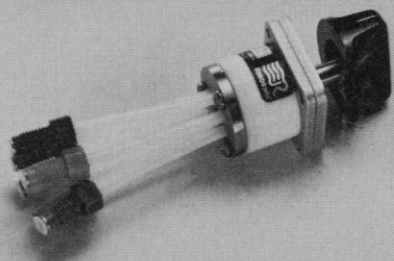


**Our new  
LC valves:  
half the cost  
for the same  
performance**



- Chemically inert. Only Teflon contacts the stream.
- Zero dead volume
- Manual or Automatic

Here's the way to save money and still get the same performance from your LC valves. New Rheodyne Type 50 Teflon Rotary Valves can be used for chromatography, sample injection, column switching, recycling, reagent switching, fraction collection, stream sampling and quantitative reagent injection.

They are available as 3-way Teflon rotary valves for \$70 in the 0.8 mm bore units. \$72 for 1.5 mm bore units. Four-way Teflon rotary valves to interchange two streams are priced at \$70 and \$72 respectively. Six-position valves to select any one of six streams are priced at \$85 and \$87 respectively. A sample injection valve, supplied with a 0.5 ml sample loop and luer connector for syringe, is priced at \$85.

**Ask for our new data sheet**

Complete data and ordering information are available right now. Call or write Rheodyne, 2809 - 10th St., Berkeley, California 94710. Phone (415) 548-5374.



**RHEODYNE**

Circle No. 195 on Readers' Service Card

**Laboratory conditioned  
cats for neurophysiology  
and other research**



Mogul-ED — for years a respected supplier of biological supplies — now introduces laboratory conditioned cats.

These stable animals are conditioned at Mogul-ED's unique facility, operated in accordance with Parts 2 and 3 of the Animal Welfare Act of 1970 (Public Law 91-579). During a 30-day observation period — 25 days longer than Animal Welfare Act specified minimums — animals are fed a balanced ration, immunized and treated for any feline diseases which may appear.

Mogul-ED conditioned cats eliminate need for on-site conditioning at research facilities, thus per-animal costs are low. Animals are shipped by air freight in specially designed portable kennels, which accommodate two animals. As shipping costs are based on volume, decided savings may result from multiple-animal orders. Animal selection by weight range, sex, coloration and type is available and same-day live delivery is guaranteed.

**Mogul-ED**

QUALITY PRODUCTS FOR RESEARCH  
Mogul-ED  
P. O. Box 2482  
Oshkosh, Wisconsin 54901

To place your order by fastest means, or to obtain a copy of our laboratory cats brochure, bug us on our toll-free number (800) 558-0216.



Circle No. 200 on Readers' Service Card

**Brinkmann  
pHisolytes.  
New carrier  
ampholytes  
for isoelectric  
focusing.**

pH 2	—	10
pH 2	— 4	
pH 3	— 5	
pH 4	— 6	
pH 5	— 7	
pH 6	— 8	
pH 7	— 9	
pH 8	— 10	
pH 9	— 11	



Because they contain more amphoteres than other ampholytes, Brinkmann pHisolytes provide a wider general pH range, from pH 2 to 10. pHisolytes are also available in eight individual pH ranges, each with a span of 2 pH units, from pH 2-4 to pH 9-11.

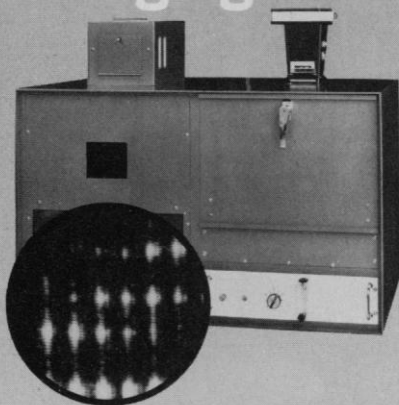
pHisolytes are composed of amphoteres synthesized from aliphatic polyamines with primary, secondary and tertiary amines and guanidine groups. They range in molecular weight from 400 to 700 and are easily separated from proteins by gel filtration techniques. pHisolytes come in sterile vials of 25 ml; each batch is tested for buffering capacity and adsorption.

For literature, just write: Brinkmann Instruments, Cantiague Rd, Westbury, N.Y. 11590. In Canada: 50 Galaxy Blvd., Rexdale (Toronto), Ont.

**Brinkmann**

Circle No. 142 on Readers' Service Card

**1000  
times  
faster  
than  
auto-  
radiography  
for beta  
imaging**



Within 5 to 30 minutes, the **Birch-over Radiochromatogram Spark Chamber** nondestructively locates and records the distribution of radioactive compounds on electrophoresis gels, paper, or thin layer plate radiochromatograms. With conventional autoradiography, the same process takes from three days to three weeks, with radiochromatogram scanning, from one to six hours. The instrument's camera produces a one-minute Polaroid print similar to an autoradiograph—a true record of radioactivity distribution in alpha, beta, and gamma emitting isotopes. An epidioscope print projection system of fixed magnification transfers the image from the Polaroid print directly back on the original radiochromatogram. An optional feature permits viewing under direct ultraviolet or natural light or by transmitted natural illumination and obtaining a permanent photographic record. Call or write today for complete details.

**B  
A** **BAIRD-ATOMIC**

Nuclear Division  
125 Middlesex Turnpike  
Bedford, Ma. 01730 (617) 276-6204

Circle No. 276 on Readers' Service Card

778

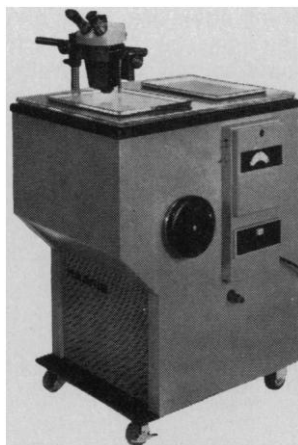
## **The First Wide Range Microtome-cryostat... Temperatures from —15°C to —50°C... Frozen Sections from 40 $\mu$ to 2 $\mu$ .**

The Harris LoTemp model WRC is two microtome-cryostats in one. A single unit that can do both routine diagnostic procedures and such sophisticated research procedures as thin section light microscopy, autoradiography, fluorescence microscopy and other histological procedures, at a cost comparable to presently available routine cryostats.

The Harris model WRC is compact... can be moved anywhere it's needed. The cold chamber has extra room for tissue handling, storage or freeze drying. Full opening top with special access ports combines the features of a totally closed system with the easy accessibility of open top models.

Available equipped with International Equipment Corp. microtomes, or cryostat only prepared for installation of your present I.E.C. microtome. Installed stereo zoom microscope also available.

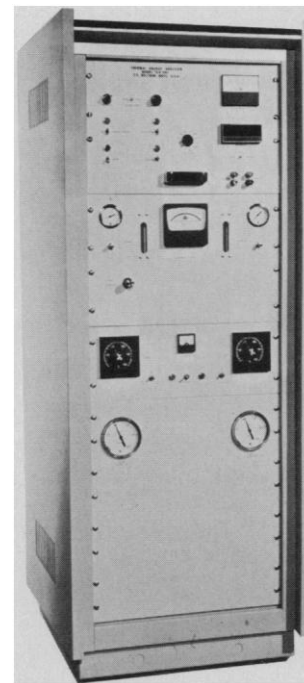
For a full description of the Harris WRC and its wide range of additional features write or call...



**Harris Manufacturing Co., Inc.**  
14 Republic Road  
Treble Cove Industrial Park  
North Billerica, Mass. 01862  
(617) 667-5116

Circle No. 360 on Readers' Service Card

## **Highly Specific and Sensitive Measurement of N-NITROSAMINES AND N-NITROSO COMPOUNDS**



**Model 502  
Thermal  
Energy  
Analyzer**

\*Patents Pending

Measurements at the ppb level and lower in minutes. This important new research tool will find immediate applications in analyses for

**Cancer Research   Air/Water Quality  
Food and Liquor   Metabolic Studies  
Pesticides   Drug Residues**

**Thermo  
Electron**  
CORPORATION

Cancer Research Division

85 First Avenue  
Waltham, MA 02154, U.S.A.  
Telephone (617) 890-8700  
Telex 92-3323  
Cable TEECORP

Circle No. 362 on Readers' Service Card  
SCIENCE, VOL. 191



## A desert environment or a tropical rain forest, and anywhere in between... Percival is versatile!

You may not need a desert environment in your lab but Percival has the experience, the know-how and the product line to serve your specific needs. Whether it's a simple biological incubator or a highly sophisticated plant growth chamber, Percival can supply it for you. A chamber can easily be tailored to your requirements. We will prepare a recommendation to fit your needs, whether they be table models or giant walk-ins. Consider your requirements carefully and then contact us. Write today for more information and the new complete Percival catalog.

*Percival*

### PERCIVAL MANUFACTURING COMPANY

P. O. Box 249 Dept. SC-2 Boone, Iowa 50036

... the name to remember for versatile Biological Incubators,  
Dew Chambers and Plant Growth Chambers.

Circle No. 343 on Readers' Service Card

## Scientific Freedom and Responsibility

How can we  
define it?

How can we  
defend it?

A new AAAS report deals with both of these complex issues. *Scientific Freedom and Responsibility* illuminates some of the gray areas that have emerged as science and technology increasingly intersect areas of social and ethical concern. It studies and reports on the conditions required to give scientists and engineers the freedom and responsibility to speak out; it prescribes criteria and procedures for the objective and impartial study of conflicts concerning scientific freedom and responsible scientific conduct; it encourages individuals, professional societies, industrial organizations, and government agencies toward the development of mechanisms for resolving such disputes.

Are you concerned with the present and future uses—and misuses—of science and technology? Then be sure to add this report to your professional or personal library. You will find its thoughtful, well-written text worth reading time and again.

A report of the AAAS Committee on Scientific Freedom and Responsibility, prepared for the Committee by John T. Edsall.

.....

Please send me \_\_\_\_\_ copy(ies) of *Scientific Freedom and Responsibility* (ISBN 0-87168-224-9; 1975, xiv+50 pp., paperbound). Retail price \$3.45; AAAS member price, prepaid \$2.95.

☐ check enclosed

☐ please bill me

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Send orders to Dept. SFR  
**American Association for the  
Advancement of Science**  
1515 Massachusetts Avenue, N.W.  
Washington, D.C. 20005



# PORTABLE SHAKER

This Gyrotory shaker plugs in right where you want it—in a bench-top incubator, in a refrigerator, or in any corner of your lab. It is small in size, low in price, yet built with the same power and precision that drives large New Brunswick Shakers. The rugged rotator provides low agitation rates for tissue culture studies, and can be "revved" up to 400 rpm for prolonged studies requiring vigorous aeration and mixing.

The G2 Rotator not only shakes continuously, it shakes accurately. Speed is controlled electronically and is indicated on an electrical tachometer. Rate of agitation remains constant even with unbalanced loads or normal voltage fluctuations.

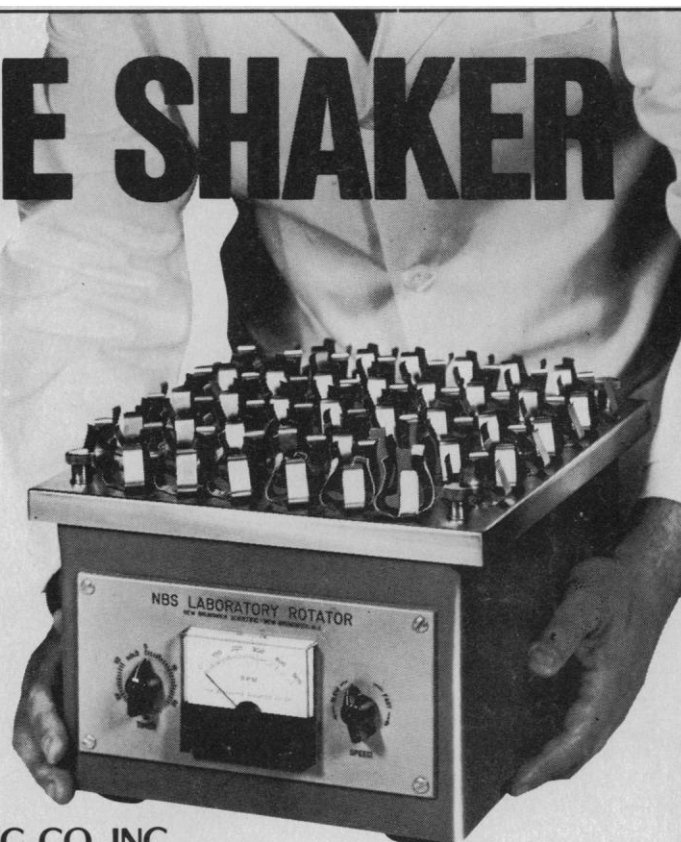
Choose from 18 different shaker platforms for Erlenmeyer flasks, test tubes and beakers.



Write for Bulletin No. G2S/276

**NEW BRUNSWICK SCIENTIFIC CO., INC.**

1130 Somerset Street, New Brunswick, N.J. 08903 • 201/846-4600  
With NBS, Advanced Technology is a Way of Life.



Circle No. 162 on Readers' Service Card

## Send for your free copy of Schleicher & Schuell's all-new Catalog of products for filtration and separation

Here it is. Yours for the asking. It's Schleicher and Schuell's all-new, 70-page product catalog. A complete listing of more than 500 different products for filtration and separation. Including paper, membrane and glass filters, TLC materials, apparatus, and specialties. All clearly described, many illustrated.

But it's more than a listing of products. It's also a handbook with a wealth of useful technical information for anyone involved in the filtration and separation sciences.

For your free copy, send coupon.

**SCHLEICHER & SCHUELL**

KEENE, N.H.  
U.S.A. 03431

Tel. 603 352-3810



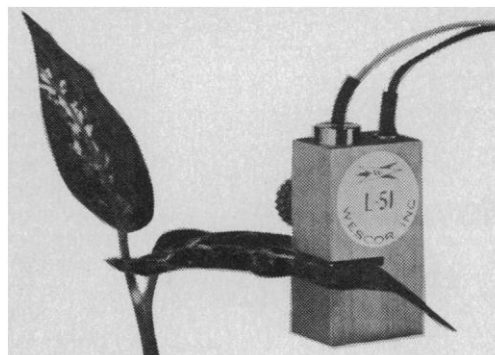
Name \_\_\_\_\_ Title \_\_\_\_\_  
Company/Institution \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

S-2-20-76

Circle No. 213 on Readers' Service Card

## WATER POTENTIAL

**WESCOR, THE LEADER IN WATER POTENTIAL INSTRUMENTATION, HAS A SYSTEM FOR YOU.**



L-51 LEAF HYGROMETER

**ONE OF OUR MANY WATER POTENTIAL MEASUREMENT INSTRUMENTS**

**CHECK READER SERVICE CARD TO RECEIVE OUR FREE INSTRUMENTATION CATALOG.**



**WESCOR, INC**

459 South Main Street Logan, Utah 84321 (801) 752-6011

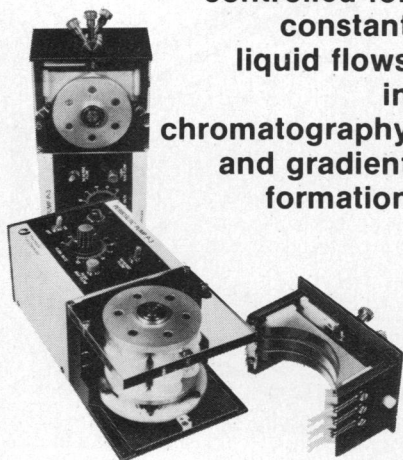
Circle No. 298 on Readers' Service Card



**NEW**

## Pharmacia Peristaltic Pump P-3

**A compact pump  
electronically  
controlled for  
constant  
liquid flows  
in  
chromatography  
and gradient  
formation**



**You can**

- obtain three different flow rates at the same time through the three individually tensioned pumping channels
- change tubes in seconds with the snap-in cassette
- forget about pulsation thanks to the large driven rollers
- rely on a constant motor speed, electronically compensated for load and temperature
- use any flow rate between 0.6 and 400 ml/h per channel with the same gear box
- reverse the flow instantly
- push for maximum flow and clear pump lines rapidly

*For free descriptive literature,  
write or call:*

Pharmacia Fine Chemicals Inc.  
800 Centennial Avenue  
Piscataway, New Jersey 08854  
Phone (201) 469-1222



**Pharmacia  
Fine Chemicals**

Circle No. 105 on Readers' Service Card

20 FEBRUARY 1976

**The BAUSCH & LOMB  
Spectronic® 20  
is noted for excellence**



Virtually everyone in the field of spectrophotometry knows and respects it. More than 100,000 are in daily use in labs all over the world and it continues to be the instrument of choice for thousands of new users each year. The reason is that no other spectrophotometer in its price range compares in accuracy, reliability and ease of use.

**Continuing the tradition  
of excellence...**

## The New SPECTRONIC® 21



The Spectronic® 21 series provides continuous wavelength ranges of 200-1000nm, a narrow 10nm spectral slit width, choice of meter and digital readouts, wide sampling versatility, over/under range indicator...and many other unique features.

Spectronic® 20 or Spectronic® 21—choose the one that best fits your specific needs. Whatever your choice, you'll *know* that you selected the spectrophotometer that will enable you to do your analyses with greater accuracy, efficiency, and reliability than any other comparably priced instruments.

We'll be happy, of course, to send you complete descriptions and prices.

**You can see these spectrophotometers and a  
complete line of high performance instrumentation at the  
Pittsburgh Conference, Booths 217-224.**

**BAUSCH & LOMB**

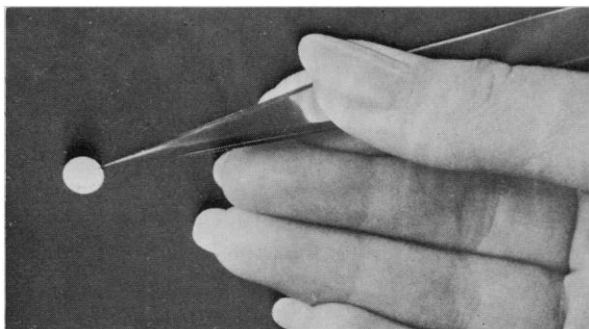
ANALYTICAL SYSTEMS DIVISION



For full details, write Bausch & Lomb, Analytical Systems Division,  
71-02-26 Linden Avenue, Rochester, New York 14625.

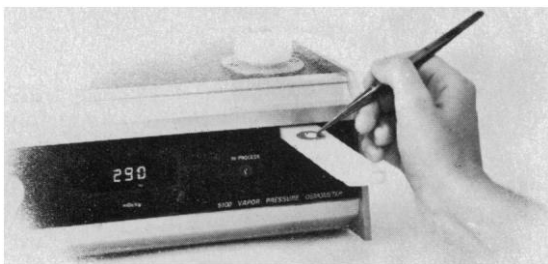
Circle No. 235 on Readers' Service Card

**You're looking at  
the world's  
smallest  
osmolality sample\***



**think of the  
possibilities**

**NOW YOU CAN USE OSMOLALITY  
AS A MONITOR FOR PATIENT  
THERAPY EVEN WHEN SPECIMEN  
VOLUME IS LIMITED, AS IN  
PREMATURE INFANT CARE.**



- No glassware hassle
- Micro-sample, 5ul typ.
- No freezing system required
- Total electronic reliability
- Easy calibration
- $\pm 1\%$  precision
- Lower initial cost
- Lower operating and maintenance costs

\* For Routine Clinical Testing



**WESCOR, INC**

459 South Main Street Logan, Utah 84321 (801) 752-6011

Circle No. 297 on Readers' Service Card

# Antisera

(for immunoassay)

Aldosterone Angiotensin I Angiotensin II Cortisol Deoxycorticosterone Diphenylhydantoin Estradiol Estriol	Estrogen (E <sub>1</sub> /E <sub>2</sub> ) Human Chorionic Somatomammotrophin Human Growth Hormone Insulin Progesterone Prostaglandin F <sub>2α</sub> Testosterone
--	---

Specific lot data, uses, characteristics, bibliography, and storage information included in our technical folder—yours for the asking.

**New England Nuclear**

North Billerica, Mass. 01862  
 Order Entry: 617-482-9595  
 RIA Technical Service: 617-667-2743

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

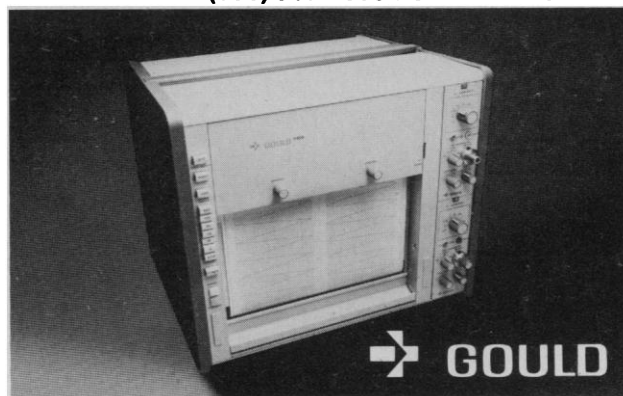
Circle No. 146 on Readers' Service Card

**Facts.**  
**The GOULD/Brush 2400  
 delivers more of them with  
 less fuss, bother and cost  
 than any other oscillograph  
 you can buy.**

And it does it on a wide 100mm channel and at a remarkable 30Hz. Available in 2, 3 and 4 channel models with all the Gould exclusives, of course.

For the full Gould 2400 story, write Gould Inc., Instrument Systems Division, 3631 Perkins Avenue, Cleveland, Ohio 44114. Or Gould Allco S.A., 57 rue St. Sauveur, 91160 Ballainvilliers, France.

**PHONE FREE (800) 648-4990 FOR BROCHURE.**



**GOULD**

Circle No. 169 on Readers' Service Card

# Personnel Placement

Only those employers and individuals who do not discriminate on the basis of race, sex, religion, age, color, or national origin should submit Personnel Placement advertising.

**POSITIONS WANTED:** 40¢ per word; use of Box Number counts as 10 additional words. Minimum charge \$10. Prepayment required. This rate applies to individuals only; personnel agencies, companies, colleges, and universities take display rate for all advertising.

**DISPLAY (POSITIONS OPEN, MARKET PLACE, AND SO FORTH):** \$130 per inch, minimum, per insertion (1 inch is equivalent to 11 lines of 52 spaces each). Ads over 1 inch billed to nearest quarter inch. No charge for Box Number. Rates net. No agency commission allowed for ads under 4 inches. No cash discount. Prepayment required for foreign advertising. Purchase orders and billing information must accompany all other advertising.

COPY for ads must reach SCIENCE by Wednesday, 3-1/2 weeks before issue date (Friday of each week) requested. Send copy for all positions wanted ads and display ads under 5 inches to:

SCIENCE, Room 207  
1515 Massachusetts Ave., NW  
Washington, D.C. 20005

Send copy for display ads, 1/6 page and larger, to:

Scherago Associates, Inc.  
11 West 42nd Street  
New York, N.Y. 10036

BLIND AD replies should be addressed as follows:

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

## POSITIONS WANTED

**Anatomist/Physiologist, Ph.D.** 1968. Seven years of teaching experience (primarily health-related). Also cell biology, microbiology, audiovisual aids development. Desires interesting teaching position in new location. Box 77, SCIENCE. X

**Aquatic Ecologist, Ph.D.** Experience includes 3 years of teaching and research with grants and publications. Taught: limnology, population ecology, general biology. Research: population dynamics of zooplankton, nutrient cycling in lakes. Seeks teaching and/or research position in New England. Box 78, SCIENCE. X

**Biochemist/Molecular Biologist, Ph.D.** (December 1975). Experience: eukaryotic regulation of protein biosynthesis, protein/nucleic acid isolation, tissue culture, and so forth. Seeks postdoctoral training in the biochemistry of early mammalian embryo development. Box 64, SCIENCE. X

**Biometrician, Ph.D.** Experience in statistical consulting, mathematical modeling, biosignal processing, and scientific programming. Seeks new opportunity in biomedical research area of industry, government, or academia. Box 79, SCIENCE. X

**Clinical Biochemist, Ph.D.** Member AACC, Board-eligible. Two years postdoctoral in clinical chemistry. Director chemistry university hospital. Responsible for service, also training of residents and medical technologists. Certified by New York State as lab director in clinical chemistry. Seeks challenging position in hospital, private laboratory, or industry. Box 36, SCIENCE. X

**Clinical Chemist and Instructor, A.A., B.Sc., C(ASCP), CCT (NRCC), F.A.I.C.** Four years of toxicology and public health, 7 years of clinical chemistry in large hospital laboratory. Extensive instrumentation background. Frequent teaching assignments in clinical chemistry, toxicology, and instrumentation. Desires academic or R & D position. New England preferred. 108 Charles Drive (M-2), Bryn Mawr, Pennsylvania 19010. X

## POSITIONS WANTED

**General Biologist, Ph.D.** 1972. Two years of teaching and 4 years of human cytogenetics research experience. Seeks teaching or teaching and research position. Strength in genetics and botany. Box 80, SCIENCE. X

**Physiologist (D.Sc.** 1969). Research related to physiology of thyroid, heart metabolism, and environmental physiology. Experience in radioisotopic techniques. Publications. Undergraduate and graduate teaching. Seeking suitable position. Box 81, SCIENCE. X

**Regulatory Affairs Scientist, Ph.D.** toxicology-pharmacology. Successful record FDA regulatory affairs. Experience Canadian and foreign registrations. Five years director, ethical pharmaceutical company. Twelve years administrative experience in drug and other industries. Box 53, SCIENCE. X

**Science Editor, senior level.** Fully experienced in all aspects, including planning, rewriting, editing, working with printers. Box 73, SCIENCE. X

**Steroid Chemist, Ph.D.,** 12 years of industrial, 10 years of academic experience, seeks responsible academic or industrial position. Box 82, SCIENCE. X

**Virologist/Microbiologist, Ph.D.,** 1970. Seeks teaching and/or administrative position at college or university. Prefers emphasis on excellence in innovative teaching. Current responsibilities at large medical center involve teaching and research. Publications. Box 83, SCIENCE. X

## POSITIONS OPEN

**ANATOMIST,** to teach human gross and neuroanatomy to undergraduates and graduates majoring in applied anatomy, physiology, and health professions, and to develop personal research program attractive to graduate students. Nine-month academic year, starting 1 September 1976. Appreciation for the relevance of basic science to the health professions desired. Applicants should send letters describing current and projected professional activities, curriculum vitae, and list of three references to: **A. J. Godfrey, Department of Health Sciences, Sargent College of Allied Health Professions, Boston University, Boston, Mass. 02215. Affirmative Action/Equal Opportunity Employer.**

**APPLIED PHYSIOLOGIST.** Split appointment in Exercise Physiology Laboratory (Graduate School) and Physical Education Department. Must possess doctoral degree in either physiology, applied physiology, or exercise physiology and a thorough training in basic physiological and biochemical concepts and research techniques. Research experience is required and must be documented. Teaching requirements include a one-half time load in the Physical Education Department. Courses to be taught include exercise physiology, kinesiology, and research methods. For detailed information write: **Dr. Bryant A. Stamford, Director, Exercise Physiology Laboratory, Crawford Gymnasium, University of Louisville, Louisville, Kentucky 40208. An Affirmative Action/Equal Opportunity Employer.**

## ASSISTANT PROFESSOR BIOLOGICAL CHEMISTRY

The Department of Biological Chemistry of the UCLA School of Medicine invites applications from highly qualified individuals with a strong commitment to teaching and to the development of an independent research program. Candidates should be particularly prepared, by previous experience and/or research interests, to teach aspects of intermediary metabolism at levels appropriate to medical, dental, and graduate students. A curriculum vitae, a one-page statement of research interests and plans, and the names of three references should be sent by 10 April to: **Search Committee, Department of Biological Chemistry, School of Medicine, University of California, Los Angeles, California 90024. We are an Equal Opportunity/Affirmative Action Employer. Applications from minority candidates and women are encouraged.**

## POSITIONS OPEN

### ANATOMIST

Junior or senior position in established department available July 1976. Applicants should be anxious to establish vigorous research programs and should be qualified to teach human gross anatomy, histology, embryology, and/or neuroanatomy. Send curriculum vitae to **Dr. Dale E. Bockman, Department of Anatomy, Medical College of Georgia, Augusta, Georgia 30902. An Equal Opportunity/Affirmative Action Employer.**

### ASSISTANT PROFESSORSHIPS

Division of Cell and Molecular Biology  
State University of New York at Buffalo  
Buffalo, N.Y. 14214

In September 1976 we are expecting two additions to the faculty selected from two of the three areas described below. Candidates should have at least 2 to 3 years of postdoctoral experience in their specialty, exhibit promising capability for the establishment of independent research programs, and have ability and enthusiasm to develop undergraduate and graduate courses in their areas.

**Cellular Immunology.** Ph.D. degree and experience in the field of immunology including cell surface antigens, membrane biology, theory of antibody formation, and so forth.

**Molecular Evolution.** Ph.D. degree and experience in comparative studies of protein and nucleic acid structures and their genetic control.

**Protein Synthesis.** Ph.D. degree and experience in the field of protein synthesis, particularly with respect to hormonal control of protein synthesis.

Applicants should provide curriculum vitae, including concise description of their research and teaching background, current interests, and the names of three referees from whom references can be requested. Send materials to: **Dr. O. P. Bahl, Director, 102 Cary Hall.**

*State University of New York at Buffalo is an Equal Opportunity and Affirmative Action Employer.*

### ASSISTANT PROFESSORS

**SYSTEMS ECOLOGIST.** Strong background in vertebrate ecology required. The appointment is for 9 months of the year and will normally include teaching two courses each semester including undergraduate courses in wildlife and fisheries ecology and the development of graduate course work in modeling and analysis of ecological systems. Opportunities for cooperative work with systems ecologists in other natural resource and agricultural fields can be anticipated.

**VERTEBRATE ZOOLOGIST.** Capable of teaching in natural history and systematics of all vertebrate groups. The position includes summer appointment. Applicant must have some experience in natural history research, museum techniques, and fieldwork, and special research interest, including publications, in at least two of the vertebrate groups.

Each appointee will be expected to counsel undergraduate students and direct graduate research. Candidates should hold the Ph.D. degree or equivalent, and should have demonstrated research capabilities. Appointments will begin September 1976 and salaries will depend on experience.

Submit application including curriculum vitae, three letters of recommendation, publications list, and a statement of research plans, prior to 15 April 1976, to: **Dr. James G. Teer, Professor and Head, Department of Wildlife and Fisheries Sciences, Texas A & M University, College Station, Texas 77843.**

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

**ASSISTANT PROFESSOR, BIOENGINEERING.** Preference will be given persons with education, publications and interests in polymers, and biomedical materials. Position will involve both teaching and research. Ability to obtain grant support is essential. Curriculum vitae, three letters of recommendation, list of research publications and description of future research plans should be sent to **Professor John C. Chato, Bioengineering Office, 164 D Mechanical Engineering Building, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801. The University of Illinois is in full compliance with all federal and state non-discrimination and equal opportunity laws, orders and regulations and will not discriminate against any person because of race, color, sex, religion, or national origin in any of its educational programs and activities.**



## POSITIONS OPEN

### ASSISTANT ADJUNCT PROFESSOR OR ASSOCIATE ADJUNCT PROFESSOR

Position available 1 September 1976 in mammalian biochemistry. Research and graduate teaching in comparative metabolism of toxicants relevant to mechanisms of toxicity. Ph.D. required in molecular biology, biochemistry, biochemical pharmacology, biochemical toxicology, or related field with at least 2 years of postdoctoral research experience in these areas. Preference given applicants with pulmonary biochemistry and inhalation toxicology background and published independent work. Opportunity to train graduate students and teach students in College of Medicine. Closing date for applications is 1 April 1976. *Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.* Submit complete curriculum vitae and names of at least three references to **Dr. Ronald C. Shank, Community and Environmental Medicine, College of Medicine, University of California, Irvine, Calif. 92717.**

### ASSISTANT ADJUNCT PROFESSOR (CYTOGENETICS)

Research and graduate teaching position available 1 September 1976, University of California, Irvine. Collaborative research conducting cytogenetic studies in animals exposed to airborne toxins. Ph.D. required in cytology, biochemical genetics, or related fields plus at least 2 years of postdoctoral research including chromosome aberration analysis, mammalian cell culture, preparation of lymphocytes for chromosome analysis. Preference given applicants with pharmacology or inhalation toxicology background and published independent work. Research site at Toxic Hazards Research Unit, Wright-Patterson Air Force Base, Dayton, Ohio. Closing date for applications is 1 April 1976. *Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.* Submit complete curriculum vitae and names of at least three referees to **Dr. Ronald E. Rasmussen, Community and Environmental Medicine, California College of Medicine, University of California, Irvine, Calif. 92717.**

Southern Illinois University at Edwardsville, School of Dental Medicine, invites applications for the following full-time faculty position available 1 July 1976.

#### Assistant Professor in the Department of Anatomy

Applications will be received until 15 May 1976. *The University is an Equal Opportunity Employer. Applications from women and minorities are encouraged.*

Send curriculum vitae to **Dr. Stanley P. Hazen, Dean, Southern Illinois University, School of Dental Medicine, Edwardsville, Illinois 62025.**

**ASSISTANT PROFESSOR—BIOCHEMISTRY.** Applications are solicited from recent Ph.D.'s with postdoctoral experience capable of initiating a strong research program in an area such as neurochemistry, membrane biochemistry, or in vitro carcinogenesis. Applicants should also possess the background, ability, and interest to teach at both graduate and undergraduate level. Submit résumé by 31 March 1976, with transcripts, a detailed research proposal including equipment and supply needs, and the names and addresses of three references, to **Dr. A. James Diefenderfer, Chairman, Department of Chemical Sciences, Old Dominion University, Norfolk, Virginia 23508. An Affirmative Action/Equal Opportunity Employer.**

**DEPARTMENT OF GENETICS.** A position at the level of assistant professor is now available in the Department of Genetics for work at the interface of cell biology, molecular genetics, and human cytogenetics. We are particularly interested in identifying candidates with competence and interest in enzymology, and in DNA structure, and in applying these tools for the deeper understanding of the normal karyotype and of disease states. Research situations for these studies will be available through cooperation with the Department of Pediatrics. The candidate's principal teaching responsibilities will be in connection with interdepartmental programs in the teaching of cell biology and cell physiology, and to cooperate in teaching existing courses in medical genetics. We hope to make the appointment to become effective during the academic year 1976-77. Inquiries for further information, and nominations (preferably with supporting biographical information), should be directed to: **Prof. J. Lederberg, Department of Genetics, Stanford University School of Medicine, Stanford, Calif. 94305. Stanford University is an Equal Opportunity Employer and welcomes nominations of women and minority group members.**

## POSITIONS OPEN

Applications are invited for three positions as **ASSISTANT PROFESSOR** to begin 1 July 1976 in the Department of Anesthesiology, University of North Carolina. Candidates should be Board-eligible or -certified. Duties involve teaching medical students, residents, and fellows in addition to clinical duties. Facilities and time available for research. Send curriculum vitae to **Kenneth Sugioka, M.D., Chairman, Department of Anesthesiology, School of Medicine, The University of North Carolina, Chapel Hill, North Carolina 27514. An Affirmative Action/Equal Opportunity Employer.**

**ASSISTANT PROFESSORS.** We anticipate filling two positions by 15 August 1976. Ph.D. required. We seek applicants with strong backgrounds in some combination of the following areas: social psychology, learning, quantitative methods, and computer applications in behavioral research. Candidates should also be vigorously interested in teaching a general, elementary course. Please send curriculum vitae, letters of recommendation, reprints, preprints, and a statement of research and teaching plans to: **Dr. Neil Bartlett, Search Committee, Department of Psychology, University of Arizona, Tucson, Arizona 85721. University of Arizona is an Equal Opportunity/Affirmative Action Employer. The University of Arizona is required by Title IX of the Educational Amendments of 1972, and implementing regulations, not to discriminate on the basis of sex in any educational program or activity including admissions and employment.**

University of New Brunswick, Department of Biology. It is expected that a position will become available at the **ASSISTANT PROFESSOR** level starting 1 July 1976. Qualifications: candidates should have a Ph.D. in virology with some teaching and research experience. Salary: in the assistant professor range, commensurate with experience. Responsibilities: virology—to teach a one-term course, mainly to science students, in introductory virology and to participate in other courses where appropriate. The successful candidate would be expected to develop a viable research program in his/her own area of specialization. Applications including curriculum vitae and names of three referees should be sent by 15 April 1976 to: **Dr. M. D. B. Burt, Chairman, Department of Biology, University of New Brunswick, Fredericton, New Brunswick, Canada, E3B 5A3.**

### UNIVERSITY OF HOUSTON DEPARTMENT OF BIOLOGY

Assistant professorships in **reproductive physiology, microbial ecology, and medical microbiology** (parasitology training desirable). Appointments effective August 1976. Candidates will be judged on potential for conducting outstanding research and on teaching ability. Send curriculum vitae, transcripts, and at least three references to:

**Dr. Glenn D. Aumann, Chairperson  
Department of Biology  
University of Houston  
3801 Cullen Boulevard  
Houston, Texas 77004**

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

**BOTANY, ASSISTANT PROFESSOR.** Responsibilities for instruction and research in biology of fungi at intermediate and graduate levels, including doctoral study. Service also expected in other areas at elementary level. Applicants should indicate fields of teaching competence in addition to mycology. Send résumé with statement of research interest/experience and arrange for three reference letters by 1 April. Address to **Chairman, Search Committee, Department of Botany, Miami University, Oxford, Ohio 45056. An Equal Opportunity Employer.**

**ASSISTANT PROFESSOR, CELL BIOLOGIST.** Applications are invited for a position for a cell biologist effective August 1976. Candidates must have Ph.D. and strong background in biochemistry. Successful candidate would be expected to teach courses in cell biology and biological chemistry at undergraduate and graduate level and to develop a productive research program. Salary: \$12,000 or above (9 months) depending on qualifications. Send résumé, transcripts, and three letters of recommendation to: **Search Committee, Department of Biology, Wichita State University, Wichita, Kansas 67208. Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### ASSISTANT PROFESSOR IN GEOPHYSICS

Department of Earth Sciences, Northeastern Illinois University, Chicago, invites applications for this position beginning in September 1976. Ph.D. (or significant progress toward the degree) in geophysics is desirable. Candidates with academic/industrial experience in oil or mineral exploration or seismology will be given preference. Responsibilities will include: research, teaching, and developing courses in this area and in geological data processing. Closing date is 15 April 1976. Send résumé with names of three referees to:

**Dr. Mohan K. Sood, Chairman  
Department of Earth Sciences  
Northeastern Illinois University  
Bryn Mawr at St. Louis Avenue  
Chicago, Illinois 60625**

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

Southern Illinois University at Edwardsville, School of Dental Medicine, invites applications for the following full-time faculty position available 1 July 1976:

**Assistant Professor in the Department of Pharmacology.** Teach pharmacology to dental students in an integrated curriculum in a new dental school and carry on research of own choice.

Applications will be received until 1 May 1976. *The University is an Equal Opportunity Employer. Applications from women and minorities are encouraged.*

Send curriculum vitae to **Dr. Stanley P. Hazen, Dean, Southern Illinois University, School of Dental Medicine, Edwardsville, Illinois 62025.**

### DEPARTMENT OF PHYSICS GEORGE MASON UNIVERSITY FAIRFAX, VIRGINIA 22030

Assistant professor, Ph.D. preferred, starting September 1976, teach lecture and labs of elementary physics courses. Expected to be responsible for maintaining and updating elementary physics labs. Please send résumé by 30 March 1976 to **Prof. D. A. Papaconstantopoulos, Department of Physics, George Mason University, Fairfax, Va. 22030. Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT PROFESSOR OF PHYSIOLOGY.** The Department of Physiology, School of Medicine, State University of New York at Buffalo, is seeking an M.D. with postdoctoral training in respiratory physiology, preferably with expertise in the areas of gas exchange and of environmental stress. Previous experience in computer modeling is desirable. Send curriculum vitae, references, and inquiries to **Dr. L. E. Farhi, Department of Physiology, School of Medicine, State University of New York at Buffalo, Buffalo, New York 14214. Telephone: 716-831-2739. An Equal Opportunity/Affirmative Action Employer.**

**ASSOCIATE OR ASSISTANT PROFESSORSHIP IN VETERINARY GROSS ANATOMY** at the University of Illinois. Responsibilities include (i) participation with other faculty members in teaching gross and applied anatomy; (ii) development of a research/graduate training program in candidate's area of interest. Preference will be given applicants with D.V.M. or equivalent degree, or with Ph.D. or equivalent research experience. Teaching experience in anatomy is required. Rank and salary commensurate with qualifications; permanency of position conforms with University of Illinois tenure regulations. Beginning date August 1976 or earlier as may be negotiated. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer and encourages applications from members of minority groups and women.* Applications are invited through 31 March 1976. Contact **Dr. A. H. Safanie, Department of Veterinary Anatomy, Physiology and Pharmacology, College of Veterinary Medicine, University of Illinois, Urbana, Illinois 61801.**

**BIOLOGICAL SCIENCES;** two positions, September 1976. (1) **Anatomist,** Ph.D., to teach functional human anatomy and advanced courses in specialty. (2) **Geneticist,** Ph.D., microbial geneticist preferred, to teach elementary and advanced courses. Research encouraged. Rank: assistant professor or associate professor. Send résumé to: **Dr. Ann Bond, Chairman, Department of Biological Sciences, Chicago State University, 95th Street and King Drive, Chicago, Illinois 60628.**

## POSITIONS OPEN

Zoology Department at Connecticut College has an opening for an **ASSISTANT PROFESSOR** in September 1976. Special competence in comparative physiology and a strong background in invertebrate biology. Teaching duties include courses in invertebrate zoology and comparative physiology. Active research program involving undergraduate students is expected. Send curriculum vitae and three letters of reference to **Dr. Paul Fell, Department of Zoology, Connecticut College, New London, Conn. 06320. Connecticut College is an Equal Opportunity Employer.**

The Marine Laboratory anticipates an opening for an **ASSISTANT RESEARCH SCIENTIST** to do taxonomic studies on **MARINE NEMATODES**. Position is funded by contract research to begin in the summer of 1976. Expected salary is \$14,000 (Ph.D.) for 12 months, with possibility of continuation. Send résumé, transcripts, and three letters of recommendation to:

**Dr. Frank J. S. Maturio, Director**  
University of Florida Marine Laboratory  
313 Bartram West  
Gainesville, Florida 32611

## UNIVERSITY OF VICTORIA

Victoria, B.C., Canada  
Department of Bacteriology and Biochemistry  
Professor or Associate Professor

The University is seeking candidates with a strong academic background and broad experience in teaching and research in microbiology, immunology, or biochemistry. The appointment is effective 1 July 1976. The salary is negotiable and commensurate with rank. The successful candidate will have the opportunity to enter a subsequent competition to appoint a department chairperson effective 1 July 1977.

Applications, including a complete curriculum vitae and the names of three referees, should be sent to the **Chairman, Department of Bacteriology and Biochemistry, University of Victoria, Victoria, British Columbia, Canada, V8W 2Y2.**

## UNIVERSITY OF VICTORIA

Victoria, B.C., Canada  
Department of Bacteriology and Biochemistry

The Department intends to make two visiting or seasonal appointments (rank open) in microbiology and biochemistry effective 1 July 1976. The appointments will be for 1 year in the first instance. The base salary for the rank of assistant professor is currently \$14,400 per annum. The successful candidates will be concerned primarily with undergraduate teaching. Some preference may be given to candidates with research interests in immunology, microbial or biochemical genetics, virology, clinical microbiology, enzymology, assembly of macromolecules and subunit interactions, or regulation and hormone action.

Applications, including a complete curriculum vitae and the names of three references, should be sent to the **Chairman, Department of Bacteriology and Biochemistry, University of Victoria, Victoria, British Columbia, Canada, V8W 2Y2.**

## BIOLOGIST

Coordinate and develop laboratory sections for introductory biology for both science majors and non-majors. Coordinator will be expected to develop lab manual, audio-tutorial materials, and software for computer-assisted instruction for 1500 students per semester in 40 lab sections; to prepare proposals for federal and foundation funding for innovative science education programs; and to demonstrate the ingenuity and imagination equivalent to a first-class research scientist. \$13,000 per academic year, plus 20 percent summer. Start August 1976. Send résumé to: **A. Eisenstark, Director, Division of Biological Sciences, Tucker Hall, University of Missouri, Columbia, Missouri 65201. The University is an Equal Opportunity Institution.**

**BIOLOGIST** with Ph.D. and substantial undergraduate teaching experience, to be appointed at the assistant or associate professor level. Department responsibilities include lab preparation and teaching in comparative anatomy, embryology, microbiology, cell physiology, and sharing general biology in a 2-year rotating curriculum. Applicants must be primarily interested in teaching; publications desirable but not essential to appointment. Rank and salary dependent on experience. Application deadline: 15 March 1976. Washington College is a small liberal arts college of about 800 students and 60 faculty. Send curriculum vitae with list of references to **Dr. Edgar Gwynn, Department of Biology, Washington College, Chestertown, Maryland 21620.**

## POSITIONS OPEN

### BIOSYSTEMATIST

Position for an entomologist with demonstrated interest in systematics of parasitic Hymenoptera. Effective 1 July 1976. Ph.D. in entomology required. Appointment at level of assistant professor of entomology and assistant entomologist in experimental station. Eleven-month appointment, approximately 90 percent research, 10 percent teaching. Activities include development of an independent research program in field of interest, supervision of an established museum of parasitic Hymenoptera in the Division of Biological Control, and teaching a course in insect morphology. Applications accepted until 30 April 1976. Submit curriculum vitae, transcripts, reprints, thesis summary, and names and addresses of five referees to **John D. Pinto, Biosystematist Search Committee, Department of Entomology, University of California, Riverside, Calif. 92502. The University of California is an Equal Opportunity/Affirmative Action Employer. Applications from women and members of minority groups are encouraged.**

### CHAIRMAN, DEPARTMENT OF ANATOMY

University of Pennsylvania School of Medicine  
Philadelphia, Pennsylvania

Please write to the **Chairman of the Search Committee, Dr. Nicholas K. Gonatas, 410 Johnson Pavilion, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania 19174.**

*The University of Pennsylvania is an Equal Opportunity Employer.*

**CHAIRMAN**, Department of Biology. Undergraduate and graduate (master's) programs. Teaching experience and proven research ability as well as earned doctorate.

Applicants should send curriculum vitae and names of three references to **Professor Jules Corbett, Department of Biology, Roosevelt University, 430 South Michigan Avenue, Chicago, Illinois 60605.**

*Roosevelt University is an Equal Opportunity Employer.*

### DEPARTMENT OF PHYSICS UNIVERSITY OF LOUISVILLE LOUISVILLE, KENTUCKY 40208

The Department of Physics invites applications and nominations for the position of **CHAIRPERSON** beginning September 1976. The Department presently includes 11 full-time faculty members and offers degrees through the Ph.D. Areas of research interest (both experimental and theoretical) are solid state physics and materials sciences, atomic and molecular physics, intermediate energy nuclear physics, biophysics, critical phenomena and phase transitions, astrophysics, and acoustics. Candidates must have considerable research experience and qualify for the rank of full professor. The salary is open depending on qualifications. Inquiries should be sent to: **Search Committee, Department of Physics.**

*An Affirmative Action/Equal Opportunity Employer*

### CHEMICAL OCEANOGRAPHER (ASSISTANT/ASSOCIATE PROFESSOR)

The School of Oceanography at Oregon State University announces a position in marine radioecology, trace element chemistry, or pollution chemistry of the oceans. Rank is dependent on qualifications. A Ph.D. in chemistry, chemical oceanography, or a related field plus at least 3 years of experience beyond Ph.D. in marine research and demonstrated ability to obtain research grants is required. Applications will be received until 15 March 1976. Send curriculum vitae, bibliography, statement of interests, and names of three professional references to **John V. Byrne, Dean, School of Oceanography, Oregon State University, Corvallis, Oregon 97331. An Equal Opportunity Employer.**

The Section of Comparative Medicine, Yale University School of Medicine, is offering a faculty position in **COMPARATIVE PATHOLOGY** at the instructor or assistant professor level. Applicants must be veterinarians with advanced training in diagnostic and experimental pathology. Preference will be given to candidates who are Board-eligible or Board-certified. The position involves equally substantial commitments to diagnostic services and to research. Salary will be commensurate with training and experience. Please send inquiries including a résumé to: **Dr. R. O. Jacoby, Section of Comparative Medicine, Yale University School of Medicine, 375 Congress Avenue, New Haven, Conn. 06510. Yale University is an Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### BIOMEDICAL ENGINEER

Excellent opportunity with the Department of Physiology and Biophysics at the West Virginia University Medical Center located in beautiful mountainous area. Job entails the design, construction, and modification of biomedical equipment used for teaching and research. Bachelor's degree in electrical/electronic engineering. Work experience or training in biomedical electronics design. Starting salary based upon training and experience. Send résumé to: **E. J. Podeszwa, Personnel Officer, West Virginia University Medical Center, Morgantown, West Virginia 26506. An Equal Opportunity/Affirmative Action Employer, M/F.**

### TRUDEAU INSTITUTE, INC. SARANAC LAKE, N.Y.

The position of **DIRECTOR** of the Trudeau Institute will become vacant on 1 July 1976. The Institute's present scientific activities concern the immunobiology of infectious diseases and cancer. The Board of Trustees wishes to continue its sponsorship of research in this general area and is seeking a director who has contributed significantly to these or related aspects of immunology. The post of director is tenured and a residence is provided. The Institute is privately endowed. Its well-equipped facilities are located on the wooded shores of Lower Saranac Lake. Applications, with appropriate supporting documents, should be sent to the Chairman of the Search Committee, and be addressed to: **Dr. James G. Hirsch, Rockefeller University, New York, N.Y. 10021.**

*The Trudeau Institute is an Equal Opportunity Employer.*

**COMPREHENSIVE CANCER CENTER DIRECTOR.** Major statewide program needs strong leadership by M.D. or Ph.D. Extensive experience in cancer field, including as principal investigator for significant research or demonstration. Management skill, mature judgment, ability to coordinate activities of multiple medical schools and major health agencies. Excellent opportunity in Chicago-based organization. Salary negotiable. Send curriculum vitae to **S. G. Taylor III, M.D., Illinois Cancer Council, 37 South Wabash Avenue, Chicago, Illinois 60603.**

### DIRECTOR DEPARTMENT OF BIOCHEMISTRY

Applications and nominations are invited for the position of director of the Department of Biochemistry in the Faculty of Medicine at Laval University. The department is responsible for undergraduate and graduate teaching of biochemistry in the medical school and has an active research program. Candidates must possess a Ph.D. or M.D. degree and have an established record of achievement in research and teaching in biochemistry or a closely related area. Fluency in French is a prerequisite. Submit applications, including curriculum vitae, before 31 March 1976, to: **Dr. Jean Couture, Vice-Dean, Faculty of Medicine, Laval University, Quebec 10, Quebec, Canada, G1K 7P4.**

### DIRECTOR CENTER FOR RESEARCH IN ORAL BIOLOGY

Requires established reputation as an investigator in research related to dental health. Must have experience in research program administration. Candidates should be eligible for a professorial-level faculty appointment in a health professional school. Please send notice of interest with curriculum vitae to: **Dr. Maureen Henderson, Assistant Vice President for Health Affairs, Health Sciences Center, University of Washington, Seattle, Wash. 98195.**

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

**EPIDEMIOLOGIST FACULTY:** Academic position for an epidemiologist with strong clinical background to teach chronic and communicable disease courses to graduate and undergraduate public health students, and to develop research activities. Medical or other clinical background with Dr.P.H. or Ph.D. in public health preferred. Salary and professorial rank based upon experience. Send résumé to **Robert W. Tuthill, Ph.D., Chairman, Epidemiology Program Area, Division of Public Health, School of Health Sciences, University of Massachusetts, Amherst, Mass. 01002. An Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### ELECTRON MICROSCOPIST

Assistant professor. Recent Ph.D. in electron microscopy with postdoctoral experience required. To work in a dynamic group involved in research on the exocrine pancreas. Start 1 May 1976 and person has to be bilingual. Postdoctoral positions in biochemistry and physiology also available. Curriculum vitae and names of three referees should be sent to:

**Dr. Jean Morisset**  
Department of Biology  
Sherbrooke University  
Sherbrooke, Quebec, Canada, J1K 2R1

**EPIDEMIOLOGIST:** Seek recent M.D., Ph.D., or equivalent degrees for appointment as assistant professor of epidemiology to begin in 1976-77 academic year. Salary is negotiable within the assistant professor range according to qualifications. Prefer research and teaching experience representative of one or more of the following areas: genetic, occupational, and/or environmental determinants of disease distributions; or development of epidemiological models applicable to acute and/or chronic diseases. *The University is an active Affirmative Action Employer. Minority and women candidates are urged to apply.* Submit curriculum vitae, transcripts, publications, names and addresses of three reference persons, and a brief description stating research and teaching interests to: **Dr. W. C. Reeves, School of Public Health, University of California, Berkeley, California 94720.** Application review will begin 15 April 1976.

The University of Texas at San Antonio seeks applicants for **FACULTY POSITIONS** in bio-organic and bio-inorganic chemistry for September 1976. Active research and instructional expertise required. *The University is an Affirmative Action/Equal Opportunity Employer encouraging applications from all persons.* Send curriculum vitae, reprints, and the names of three referees to: **Dr. B. S. Thyagarajan, Director, Division of Earth and Physical Sciences, The University of Texas at San Antonio, San Antonio, Texas 78285.**

### FACULTY POSITIONS IN MICROBIOLOGY

Candidates are sought for two positions to start 1 September 1976, one in **pathogenesis/immunology** and the other in either **microbial ecology** or **molecular genetics**. Appointments will be at instructor or assistant professor level. Applicants should be capable of teaching undergraduate courses in microbiology and establishing active research programs that involve undergraduates. Applications must be completed by 1 April 1976, and should include curriculum vitae, and three letters of reference. Address correspondence to **Chair, Search Committee, Department of the Biological Sciences, Smith College, Northampton, Mass. 01060.** *An Equal Opportunity/Affirmative Action Employer.*

**FUEL CELL R & D**—Staff and postdoctoral positions involving investigation of hydrogen-air fuel cells with acid, alkaline, solid polymer, molten salt and solid electrolytes, and of methanol-air systems. Work is being carried out in areas of electrocatalysis, preparation of high surface area electrodes, inhibition of loss of electrocatalytic activity due to problems and such as sintering, poisoning, and so forth, selection and evaluation of electrolytes, removal of carbon dioxide, stability of materials, development of a hydroxyl ion transporting electrolyte, accelerated life tests, and regenerative fuel cells. Candidates should have a broad background in fuel cell systems, including one or more of the following fields: electrode kinetics, electrochemical energy conversion, electrochemical engineering, metallurgy, corrosion, solid state chemistry. Send résumé including salary history and a list of publications/patents to: **Dr. S. Srinivasan, Head, Electro-Chemistry Group, Department of Applied Science, Brookhaven National Laboratory, Associated Universities, Inc., Upton, New York 11973.** *An Equal Opportunity Employer, M/F.*

**DEPARTMENT HEAD.** The Department of Chemistry, Northeast Louisiana University, Monroe, Louisiana, seeks a distinguished **chemist** to be its head. Appointment effective 1 July 1976. Applicant must have demonstrated teaching, research, and administrative ability. A specialization in biochemistry is desirable, since chemistry supports a large College of Pharmacy and Allied Health. Salary and rank competitive. Send curriculum vitae with names of references to: **Daniel E. Dupree, Dean, College of Pure and Applied Sciences, Northeast Louisiana University, Monroe, Louisiana 71201.** *Northeast Louisiana University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### FACULTY POSITION

Full-time opening for assistant professor of biology at Loyola Marymount University. Appointment for 1 year, starting 1 September 1976, with possibility of renewal. Areas of specialization sought are: (i) animal or microbial physiology or (ii) embryology. Principal duties include teaching and counseling of undergraduate biology majors. Ph.D. required; previous teaching experience desirable. Salary competitive. Submit curriculum vitae, statement of teaching interests, reprints, and names of three references to: **Dr. Howard Towner, Chairman of the Search Committee, Biology Department, Loyola Marymount University, Loyola Boulevard at West 80 Street, Los Angeles, Calif. 90045.** *An Equal Opportunity/Affirmative Action Employer.*

**IMMUNOLOGIST OR MICROBIOLOGIST** to chair and develop a newly oriented department at the University of Kentucky College of Medicine. The major teaching responsibility of the Department will be in the areas of immunology and microbiology. Applicants must have an active program and strong interests in basic research. Reply to: **Robert L. Lester, Department of Biochemistry, University of Kentucky Medical Center, Lexington, Kentucky 40506.** *The University of Kentucky is an Equal Opportunity/Affirmative Action Employer.*

**INSTRUCTOR FOR AUDIO-TUTORIAL GENERAL BIOLOGY COURSE.** Duties include development and presentation of demonstrations and laboratory materials, supervision of upper-class teaching assistants, and student contact in recitations and independent study sessions. Please send résumé and have transcripts and three letters of recommendation sent to: **Dr. Landon E. Bowers, Chairman, Department of Biology, St. Lawrence University, Canton, New York 13617.** *An Equal Opportunity/Affirmative Action Employer.*

The Department of Pathology of the University of Alabama in Birmingham has openings for faculty at the **INSTRUCTOR AND ASSISTANT PROFESSOR** level. Applicants should have an M.D. degree and be certified by the American Board of Pathology in anatomical or clinical pathology. Research experience is desirable especially in cancer, cardiovascular disease, surgical pathology, or clinical chemistry. Applicants are requested to send a curriculum vitae including all training and publications to: **Chairman, Department of Pathology, University of Alabama in Birmingham, Birmingham, Alabama 35294.**

### MANAGER, GENERAL ADMINISTRATION AND CONTRACTS AND GRANTS

To assist in the administration of the Alabama Marine Environmental Sciences Consortium programs. The Consortium is composed of 18 colleges and universities in Alabama.

Applicant must have experience in academic affairs and University administration. Candidate should have a master's degree in business administration, and a science-oriented bachelor's degree is desirable. Substantial leadership experience in academic, government, or industrial organizations is required.

Knowledge and experience in negotiations with government agencies involving contracts and grants is required. Experience in maintenance and operation of an accounting and budgeting system is mandatory. Familiarity in marine and environmental programs will be helpful.

Salary commensurate with rank and experience. Applications and three letters of reference should be sent to:

**Dr. Sidney D. Upham, Executive Director**  
Marine Environmental Sciences Consortium  
Dauphin Island Sea Lab  
P.O. Box 386  
Dauphin Island, Alabama 36528

**MARINE BOTANIST:** assistant professor, Ph.D., possibly for September 1976. Position involves teaching in the introductory biology course and developing a course(s) in marine botany. Excellent research opportunities exist with facilities located on both coasts of Florida, and an active research program is expected. Qualified applicants should send curriculum vitae, reprints, names of three qualified referees, and a statement of research and teaching interests to: **Dr. T. W. Lucansky, Department of Botany, University of Florida, Gainesville, Florida 32611.**

## POSITIONS OPEN

**MARINE GEOLOGIST, FISHERIES BIOLOGIST, BIOCHEMIST WITH EXPERIENCE IN FOOD ANALYSIS** required by Venezuelan Marine Laboratory. Spanish desirable but not essential. Good experience at M.S. or Ph.D. level required. Must be able to carry independent research. Positions open immediately. Salary negotiable. Interested persons should send curriculum, bibliography, list of references, and any other information to: **Hno. Ginés, Fundación La Salle de Ciencias Naturales, Apdo. 8150, Caracas, Venezuela.**

**MEDICAL COMPUTER SCIENCE** (includes biostatistics and biostatistics), associate/assistant professor level. Position available 1 September 1976. Also 1-year visiting appointment beginning 1 September 1976. Candidates must have a Ph.D. and/or M.D. degree and demonstrated strengths in research, teaching, and consulting with the ability to solve applied problems as a member of an interdisciplinary team. Preference will be given to candidates with publications in at least two of the above disciplines. In addition to medical school responsibilities, duties include participation in a vigorous, developing mathematical sciences Ph.D. program. Salary commensurate with qualifications. By 1 April 1976, send curriculum vitae, recent reprints, and names and addresses of at least three references to: **Personnel Department, c/o H.A., University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235.** *An Affirmative Action/Equal Opportunity Employer.*

**MEMBRANE RESEARCH ASSOCIATE** position available immediately.

Research involves the study of bilayer lipid membranes and related areas (bioenergetics, photosynthesis, vision, immunochemistry, membrane-associated phenomena). Send résumé and letters of recommendation to: **Diane Bentz, Assistant, BLM Research Laboratory, Department of Biophysics, Michigan State University, East Lansing, Mich. 48824.**

### ORGANIC MARINE CHEMIST

The Rosenstiel School of Marine and Atmospheric Science of the University of Miami is seeking candidates for a position as assistant or associate professor in the chemical oceanography division. Teaching and research duties in the general area of organic compounds in marine systems. Send curriculum vitae and names of references to:

**Chairman, Division of Chemical Oceanography**  
Rosenstiel School of Marine and Atmospheric Sciences  
University of Miami  
4600 Rickenbacker Causeway  
Miami, Florida 33149

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

### OVERSEAS OPPORTUNITIES

Smithsonian Institution—Peace Corps Environmental Program seeks scientists to serve in natural resource and environmental programs as Peace Corps volunteers. Professional level availabilities in forestry, fisheries and marine science, entomology, biology, botany and plant pathology, ecology, wildlife biology, park planning and management, soil science and range management. Write to **Smithsonian—Peace Corps Environmental Program, Dept. S-2, Smithsonian Institution, Washington, D.C. 20560.**

Additional **POSITIONS** available in expanding medical school:

**Anatomy Department—assistant professor**  
**Pharmacology Department—assistant professor**  
**Physiology Department—associate professor/ professor**

Applicants should have postdoctoral experience, teaching ability and the capability of pursuing scholarly research. Initial inquiry with curriculum vitae should be sent to the **Chairman of the appropriate Department.**

**School of Medicine**  
**East Carolina University**  
**Greenville, N.C. 27834**

*An Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION.** Available immediately or as soon as possible. Exciting and unique position involving protein and peptide sequencing as well as nucleic acid enzymology. Experience in biochemical techniques essential. Stipend is \$10,000. Send curriculum vitae to **Dr. Marvin H. Caruthers, Department of Chemistry, University of Colorado, Boulder, Colorado 80309.** *Equal Opportunity/Affirmative Action Employer.*



# DIRECTOR of ENVIRONMENTAL RELATIONS

## SAN FRANCISCO BAY AREA

Corporate growth and expansion have created an excellent opportunity for an Environmentalist to join the Corporate staff of our International Fortune 500 Company, headquartered in SAN FRANCISCO.

You will have primary responsibility for developing and implementing Corporate programs dealing with EPA/OSHA/Consumer complaints and other state and federal compliance programs. You will develop and implement programs that assure the Corporation of compliance. The professional we seek will have a BS in Engineering or the Sciences with an MS in Environmental Sciences—MBA highly desirable. You should have at least 5 years in direct environmental matters and in-depth experience with regulatory agencies required. Must be able to interface with many inter-company departments.

This career position offers an attractive salary and an excellent opportunity for personal and professional growth. If you would like to pursue this situation, please communicate a complete profile of your qualifications with salary history, in full confidence, to Box 76, SCIENCE.

An equal opportunity employer M/F

### Basic Principles of THERAPEUTIC DRUG MONITORING

March 28 to April 1, 1976

at

Callaway Gardens, Pine Mountain, Ga.

Biotransformations, pharmacogenetics, pharmacokinetics, and the laboratory in therapeutic drug monitoring will be presented in a conference for scientists and physicians. Organized by Irving Sunshine, the conference will be lead by James R. Gillette, Elliot Vesell, John G. Wagner, Harvey M. Solomon and ten other experts. See CLINICAL CHEMISTRY, 21, 1696-8 (1975) for details. A limited number of reservations may be made by calling W. G. Trawick at 404-658-3120.

This is the 2nd  
PINE MOUNTAIN CONFERENCE  
of the  
AMERICAN ASSOCIATION  
for  
CLINICAL CHEMISTRY



## STATE OF KUWAIT KUWAIT UNIVERSITY School of Medicine

Applications are invited for the posts of professors, assistant professors and lecturers in biochemistry, pharmacology, physiology, microbiology, anatomy, pathology and community medicine. The school will open in September 1976 with an intake of 40 pre-medical students. Preclinical teaching will begin in fall 1978. Instruction will be in English. Since successful applicants will be involved in the planning and the development of curriculum, evaluation system and the establishment of research programs in basic sciences, recruitment is sought for September 1976 or 1977.

### Conditions of appointment:

- 1) Applicants must have a Ph.D. degree, American or Canadian Board certification, or the equivalent, holders of an academic post in an accredited medical school or research center, with proven teaching and research experience. Assigned ranks would depend on qualifications and record.
- 2) Monthly basic salaries (in Kuwait dinars: 1 K.D. = \$3.45 approximately). Professor: 360-420 K.D.; Assistant professor: 300-360 K.D.; Lecturer: 240-300 K.D. Faculty members receive a professional allowance of 60% of basic salary for professors and 40% for others; a transportation monthly allowance of 30 K.D. for professors and assistant professors and 25 K.D. for lecturers; and an inflation monthly allowance of 72 K.D. regardless of rank. Up to six annual raises are also granted.
- 3) A gratuity of one month's basic salary for each year of employment, payable on termination of contract, is provided. A pension scheme for long-term employees is under consideration.
- 4) Suitably-furnished and air-conditioned residence with all utilities is provided by the University.
- 5) Free comprehensive health care is available under Kuwait Health Service.
- 6) Travel: Airline tickets are provided for the appointee, spouse and three children under 20 years, upon appointment and on termination, from and back to the country of recruitment. During his/her employment with the University, annual travel tickets to the country of origin are issued to the appointee and above mentioned dependents. A baggage and freight allowance are also provided upon appointment and termination.
- 7) Paid vacations: two months every summer and two weeks in mid-year.
- 8) Education: public schools (where instruction is in Arabic) are free. Those who have to send their children to the American school in Kuwait will have the cost met by the University.
- 9) Scientific meetings: up to two meetings per year with travel allowance.
- 10) There is no income tax in Kuwait and currency is freely transferable.

Please send complete curriculum vitae and names of three references before 8 March to the following address where further information can be obtained.

**Dr. Aly Nahas**  
Advisor to Kuwait Medical School  
Box 607, University of Rochester Medical Center  
601 Elmwood Avenue  
Rochester, N.Y. 14642  
Telephone: 716-275-2769

## POSITIONS OPEN

**PHARMACOLOGIST** (D.D.S., Ph.D., or Ph.D.): The Department of Oral Biology, College of Dentistry, University of Kentucky, invites applications for a full-time pharmacologist. Opportunity for teaching, research, and service in a modern, progressive, Medical Center environment. Address replies, including a curriculum vitae, to **Dr. Gerald I. Roth, Chairman, Department of Oral Biology, College of Dentistry, University of Kentucky, Lexington, Kentucky 40506. The University of Kentucky is an Affirmative Action/Equal Opportunity Employer.**

## POSTDOCTORAL POSITION

Postdoctoral position is available immediately for a period of up to 3 years for training in research on cell surface receptors for melanocyte stimulating hormone. Send curriculum vitae, list of publications, and three letters of recommendation to: **Dr. J. M. Varga, Department of Dermatology, Yale University School of Medicine, 333 Cedar Street, New Haven, Connecticut 06510.**

**POSTDOCTORAL POSITION** available immediately for research on chromosome replication, plasmid replication, or cell division in *Escherichia coli*. Send curriculum vitae, description of research interests, and references to: **Dr. C. E. Helmstetter, Department of Experimental Biology, Roswell Park Memorial Institute, Buffalo, New York 14263. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available immediately for physical chemist or equivalent to study drug interactions using NMR. Experience with the use of FT-NMR in biological systems is required. Submit résumé and letters of reference to **Dr. A. Makriyannis, Department of Medicinal Chemistry, U-92, University of Connecticut, Storrs, Connecticut 06268**, by 15 March 1976. *An Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** immediately available for cell immunologist to develop program of immunological characterization of cell subpopulations separated by electrophoresis. Expertise in laboratory techniques essential. Please write to **Dr. M. Bier, Veterans Administration Hospital, Tucson, Arizona 85723. An Equal Opportunity/Affirmative Action Employer. In compliance with Title IX regulations, the University of Arizona does not discriminate in employment or admissions on the basis of sex.**

## POSTDOCTORAL RESEARCH ASSOCIATE

A position is available for research on the biochemistry and physiology of mammalian protein hormones. Background in protein chemistry is essential and knowledge of reproductive endocrinology is desirable. Send curriculum vitae and three letters of recommendation to: **Dr. Frank Talamantes, Thimann Laboratories, University of California, Santa Cruz, Calif. 95064.**

## RADIOIMMUNOASSAY

We are developing a Center for Research in Reproductive Biology in conjunction with the University of Texas Health Science Center at San Antonio. We are seeking a scientist with proven abilities in the development of radioimmunoassay procedures to supervise our existing facilities. The person chosen will be capable of and expected to conduct both collaborative and independent research. A senior staff appointment at this institution and a corresponding faculty appointment at the Health Science Center are planned. Salary and titles are open. Applications, including curriculum vitae, references, and bibliography, should be addressed to **Personnel Manager, Southwest Foundation For Research and Education, P.O. Box 28147, San Antonio, Texas 78284. We are an Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSOCIATE** to pursue research into the mechanisms of anesthesia. Must have Ph.D. in physical chemistry, biochemistry, pharmacology, neurophysiology, or equivalent. Experience in membrane physiology/pharmacology is desirable. Starting salary range \$13,000 to \$17,000 plus benefits. Position open summer-fall 1976. Please send curriculum vitae with references to **Dr. Edmond Eger, Department of Anesthesia, 1386 HSE, University of California, San Francisco, Calif. 94143. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE

Ph.D. with strong background in protein chemistry to participate in program on structure and metabolism of mammalian fibrinogen and related proteins. Additional experience in biophysics, immunochemistry, and/or radioisotopic techniques useful. Applicants must be capable of independent and imaginative investigation. Available after 1 April 1976; salary (to \$16,000) commensurate with qualifications. Send curriculum vitae (and reprints), statement of professional interest, and two letters of recommendation to: **Dr. Michael W. Mosseson, Department of Medicine, State University of New York, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, N.Y. 11203. Equal Opportunity/Affirmative Action Employer.**

The Department of Microbiology and Immunology invites nominations and applications for a **SENIOR FACULTY POSITION IN IMMUNOLOGY**. We are seeking an outstanding immunologist to head a section of immunology within the department, and to further strengthen existing ties with immunologists in diverse departments within the University community. The candidate will be expected to provide leadership for a vigorous program of research and teaching. It is essential that the candidate have a record of excellence in immunological research, preferably in the area of T and B lymphocytes, with publications in highly selective journals. The position will be available 1 July 1977 or earlier; salary is dependent on the qualifications of the applicant. Qualified applicants should contact **Nancy N. Pearsall, Ph.D., Chairman, Search Committee, Department of Microbiology and Immunology, School of Medicine, University of Washington, Seattle, Washington 98195.**

*An Equal Opportunity/Affirmative Action Employer*

## UNIVERSITY OF RHODESIA

### Division of Biological Sciences

### SENIOR LECTURESHIP/LECTURESHIP IN TROPICAL ECOLOGY

Applications are invited for the above post. The successful applicant will be required to organize the botanical aspects of a postgraduate course in tropical resource ecology. Special consideration will be given to applicants who have special interests and training in the ecosystems approach and quantitative techniques, or who have experience in African vegetation and its utilization by wildlife.

#### Salary Scales:

Senior Lecturer: US\$14,023 × 564 – US\$18,535.  
Lecturer Grade I: US\$12,748 × 481 – US\$14,672.  
Lecturer Grade II: US\$7,857 × 418 – US\$9,947 × 481 – US\$12,352.

**Conditions:** permanent, short-term and secondment appointments available. Family passages and allowance for transport of effects on appointment. Installation loan of up to half of 1 year's salary if required. Unfurnished University accommodation guaranteed for a period of at least 3 years for persons recruited from outside Rhodesia. Sabbatical, and triennial visits with travel allowance. Superannuation and medical aid schemes.

**Applications:** (six copies) giving full personal particulars (including full names, place and date of birth, and so forth), qualifications, experience and publications, and naming three referees, should be submitted by 31 March 1976 to the Assistant Registrar (Science), University of Rhodesia, P.O. Box MP 167, Mount Pleasant, Salisbury, Rhodesia, from whom further particulars may be obtained. Applicants from outside Southern Africa should send a copy of their application to the Assistant Secretary (Appointments), Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, England.

## VASCULAR PLANT ECOLOGIST

Assistant professorship available August 1976. Applicants expected to have Ph.D. degree requirements completed. Postgraduate teaching and/or research experience desirable. Candidates should be prepared to develop a viable research program and direct graduate student research in plant ecology. Teaching duties will include general biology, botany, and ecology. Send curriculum vitae, reprints, and three letters of recommendation to:

**Dr. G. T. Cowley  
Chairman of Faculty Search Committee  
Department of Biology  
The University of South Carolina  
Columbia, S.C. 29208**

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

Positions for undergraduate **RESEARCH ASSISTANTS** in tectonophysics and earthquake seismology are available for summer 1976. Physical sciences-mathematics background expected, geology-geophysics not required. Send letter of application, résumé, transcripts, and names of two references to **Dr. Donald W. Forsyth, Lamont-Doherty Geological Observatory of Columbia University, Palisades, N.Y. 10964. An Equal Opportunity Employer.**

## SYSTEMS ECOLOGIST

Requires Ph.D. or M.S. degree with 3 years of experience with ecosystem modeling and with statistical procedures and techniques employed in fisheries biology programs. The position involves modeling of marine ecosystems, design of sampling programs in marine ecology, and analysis of data derived from these studies. Salary is open, depending on experience, plus benefits, and position is available immediately. Send résumé to **Dr. Charles W. Townley, William F. Clapp Laboratories, P.O. Box AH, Duxbury, Mass. 02332.**

**ZOOLOGIST** to serve as assistant professor beginning 1 September 1976. Seek Ph.D. with primary interest in invertebrate zoology to teach general zoology to freshmen and one advanced course in their specialty area, while sustaining active research program in which undergraduates will become involved. Send résumé by 20 April to **Dr. Frank J. Rice, Chairman, Biology Department, Fairfield University, Fairfield, Conn. 06430. Fairfield University is an Affirmative Action/Equal Opportunity Employer. Male/Female.**

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIP IN PLANT BIOCHEMISTRY

Position involves initiation of binding studies with high specific activity plant hormone. One-year appointment with renewal possible. Available immediately. Send résumé to **Dr. Daniel C. Walton, State University of New York College of Environmental Science and Forestry, Syracuse, N.Y. 13210.**

*An Affirmative Action Employer*

**POSTDOCTORAL RESEARCH FELLOWSHIP** for recent graduate with Ph.D. in biochemistry, microbiology, immunology, or pharmacology to study the biology of the intestinal microflora with particular emphasis on its role in drug metabolism and carcinogenesis. Stipend will follow NIH Fellowship guidelines. Contact **Dr. Peter Goldman, Department of Pharmacology, Harvard Medical School, Boston, Mass. 02115. Affirmative Action/Equal Opportunity Employer. Minority or women candidates are encouraged to apply.**

## POSTDOCTORAL FELLOWSHIPS IN CANCER IMMUNOLOGY

Two fellowships, \$12,000 each, sponsored by United Order True Sisters, to conduct research at the Basic Research Program, Frederick Cancer Research Center, on the biology of carcinogenesis and the immunobiology of neoplasia. Major areas of current activity: (i) Biochemistry and Ultrastructure of Tumor Cell Surfaces, (ii) Biology of Metastasis, (iii) Host-Tumor Interaction, (iv) Immunobiology of Viral Carcinogenesis, (v) Immunobiology of Chemical and Physical Carcinogenesis, and (vi) Molecular Genetics. Fellows full-time in research and administratively affiliated with Hood College. Completed applications must be received by 1 April 1976 to be considered for appointment effective July or September 1976. Application forms may be obtained from **Dr. M. G. Hanna, Jr., Director of Basic Research, Frederick Cancer Research Center, P.O. Box B, Frederick, Maryland 21701.**

*Equal Opportunity Institutions, M/F*

## GRANTS and CONTRACTS ADMINISTRATOR

Applications are invited for the position of

**GRANTS and CONTRACTS ADMINISTRATOR**

at the University of Massachusetts

**MEDICAL SCHOOL**

The applicant must be familiar with biomedical research and operations of federal and private granting agencies, and will be expected to assist faculty in obtaining appropriate support for training and research programs. Administrative experience is desirable.

**Send curriculum vitae and references to:**

Dr. H. Maurice Goodman  
University of Massachusetts  
Medical School  
55 Lake Ave. N.  
Worcester, Mass. 01605

An equal opportunity/affirmative action employer

## ANNOUNCEMENT

**The Houston Neurological Symposium**

**March 11-13, 1976**

**"Basic and Clinical Aspects of Neurotransmitter Function"**

### Topics Include:

Basic Aspects of Transmitter Events at the Synapse.

Transmitter's as Related to Movement Disorders and Behavioral Disorders.

### Sponsored by:

The University of Texas  
Health Science Center at Houston  
Medical School  
Interdepartmental Neuroscience Program

Registration Fee: \$80

Interns and Residents: \$50

Marriott Motor Hotel  
Houston, Texas

For further information please write to:

Dr. William S. Fields  
Department of Neurology  
The University of Texas Medical School at Houston  
Health Science Center  
P. O. Box 20708  
Houston, Texas 77025

Predoctoral fellowships in Immunology and Microbiology: A number of state graduate stipends (\$3960 per annum) are available for highly qualified applicants for study leading to the Ph.D. in immunology, virology, and microbiology. For information write to Dr. H. H. Fudenberg, Professor and Chairman, Department of Basic and Clinical Immunology and Microbiology, Medical University of South Carolina, Charleston, SC 29401. An Equal Opportunity Employer.

## RESEARCH ELECTRON MICROSCOPIST

A new position is now available in the Pathology Laboratories of our Toxicology Department. The position requires a Ph.D. with experience in transmission electron microscopy and in the toxicity, carcinogenicity, and so forth of chemical compounds in mammalian tissues (primarily liver and kidney).

The successful candidate should be a morphologist with some background or interest in biochemistry or pathology. Any level of familiarity with histopathological techniques such as autoradiography, enzyme histochemistry, electron probe x-ray microanalysis, and/or photomicrography would be desirable. This individual will be responsible for the day-to-day operation of a soon to be completed, fully equipped electron microscope laboratory. Professional duties will include experimental design, data interpretation, report writing, and some routine examination of microscopic slides from animal toxicity studies.

We are one of the fastest-growing pharmaceutical companies in the United States. Our new, campuslike research laboratories are located in an attractive suburban area of central New Jersey. Send curriculum vitae with current earnings to: **Manager, Professional Employment, Hoechst-Roussel Pharmaceuticals Inc., Route 202-206 North, Somerville, N.J. 08876.**



**Hoechst-Roussel  
Pharmaceuticals Inc.  
Route 202-206 North  
Somerville, N.J. 08876**

*An Equal Opportunity Employer (M/F)*

## THE UNIVERSITY of MASSACHUSETTS

*Invites Applications For*

### VICE CHANCELLOR for HEALTH AFFAIRS VICE CHANCELLOR for ADMINISTRATION and FINANCE

The University of Massachusetts Medical School and Teaching Hospital situated at Worcester is the first such state facility located in Massachusetts. As part of the University of Massachusetts system, the School has graduated two classes and reached its maximum class enrollment in 1975. The teaching hospital opened in January, 1976 with a limited initial bed capacity. Full capacity is 408 beds and will be realized in the next few years.

VICE CHANCELLOR for HEALTH AFFAIRS is a newly created post reporting directly to the Chancellor. As the senior health care advisor to the Chancellor on crucial health policy studies and issues, the Vice Chancellor develops and directs programs to effectively integrate campus healthcare delivery system components. The Vice Chancellor develops and ultimately will direct continuing education efforts in all health professions and oversees and coordinates the relationships between the Worcester medical complex and local, state, regional and national health care agencies. Desirable qualifications include a Medical Degree, considerable government and medical school experience and in-depth knowledge of health policy matters.

The VICE CHANCELLOR for ADMINISTRATION and FINANCE also is a newly created position reporting directly to the Chancellor of the medical complex. As senior administrative and business officer, the Vice Chancellor plans, organizes and directs the overall administrative function of the Worcester campus. This includes responsibility for such areas as budget, fiscal services, purchasing, personnel and labor relations, maintenance and security. Desirable qualifications include at least 5 years' experience in administrative and financial affairs, preferably in a university or hospital environment, and an advanced business related degree.

*Applications and support materials should be received by February 24th and should be addressed to: Chancellor, University of Massachusetts at Worcester, 55 Lake Avenue, North, Worcester, MA 01605.*

The University of Massachusetts is an equal opportunity/affirmative action employer M/F.



---

## FELLOWSHIPS

---

**POSTDOCTORAL FELLOWSHIPS** are available for research at all levels of the visual process from insect visual systems to human vision. Emphasis is placed on analysis of biological systems by application of the techniques of nonlinear analysis, control and communication theory, and computer data processing. Applicants should have experience in these areas. Curriculum vitae should be sent to: **Dr. G. D. McCann or Dr. D. H. Fender, Mail Code 286-80, California Institute of Technology, Pasadena, Calif. 91125**, starting in January 1976. *Equal Opportunity/Affirmative Action Employer.*

California Institute of Technology invites applications for a **POSTDOCTORAL RESEARCH FELLOWSHIP** currently available in earthquake seismology with concern for earthquake prediction.

Research fellowships in geology, general geophysics, geochemistry, geobiology, and planetary science are also available from time to time. Interested persons are asked to contact the **Chairman, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California 91125**. *An Equal Opportunity Employer.*

### POSTDOCTORAL FELLOWSHIP IN DEVELOPMENTAL NEUROBIOLOGY

Applications are invited from persons with the Ph.D. or M.D. degree for research training in methods dealing with the postnatal development of the nervous system and behavior in animals. Multidisciplinary research is concerned with normative studies of neurobiological development and the effects of various experimental and environmental treatments on the maturation of brain and behavior. Send résumé and references to **Dr. Joseph Altman, Laboratory of Developmental Neurobiology, Department of Biological Sciences, Purdue University, West Lafayette, Indiana 47907**.

*An Equal Opportunity Employer*

### FELLOWSHIPS IN HEALTH COMPUTER SCIENCES

Predoctoral and postdoctoral fellowships for training in the application of computers to health services and other health-related fields are available starting 1 July 1976. Candidates should have completed an undergraduate degree and have knowledge of and interest in health computer sciences. Postdoctoral candidates in addition should have either an M.D. degree (training may be combined with a clinical residency) or a Ph.D. degree in the natural or physical sciences. Send inquiries and applications to **Dr. Lynda Ellis, Box 511 Mayo Building, University of Minnesota Medical School, Minneapolis, Minn. 55455**.

*An Equal Opportunity/Affirmative Action Employer*

---

## INSTITUTE

---

### NATO ADVANCED STUDY INSTITUTE "MOLECULAR AND CELLULAR ASPECTS OF ALLERGY" 6 TO 18 JUNE 1976

To be held at Falcon Lake, Manitoba, Canada. Program consists of lectures in the mornings and evenings by international faculty; informal discussions and recreation in the afternoons. Fee: \$100. Accommodation and all meals: \$32 per diem (double or triple occupancy); \$40 (single). Some grants available for deserving young scientists.

**Participation limited to 80. Deadline for receipt of applications: 16 April 1976.**

Application forms and information are available from **Professor A. Sehon, Director of the Institute, Department of Immunology, Faculty of Medicine, University of Manitoba, Winnipeg, Manitoba, Canada, R3E 0W3**.

---

## COURSES

---

### MARINE SCIENCE DUKE UNIVERSITY MARINE LABORATORY

**Summer Courses**—Graduate/Advanced Undergraduate. 14 June: marine ecology, invertebrate embryology, phytoplankton systematics, physiological ecology, chemical oceanography, marine physiology, electrobiology. 19 July: invertebrate zoology, environmental oceanography, microbiology, geological oceanography, comparative biochemistry, biological oceanography. Write **Director, Duke University Marine Laboratory, Beaufort, North Carolina 28516**.

---

## GRADUATE STUDY

---

### DOCTORAL PROGRAM IN PROBLEMS OF TECHNOLOGY AND PUBLIC POLICY

The Program in Engineering and Public Affairs at Carnegie-Mellon University offers an interdisciplinary research-oriented Ph.D. in technology/society problems for persons with an undergraduate degree in engineering or the mathematical or physical sciences. Persons with more advanced training or experience are also welcome. Financial support available. For additional information contact **Professor M. Granger Morgan, Graduate Coordinator for Engineering and Public Affairs, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213**.

### GRADUATE STUDY IN BIOLOGY AND MICROBIOLOGY T. H. MORGAN SCHOOL OF BIOLOGICAL SCIENCES

Applications are invited for enrollment in the graduate program in biology or microbiology (M.S. and Ph.D. programs available). Excellent facilities, flexible programs, enthusiastic faculty with expertise in a variety of specialties. Research fellowships and teaching assistantships available.

For information and application forms write to: **Director, T. H. Morgan School of Biological Sciences, University of Kentucky, Lexington, Kentucky 40506**. *An Equal Opportunity/Affirmative Action Employer.*

### PREDOCTORAL RESEARCH POSITION UNIVERSITY OF MAINE AND VETERANS ADMINISTRATION TOGUS, MAINE

Position available for studies of biochemistry and physiology of peptic ulcer in humans and with an animal model. Studies lead toward a Ph.D. in animal nutrition. Send letters of inquiry to: **Dr. Robert C. Bayer, Department of Animal and Veterinary Sciences, University of Maine at Orono, Orono, Maine 04473**.

---

## COLLOQUIUM

---

### NASA COLLOQUIUM ON BIOPROCESSING IN SPACE 10 TO 12 MARCH 1976 JOHNSON SPACE CENTER, HOUSTON, TEXAS

The National Aeronautics and Space Administration will sponsor a 3-day colloquium on the current efforts and potential research areas related to the manufacture or processing of biological materials in space. The program will include a description of (i) materials behavior in a weightless environment, (ii) research facilities and opportunities for flight onboard the Space Shuttle and Spacelab, (iii) results of pertinent experiments conducted in space, and (iv) potential research and industrial applications of the space environment. Workshops in related biological and biomedical areas will be conducted. For additional information, contact:

**Dennis R. Morrison, Ph.D.  
NASA-Johnson Space Center/Code DF2  
Houston, Texas 77058  
Telephone: 713-483-2031**

---

## PROGRAMS

---

### TUTORIAL PROGRAM

Students will be accepted into a tutorial program in Comparative Biology and Biochemistry of Algae scheduled from 21 June to 24 August 1976 at the **Marine Biological Laboratory, Woods Hole, Mass. 02543**, to acquaint them with the organisms and the types of questions they can be used to answer. A series of coordinated seminars by experts in algal physiology, biochemistry, genetics, development, ecology, macro-, micro-, and molecular morphology, and related subjects with evolution serving as the unifying concept serves to introduce problems of current importance and future potential while the laboratory provides lectures, projects, and field experience in the taxonomy, morphology, and ecology of algal groups, enrichment of microalgae, and experimental work on the physiology, biochemistry, and development of individual organisms. Several scholarships will be awarded based on talent and need. Catalogs and applications can be obtained from Marine Biological Laboratory (address above) and should be returned to the Laboratory, together with supporting materials, by 15 March 1976.

---

## PROGRAMS

---

### SUMMER TRAINING PROGRAM

The Worcester Foundation for Experimental Biology is seeking a limited number of qualified college students to participate in its Summer Training Program to be held from 9 June through 14 August 1976. Applicants must have completed at least 2 years of college work, have an overall grade point of "B" or better, have had at least three courses in either the life or natural sciences or in both and be interested in basic research. Please have three present or former professors write directly to us concerning you and send your résumé and official transcript of college courses no later than 15 April 1976 to: **Dr. Ashton Gibbons, Director of Summer Training Programs, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Massachusetts 01545**.

*An Equal Opportunity/Affirmative Action Employer*

### JOINT Ph.D. PROGRAM IN THE BIOMEDICAL SCIENCES

Applications are being accepted from students interested in obtaining a Ph.D. degree in the biomedical sciences. Clark University, Worcester Polytechnic Institute, and the Worcester Foundation for Experimental Biology have initiated a Joint Ph.D. Program in the Biomedical Sciences for the exceptional, self-motivated student, who is capable of accelerated study. This novel Ph.D. program will accord special consideration to those students who have a clearly defined research objective and have exhibited evidence of prior research achievement. It is expected that all applicants will have a substantial background in the natural sciences so as to enable the initiation of full-fledged research immediately. Specific areas of research include: (i) cellular and molecular biology, with emphasis on membranology, nucleic acids, and virology; (ii) neurobiology and behavioral sciences; (iii) endocrinology and reproductive biology; and (iv) systems and integrative biology (including physiology and biomathematics). For additional information write: **Dr. Ronald Luftig, Chairperson, Ph.D. Admissions Committee, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545**.

*AN EQUAL EMPLOYMENT OPPORTUNITY/  
AFFIRMATIVE ACTION EMPLOYER*

### DIET, NUTRITION AND CANCER PROGRAM

The National Cancer Institute has developed a Diet, Nutrition and Cancer Program in response to a mandate in the 1974 Amendments to the National Cancer Act. The program is oriented to developing and disseminating information on the relationship of diet and nutrition to the cancer etiology and therapy and subsequent rehabilitation of the cancer patient. Funded research will be both targeted and of a basic nature and will be implemented through the contract and Cancer Research Emphasis Grants mechanisms. A coordinated multidisciplinary approach is to be utilized. Proposed research includes animal, laboratory, and human studies.

For detailed information on the program and forthcoming projects, contact: **Dr. Gio B. Gori, Deputy Director, Division of Cancer Cause and Prevention, National Cancer Institute, Building 31, Room 11A03, Bethesda, Md. 20014**.

---

## MARKET PLACE

---

### QUESTION: WHAT IS A SCIENTIST?

Dr. Benjamin Franklin may have known in 1776. Founder of Philadelphia's prestigious University of Pennsylvania, Dr. Franklin knows now (1976).

*An Epistle to Dr. Benjamin Franklin*

Published by Exposition-University Press, an autographed copy (\$4.75 postpaid) may be obtained from the author: **G. Arthur Mihram, Ph.D., Post Office Box 234, Haverford, Pa. 19041**.

### GLASSBLOWING TOOLS AND EQUIPMENT

- |                       |                    |
|-----------------------|--------------------|
| * Glassworking Lathes | * Didymium Glasses |
| * Hand Torches        | * Cut-Off Machines |
| * Glassblowing Kits   | * Bench Burners    |

**WALE APPARATUS Company**

400 FRONT STREET • HELLERTOWN, PA. 18055

Circle No. 218 on Readers' Service Card



## The SEM for people who can't afford options

### ... the no-nonsense instrument for quality control and materials analysis.

The Balscan Scanning Electron Microscope offers all the most wanted features of high-cost research instruments plus several exclusive Bausch & Lomb features found on no other SEM. Check the list below and compare. You'll find Balscan the best buy for your money.

**TV-rate Scanning**—A Balplan Exclusive (Standard)—gives you the "No Flicker" green phosphor image which prevents eye strain during long periods of viewing. A big 11" display allows several people to view the specimen simultaneously under normal viewing conditions. You can also make video tape recordings and hook up additional TV display up to any area.

**Specific Feature Selector**—A Balplan Exclusive (Standard)—you can select a point of interest for viewing and photographing at continuously increasing magnification without moving the specimen. The lower magnification photo with the "bright up" square can be used as a reference for the area photographed at higher magnifications.

**Variable Accelerating Voltage** (Standard)—from 1kv to 25kv in 1kv steps permits you greater flexibility in examining specimens without coating. With a 1kv step capability, 400 Angstroms is all the resolution you need for most applications.

**Continuous Zoom Magnification** (Standard)—provides almost 50:1 zoom capability allowing you to select just the right degree of magnification for a particular specimen. Visual magnification ranges from 10X-60,000X, while photographic magnification is from 5X-30,000X.

**Waveform Display** (Standard)—in the photographic mode on the visual monitor insures no-miss photographs every time by providing an evaluation of contrast and brightness before you photograph the specimen. No other SEM in Balscan's price range offers this feature.

**Integrated High Resolution Photography System** (Standard) There is no delay for set up. Changeover to slow scan is fully automatic—just press the photo button and the SEM is switched into slow scan mode. After 30 seconds, the photograph is completed and the SEM is switched back to TV scan image.

**Line and Point Functions** (Standard) are built-in especially for X-ray analysis.

**Digital Magnification Readout** (Standard) a continuous digital display provides an extremely accurate magnification readout.

Balscan puts the emphasis on simple operation, reliable performance and high quality photography. You get external simplicity due to internal automation. Base Price Standard Photographic Unit. \$23,961.

The Balscan SEM is manufactured by Cambridge Scanning Co., Ltd., Cambridge, England, and is distributed and serviced worldwide by Bausch & Lomb, Inc.

Get the full story of the Bausch & Lomb Balscan SEM. Write for a free demonstration and Catalog No. 42-2416.

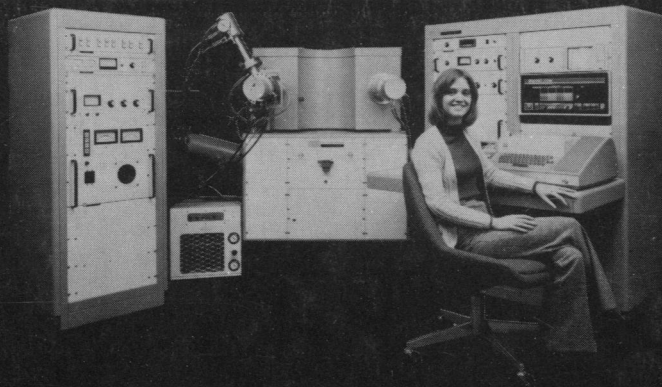


Circle No. 181 on Readers' Service Card

**BAUSCH & LOMB**   
**Balscan**™  
 SCANNING ELECTRON MICROSCOPE

Write to Bausch & Lomb, Scientific Optical Products Division, 77402 North Goodman St., Rochester, N.Y. 14602





## The GCA ESCA 36. In just four years it's gone from the best to the best.

Four years ago we introduced the best, most advanced ESCA on the market. Today the GCA/McPherson ESCA 36 is still the best. And still the most advanced.

Naturally we've made changes. Important options have been added. And we've expanded ESCA technique through meaningful improvements like X-EL high resolution.

But the basic design remains the

same. (Has Rolls Royce ever changed for the sake of change?)

And our list of standard features is the envy of the industry.

The ESCA 36, for example, is automated, which allows the system to perform unattended long term analysis. In fact, it's the only fully computerized system available.

It's also capable of performing analyses on solids, liquids and gases.

And its 3500 L/sec cryo-pump provides the ultimate in

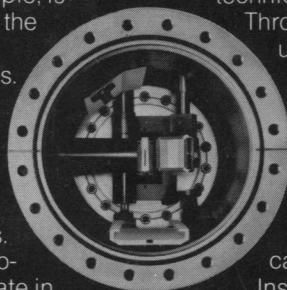
vacuum for contaminant-free surface analysis.

Other features abound, of course. But one stands out from the rest. And technically it's not even a feature.

Throughout its four year life, our users have discovered — to their joy and ours — that the ESCA 36 is virtually maintenance free.

And that, we submit, is the frosting on a remarkably delicious cake.

For more information on this highly versatile system, call or write GCA/McPherson Instrument.



**GCA CORPORATION**  
**McPherson Instrument Division**

530 Main Street  
Acton, Massachusetts 01720  
(617) 263-7733  
TELEX: 928435 ANS: GCAMcPHER ACTO

Circle No. 224 on Readers' Service Card

See our exhibit at the Pittsburgh Conference in Booths 520-524 and attend our workshop on programmable spectrophotometry.