will be with the Energy and Resources Council, a systemwide activity of the university. The successful candidate will have responsibility for maintaining liaison with state and federal energy officials, business, and key citizens groups; identifying critical energy policy research needs suitable for university involvement; identifying and involving members of the university community capable of and interested in carrying out needed research; developing his/her own research program; developing research proposals in the energy policy area; and communicating research results both within and outside the university. The successful candidate will have demonstrated his/her capacity for working effectively at the interface between the academic research and public policy communities. Practical experience is a prerequisite. Technical competence in energy or energy-related areas is required. While a doctorate or the equivalent is preferred, there are no educational prerequisites. Advancement in the position will be based upon performance in the indicated areas, not upon normal academic criteria. The position will be located at the Davis campus of the University of California. This career position is not tenure-track. However, association with an academic department can probably be arranged, and some teaching is encouraged. A résumé, names of three references, and a statement of career objectives should be submitted by the closing date of 31 May 1978 to: **Professor Paul P. Craig, Director, Council on Energy and Resources, 4455 Chemistry Annex, University of California, Davis, Calif. 95616. The University of California is an Equal Opportunity/Affirmative Action Employer.**

The Division of Pediatric Immunology and Allergy, Department of Pediatrics, University of California, San Diego, has an opening for a **FACULTY MEMBER** with a special interest in **clinical immunology, allergy, or rheumatology**. The positions will be at the level of assistant professor. Salary in the university is determined by the level of academic rank. Administrative, research, and teaching skills should be commensurate with the appointment level. Applicants should be certified by the American Board of Pediatrics and must be boarded or Board-eligible in immunology and allergy and licensed to practice medicine in California.

*The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.* Inquiries before 31 May 1978 should be directed to: **Dr. Robert N. Hamburger, Professor of Pediatrics, University of California, San Diego, M-009, La Jolla, Calif. 92093.**

## POSITIONS OPEN

**FACULTY POSITION—PHYSICAL BIOLOGY.** September 1978, tenure-track. Applications invited from persons interested in teaching biology courses and research in a physically oriented area of biology, for example, microbiology, biochemistry, and cell physiology. Ph.D. required; postdoctoral experience desirable; and evidence of research activity, for example, publications, proposals, and so forth. Forward résumé and letters of recommendation by 15 June 1978 to:

S. S. Stivala  
Search Committee  
Department of Chemistry and Chemical Engineering  
Stevens Institute of Technology  
Hoboken, New Jersey 07030  
*An Equal Opportunity/Affirmative Action Employer*

## GASTROINTESTINAL PHYSIOLOGIST

The Department of Physiology is seeking a gastrointestinal physiologist at the assistant level starting 1 September 1978. Preference will be given to individuals who have had postdoctoral experience. The position permits considerable time for research; opportunities exist for graduate as well as medical student teaching. Please send curriculum vitae, bibliography, and the names of three references to:

Dr. John F. Gaugl, Chairman  
Department of Physiology  
North Texas State University Health Science Center  
Texas College of Osteopathic Medicine  
Camp Bowie Boulevard at Montgomery Street  
Ft. Worth, Texas 76107

*North Texas State University/Texas College of Osteopathic Medicine is an Affirmative Action/Equal Opportunity Employer*

The **COMPREHENSIVE CANCER CENTER FOR THE STATE OF FLORIDA** and the Department of Oncology, University of Miami School of Medicine, are seeking candidates for **JUNIOR FACULTY RESEARCH POSITIONS** in the areas of cytokinetics, cytogenetics, pharmacokinetics, biochemical pharmacology, medicinal chemistry, and biomathematics. The exact number of such positions is dependent upon funding.

Please address your correspondence and curriculum vitae to:

Robert Powell, Administrator  
Comprehensive Cancer Center  
University of Miami School of Medicine  
P.O. Box 520875, Biscayne Annex  
Miami, Florida 33152  
*Equal Opportunity/Affirmative Action Employer*

## MICROBIOLOGISTS—Ph.D.

Merck & Co., Inc., the recognized leader in the areas of Biological Research and Manufacturing, is presently offering two career opportunities for microbiologists with Ph.D. (or the equivalent) to join either our Research Laboratories or our Manufacturing Technical Service Staff.

The research position involves independent assignments directed toward the development of bacterial vaccines, requiring a background in immunochemical and biochemical technology as well as the ability to develop animal models to study pathogenic mechanisms.

The technical service position involves providing technical assistance to biological production departments and assisting in the efficient transfer of new products from laboratory to production scale. Experience in developing bacterial and viral vaccines or biological production is required for this position.

Merck & Co., Inc., extends an excellent salary and benefits program as well as a working environment of scientific challenge and career enrichment.

If interested, please send résumé and salary requirements to:

Jacques P. Kueny  
Senior Personnel Assistant  
**MERCK SHARP & DOHME  
RESEARCH  
LABORATORIES**  
Division of Merck & Co., Inc.  
West Point, Pa. 19486  
*An Equal Opportunity Employer*

## POSITIONS OPEN

## EXPLOSIVES CONTROL SYSTEMS DEVELOPMENT

Challenging and rewarding openings exist in our Washington Office for Physicists/Physical Chemists in support of the development of techniques for the detection and identification of explosives. These programs are targeted at the development and implementation of concepts for the identification tagging, and the development of techniques for the predetonation detection of explosives. For these positions we are seeking individuals with outstanding technical skills and a record of successful accomplishments of an applied nature in 2 or more of the following areas:

- **Prototype System Testing and Evaluation.**
- **Non-destructive Inspection (X-Ray-Radiography and Fluorescence, Tomography).**
- **Analytical Techniques (GC/MS, Infrared, Ultraviolet).**
- **Electronics and Instrumental Development (Microprocessor Applications, Vacuum & HV Systems, Digital and Analog Circuitry, Mechanical Design).**

Successful candidates will be highly motivated and creative with the ability to manage the development of complex systems and the background to contribute in a range of disciplines.

These positions require a Ph.D. and 5 years of experience or the equivalent. Other positions are available for qualified individuals having a Masters Degree and 3 years of experience or the equivalent. Qualified individuals are invited to send resume and salary history in confidence to:

## The Aerospace Corporation

Personnel Dept. • 955 L'Enfant Plaza, S.W., Suite 4000  
Washington, D.C. 20024

*An Equal Opportunity Employer M/F*



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

## THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL

Department of Pathology has position available for **INSTRUCTOR TO ASSISTANT PROFESSOR**. Seeking individual with M.D., and Board-certified in clinical and anatomic pathology. Position involves teaching and research responsibilities. Candidates will direct several clinical laboratories at Wayne County General Hospital, perform duties in surgical pathology, and teach house staff. Send reply to: **Box 168, SCIENCE. Code 1800FO. A nondiscriminatory, Affirmative Action Employer.**

**INSTRUCTOR, GENERAL BIOLOGY.** To begin 20 August 1978. To assist in a two-semester audio-tutorial course. Duties include development and presentation of demonstrations and laboratory materials, supervision of upper-class teaching assistants, and student contact in recitation and independent learning sessions. One-year replacement appointment with possible renewal. M.S. in biology. Send résumé, transcripts, and have three letters of recommendation sent to: **Dr. John I. Green, Biology Department, St. Lawrence University, Canton, New York 13617. An Equal Opportunity/Affirmative Action Employer. Closing date: 26 May 1978.**

The Department of Biochemistry and Molecular Biology at the University of Florida has an opening for an **INTERIM ASSISTANT PROFESSOR** for the period of 1 year beginning 1 September 1978. This appointment will not be tenure-accruing. A Ph.D. is required. We are seeking outstanding applicants who will participate in our teaching program in general biochemistry, physical biochemistry and molecular biology, as well as in our research program.

Interested candidates should send a curriculum vitae, a summary of research and teaching interests, reprints of recent publications, and the names and addresses of three professional references.

Dr. Cerutti will be happy to provide more information about the department to interested persons.

Send information and applications by 31 May 1978 to:

Dr. Peter A. Cerutti, Professor and Chairman  
Department of Biochemistry and Molecular Biology  
University of Florida  
Box J-245, J. Hillis Miller Health Center  
Gainesville, Florida 32610

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

## POSITIONS OPEN

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

## LECTURER DEPARTMENT OF BIOLOGY UNIVERSITY OF CALIFORNIA, RIVERSIDE

The Department of Biology, University of California at Riverside, has two temporary teaching positions available beginning 1 September 1978. Applicants must have a Ph.D. or equivalent degree and qualifications to teach an undergraduate course in general biology. Preference will be given to individuals with training in cell biology, population biology, and microbiology.

Applicants should send curriculum vitae, including letters from three referees, to:

Dr. Irwin W. Sherman, Chairman  
Department of Biology  
University of California  
Riverside, California 92521

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

**MICROPALAEONTOLOGIST.** A tenure-earning appointment at the assistant or associate professor level to begin September 1978. Emphasis (75 percent) will be on research and applicant will be expected to have demonstrated research capability. *The University of South Florida is an Equal Opportunity/Affirmative Action Employer.* Apply to: **Dr. J. C. Briggs, Department of Marine Science, University of South Florida, St. Petersburg, Florida 33701. Deadline for applications: 31 May 1978.**

## NEUROPHARMACOLOGY/NEUROCHEMISTRY/ NEUROPHYSIOLOGY OF AGING

Neurobiologists invited to apply for senior level (tenure-track) position in the Research Institute of the Andrus Gerontology Center. A new laboratory will be established to interface with existing laboratories studying aging mechanisms in the neuroendocrinology, psychophysiology, and psychobiology and developmental psychology of rodent models and humans. Areas of previous research open. Interested persons should submit curriculum vitae, complete bibliography, names of three or more references, and a brief statement of research plans to:

Dr. Caleb E. Finch  
Andrus Gerontology Center  
University of Southern California  
Los Angeles, California 90007  
Telephone: 213-741-5168

## POSITIONS OPEN

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

**NEUROBIOLOGIST-BIOPHYSICIST.** Position open for a nontenure-track research assistant professor in the Department of Neurology involving research on neuron-target cell interactions as well as teaching of selected topics in neurophysiology. Requirements are an M.S. (biophysics), Ph.D. (physiology or biochemistry), at least 6 to 7 years of postdoctoral experience, including independent research on the role of axonal transport in neurotrophic functions. Salary, \$1750 per month. Send curriculum vitae, three references, and discussion of research goals to: **Dr. B. W. Festoff, Department of Neurology, University of Kansas Medical Center, 3900 Rainbow, Kansas City, Kansas 66103. An Equal Employment Opportunity Employer.**

**NUCLEAR MEDICINE: INSTRUCTOR.** To provide service at affiliated hospital and to participate in full range of clinical, teaching, and research programs. Contact: **Dr. Richard P. Spencer, Department of Nuclear Medicine, University of Connecticut Health Center, Farmington, Conn. 06032. Telephone: 203-674-3120. Equal Opportunity/Affirmative Action Employer.**

**ORGANIC POLYMER CHEMISTRY**—Applications are invited for an assistant professor level position. Candidates must have postdoctoral research experience and a demonstrated ability to conduct independent research programs. Applications containing a résumé, list of publications, future research objectives, and names of three referees should be sent no later than 15 June 1978 to: **Search Committee, Midland Macromolecular Institute, 1910 West Saint Andrews Drive, Midland, Mich. 48640. Midland Macromolecular Institute is an Equal Opportunity Employer and welcomes applications from women and minorities.**

**PATHOLOGIST/RESEARCH, OCCUPATIONAL RESPIRATORY DISEASES.** The National Institute for Occupational Safety and Health (NIOSH), Center for Disease Control (CDC), U.S. Public Health Service, is seeking a pathologist interested in cardiopulmonary research for the Division of Respiratory Disease Studies, Appalachian Laboratory for Occupational Safety and Health (ALOSH) at Morgantown, West Virginia. Responsibilities will include (i) basic research into occupational respiratory diseases caused by organic and inorganic dusts; (ii) analysis of the data collected through the National Coal Workers' Autopsy Study; and (iii) clinical-radiological-pathological correlations in occupational diseases. The Pathology Section has a uniquely equipped laboratory which includes freeze drying, high-resolution radiography, x-ray fluorescence, scanning electron microscopy, microprobe analysis, transmission electron microscopy, and computer-aided image analysis. Affiliation with adjacent West Virginia University Medical School affords opportunities for teaching of medical students and house staff. Candidate must be a medical doctor, well-trained (preferably Board-eligible or Board-certified) in anatomic pathology with experience in experimental research. An interest in occupational or environmental medicine is desirable.

Positions are in the Career Civil Service or the Public Health Service Commissioned Corps. Salary range: \$20,000 to \$40,000's depending on qualifications, experience, and personnel system. Liberal fringe benefits apply. Interested candidates should send inquiries, curriculum vitae, and references (within 30 days) to: **Pathology Section, ALOSH, P.O. Box 4292, Morgantown, W. Va. 26505. An Equal Opportunity Employer.**

**PHYSIOLOGIST.** Applicant must have Ph.D. and strong background in systems cardiovascular and/or renal physiology. Teaching involves graduate, medical, and allied health students. Applicant is expected to establish productive research program. Rank and salary determined by qualifications. Send curriculum vitae and statement of teaching experience and research interest before 15 June 1978 to: **Dr. J. P. Gilmore, Chairman, Department of Physiology, University of Nebraska College of Medicine, Omaha, Neb. 68105. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSITION** available to study the availability to animals of cadmium from different edible plants and the binding of cadmium to macromolecules. Applicants must have a Ph.D. degree in biochemistry or a closely related discipline and research experience in toxicology as well as having demonstrated ability to manage a research program. Salary up to \$16,000 will be dependent on experience and qualifications. Applicants should send curriculum vitae and three letters of reference before 1 June 1978 to: **Dr. Donald R. Buhler, Department of Agricultural Chemistry and Environmental Health Services Center, Oregon State University, Corvallis, Ore. 97331. An Equal Opportunity/Affirmative Action Employer, in compliance with Section 504 of the Rehabilitation Act of 1973.**

### POSTDOCTORAL POSITION AVAILABLE IMMEDIATELY

A 2-year appointment in research on "The Role of Macrophages in Resistance to Cancer." Send curriculum vitae and three letters of recommendation to: **J. L. Krahenbuhl, Ph.D., Palo Alto Medical Research Foundation, 860 Bryant Street, Palo Alto, Calif. 94301.**

*An Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION** in Department of Anatomy, University of Hawaii, to start fall 1978. To investigate the genetic causes of reproductive wastage in man. Previous experience in tissue culture, human genetics, and human cytogenetics highly desirable. Apply prior to 15 June to: **Dr. Patricia Jacobs, School of Medicine, University of Hawaii, Manoa, 1960 East-West Road, Honolulu, Hawaii 96822.**

**POSTDOCTORAL POSITION.** Available June 1978, duration up to 2 years. Research area: junctional communication between cells in tissue culture. Background: Ph.D. (or M.D.); research experience with tissue culture and autoradiography essential; some training in electrophysiology desirable. Direct inquiries to: **Judson Sheridan, D.Phil., Department of Genetics and Cell Biology, Zoology Building, 318 Church Street, University of Minnesota, Minneapolis, Minn. 55455. The University of Minnesota is an Equal Opportunity Educator and Employer.**

### POSTDOCTORAL POSITIONS IN CELLULAR NEUROBIOLOGY

Four positions are available starting 1 July 1978. Applications are invited from individuals of superior qualifications with interests in membrane biophysics, synaptic physiology, sensory physiology, developmental neurobiology, or ultrastructure. These NRSA fellowships can be available for as long as 3 years. Send curriculum vitae and names of three references to: **Dr. A. D. Grinnell, Ahmanson Laboratory of Neurobiology, Brain Research Institute, University of California, Los Angeles, Los Angeles, Calif. 90024. An Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.**

**TWO POSTDOCTORAL POSITIONS** available summer 1978 requiring background in organic/medicinal chemistry or biochemistry for studies of pharmacology and metabolism of anticancer agents in animals and man. Send curriculum vitae and references to: **Dr. Matthew M. Ames (organic/medicinal) or Dr. Garth Powis (biochemistry), Division of Developmental Oncology Research, Department of Oncology, Mayo Clinic, Rochester, Minnesota 55901. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION.** Available 1 June 1978, duration 2 to 3 years. Research area: to study interactions of cultured animal cells and purified protein growth factors leading to DNA synthesis and cell growth. Experience in protein and membrane chemistry, cell culture, and oncogenic viruses desirable. Send curriculum vitae and two references to: **Dr. Gary L. Smith, School of Life Sciences, University of Nebraska, Lincoln, Nebraska 68588.**

*An Affirmative Action/Equal Opportunity Employer*

### POSTDOCTORAL POSITION

Position available beginning July 1978 for research in neuroendocrinology of reproduction. Minimum stipend: \$10,000. Send curriculum vitae with referee names to:

**Professor J. D. Neill  
Department of Physiology  
Emory University  
Atlanta, Ga. 30322**

*Equal Opportunity Employer*

## POSITIONS OPEN

**POSTDOCTORAL POSITION—PROTEIN/NUCLEIC ACID INTERACTIONS.** Available 1 June 1978 for a person interested in studying ribosomal protein-RNA interactions. Applicants should have a Ph.D. in a biological science with a strong background in biophysical chemistry and protein isolation. Send curriculum vitae and three recommendations to: **Dr. Thomas Schleich, Division of Natural Sciences, University of California, Santa Cruz, Calif. 95064. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** in environmental photobiology and carcinogenesis. Opportunity to participate in mechanistic and product identification studies of cellular lesions produced by chemicals and light. Ph.D. training in organic chemistry and/or biochemistry required. Familiarity with a wide range of separation techniques desirable. Please send curriculum vitae and letters of reference to: **Dr. L. C. Harber, Department of Dermatology, or Dr. I. B. Weinstein, Institute for Cancer Research. Both are located at: College of Physicians and Surgeons, Columbia University, 630 West 168 Street, New York, N.Y. 10032.**

**POSTDOCTORAL POSITION**—Available August 1978. Open to someone interested in studying immunogenetic mapping of the lymphoid cell surface in the mouse. Annual salary: \$10,000 to \$13,000, depending on qualifications. Send curriculum vitae and names of references to: **Dr. Lorraine Flaherty, Division of Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, N.Y. 12201.**

**POSTDOCTORAL POSITION** available immediately to study bone metabolism in vitro. Possible projects include tissue culture studies of hormone action, design of immunoassays, or protein chemistry of osteoclast activators. Salary: approximately \$12,000. Send résumé and addresses of three references to: **Dr. Richard A. Luben, Biomedical Sciences Program, University of California, Riverside, Calif. 92521.**

### POSTDOCTORAL POSITION IN PHYSIOLOGICAL PSYCHOLOGY

To work on central nervous control of thermoregulation and catalepsy. One- or 2-year appointment beginning summer 1978. Helpful background: EEG and EMG recording, neuropharmacology, behavioral analysis. Send curriculum vitae and three letters of recommendation to: **Dr. Evelyn Satinoff or Dr. Philip Teitelbaum, Psychology Department, University of Illinois, Champaign, Ill. 61820. Deadline for materials: 30 June 1978. An Equal Opportunity/Affirmative Action Employer.**

### POSTGRADUATE RESEARCH BIOLOGIST

Postdoctoral position available for recent Ph.D. to work in: (i) genetics and molecular biology of folded chromosomes in yeast, with particular reference to the structure-function relationships in the mitotic and/or meiotic phases of the life cycle, or (ii) molecular biology/enzymology of genetic recombination in yeast. Salary range: \$11,880 to \$14,916 per year.

Preference will be given to candidates whose training and background are best suited to the projects described above. Send curriculum vitae and recommendations to: **Dr. Ramon Pinon, Department of Biology, B-022, University of California, San Diego, La Jolla, Calif. 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH POSITION** available immediately for cell culture and in vivo studies of the regulation of gonadotropic hormone receptors in ovarian cells. Please send curriculum vitae and references to: **Dr. David W. Schomberg, Box 3323, Departments of Obstetrics, Gynecology and Physiology, Duke University Medical Center, Durham, N.C. 27710. An Affirmative Action/Equal Opportunity Employer.**

Wanted, a university graduate with experience in biochemical research on lipoprotein and lipid metabolism to work as a **PROFESSIONAL ASSISTANT** of the Canadian Heart Foundation Project, "Role of lipids in the metabolism of serum lipoprotein, glycoprotein and mucopolysaccharides," under the supervision of **Dr. S. Mooser, Professor and Head, Department of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3X9. Salary up to \$13,272. Starting date: 1 July 1978. Position open until filled.**



# EPIDEMIOLOGIST

The Lawrence Livermore Laboratory is an applied science R&D facility operated by the University of California for the U.S. Department of Energy. The Laboratory is engaged in basic and applied research in laser fusion and advanced isotope separation, magnetic fusion, nuclear weapons, biomedical and environmental sciences and other long-range projects related to nuclear and non-nuclear energy development.

We require a Ph.D. or M.D. with specialty in epidemiology or biostatistics to design and conduct epidemiological studies on the effect of various energy technologies on human health. The immediate need is to supervise a study concerned with the possible effect of low-level radiation exposure on the mortality and morbidity of Laboratory personnel. Future studies will be concerned with emerging energy technologies, and present an opportunity to work with other researchers in integrated programs involving either assessment of potential human health hazards or field applications of advanced genetic and toxicological tests in occupational settings. Strong preference will be given to a candidate who has established a reputation as an epidemiologist by being the scientific director of epidemiological studies for several years.

Qualified candidates are invited to send their resumes, including salary history and requirements, in confidence to: Ted Wilson, Employment Division, LLL, P.O. Box 808, Dept. KSC-058, Livermore, California 94550



**LAWRENCE LIVERMORE  
LABORATORY**

U.S. CITIZENSHIP REQUIRED

AN EQUAL OPPORTUNITY EMPLOYER

## Chief Epidemiologist

New York City research facility, affiliated with centers for clinical investigation and noted for research in disease causation and prevention, is seeking a Chief Epidemiologist to conduct case control and metabolic studies.

Individual will participate in the formulation of research policy; develop research designs, supervise quality control and data collection; lead the planning of study designs and analyses; and formulate strategies for reporting findings to sponsoring agencies.

The ideal candidate will have an M.D. or Ph.D. degree with an M.P.H. (epidemiology). Post-doctoral clinical experience with chronic diseases is desirable. Applicants must have minimum of 1 year's experience supervising professional staff and have demonstrated proficiency in epidemiological research permitting effective collaboration with biometric, data processing and biomedical personnel. Should possess research management competency as demonstrated by previous grants sought, obtained and successfully concluded. Please submit C.V. and references to:

Mr. Frederick Crane  
McCabe & Reardon  
P.O. Box 1511  
F.D.R. Station  
New York, NY 10022

An Equal Opportunity Employer M/F

## NEUROPHARMACOLOGIST (CANADA)

We have a challenging opportunity for a neuropharmacologist to take charge of an established research program involving the design of novel approaches leading to the development of new drugs with CNS activity.

Candidates should have a doctorate degree in neuropharmacology and 5 to 10 years of research experience in the field of CNS pharmacology. Applicants must have a strong record of achievement including recognized publications. Less experienced candidates will also be considered.

This is a permanent position offering excellent salary, benefits, and opportunity for advancement to more senior research management positions.

Our research laboratories are located in modern facilities in Kirkland, Quebec, a suburb 15 miles from downtown Montreal.

Please send curriculum vitae and complete details of your experience and publications to:

The Employment Manager  
Merck Frosst Laboratories  
P.O. Box 1005  
Pointe Claire/Dorval, Quebec, Canada,  
H9R 4P8

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

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

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

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

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

Address administrative inquiries  
to:

Dr. Marcus Rothschild (151H)  
Medical Research Service  
Veterans Administration Central  
Office

810 Vermont Avenue, N.W.  
Washington, D.C. 20420

Telephone: 202-389-5041

An Equal Opportunity Employer

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE POSITION IN PLANT PHYSIOLOGY-BIOCHEMISTRY

The Department of Botany and Plant Pathology announces a position for a postdoctoral research associate, available on or before 1 July 1978, on a project concerning the biochemistry and physiology of gibberellins. More specifically, the research will consist of investigations on the biosynthesis of gibberellins and gibberellin precursors, and the regulation thereof, in chloroplasts. The appointment will be on a 12-month basis at an annual salary rate of \$12,000, and will be for a minimum duration of 1 year. Reappointment for a second year will be contingent upon performance and continued availability of funds. A Ph.D. degree in plant physiology or biochemistry is required, and preference will be given to applicants who have experience in techniques of organelle isolation and enzyme assays directly relevant to the project.

*Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973. Applications and inquiries should be sent by 31 May to:*

**Dr. Thomas C. Moore**  
Department of Botany and Plant Pathology  
Oregon State University  
Corvallis, Oregon 97331

Applications should include curriculum vitae, reprints of research papers, two letters of recommendation, and any other information considered pertinent by the applicant.

**PRE- AND POSTDOCTORAL OPENINGS**  
beginning July or September 1978 for physicists, chemists, and biologists in **Radiation Biology Program, University of Iowa, Iowa City, Iowa 52242**. Write or telephone **J. W. Osborne at: 319-353-3461** for details. *The University of Iowa is an Equal Opportunity Employer.*

### THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL DEPARTMENT OF PSYCHIATRY

Position open for a **PSYCHIATRIST** at the **assistant or associate professor** level, with an interest in clinical and research studies of affective disorders. Candidate must have broad clinical experience, and preferably some research in the field (psycho-social or biological). The principal duties include teaching, patient care, supervision, and coordination of the unit's outpatient clinic, as well as participation in ongoing research projects and/or the development of new research appropriate to this outpatient population. Interested persons should send their curriculum vitae and a list of three references to: **Box 169, SCIENCE**. Code 300F0. *A nondiscriminatory, Affirmative Action Employer.*

### PSYCHIATRIST

Yale University, Department of Psychiatry, has an immediate opening for a **research psychiatrist** on an inpatient psychiatric research ward. Assistant professor level. Board-eligibility and experience in clinical neurobiologic psychiatric research required. Special expertise in some dimension of clinically related neuroscience research desirable. Responsibilities include treatment and research of psychiatric inpatients, participation in ongoing neurobiologic research programs, teaching medical students and psychiatric residents, besides independent research.

Send curriculum vitae and three names for references, together with a short description of research interests, to: **Dr. Stephen Fleck, Yale University, Department of Psychiatry, 25 Park Street, New Haven, Connecticut 06519**. *An Equal Opportunity/Affirmative Action Employer.*

### THE ECOSYSTEMS CENTER Marine Biological Laboratory Woods Hole, Mass. 02543

Two openings are available for **RESEARCH ASSISTANTS** in a 3-year research program on sulfur cycling in a salt marsh. (i) **Chemist**: a B.S. in chemistry and experience in analysis of environmental samples are preferred. (ii) **Ecologist**: a B.S. in biology with a minor in chemistry, and research experience are required. Send curriculum vitae and three letters of recommendation to: **Erne V. Pecan, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, Mass. 02543**.

## POSITIONS OPEN

**REPRODUCTIVE NEUROENDOCRINOLOGIST**: research associate position. Require Ph.D. with at least 6 months of postdoctoral training in circadian rhythms in reproductive endocrinology. Salary: \$1000 per month. Send curriculum vitae and résumé to: **Dr. C. A. Blake, Department of Anatomy, University of Nebraska Medical Center, Omaha, Nebraska 68105** or telephone: **402-541-7838**. *Affirmative Action/Equal Opportunity Employer.*

**REPRODUCTIVE PATHOLOGIST**. D.V.M. with Ph.D. in pathology or reproduction. Should be ACVP Board-eligible. Joint tenure-track appointment in veterinary science and Wisconsin Regional Primate Research Center. Duties include independent research in primates and graduate training. Rank and salary commensurate with training and experience. Send curriculum vitae, publications list, and names of three references to: **Dr. D. J. Dierschke, University of Wisconsin, 1223 Capitol Court, Madison, Wisconsin 53706**. *Affirmative Action/Equal Opportunity Employer*

**RESEARCH ASSISTANT**. Seeking individual with M.S. or B.S. degree in a biochemical discipline with familiarity or experience with radioactive isotopes, radioimmunoassay, and general neurochemical methods. The individual will work with the chairman of the Anatomy Department and be responsible for setting up, modifying, and carrying out the specialized chemical procedures for the assay of neurotransmitters, radioautography (light and electron microscope), assay of uptake and release of radioactive materials, and so forth. Qualified individuals please send curriculum vitae with previous salary history to: **Personnel Department, COLLEGE OF MEDICINE AND DENTISTRY OF NEW JERSEY, Rutgers Medical School, P.O. Box 101, Piscataway, N.J. 08854**. *Equal Opportunity/Affirmative Action Employer.*

**RESEARCH ASSOCIATE** position available 1 October for Ph.D. with experience in the physiology or biochemistry of mammary tissue or background in cellular endocrinology. Work will focus on the hormonal control of membrane transport in mammary tissue. Send résumé with three references to: **M. C. Neville, Department of Physiology, University of Colorado Medical Center, Denver, Colo. 80262**. *The University of Colorado is an Equal Opportunity Employer.*

**RESEARCH ASSOCIATE POSITION**. Embryological/teratological studies of craniofacial malformations. Emphasis on gene/environment interaction in mice, including metabolism of drugs such as phenytoin (Dilantin) and developmental alterations in the embryo. Suitable for recent Ph.D. in developmental biology, pharmacology, biochemistry, or anatomy, although individuals with other applicable backgrounds will be considered.

Applicants should send curriculum vitae and names and addresses of three references to:

**Dr. Malcolm C. Johnston**  
Dental Research Center, 210H  
University of North Carolina  
Chapel Hill, N.C. 27514

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

**RESEARCH ASSOCIATE POSITIONS** are open for studies on mammalian multifunctional proteins of the pyrimidine biosynthetic pathway or on enzymes converting glutamate to ornithine and/or proline. Requires Ph.D. degree in biochemistry. Send curriculum vitae to: **M. E. Jones, Department of Biochemistry, University of North Carolina, Chapel Hill, N.C. 27514**. *Equal Opportunity/Affirmative Action Employer.*

### RESEARCH ASSOCIATE POSITION

The Surgical Virology Laboratory at Duke University seeks an experienced research associate to coordinate a program of studies between this laboratory and a collaborating unit in Germany. Experience in tissue culture, immunological, and biochemical assays as well as appropriate language skills are required. Salary is commensurate with education and experience. Submit résumé, salary history, references, and outline of experience and research interests to: **Dr. Dani P. Bolognesi, Surgical Virology Laboratory, Duke University Medical Center, P.O. Box 2926, Durham, North Carolina 27710**. Application deadline is 1 June 1978. *Duke University is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**RESEARCH ASSOCIATE** (Ph.D. or M.D.) position available immediately to work on interdisciplinary study of endothelial cell function after cardiopulmonary bypass. Strong background in cardiopulmonary pharmacology with good knowledge of related biochemical and analytical techniques.

Send complete curriculum vitae and names of three references to: **C. N. Gillis, Ph.D., Professor, Department of Pharmacology, Yale University School of Medicine, 333 Cedar Street, New Haven, Conn. 06510**.

*An Affirmative Action/Equal Opportunity Employer*

**RESEARCH ASSOCIATE**. Position available for individual interested in molecular virology of adenoviruses. Must have Ph.D. or M.D., a minimum of 2 or more years of postdoctoral training with tissue culture and adenoviruses, biochemistry of nucleic acids and transcription, restriction enzyme technology, nucleic acid hybridization techniques, and viral RNA synthesis and processing in isolated nuclei. Salary: \$12,250 per year. Send applications to: **R. Williams, Washington University, Department of Pathology, Box 8118, St. Louis, Missouri 63110**.

### RESEARCH ASSOCIATE—HISTOLOGIST

A position is available, beginning 1 August 1978, for a **VERTEBRATE HISTOLOGIST** with experience in photomicrography, basic statistics, and computer programming. Some training in pathology would be useful, but is not essential. The position is for 1 or 2 years at a base salary of \$11,000 plus benefits. M.S. or Ph.D. is required. Send curriculum vitae, transcripts, and three letters of recommendation to: **Dr. Michael D. Kern, Department of Biology, The College of Wooster, Wooster, Ohio 44691**. *The College is an Equal Opportunity Employer.*

### RESEARCH VIROLOGIST—M.S. or Ph.D.

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

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

### SCIENTIFIC PROGRAMMER/ANALYST

Person with proven ability in programming PDP-8 or PDP-12. Research in image analysis and pattern recognition for nuclear medicine studies. Send résumé to: **E. A. Elkman, M.D., College of Medicine, University of South Florida, 12901 North 30 Street, Tampa, Florida 33612**. *The University of South Florida is an Equal Opportunity Employer.*

### SCIENTIST BIOCHEMISTRY/IMMUNOLOGY

Applications are invited for a staff scientist position beginning July 1978. The position involves independent research in a biochemically oriented group studying differentiation of the immune system and leukemia in mice. Desirable areas of interest include enzymatic markers of early T cell differentiation, function of thymic hormones in differentiation and leukemia, and differentiation of immunologically specific lymphocytes in response to RNA sarcoma virus infection. Ph.D. required, with 2 to 3 years of postdoctoral experience in biochemistry and/or immunology.

Send curriculum vitae and names of three references to:

**Dr. James N. Ihle**  
Cancer Biology Program  
Frederick Cancer Research Center  
P.O. Box B  
Frederick, Md. 21701

### STAFF ASSOCIATE

Seeking postdoctoral M.D. or Ph.D. for laboratory devoted to developmental cell biology. To begin between 1 July 1978 and 1 January 1979 with a research training commitment of up to 2 years. *Equal Opportunity Employer*. Salary dependent on postdoctoral level.

Send curriculum vitae/résumé and names of three referees who have direct knowledge of the candidate to:

**Deputy Director for Administration**  
Cancer Center/Institute for Cancer Research  
701 West 168 Street  
New York, New York 10032

# BEHAVIORAL PHARMACOLOGY GROUP LEADER

As a major ethical pharmaceutical manufacturer, Lederle Laboratories can offer an excellent career opportunity to a scientist capable of assuming group leader responsibilities in our Behavioral Pharmacology area. Responsibilities include primate research and supervision of a basic screening & secondary evaluation staff. We seek a PhD, preferably with 5 or more years experience and a background in primate laboratory management for the study of the effects of psychotropic drugs on behavior. Professional recognition and compensation are available supplemented by comprehensive benefits. Location is a rural suburban community 30 miles from New York City. Send resume and salary history in confidence to Mr. G. J. Stein,



**LEDERLE LABORATORIES**  
American Cyanamid Company  
Pearl River, New York 10965

*Equal opportunity employer, male/female*

The National Eye Institute announces the availability of an RFP for the production of twenty litters per year of dogs with retinal disorders. The Irish Setter and Miniature Poodle are the two breeds of choice since they are currently available, their respective disorders are well characterized, and their disorders approximate human disorders which are of research interest.

Organizations must have existing colonies of Irish Setters and Miniature Poodles with the following traits or be able to obtain them quickly. Note: This is not a contract for the development of new animal models, but rather, a contract for the production and distribution of existing animal models with the desired defects.

**a. Rod-Cone Dysplasia**

Irish Setter

Simple Recessive

Rods—Fail to develop. Inner Segments are small and Outer Segments are disorganized. Rods degenerate early in the course of the disease. Very little Outer Segment material is produced.

Cones—Abnormal cone development. Lesions are not as extensive and severe as in rods.

Pigment Epithelium—Normal early stage. Late stages may migrate intraretinally.

Neural Retina—Rods and cones rapidly degenerate (within six months), but rods degenerate at faster rate. Loss of retinal layer organization in late stages of disease (two years).

**b. Progressive Rod-Cone Degeneration**

Miniature Poodle

Simple Recessive

Rods—Develop normally until six months of age and then begin to degenerate. Outer Segments are affected first followed by Inner Segment loss.

Cones—Develop normally and begin to degenerate by six months of age. Outer Segments are affected first followed by a loss of Inner Segments.

Pigment Epithelium—Normal.

Neural Retina—Rods degenerate faster than cones. Loss of retinal layer organization occurs within five years.

Organizations interested in receiving a Request for Proposal should contact the NIH Contractor at the following address by May 19, 1978.

Ms. Diana Thrift, Contract Specialist  
Room 2B-47, Building 31  
National Institutes of Health  
9000 Rockville Pike  
Bethesda, Maryland 20014

## ANNOUNCEMENT

Sources Sought for a  
Device to Measure Human Lens  
Volume *in vivo*

Reference: NIH-EY-78-31  
March 15, 1978

The National Eye Institute is seeking organizations with the capability to design, develop, and test a method that can measure changes in the volume or other characteristics of the human lens *in vivo* as a result of a variation in blood sugar. This method should be suitable for use in an out-patient facility. If a successful and practical method can be developed, it will be used to study the effect of aldose reductase inhibitors on the reduction of sorbitol in the lens and the resultant changes in lens swelling in normal and diabetic subjects. The method proposed may be based on optical measurements (e.g., purkinje images), photographic measurements, ultrasonography, automatic refractors, or any other means that is capable of detecting small changes (i.e., less than 0.1 mm.) in the radius of curvature in the human lens occurring over a period of several days following modification of glucose intake or topical administration of aldose reductase inhibitors. Respondents should explain how potential confounding of the measured lens characteristics by normal and pathological variations in the ocular media and other components of the eye is to be avoided or minimized.

Respondents to this request for research and development sources sought should have direct experience in vision research or provide the names and resumes of ophthalmic consultants available for advice. Respondents should submit information on the qualifications and relevant experience of their employees, describe their facilities, and outline previous experience with the type of work proposed.

The NIH will carefully evaluate all responses. An RFP will be sent to qualified organizations. Unqualified organizations will be so notified in order to save them the expense and effort of submitting proposals. It should be noted, however, that this procedure does not preclude any organization from requesting an RFP and submitting a proposal.

Responses must be submitted in writing by May 19, 1978, and be addressed to:

Mr. Fred Suggs, Contract Specialist  
Room 2B-47, Building 31  
National Institutes of Health  
Bethesda, Maryland 20014

## Department of Neurochemistry Max-Planck-Institut für Psychiatrie Munich

### The Max-Planck-Gesellschaft offers YOUNG SCIENTISTS

the opportunity to set up their own research group in the above department.

Applicants should have already accomplished internationally recognised research within the general area of neurobiology, especially in membrane-receptor biochemistry, neurogenetics, developmental biology or neuroendocrinology.

Work should start not later than Jan. 1, 1979. Appointments will be limited to 5 years, the salary being within the scale AH3 of the Niedersaechsisches Besoldungsgesetz (about 50—55.000 DM p.a.).

Each group will be able to grant post-doc-/doctoral scholarships to German and foreign scientists; it will also be provided with its own laboratory, inclusive technical staff, appropriate equipment and adequate running costs.

Applications should be submitted before May, 31, 1978 to

Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V.—Generalverwaltung—III a 1—  
Postfach 647, 8000 München 1

## POSITIONS OPEN

### UNIVERSITY OF WASHINGTON COLLEGE OF FOREST RESOURCES FACULTY POSITION FOREST-TREE PHYSIOLOGIST

Twelve-month appointment open 1 July 1978, or until filled. Normally assistant professor level. Teach undergraduate and graduate courses and conduct vigorous research program with ecological emphasis. Completed Ph.D., ideally with academic training and postdoctoral experience in tree physiology and forest ecology.

Submit complete curriculum vitae and the names of at least three referees as soon as possible to:

David R. M. Scott, Chairman  
Tree Physiology Search Committee  
College of Forest Resources  
University of Washington  
Seattle, Washington 98195

The University of Washington is an Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.

### IMPERIAL CANCER RESEARCH FUND LONDON, ENGLAND PROTEIN CHEMIST

Required to apply microsequence techniques to the analysis of structure and function of membrane proteins. Applicants should have 3 to 5 years of postdoctoral experience. This staff appointment, available from October 1978 will be for a period of 5 years. Salary according to qualifications and experience. For further information write to: S. M. Hurley, Imperial Cancer Research Fund, Lincoln's Inn Fields, London WC2A 3PX, England.

One-year RESEARCH POSITION for MARINE BIOLOGIST with knowledge of San Francisco Bay shellfishery and experience in concentrating viruses from water and shellfish. Ph.D. preferred. Apply to: Dr. Robert C. Cooper, Department of Biomedical and Environmental Health Sciences, 210 Earl Warren Hall, University of California, Berkeley, California 94720. The University of California is an Affirmative Action Employer.

## PROGRAMS

**VISITING SCIENTISTS.** The Florida State Museum will continue its Visiting Scientist Program in 1978-1979. Applications are invited. There is no salary; furnished space, telephone, and limited clerical services provided for periods up to 6 months for scientists having a systematics, ecology, or natural history orientation for whom association with us would be mutually stimulating. Ph.D. or equivalent required. Inquiries to: Chairman, Department of Natural Sciences, Florida State Museum, University of Florida, Gainesville, Fla. 32611.

## TRAINEESHIPS

### GRADUATE STUDY PROGRAM IN TOXICOLOGY

Applications are being invited for traineeships in toxicology at both the pre- and postdoctoral level beginning July 1978. Training will emphasize the application of histochemistry, electron microscopy, immunology, and biochemistry to areas of chemical carcinogenesis, peripheral nerve degeneration, gastrointestinal, and eye toxicity. Interested persons should contact: Dr. Rajender Abraham, Center of Experimental Pathology and Toxicology, Albany Medical College, 47 New Scotland Avenue, Albany, New York 12208.

**POSTDOCTORAL POSITIONS—NERVOUS SYSTEM GENERATION AND REGENERATION.** Applications are invited from interested candidates for postdoctoral traineeships in a multidisciplinary research program concerned with neural plasticity. The disciplines represented in the program include electron microscopy, immunocytochemistry, neurophysiology, neurochemistry, and behavioral testing. The traineeships are for 2 years beginning 1 July 1978. Send résumé, statement of research interests, and three references to: Dr. Leonard L. Ross, Department of Anatomy, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pa. 19129. An Equal Opportunity/Affirmative Action Employer.

## COURSES

### MARINE BIOLOGICAL LABORATORY (MBL) Woods Hole, Massachusetts will conduct a short course on HIGH RESOLUTION ELECTROPHORETIC SEPARATION OF PROTEINS 5 to 10 November 1978

This residential program will emphasize laboratory practice in one- and two-dimensional electrophoretic methods for the separation of proteins. Topics will include discontinuous SDS gel electrophoresis, two-dimensional gel electrophoresis, detection by staining, autoradiography, fluorography, and double label autoradiography, and equipment design and construction. No more than 16 students will be accepted.

The instructor-in-chief will be Patrick O'Farrell of the University of California, San Francisco.

Application materials and additional information may be obtained from: Office of Admissions, Marine Biological Laboratory, Woods Hole, Mass. 02543; telephone: 617-548-3705. MBL is an Equal Opportunity/Affirmative Action Institution.

## FELLOWSHIPS

### FELLOWSHIP IN CLINICAL NEUROPHYSIOLOGY

Is available in the Department of Neurology, Center for Health Sciences, University of Wisconsin, Madison. The fellowship will provide training in clinical EEG and evoked potentials and research opportunities using microiontophoreses in experimental models of epilepsy. Previous exposure to unitary recording techniques desirable. Please send résumé to:

Dr. Ruggero Fariello  
Infirmary I  
University Hospitals  
1300 University Avenue  
Madison, Wis. 53706  
Telephone: 608-262-2009

An Equal Opportunity Employer

### RESEARCH TRAINEE WITH M.D.

Postdoctoral fellowship in neurophysiology/pharmacology of human airways smooth muscle. Must be Canadian or Landed Immigrant. Address applications to:

John B. Richardson, M.D., Ph.D.  
Pathology Department  
McGill University  
3775 University  
Montreal, Quebec H3A 2B4, Canada

Deadline for applications: 30 September 1978.

**TWO POSTDOCTORAL FELLOWSHIPS** in biological psychology, University of Oklahoma Health Sciences Center. Appointment for approximately 1 year, to begin 1 July 1978. Candidates should have strong research backgrounds either in human cognitive processes with interests in electrophysiology or strong backgrounds in animal behavioral research with interests in neural mechanisms. Experience or interests in psychobiological applications to health related areas, alcohol or drugs would be desirable. Collaborative and independent studies in the above areas are expected. Opportunities exist for advanced training in biological and psychobiological areas relevant to behavior. Candidates are expected to assume light teaching loads in the biological psychology Ph.D. program. Eleven-month salary range is \$10,000 to \$12,500, dependent on qualifications. Submit a letter of application, curriculum vitae, names and addresses of three references, and two recent preprints or reprints to: Professor Harold L. Williams, Department of Psychiatry and Behavioral Sciences, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Oklahoma 73190. The University of Oklahoma is an Equal Opportunity Employer.

**POSTDOCTORAL FELLOWSHIPS** available in a training program in molecular and cellular IMMUNOLOGY comprising clinical and pre-clinical departments of the Johns Hopkins Medical Institutions. These positions are open to individuals holding a Ph.D., M.D., or D.V.M. degree, and who are U.S. citizens or hold a permanent resident visa. Applicants should send their curriculum vitae to: Immunology Postdoctoral Training Program, Department of Microbiology, The Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore, Md. 21205.

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIPS**, approximately ten per academic year, are awarded to highly qualified applicants in biochemistry, biophysics, genetics, cell biology, immunology, virology, developmental biology, neurobiology, and behavioral biology. Applicants should write to the faculty member with whom they wish to work, or to the undersigned, and enclose a curriculum vitae, statement of research interests, and names of three references. Chairman, Division of Biology, California Institute of Technology, Pasadena, California 91125.

**POSTDOCTORAL FELLOWSHIP.** Position available for Ph.D. or M.D. 1 July 1978 in an NIH sponsored training program for postdoctoral training in pediatric pharmacology; research areas include: (i) biochemical pharmacology, especially regulation of drug metabolism during development, (ii) mechanisms of teratogenesis, and (iii) drug disposition and action in sick children. Send résumé to: Dr. Sumner Yaffe, Department of Pediatrics, University of Pennsylvania, c/o Children's Hospital of Philadelphia, 34th and Civic Center Boulevard, Philadelphia, Pa. 19104; telephone: 215-387-6184.

## MEETING



In order to obtain a 10-day free trial copy of any book listed, circle the number appearing below it on the Reader's Service Card (pages 598A and 686A). All publishers represented reserve the right to bill for books not returned within 10 days after receipt.

**IN VITRO TOXICITY TESTING**, the combined proceedings of the 1975 and 1976 workshops of the Tissue Culture Association, Inc., sponsored by the National Center for Toxicological Research, is now available from: The Franklin Institute Press, Box 2266, Phila., Pa. 19103. Please send requests on official stationery of your university or research institution.

**INTRODUCTION TO GEOPHYSICS:** B. F. Howell  
Orig. ed. 1959  
Revised ed. 1978  
412 pp. In Prep.

**ROBERT E. KRIEGER  
PUBLISHING CO., INC.**  
645 New York Ave.  
Huntington, N.Y. 11743 USA  
(516) 271-5252

Circle No. 1 on Readers' Service Card

## MARKET PLACE

2—**EXPERIMENTAL KII-B ZONAL CENTRIFUGES**, Electro-Nucleonics, 35,000 RPM, air driven, 1968 models.

1—**AEROMATIC Fluid Bed—Mixer—Granulator—Dryer**, Model STREA 60, 1972 model.

Inspection by appointment. Contact: Eli Lilly and Company, Indianapolis, Indiana 46206. Telephone: Charles Engel at 317-261-7588.

**Microprobe  
THERMOMETERS**

We make 14 thermometers, with digital or meter readout. All read in 2 secs, are extremely easy to use. Simply apply probe — read temperature.

Unbreakable probes are steel sheathed including World's Smallest Microprobe, 0.01" dia.

Models  
BAT-4 BIOLOGICAL  
BAT-5 CRYOGENIC  
BAT-7 INDUSTRIAL  
BAT-8 DIGITAL °C or °F  
TH-2 CLINICAL

The Modern Way to Measure

**BAILEY INSTRUMENTS INC.**  
Saddle Brook, N.J. 07662 • (201) 845-7252

Circle No. 3 on Readers' Service Card





Safe control to temperature extremes — hot or cold — with great precision. HAAKE Thermal Liquid Baths with external circulation offer quality performance and operational comfort. Advanced DAS IC control technology now available with automatic compensation for changes in thermal load, environmental temperature and line voltage fluctuations. HAAKE, your complete source for Laboratory Liquid Temperature Control.

Pictured: F3C-17"x15"x9"



# HAAKE

Temperature Control Equipment Division

HAAKE INC. 244 Saddle River Road, Saddle Brook, New Jersey 07662 (201) 843-7070

Circle No. 110 on Readers' Service Card



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

# AO

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

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

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

The AO PHASESTAR microscope also features one-time centering of annuli. Align each of the four annuli to its corresponding objective, and that's it. You can then rotate the turret from one position to another without centering annuli again.

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

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

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