

documented statement on the problem, replete with examples of direct and indirect endangerment and setting forth direct and indirect benefits of conservation. The book is thoughtful rather than polemic in its approach. Some may take offense at the listing in the preface of individuals and institutions contributing to the problem, yet the Ehrlichs also note that each one of us is in a sense contributing to the rise in extinctions.

The size of the biota ( $3 \times 10^6$  to  $10 \times 10^6$  species) in one sense tends to obscure the problem. What difference can it make if there are one or two or even several fewer species? But the problem is far larger than that: loss of hundreds of thousands is imminent (in large degree owing to tropical deforestation). Unless there are major efforts to alter current trends, the biotas of Brazil's coastal forest and of Madagascar will constitute the first major waves of extinction.

This volume is particularly convincing about the consequences of species loss. The standard arguments are included, stated succinctly and dispassionately. Particularly impressive is the consideration of conflicts between development and the welfare of endangered species. At first glance, the argument for favoring the biota in such cases seems suspect and emotional. Surely it will sometimes be the sensible thing to let a species go when large social and economic benefits will accrue from doing so? The Ehrlichs explain that considered in isolation almost any conflict between endangered species and development is likely to be decided in favor of development, yielding yet one more increment to the extinction rate and the decline in the planet's capacity to support people: the global situation is the sum of all the local decisions.

While the Ehrlichs do not go so far, I believe an argument can even be made not to sacrifice the last individuals of a primate species even when through some legerdemain the sacrifice might save a single human life, on the basis of the potential of that species to save future human lives because of its general value to the biomedical enterprise. The choice becomes more difficult the greater the number of current human lives that hang in the balance, but the general argument advanced by the Ehrlichs still holds: the capacity of the earth to support society is a function of species diversity, and any attempt to integrate the welfare of future generations into our calculus will strengthen arguments in favor of protecting the biota.

The contribution that captive propaga-

tion can make to conservation is perhaps somewhat slighted as a result of the strong and proper emphasis on conservation of whole ecosystems. There are indeed difficulties and expense involved, as well as limitations to the capacity of current institutions. At the same time it is likely that because of the inadequate size of reserves some vertebrates, particularly large predators and island forms, may not be able to persist without an assist from captive propagation. They are sufficiently complex and intricate products of evolution, both in structure and behavior, to merit special attention, and it is dismaying to note that the passenger pigeon, which became extinct in 1914, had been bred successfully in Europe. The goal of captive propagation should indeed be reintroduction to the wild, but there will be times when, in Roger Payne's words, "there may not be a there" to which the organisms can be returned. In those instances some would argue in favor of writing off the species, but I would tend to agree with G. Evelyn Hutchinson that it would be marvelous had there been a 16th-century Gerald Durrell to propagate the solitaire of Rodrigues. The Ehrlichs raise the concern that removal of animals from the wild for captive propagation reduces the ability to protect that habitat. But so ultimately does allowing declining populations to go to extinction; strong efforts to protect habitat until reintroduction can take place seem a better alternative.

The above is a minor criticism, as is my wish that some attention had been paid to the inevitable contribution of dwindling and disappearing species to inflation. The Ehrlichs have done a masterly job of demonstrating that a conflict with nature can only result in a joint Pyrrhic victory (fewer species and a planet less able to support people).

THOMAS E. LOVEJOY

*World Wildlife Fund,  
Washington, D.C. 20009*

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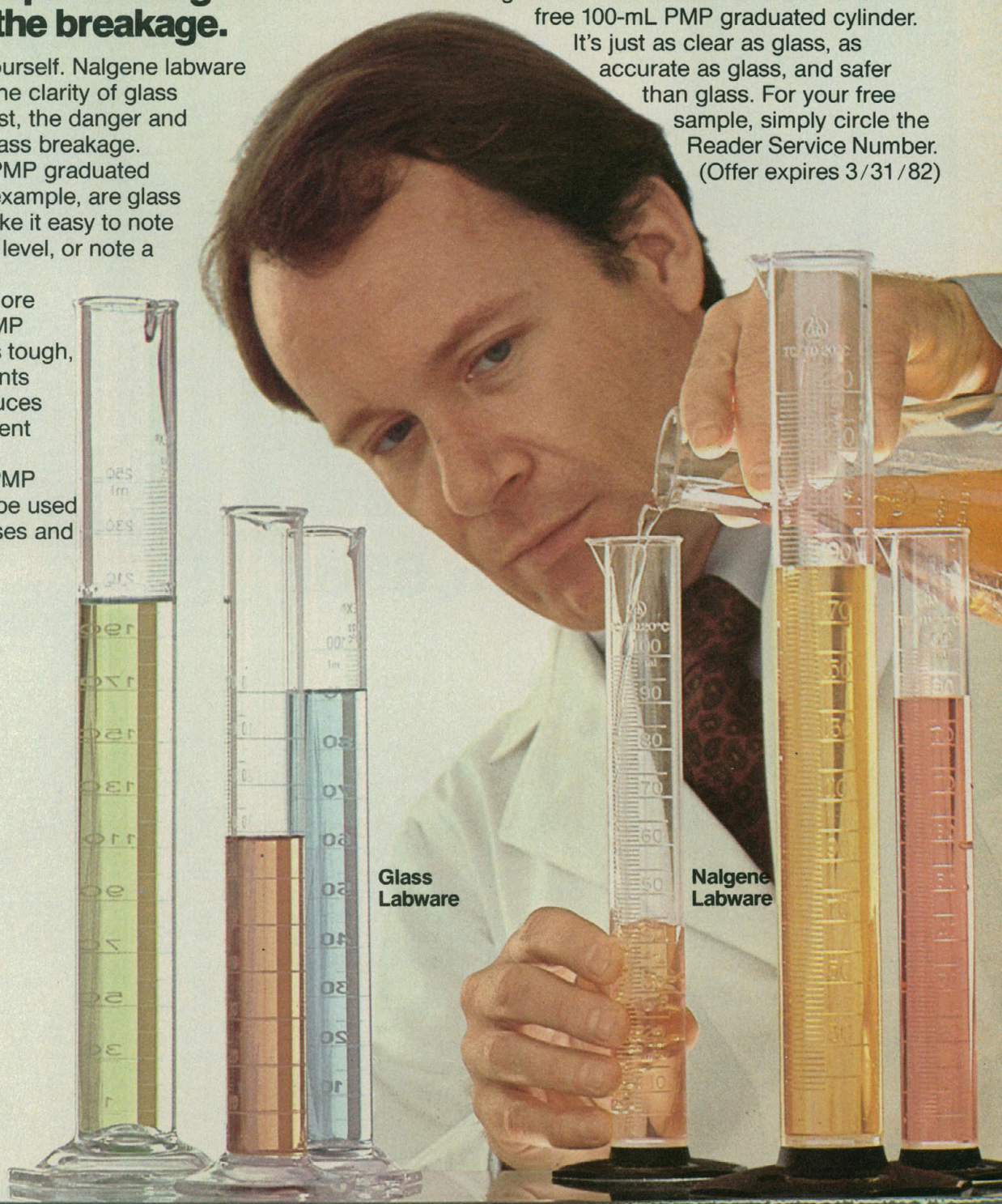
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(Continued from page 328)

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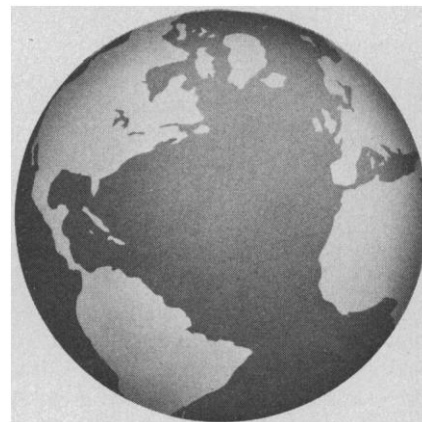
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## Microscope

The Galen II is designed for routine clinical laboratory, veterinarian, and teaching applications. Accessories include monocular, binocular, and trinocular heads with optional 35-millimeter camera kit; dual diopter adjustments; and front-mounted illumination controls. Objectives include flat field achromatic, planachromatic, or phase contrast and other phase contrast and polarizing accessories are available. User may select tungsten or tungsten-halogen sources and any of several eyepieces. Bausch & Lomb. Circle 751.

## Osmometer

Model OM-6010 can test up to 33 samples in one batch. A stat override can interrupt the sequence at any time, process a single sample, and continue the sequence. Sample identification is pro-

grammable. Sample volume is 0.3 milliliter and disposable sample cups are used. Microprocessor electronics control test functions and provide analysis of faults. During each test, the OM-6010 calibrates itself at three points. The instrument also features a dry cold stage. Fiske Associates. Circle 752.

## Array Processor for Microcomputer

The SKYMNK "Micro Number Kruncher" is a fully programmable, floating point array processor. It provides high-speed floating point processing to scientific users on two quad printed circuit boards. It operates under RT-11 or RSX-11M for FORTRAN or Macro programs. It can compute vector mathematics, fast Fourier transforms, digital filtering, format conversions, and image processing at speeds 50 to 100 times faster than the unaided microcomputer. SKY Computers. Circle 753.

## Modular Digitizers

A family of instruments includes the Demi-Pad, an 11 by 11 inch tablet; the Micro-Pad series, stand-alone microprocessor-based digitizers with either 11 by 11 or 11 by 17 inch tablets; and the Interactive Graphics Digitizer (IGD), a stand-alone, turnkey computer-aided design system. The IGD's size and accuracy render it well suited to laboratory scale applications and its menu-driven software is easy to master. The user configures the system based on choice of digitizers and peripherals to suit final needs. The pads offer high precision for relatively low cost. GTCO. Circle 754.

## Diagnostic Use of Monoclonal Antibodies

The Tandem immunoglobulin-E kit is a quantitative immunoassay that incorporates monoclonal antibodies. Two monoclonal antibody reagents are combined with the sample. After an incuba-

tion and a washing, an immunoradiometric (IRMA) technique quantitates the substance being analyzed. The dose-response curve is direct reading and amounts of sample and other components are less critical than in conventional radioimmunoassays. Specificity of binding sites is high and procedure is greatly simplified. Hybritech. Circle 755.

## Asbestos Detection

The Asbestest kit is based on a colorimetric test. A small sample is placed in a reaction tube and chemicals are added. In minutes, a color reaction is developed. The tube may be labeled and stored because the color is stable. The test detects asbestos-bound iron or magnesium down to 1 percent (the current EPA lower limit for asbestos in bulk material). E-C Apparatus. Circle 756.

## Literature

*Network Analyzer* covers a family of automated scalar systems operating in the 10-megahertz to 40-gigahertz range. Wiltron. Circle 764.

*Time and Frequency* offers cesium and quartz standards, precision oscillators, and timing receivers. Frequency and Time Systems. Circle 765.

*Electronic Balances* describes features and accessories and discusses scientific applications of these weighing instruments. Arbor Laboratories. Circle 766.

*Blood Chemistry Analyzer* is devoted to the SMAC II system for automating laboratory testing of multiple parameters. Technicon Instruments. Circle 770.

*Scientific Glassware and Instruments* are detailed in a new-product bulletin. Kontes. Circle 767.

*Scientific Laboratory Computer Letter* is a newsletter offering information about hardware, software, and applications of desk-top and home computers. Information Research. Circle 768.

*Analytical Instruments* includes equipment for electrochemistry, ferrography, infrared spectroscopy, and particle-size measurement. Foxboro Analytical. Circle 769.

*Stereomicroscopes* features six models in Greenough and telescope-type. Their accessories are fully described as well. Carl Zeiss. Circle 763.

*Infrared Spectroscopy Accessories* lists spectrometers; vapor analyzers; leak detectors; and transmission, micro-sampling, reflectance, and pyrolysis apparatus. Analabs, Foxboro Analytical. Circle 757.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card (on pages 274A and 370A) and placing it in the mailbox. Postage is free.

—RICHARD G. SOMMER



# Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising closing for a particular Friday issue is Wednesday, 3 1/2 weeks before. Advertising is accepted only in writing; no abbreviations. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, or handicap.

**POSITIONS WANTED:** 40¢ per word, plus \$4 for use of box number, per insertion. \$10 minimum, per insertion. Prepayment required. This rate is available only to individuals seeking jobs.

**DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth):** \$8 per millimeter; \$200 minimum, per insertion (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing information required for all other advertising.

Send copy for all **Positions Wanted** ads and **Display** ads less than 1/6 page in size (125 millimeters) to:

SCIENCE, Room 207  
1515 Massachusetts Ave., NW  
Washington, D.C. 20005  
Telephone: 202-467-4456

Send copy for **Display** ads 1/6 page and larger to:

Scherago Associates, Inc.  
1515 Broadway  
New York, N.Y. 10036  
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

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

## POSITIONS WANTED

**Biochemist, Ph.D.** Research background in inborn errors of metabolism, polyamine physiology, metabolic modeling. Experienced in enzymatic and biochemical analysis, protein purification, tissue culture, statistics, computer programming. Publications. Seeks challenging position in biomedical area, industry, hospital, or academia. Box 170, SCIENCE. X

**Clinical/Analytical Chemist, Ph.D.** 1976, England. Five years of international experience in medical research; diabetes, cancer research, glycoproteins, drugs and metabolites, toxicology. Extensive experience in the application of GC, GC-MS, HPLC, electrofocusing, TLC, UV, AA, and IR in the development of methods. Currently World Health Organization employee. Publications. Desires faculty/senior research position. No agencies please. Box 183, SCIENCE. 7/17, 31; 8/14, 28; 9/11

**Clinical Research Nurse.** Experienced psychiatric nurse with master's degree and broad experiential background in clinical and research areas seeks challenging position in clinical, research, or industry. Curriculum vitae and references available. Box 331, Glen Oaks, New York 11004. X

**Ecologist, Ph.D.** Seeking employment in the field of environmental impact research. Industrial or consulting firm. Broad training in zoology, botany, and chemistry with analytical experience. Box 182, SCIENCE. 7/17, 24

**Environmental Technologist; M.Sc.,** University of London, 1980; B.Sc. ecology, University of Wales. Seeks challenging position in research or industry. Experience in reclamation of derelict land; plant ecology; biostatistics; computing. Box 181, SCIENCE. X

**Microbiologist, Ph.D.** Seeks position as a senior scientist or laboratory manager in industry or government. Skilled in all phases of antibiotic/antitumor drug development from culture isolation to pilot plant production. Experienced in management of laboratory sections in soil screening, fermentation, and bioassay (antimicrobial, antiviral, tumor inhibition). Box 184, SCIENCE. X

## POSITIONS WANTED

**Immunologist, M.S.** 1977. Seeks stimulating position with active researcher in recombinant DNA or immune regulation in industry or academia. Four years of laboratory experience. Opportunity to pursue Ph.D. also desired. Box 172, SCIENCE. 7/17, 24

**Laboratory Animal Veterinarian, ACLAM-certified;** 15 years of experience. Seeks industrial or academic position. Nonmegametropolis preferable. Box 180, SCIENCE. 7/17, 31

**Neuroanatomist, Ph.D.** 1980. Teaching, publications. Previous experience in cardiology, immunology, and analgesia research. Seeking nonacademic research position. Box 173, SCIENCE. 7/17, 24

**Physiologist, Ph.D.** 1970. Seeks academic, research, biomedical position. Publications. Teaching, administrative, pulmonary laboratory experience. Respiratory, exercise research. Box 176, SCIENCE. X

## POSITIONS OPEN

University of Michigan Medical School, Department of Internal Medicine, has a position available for an **ACADEMIC CARDIOLOGIST** to join Division of Cardiology at the Veterans Administration Medical Center with an appointment and activities at the University of Michigan. Functions of the position include an emphasis on clinical or noninvasive research and clinical attending responsibilities. Facilities include a new integrated invasive-noninvasive diagnostic center, CCU, and cardiac surgery program. Send curriculum vitae to: R. A. Vogel, M.D., Chief, Division of Cardiology, Veterans Administration Medical Center, Ann Arbor, Mich. 48105. A nondiscriminatory, Affirmative Action Employer. Code 314, 315.

**ASSISTANT or ASSOCIATE PROFESSOR, BACTERIOLOGIST/PROKARYOTE PLANT PATHOLOGIST,** Department of Plant Pathology, University of California, Riverside. Responsibilities include developing a contemporary research program in an area of microbiology and on bacterial or other prokaryote diseases of plants and teaching (15 to 20 percent) of similar subjects. A Ph.D. with a distinguished background and/or experience in microbiology and/or plant pathology is desirable. Send résumé, three confidential letters of recommendation, and complete transcripts to: Dr. D. E. Munneke, Chairman, Search Committee, Department of Plant Pathology, University of California, Riverside, California 92521. Application deadline is 15 October 1981 or later, if suitable applicant has not been selected. The University of California is an Equal Opportunity/Affirmative Action Employer.

University of Michigan Medical School, Department of Internal Medicine, has a position available for the **CHIEF OF GASTROENTEROLOGY** at the Veterans Administration Hospital. Physician must be Board-certified in GI and internal medicine; must have a strong record of research accomplishments; and must meet senior faculty level requirements of the department. Send inquiries, along with curriculum vitae, to: John N. Sheagren, M.D., Chief, Medical Service, VA Medical Center, Ann Arbor, Mich. 48105. A nondiscriminatory, Affirmative Action Employer. Code 317.

University of Michigan Medical School, Department of Internal Medicine, is seeking a **JUNIOR FACULTY MEMBER**. The individual will have patient care and teaching activities in both ambulatory care and inpatient settings. Candidates should be Board-eligible in internal medicine and have an interest in health services and research. Address inquiries, including curriculum vitae, to: Jeffrey K. Stross, M.D., Department of Internal Medicine, University of Michigan Medical School, Ann Arbor, Mich. 48109. A nondiscriminatory, Affirmative Action Employer. Code 312, 313.

University of Michigan Medical School, Department of Internal Medicine, has a position available for a **STAFF ASSOCIATE IN PULMONARY DISEASE**. Teaching medical students, house staff, and fellows. Patient care and research in pulmonary disease. Must have an M.D. degree and meet qualifications of the American Board of Internal Medicine and the Pulmonary Subspecialty Board. Must have proven research potential. The principal location of work will be at the Veterans Administration Hospital. Please reply to: John Weg, M.D., Division of Pulmonary Medicine, Box 55, S11303 University Hospital, Ann Arbor, Mich. 48109. A nondiscriminatory, Affirmative Action Employer. Code 316.

## NATIONAL SCIENCE FOUNDATION

### DEPUTY ASSISTANT DIRECTOR FOR ENGINEERING

Qualified candidates are sought for the position of Deputy Assistant Director for Engineering. Incumbent is primary assistant to assistant director and fully participates in all phases of Directorate's activities and programs. Primary focus of duties is on internal management and organizational activities. This position, which will be filled on a career or a noncareer (rotational) basis, is part of the Senior Executive Service with a salary limited by law to \$50,112.

Applicants must have a Ph.D. or equivalent experience in engineering or the physical sciences. Knowledge of current research capabilities and needs of the academic and industrial research communities is required. Also essential are: (i) managerial, supervisory, and professional experience in planning, organizing, and managing the activities of a large organization and (ii) experience in planning multidisciplinary research programs in field of science or engineering.

Applicants should contact **Margaret Cademartori (telephone: 202-357-7857)** to request announcement EPB 81-9 for a career appointment or EPB 81-19 for a rotational appointment time-limited to 2 years. Announcements contain additional qualification requirements, as well as instructions concerning preparation of supplemental narrative required with SF-171 as application. Send SF-171 and narrative to: National Science Foundation, Executive Personnel Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550 (attention: EPB 81-9 or 81-19). Applications must be received by 30 September 1981.

Equal Opportunity Employer

## NATIONAL SCIENCE FOUNDATION

### DIVISION OF ELECTRICAL, COMPUTER AND SYSTEMS ENGINEERING

Qualified applicants are sought for position of **DIRECTOR AND DEPUTY DIRECTOR OF DIVISION** responsible for evaluation of proposals and award of research grants for conduct of research in areas of electrical engineering, computer engineering, systems theory, and operations research.

These positions are part of the Senior Executive Service with salaries limited by law to \$50,112 per annum. The division director may be appointed on a career or a noncareer (rotational) basis; the deputy division director will be appointed on a career basis.

Applicants must have a Ph.D. or equivalent professional experience in electrical engineering, computer engineering, systems engineering, or closely related discipline. Experience in the management of research groups in the areas of electrical, computer, or systems engineering is required.

Applicants should contact **Margaret Cademartori (telephone: 202-357-7857)** to request appropriate vacancy announcement and number and information regarding application procedures. Send SF-171 and narrative to: National Science Foundation, Executive Personnel Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550 (attention: announcement number).

Applications for the division director position must be received by 7 August 1981; those for the deputy division director position must be received by 28 August 1981.

Equal Opportunity Employer

## POSITIONS OPEN

**ASSISTANT PROFESSOR OF PHARMACOLOGY.** Applications are invited by the Department of Pharmacology, University of Tennessee, for this position, available 1 January 1982. The applicant should possess the Ph.D. in pharmacology, biochemistry, or a related discipline, or an M.D.; should have completed approximately 3 years of postdoctoral experience; should have demonstrated excellence in research; and should have an active interest in teaching. The candidate will be expected to establish and support an independent research program. Preference will be given to candidates experienced in biochemical aspects of drug metabolism and pharmacokinetics, cancer chemotherapy, immunopharmacology, or toxicology. Closing date for receipt of applications is 1 October 1981. Please send complete curriculum vitae and at least two letters of reference to: **Dr. Murray Heimberg, Chairman, Department of Pharmacology, University of Tennessee Center for the Health Sciences, Memphis, Tenn. 38163.** *An Equal Opportunity/Affirmative Action Employer.*

## ASSISTANT/ASSOCIATE PROFESSOR, PHYSIOLOGY

State-funded, tenure-track faculty position available in the Department of Physiology, University of Arizona, College of Medicine. Primary consideration will be given to applicants with research interest in one of the following areas: endocrinology, epithelial transport, or reproductive physiology. Major responsibilities will be development of an active research program and organization of a new team-taught course in human physiology for upper division undergraduates. Interest and ability in teaching students at this level as well as research ability will be considered in evaluating applicants. Ph.D. or M.D. degree or equivalent and postdoctoral training are prerequisite. Send summary of research plans, curriculum vitae, and names of three references by 15 September 1981 to: **Dr. Paul C. Johnson, Professor and Head, Department of Physiology, College of Medicine, University of Arizona, Tucson, Ariz. 85724.** *The University of Arizona is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR OF ENTOMOLOGY** to teach insect ecology and conduct research on practical problems of integrated pest management. Ph.D. required. Submit curriculum vitae, transcripts, description of research experience and plans, reprints of teaching capabilities, and names of three referees to: **L. E. Ehler, Chair, Search Committee, Department of Entomology, University of California, Davis, Calif. 95616,** by 31 July 1981. *An Equal Opportunity Affirmative Action Employer.*

**BIOLOGICAL SCIENCES/B&B.** Postdoctoral fellow. Salary: \$14,000 to \$16,000. To study the effect of infection by vesicular stomatitis virus or mengovirus on cellular protein synthesis. Ph.D. background in molecular biology. Experience in translation desired. Reply by 31 July 1981 to: **J. Lucas-Lenard U-125, University of Connecticut, Storrs, Conn. 06268.**

*Equal Opportunity Employer, H/V*

**BIOMEDICAL SCIENCES**—Immediate 2-year assistant professorship appointment for a Ph.D. systems level physiologist. The successful candidate will teach a freshman level course and cooperate in teaching intermediate level physiology classes. Specialty in cardiovascular physiology preferred. Submit three references and curriculum vitae to: **Dr. Darwin A. Buthala, Chairperson, Department of Biomedical Sciences, Western Michigan University, Kalamazoo, Michigan 49009.** Telephone: 616-383-1620. *Equal Opportunity/Affirmative Action Employer.*

## BIOMEDICAL TECHNICIAN

The Department of Natural Science and Mathematics is seeking a person trained in the biological sciences to assist faculty and students in research activities. Applicants for the position must have an M.S. degree in biology and some knowledge of in vitro tissue culture techniques.

Applicants should submit curriculum vitae and three letters of reference to:

**Dr. S. S. Bale  
P.O. Box 801  
Saint Paul's College  
Lawrenceville, Virginia 23868**

## POSITIONS OPEN

The Department of Veterinary Science at the University of Wisconsin-Madison invites applications for two tenure-track FACULTY POSITIONS: (i) **Assistant professor—veterinary parasitology** and (ii) **assistant/associate professor** to be filled by the best available candidate from one of the following research disciplines: economics and epidemiology of animal diseases, experimental pathology, or veterinary gastroenterology. Requirements: Ph.D. and a background in veterinary medicine or animal science. Duties: develop an independent research program in area of expertise and teaching responsibilities which may include teaching or participation in graduate and/or undergraduate courses. Salary: negotiable. Positions available on or after 20 July 1981. Each application should include curriculum vitae, copies of recent publications, description of research goals, and names of four references. Submit applications to: **Dr. Robert P. Hanson, Chairman, Search and Screen Committee, Department of Veterinary Science, University of Wisconsin, 1655 Linden Drive, Madison, Wis. 53706.** *The University of Wisconsin-Madison is an Equal Opportunity/Affirmative Action Employer.*

## GENETICIST

Tenure-stream position in the Department of Biological Sciences, Brock University, at the assistant professor level is available from 1 January 1982 or earlier. The appointee will be expected to teach molecular, transmission, and population genetics at the undergraduate level, to develop an independently funded strong research program, to supervise graduate students, and to interact with the faculty over several levels of biological organization. Although specific research speciality is open, research areas of particular interest include microbial genetics, eukaryotic genetics (including mammalian molecular genetics), and population genetics. Canadian applicants will be considered first.

Submit complete curriculum vitae by 31 October 1981, with a statement of research and teaching experience, reprints of published papers, and names of three referees to: **Dr. M. S. Manocha, Chairman, Department of Biological Sciences, Brock University, St. Catharines, Ontario, Canada L2S 3A1.**

# PLANT STRESS PHYSIOLOGIST

Ph.D. or person with equivalent experience required to develop stress-resistant cereals in collaboration with breeders, physiologists, pathologists, and molecular biologists. Work will involve conventional and nonconventional techniques. Preference will be given to candidates with experience in the following areas: **stress physiology, plant biochemistry, genetics and/or breeding.**

Send résumé, publications, and references to:

**Personnel Department**

# IPRI

**853 Industrial Road  
San Carlos, California 94070**



The College of Science at The University of Riyadh invites applications to fill the following vacancies:

- 1 — Faculty Member in Quantum Chemistry.
- 2 — Faculty Member for the post of Associate Professor in Physical Chemistry.

Applications accompanied by non-returnable copies of academic and experience certificate as well as copies of research papers should be mailed, within one month from date, to:

**The Dean  
College of Science  
P. O. Box 2455  
Riyadh, Saudi Arabia**

and to:

**Recruitment Office  
Riyadh University  
2425 West Loop South  
Houston, Texas 77027 USA**

## ASSISTANT DIRECTOR FRESH WATER INSTITUTE

Rensselaer Polytechnic Institute's Fresh Water Institute, an interdisciplinary educational and research center located on Lake George, New York invites nominations for the position of Assistant Director. Qualified candidates will have PhD in Biology, Chemistry, Environmental Science, Environmental Engineering or a related discipline. Postdoctoral experience desirable. Ability to deal with a wide variety of environmental-ecological and industrial applied research areas essential. The selected candidate will also have proven ability to initiate first rate research programs and be responsible for assisting in administering research grants and contracts, guide student research projects and manage office and laboratory operations. This position reports to Dr. Daniel Pope, Director, Rensselaer Polytechnic Institute's Fresh Water Institute. Fresh Water Institute has a full time staff of 8 technicians, numerous faculty, students and additional scientists from a wide variety of disciplines and institutions who perform research and conduct courses at the site. Salary \$16,000 to \$20,000 per year. Please submit curriculum vitae and three letters of reference by August 1, 1981 to Thomas F. Molloy, Employment Manager, Rensselaer Polytechnic Institute, 110 8th Street, Troy, NY 12181.



**Rensselaer Polytechnic Institute**

RPI is an equal opportunity/affirmative action employer

## TECHNICAL DIRECTOR

The Naval Ocean Research and Development Activity (NORDA), a field activity of the Office of Naval Research, which is located in Bay St. Louis, Miss., is seeking an eminently qualified person to serve as Technical Director.

The Technical Director is responsible for the planning, conduct, and staffing of the technical program of NORDA. The major components of NORDA are the Ocean Science and Technology Laboratory (OSTL), a broadly based ocean science R&D laboratory, which currently encompasses environmental and acoustic prediction model development, physical oceanography, chemical oceanography, marine biology, marine geology and geophysics, air-sea interaction, ocean acoustics, measurement systems development, ocean technology and engineering support; and the Ocean Programs Management Office, which directs an applied ocean R&D contract program related to Navy systems development and engineering. The total budget is approximately \$35M. Substantial continued growth is projected over the next five years. NORDA is expected to continue in its goal to become one of the nation's foremost oceanographic research centers.

Applicants must have an indepth knowledge of physical sciences as indicated by a PHD or equivalent experience and a successful record of research or research leadership. In addition, the candidate's total experience must provide evidence that all of the managerial and technical requirements of the position are met.

**Salary Range:** \$52,247 to \$61,600 (Currently limited by law to \$50,112.50). Interested candidates should submit a Standard Form 171, Personal Qualifications Statement, along with the Supplemental Questionnaire to:

Civilian Personnel Office  
Code 140 S  
NORDA  
NSTL Station, MS 39529

For additional information, call Ms. Lou Ann Lott at (601) 688-4640. Applications must be received or postmarked by 31 August 1981.

An Equal Opportunity Employer

U.S. Citizenship Required

### Two Scientific Officer Positions

## PLASMA PHYSICIST and UNDERWATER ACOUSTICS PHYSICIST

Starting salary range is \$37,871 to \$50,112 (GS-14/15)  
depending on qualifications

The Office of Naval Research seeks Scientific Officers to plan and manage contract Research and Development (R&D) Programs. Specific areas of responsibility for these two positions are:

- **PLASMA PHYSICIST (GS-14 \$37,871—\$49,229) Announcement #81-25 S** — Experimental and Theoretical plasma physics; relativistic electron beams; accelerators; particle beam propagation and interaction; high power microwave generation/propagation/interaction.
- **UNDERWATER ACOUSTICS PHYSICIST (GS-14/15 \$37,871—\$50,112) Announcement #81-26 S** — Underwater acoustic signal generation/propagation/processing; ocean variability effects; flow noise; coordination of ONR-wide underwater acoustics activity.

Candidates must have a Ph.D. in physics (or equivalent) plus a record of accomplishment in the performance of R&D. Three years of progressively responsible professional experience comparable to the next lower level in the Federal Service are required.

Interested persons should send resume or Standard Form 171, Personal Qualifications Statement (available at Federal Job Information Centers) by 7 August 1981 to:

**OFFICE OF NAVAL RESEARCH**  
**Code 722, Room 823**  
**800 North Quincy Street**  
**Arlington, Virginia 22217**

U.S. Citizenship Required

An Equal Opportunity Employer





**THE AUSTRALIAN NATIONAL UNIVERSITY** invites applications for appointment as **POSTDOCTORAL RESEARCH FELLOW** in the Research School of Chemistry. Appointments will be for 2 years in the first instance. Current major research interests in the School are: **Organic Chemistry** (Professor A. L. J. Beckwith, Professor L. N. Mander, R. W. Rickards, Dr. J. K. MacLeod, and Dr. L. Radom)—Including free radical reactions; mechanistic and synthetic organic chemistry; organic chemistry of biologically active compounds; ICR and mass spectrometry; ESR spectroscopy; theoretical organic chemistry. **Inorganic Chemistry** (Professor B. G. Hyde, Professor A. M. Sargeson, Dr. M. A. Bennett, Dr. B. G. Robertson, and Dr. S. B. Wild)—Including solid-state inorganic chemistry; synthesis, structure, and reaction mechanisms of transition metal complexes; biomimetic chemistry; organotransition metal chemistry; x-ray crystallography; resolution and reactions of chiral arsines and phosphines. **Physical and Theoretical Chemistry** (Professor D. P. Craig, Dr. J. Ferguson, Dr. R. Bramley, and Dr. T. R. Welberry)—Including molecular and crystal theory; spectroscopy and photochemistry; photophysics and EPR; x-ray diffraction and theoretical studies of disordered materials. **Analytical Chemistry** (B. J. Stevenson). Appointments will be made primarily within these research groups, but proposals for independent research will also be considered. Further particulars on the appointments may be obtained on request. Salary range: A\$19,821 to A\$25,871 per annum. Current exchange rates: A\$1:58NP:U.S.\$1.11. Reasonable appointment expenses, housing assistance, superannuation. There is no application form. Applicants should send curriculum vitae, list of publications, statement of research interests, two passport-sized photographs, the names and addresses of three academic referees, and the probable date on which the appointment could be taken up to: **The Registrar, Australian National University, P.O. Box 4, Canberra ACT 2600, Australia**, with whom applications close on 31 August 1981.



**SUPERVISORY PHYSICAL SCIENTIST, SUPERVISORY ECOLOGIST, OR SUPERVISORY BIOLOGICAL OR CHEMICAL OCEANOGRAPHER:** The Great Lakes Environmental Research Laboratory of NOAA in Ann Arbor, Michigan, is seeking a senior level scientist to manage its Chemistry and Biology Group. The incumbent will direct a group of scientists and technicians performing research on the cycling of toxic organics, ecological succession and trends of biota, and eutrophication and nutrient cycling with theoretical and experimental approaches to develop the capability to simulate and predict the Great Lakes and marine coastal waters. This position is in the Competitive Service and may be filled at the GS-15 or GS-14 level. Entrance level salaries are \$44,547 and \$37,871 per annum, respectively. Future salary adjustments are subject to the Merit Pay System. **QUALIFICATIONS:** B.S. or higher degree in oceanography, ecology, or related physical or biological science. In addition, 3 years of professional experience which has equipped the candidate with the knowledge necessary to perform the above duties. One year of experience must have been comparable to the next lower grade in federal service. **SELECTIVE FACTORS:** Applicants must have demonstrated research experience in chemical oceanography and marine biology, or limnology (water chemistry and aquatic biology) and ecological modeling. Additional technical information may be obtained from: **Dr. Eugene J. Aubert, telephone: 313-668-2245 or FTS 387-2245. TO APPLY:** Current or former federal employees should submit SF-171, CD-332 (Employee Appraisal), and Optional OPM Form 1386 (Background Survey Questionnaire). Forms may be obtained by **telephoning: 303-497-6615 or FTS 320-6615**. Applicants not employed by the federal government: Ecologist, submit SF-171 and Optional OPM Form 1386; Physical Sciences, submit a complete application package for "Physical Science Positions CN 1300" and Optional OPM Form 1386. These forms may be obtained from the nearest Office of Personnel Management (OPM). **ALL APPLICANTS MUST SUBMIT THEIR PUBLICATIONS RECORD.** All applications should be submitted to: **NOAA/NTIA, Personnel Services (R562), attention: M. L. Mann, Boulder, Colorado 80303. Reference Vacancy Number NOAA/ERL 81-166.** Applications must be received by 14 August 1981 to receive consideration. *An Equal Opportunity Employer.*

## POSITIONS OPEN

**ASSISTANT/ASSOCIATE PROFESSOR, BIOCHEMISTRY.** The Department of Biochemistry at West Virginia University Medical Center invites applications for a full-time, tenure-track appointment in an area dealing with the regulation of connective tissue metabolism. Individuals should hold the Ph.D. or equivalent degree and should have the equivalent of 2 years of postdoctoral experience. Applicants should be knowledgeable in the use of analytical techniques needed for analysis of heteropolysaccharides found in connective tissue constituents. Experience in the use of tissue culture techniques as an approach to studying important and clinically relevant problems in the regulation of connective tissue metabolism is also required. As an aid for the development of clinically relevant projects the position will carry a joint appointment with the Department of Orthopedics. The position requires an individual with the ability to conduct substantive, independent, and collaborative research as well as the ability to participate in the medical and graduate teaching programs of both departments. Applicants should send curriculum vitae, description of research interests, and list of three references to: **Dr. Fred R. Butcher, Chairman, Department of Biochemistry, West Virginia University School of Medicine, Morgantown, W.Va. 26506.** Receipt of applications closes 15 September 1981.

*West Virginia University is an Affirmative Action/Equal Opportunity Employer.*

## VISITING ASSISTANT PROFESSOR OF BIOLOGY

The Department of Biology at the University of South Florida is seeking to fill a 1-year visiting assistant professor position commencing 31 August 1981. Preference will be given to individuals with qualifications in the area of vertebrate biology. Teaching duties will include instruction of nonmajors. A Ph.D. degree is required. Applicants should submit curriculum vitae, statement of research interests, and two letters of recommendation no later than 31 July to: **Chairman, Search Committee, Department of Biology, University of South Florida, Tampa, Fla. 33620.** *The University of South Florida is an Affirmative Action/Equal Opportunity Employer, and women and minority candidates are encouraged to apply.*

## ASSISTANT PROFESSOR OF PHYSIOLOGY

A tenure-track position is available for a person with a Ph.D. degree or its equivalent and at least 2 years of postdoctoral experience. The areas of research emphasis in the physiology department are cardiovascular and neurophysiology. Applications are sought from individuals whose research interests complement those of the department and who can give additional breadth to the department's teaching program. Of particular interest is teaching in the area of endocrinology; however, strong candidates in other fields should not hesitate to apply. Applications with curriculum vitae and names of three references should be sent to: **Dr. Charles D. Barnes, Chairman, Department of Physiology, Texas Tech University Health Sciences Center, Lubbock, Texas 79430.** *An Equal Opportunity/Affirmative Action Employer.*

**BOTANY.** A temporary 1-year (21 September to 11 June) position is available at the visiting assistant professor level. Ph.D. required. Teaching responsibilities are plant physiology and general botany. Salary: \$15,000 for academic year. Apply by 3 August with curriculum vitae, transcripts, and three recommendation letters to: **S. Preece, Chair, Department of Botany, University of Montana, Missoula, Montana 59812.** *Equal Opportunity/Affirmative Action Employer.*

## FACULTY POSITION IN PHARMACEUTICS

The School of Pharmacy, State University of New York at Buffalo, has an opening for a faculty position in pharmaceuticals. Applicants should have a Ph.D. degree with a demonstrable record in physical pharmacy and biopharmaceutics. Rank and salary commensurate with qualifications and experience. The individual selected will be expected to develop an active and independent research program in the areas of specialization. Apply by sending curriculum vitae and outline of research interests by 31 August 1981 to:

**Dr. Ho-Leung Fung, Chairman  
Department of Pharmaceutics  
517 Hochstetter  
State University of New York at Buffalo  
Amherst, New York 14260**

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

## POSITIONS OPEN

**BIOCHEMISTRY PLANT PHYSIOLOGY.** Research associate position available for person with recent Ph.D. in biochemistry, plant physiology, or related area. Research will involve use of immunological techniques to investigate biochemical mechanisms controlling lipid synthesis in plants. Salary: \$22,486 per year (GS-11). Location: Northern Regional Research Center, U.S. Department of Agriculture. U.S. citizenship required. Send résumé with names and telephone numbers of two or three references by 31 July 1981 to: **Dr. John Ohlrogge, Northern Regional Research Center(s), 1815 North University Street, Peoria, Ill. 61604.** *An Equal Opportunity Employer.*

**CROP PEST MANAGEMENT.** Several nontenured positions in overseas research, teaching, and technical assistance. Appointments: 3 months to 3 years. Ph.D., experience, and demonstrated ability in pest and pesticide management essential; overseas experience desirable. Salary negotiable. Send curriculum vitae, publication list, transcripts, and references to: **Ray F. Smith, Consortium for International Crop Protection, 2288 Fulton Street, Berkeley, California 94704.**

**HEAD, DEPARTMENT OF SOIL SCIENCE.** College of Agriculture, University of Minnesota, St. Paul. Major responsibility for the administration of the department in teaching, research, extension, international programs, and cooperative USDA-departmental relationships. Represent the department in relations with other departments, the industry, the profession, and the public. Ph.D. in soil science or appropriate related area is required. Ten years of professional (post-Ph.D.) experience desired; persons with at least 5 years of experience may be considered. Position available 1 November 1981; application deadline: 15 August 1981. Nominations, indications of interest, or résumés should be sent to:

**Dr. Keith Wharton  
University of Minnesota  
College of Agriculture  
1420 Eckles Avenue—277 Coffey Hall  
St. Paul, Minn. 55108  
Telephone: 612-373-0921**

*The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

## HISTOCHEMISTRY RESEARCH ASSISTANT ELECTRON MICROSCOPY Stanford University

Studies of localization of neuropeptides in mammalian brain by light and electron microscopy using immunofluorescence and immunoperoxidase procedures. Immunohistochemistry experience extremely helpful. Excellent electron microscopy background essential. Send résumé and references to: **Dr. Eckard Weber and Dr. Jack Barchas, Nancy Pritzker Laboratory, Department of Psychiatry, Stanford, California 94305.**

*Stanford University is an Equal Opportunity Employer.*

## UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF HUMAN GENETICS

Three tenure-track positions to begin at the assistant professor level are available in the Department of Human Genetics. Candidates (M.D. or Ph.D.) trained in modern molecular genetic techniques and with a record of research in genetics are urged to apply.

One position is to be filled by an M.D. researcher who would be qualified to hold a joint clinical appointment. Areas of interest in molecular approaches include: evolution, development, gene regulation, molecular cytogenetics, polymorphism, and molecular mechanism of disease. Send résumé to: **Dr. R. Schmickel, Department of Human Genetics, Room 195 Medical Laboratories Building/G3, University of Pennsylvania, Philadelphia, Pa. 19104.** *An Equal Opportunity/Affirmative Action Employer.*

**Ph.D. Immunologist/Molecular Biologist.** Tenure-track assistant professor to begin 24 August 1981; teach two of the following: immunology, virology, hematology; develop senior level course in molecular biology; teach general biology. Department offers B.A. and M.A. degrees. Send curriculum vitae, three letters of recommendation, and transcripts by 31 July 1981 to: **Dr. P. T. Northen, Department of Biology, Sonoma State University, Rohnert Park, Calif. 94928.** Position Opportunity Number A034-81/82. *An Affirmative Action/Equal Opportunity Employer.*

## POSTDOCTORAL FELLOW, NUTRITION RESEARCH

SmithKline Corporation, a diversified multinational health care firm, is seeking a Postdoctoral Fellow for the Nutrition Research Department of its Animal Health Products Research Division, located at Applebrook, PA, 30 miles west of Philadelphia.

The successful candidate for this challenging position will be expected to design, evaluate and report on physiological experiments with animals such as swine, cattle and poultry; and develop blood sampling and radioimmunoassay techniques for the measurement of blood levels of various hormones in such animals.

Candidates are required to have a PhD in Biochemistry, Nutrition or Physiology; or a DVM; training in physiological experimentation on animals such as swine, cattle and poultry; and training in blood sampling and radioimmunoassay techniques.

SmithKline offers an excellent compensation and benefits program including an attractive relocation package along with opportunity for personal and professional growth. Please send resume in confidence to: W. B. Flagg.

SMITHKLINE CORPORATION,  
1534 Spring Garden Street  
Philadelphia, PA 19101.  
Equal Opportunity  
Employer,  
F/H/M/V.

**SmithKline**  
Smith Kline & French Laboratories

## CLINICAL RESEARCH PHYSICIANS AND SCIENTISTS

The Upjohn Company's Cardiovascular Diseases Research area has openings for Physicians or appropriately experienced Scientists to participate in the conception, selection and clinical study of drugs for the treatment of cardiovascular disorders. Present lines of investigation include blood pressure and blood flow regulation in various disease states and includes the influence of prostaglandins on these states.

Qualifications for Physicians include an M.D. and the equivalent of an internship. A residency in cardiology or internal medicine is desirable. A background in scientific methodology and a data handling and analysis will be helpful. Similar positions are also available for applicants with a Ph.D. degree and substantial research experience in the area of cardiovascular pharmacology.

These positions afford an attractive alternative to hospital or private practice and to the scientific laboratory. Facilities are available for some direct hands-on clinical research. We offer an excellent salary, benefits program, relocation assistance and the opportunity to work at the forefront of medical research. Please send c.v. in confidence to:

Kathleen diCicco

**THE UPJOHN COMPANY — 13174**  
7000 Portage Road • Kalamazoo, MI 49001

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**Upjohn**

## INVITATION OF NOMINATIONS FOR THE KUWAIT FOUNDATION FOR THE ADVANCEMENT OF SCIENCES ANNUAL

### Prizes

The KFAS Prizes were institutionalized to recognize distinguished accomplishments in the arts, humanities, and sciences. KFAS Prizes are awarded annually in the following categories:

- A. Basic Science
- B. Applied Sciences
- C. Arabic and Islamic Culture
- D. Arts and Letters
- E. Social and Economics Sciences

The Prizes for 1981 will be awarded in the following fields:

- A. Physics
- B. Food Resources
- C. History of Arabic and Islamic Architecture
- D. Arabic Short Story
- E. Economic Development in the Arab Nation

### Background

I. Nominations for these prizes are accepted from academic and scientific centers, learned societies, past recipients of the prizes, and peers of the nominees. No nominations are accepted from political entities.

II. The special topic for each prize and the selection of the prize winners are recommended to KFAS's Board of Directors by the KFAS Prize Council, an autonomous body of distinguished scientists.

III. Two prizes are awarded in each category: A prize to recognize the output of a distinguished Arab, and a prize to recognize the output of a distinguished Kuwaiti.

IV. Each prize consists of a cash sum of KD.5,000/- (Dollar 18,000), a gold medal, and a Certificate of Recognition.

Nominators must state clearly what distinguished work qualifies their candidate for consideration.

Nominators should also provide at least two letters of recommendation written by the candidate's colleagues assessing the candidate's work and citing, where applicable, its impact on the field.

Nominations, include complete curricula vitae, and an updated list of publications by the candidate, should be addressed before October 31, 1981 to:

**The Prize Council**  
**Kuwait Foundation for the**  
**Advancement of Sciences**  
**P.O. Box 25263, Safat,**  
**Kuwait.**

## PLANT PHYSIOLOGIST OR BIOCHEMIST

We are seeking applications for a research position in the Research and Development Laboratories in the area of plant physiology or biochemistry.

The successful candidate should have extensive experience in tissue culture and suspension culture techniques.

The candidate should be capable of initiating a new and innovative program in plant culture directed toward mechanism of differentiation and synthesis of secondary metabolite.

This person should have a Ph.D. with 2-5 years post-doctoral experience or equivalent.

The position is available immediately.

Salary will be commensurate with experience.

Interested candidates should send resume, list of publications and names of three professional references by no later than August 1, 1981, to:

**Mr. Gordon R. McPherson, Manager  
Personnel Administration  
Research and Development Division  
Corning Glass Works  
Sullivan Park  
Corning, New York 14831**

**CORNING**  
CORNING GLASS WORKS  
*An Equal Opportunity Employer*

## RESEARCH SCIENTISTS PHARMACOLOGY

Warner-Lambert/Parke-Davis has immediate openings in the Cardiovascular, Immunoinflammatory and Biochemistry drug discovery groups within the Department of Pharmacology. Responsibilities will include assisting in test procedure development, analyzing experimental data and preparing research reports. Successful candidates will have (1) a BS or MS in pharmacology, biochemistry or related field (2) 1-3 years documented laboratory experience including animal work and (3) good communication skills.

Enjoy excellent compensation and benefits at our outstanding research facilities located next to the University of Michigan campus. Qualified applicants should forward resume together with transcripts to: Ms. D. Love, Personnel Supervisor, **WARNER-LAMBERT/PARKE-DAVIS, Pharmaceutical Research Division, 2800 Plymouth Rd., Ann Arbor, Michigan, 48105.** An Equal Opportunity Employer M/F/H.

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LAMBERT**

## POSITIONS OPEN

**ETHOLOGIST/NEUROBIOLOGIST.** The Biology Department at Carleton College is seeking a 1-year leave replacement to teach ethology, neurobiology, and part of a team-taught introductory biology course during the 1981-1982 academic year. The appointment will begin 1 September 1981 and has the possibility for a 1- or 2-year extension. Rank and salary are negotiable, dependent upon the qualifications of the appointee, who should hold or be near the Ph.D. *Applications from women, minorities, and retired faculty are particularly encouraged.* Interested applicants should send undergraduate and graduate transcripts, detailed curriculum vitae, and three letters of reference to: **G. J. Hill, Chairman, Biology Department, Carleton College, Northfield, Minn. 55057,** before 1 August 1981. *Carleton College is an Equal Opportunity/Affirmative Action Employer.*

University of Michigan Medical School, Department of Radiology, has an academic position available at the rank of **INSTRUCTOR THROUGH PROFESSOR.** This physician will take part in the radiation therapy program of patient care, teaching, and research carried on in the Department of Radiology. He/she will supervise the activities of the resident staff and aid in the teaching of residents and medical students. Applicant must be Board-eligible or Board-certified radiation therapist and have previous training or work experience in an academic institution. Entering level commensurate with qualifications and experience. Send reply, along with curriculum vitae, to: **Box 179, SCIENCE. A nondiscriminatory, Affirmative Action Employer. Code 43HO.**

The Department of Rehabilitation Medicine at the College of Physicians and Surgeons, Columbia University, seeks an **established investigator in the field of exercise physiology and related areas.** The candidate must have a Ph.D. or M.D. degree. He/she must be committed to research but also maintain an interest in teaching. A background in bioengineering is desirable. Faculty appointment is available at a rank commensurate with experience and with the possibility of a formal appointment with Basic Science Department if appropriate. Send application with curriculum vitae and personal references to: **Dr. Lucien J. Cote, Director of Research, or Dr. John A. Downey, Chairman, Department of Rehabilitation Medicine, Columbia-Presbyterian Medical Center, 630 West 168 Street, New York, N.Y. 10032.**

*An Equal Opportunity/Affirmative Action Employer*

Harvard University. The Department of Psychology and Social Relations is searching for **JUNIOR APPOINTEES** (initially for a 5-year term, beginning 1 July 1982) in the areas of social, personality/psychopathology, and social/developmental psychology. In each case a secondary competence in multivariate analysis of data is welcome but not essential. Applications should include current curriculum vitae and applicants should ask at least three individuals familiar with their work to write directly to: **R. Duncan Luce, Chairman, Department of Psychology and Social Relations, Harvard University, 33 Kirkland Street, Cambridge, Mass. 02138.** Applications received after 1 November 1981 may not be considered. *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

As part of the rapidly expanding research programs in the basic sciences at Emory University School of Medicine, the Department of Microbiology and Immunology is seeking to fill another **new faculty position in MOLECULAR GENETICS** that opens April 1982.

Candidates should be prepared to develop a vigorous research program using the latest molecular approaches to solve bacteriological problems. By 1 August 1981 applicants should submit curriculum vitae and a concise summary of future research plans and have three letters of reference forwarded to: **Dr. June Scott, Chairman, Microbial Genetics Search Committee, Department of Microbiology and Immunology, Emory University School of Medicine, Atlanta, Georgia 30322.**

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

**POSTDOCTORAL POSITION** starting September 1981 to study the C-value paradox by comparing gene structure and expression in the legumes *Vicia villosa* (2-pg haploid DNA) and *Vicia faba* (14-pg haploid DNA). Applicant must know DNA techniques, preferably cloning. Send resume and names of three references to: **Arnold Bendich, Department of Botany, University of Washington, Seattle, Wash. 98195.**

## POSITIONS OPEN

**MEDICAL MICROBIOLOGIST (Ph.D.).** Lecture position with some laboratories. Limited research responsibilities. Rapid promotion a good possibility. Send resume and three references to: **Dr. Thomas Key, Chairman of Basic Sciences Division, Life Chiropractic College, 1269 Barclay Circle, Marietta, Georgia 30060.** *Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** to study structure-function relationships in contractile proteins. Experience in protein modification and characterization desirable. Send curriculum vitae and two letters of reference to: **Dr. M. Burke, Department of Biology, Case Western Reserve University, Cleveland, Ohio 44106.**

**POSTDOCTORAL POSITION** available immediately to study the biogenesis of complex flavoproteins in methylotrophic bacteria. Previous experience in enzymology, immunochemistry, or in posttranslational modifications of proteins would be a recommendation. Salary will be in the range of \$17,500 to \$18,500 per year. Send curriculum vitae and names of three references to: **Dr. D. J. Steenkamp, Molecular Biology Division 151S, VA Medical Center, 4150 Clement Street, San Francisco, Calif. 94121.**

**POSTDOCTORAL POSITION**—Washington University; available in September 1981. To participate in studies of thrombin interaction with cultured cells. Experience in any of the following areas desirable: cell membrane receptors, cell biology, chemotaxis, protein biochemistry, and hybridoma technology. Send curriculum vitae, a brief description of research interests, and names of two referees to: **Dr. George Wilner, Department of Pathology and Laboratory Medicine, The Jewish Hospital, 216 South Kingshighway, St. Louis, Missouri 63110.**

*Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION** available immediately to study molecular mechanisms of drug mutagenesis. This position is projected for a 3-year period through NIH funding. Photoaffinity analogs of ethidium and acridine will be used to identify and characterize DNA target sites responsible for specific biological processes. Research will require recombinant DNA technology and nucleic acid sequencing. Therefore, experience with nucleic acids is desirable. Please send curriculum vitae and the names of three references to: **Dr. Jim Gaubatz, Department of Biochemistry, University of South Alabama, Mobile, Alabama 36688.**

## POSTDOCTORAL POSITION Starting September 1981

Operate biophysics resonance Raman laboratory; major interests in membrane protein systems; experience in Raman or state-of-the-art research instrumentation desired; interest in biological systems required.

Send curriculum vitae and names of three references to: **Dr. Fran Adar, Department of Biochemistry and Biophysics, University of Pennsylvania, School of Medicine, Philadelphia, Pa. 19104.**

**POSTDOCTORAL POSITION** available for a person with training in biochemistry, cell biology, or molecular biology. Position is for the study of the role of mammary epithelial cellular endomembranes in the synthesis, postsynthetic modification, and secretion of the constituents of milk. Applicants with experience in in vitro translation are particularly welcomed. Please submit curriculum vitae and three letters of recommendation to: **Dr. T. W. Kennan, Department of Animal Sciences, Purdue University, West Lafayette, Ind. 47907.** *Purdue University is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available 1 September 1981. Synthetic organic chemist or biochemist sought to investigate mechanisms of chemical synthesis of polypeptides and oligonucleotides to gain better understanding of enzyme active sites and polynucleotide replication. Analytical experience in gas chromatography-mass spectrometry or an understanding of the formation and properties of liposomal systems as models for cellular membranes is desirable. Salary is competitive and commensurate with experience. Send curriculum vitae and three letters of reference to: **J. Oro, Department of Biophysical Sciences, University of Houston, Houston, Texas 77004.** *Equal Opportunity Employer.*



## TOXICOLOGIST

The Colgate-Palmolive Company seeks a management-experienced PhD Toxicologist/Pharmacologist for our Research & Development Department. A minimum of 5 years experience in an industrial laboratory is required. This highly responsible position involves administration of all product safety testing at our Piscataway, New Jersey Research Center.

Our Research Center is ideally accessible to New York City, Philadelphia, Rutgers and Princeton University Campuses. We offer competitive salaries coupled with comprehensive benefits. Send resume to: MRS. IVY LEE

### COLGATE-PALMOLIVE COMPANY

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## SENSORY ASSOCIATE

The Research & Development Department of an innovative company producing consumer products is seeking a creative individual to conduct sensory evaluation experiments on such products as Trident Mints, Efferdent, Listermint, Listerine, Dentyne, Bubblicious, and Chiclets. Responsibilities include execution of established sensory evaluation projects and preparation of technical reports of sensory research activities. Typical assignments require the development of solutions to sensory problems through the use of existing literature combined with efficient statistical experimental design.

Position requires a Masters Degree in Experimental Psychology, Sensory Psychology or Psychophysics, with 2-3 years experience in Sensory evaluation.

If you are interested in learning more about this opportunity please submit resume, which must include current salary, in confidence to: **S.H. James, Personnel Supervisor, Warner-Lambert, 201 Tabor Road, Morris Plains, NJ 07950.** An Equal Opportunity Employer M/F/H.

**WARNER  
LAMBERT**

## Director, Research & Development

Consider this unique opportunity to apply—and develop—your expertise with an exciting and growing company in biomedical research, development and production.

You'll provide creative and organizational direction to biochemistry, biology and bio-engineering groups conducting a wide variety of research and development activities in support of the creation of collagen-based medical products. You and your organization will explore the fields of cell biology, extracellular matrix biochemistry and mitogen physiology with the ultimate business goal of developing products used in repairing, replacing or regenerating human body tissue.

To accomplish these ambitious goals you'll provide direction to the development of unique biomaterials, analytical test methods and instruments which will lead to a wide range of product candidates. You will be expected to maintain a continuing relationship with the scientific community through the generation and presentation of technical papers, and to direct an active program designed to produce invention reports.

The ideal candidate is expected to be a well published scientist with the ability to inspire and maintain scientific excellence. An important requirement is a PhD in biochemistry or biology or an MD with a research orientation. Approximately ten years of related experience including research managerial assignments is required. Experience with protein biochemistry, cell biology or immunology is highly desirable.

We offer an exciting and creative environment and our salary and benefits are highly competitive. We are confident you will also find our equity participation program attractive.

For consideration please submit a comprehensive resume to Dr. Bruce Pharriss, Vice President, Scientific Affairs, Attn: Department D, Collagen Corporation, 2455 Faber Place, Palo Alto, CA 94304. An affirmative action employer.

Collagen Corporation



## POSITIONS OPEN

**POSTDOCTORAL POSITION** to study ultrastructural aspects of genetic activity (transcription, replication, RNA processing, and chromatin structure). Laboratory interested in application of new technology to chromatid spreading procedures. Available immediately. Salary: \$13,500, plus fringe benefits. Send curriculum vitae and names of three references to: **Dr. Oscar L. Miller, Jr., Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, Va. 22901. An Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION:** Isolation, physicochemical studies, and biological assay of trace metal complexes. Species are naturally occurring and deficiencies are related to maturity-onset diabetes and ischemic heart disease. Must have experience in biochemical isolation. Position available immediately. Send curriculum vitae and names of two references to: **Harold Goff, Department of Chemistry, University of Iowa, Iowa City, Iowa 52242. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available immediately for the study of the effect of pressure on the solubility of minerals and the PVT properties of geothermal fluids. Ph.D. in chemistry or geochemistry required. Experience in solution physical chemistry desirable. Salary up to \$16,000 per year, depending upon qualifications. Send résumé and three letters of reference to: **Dr. Frank J. Millero, RSMAS, University of Miami, Miami, Florida 33149. Telephone: 305-350-7482. Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** to study the genetic control of hybrid resistance to mouse tumors. Recent Ph.D. with background in cellular immunology preferred. Send curriculum vitae, statement of research background and interests, and the names, addresses, and telephone numbers of three references to: **Dr. Julia M. Phillips-Quagliata, Department of Pathology, New York University Medical Center, 550 First Avenue, New York, N.Y. 10016. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately for research on T-cell differentiation and the effect of thymus hormones. Candidate must have background in cellular immunology, isolation of lymphoid cell subpopulations, tissue culture, and detection of surface markers.

Send résumé to: **Dr. Marion Zatz, Department of Biochemistry, The George Washington University, 2300 Eye Street, NW, Washington, D.C. 20037. An Equal Opportunity Employer.**

**POSTDOCTORAL/RESEARCH ASSOCIATE.** Position available immediately for M.D. or Ph.D. Research on mechanism of peptide-hormone action and regulation of protein phosphorylation. Experience in tissue culture necessary; background in protein chemistry, enzymology desirable. Salary: \$16,000 to \$19,000, depending on experience. Send curriculum vitae and two references to: **Dr. Joseph Avruch, Chief, Diabetes Unit, Massachusetts General Hospital, Boston, Mass. 02114.**

**POSTDOCTORAL RESEARCH ASSOCIATE.** Biochemistry or organometallic Ph.D. to work on NIH-funded project developing organometallic protein modification reagents for use in diagnostic nuclear medicine. Send résumé to: **Dr. Michael A. Davis, 108 Mugar Hall, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115. An Equal Opportunity/Affirmative Action/Title IX University.**

**RESEARCH ASSOCIATE POSITION,** available September 1981, to work on studies of development of visual system. Experience in intracellular or extracellular single cell recording required. Send curriculum vitae and two letters of recommendation to:

**Dr. E. Hazel Murphy  
Department of Anatomy  
3300 Henry Avenue  
Philadelphia, Pa. 19129**

**TWO RESEARCH POSITIONS** open in primate behavior: (i) psychopharmacology and neurochemical aspects of emotion and motivation; and (ii) social behavior. Send curriculum vitae and names of references to: **R. W. Goy, Director, Wisconsin Regional Primate Center, University of Wisconsin, Madison, Wisconsin 53706. Starting date and level negotiable. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**TWO POSTDOCTORAL RESEARCH ASSOCIATE** positions in plant cell biology. (i) Conduct research on genetic manipulation of sugar beets using in vitro techniques. This will include studies on genetic variations and on regeneration. (ii) Research on plant-mycorrhizal interactions, utilizing in vitro techniques. Experience in mycology or mycorrhizal-plant interactions required. Send curriculum vitae, transcripts, and three letters of reference to: **P. S. Carlson, 306 Plant Biology, Michigan State University, East Lansing, Mich. 48824. Michigan State University is an Equal Opportunity/Affirmative Action Employer. Deadline: 1 August 1981.**

**RESEARCH ASSOCIATE,** James A. Baker Institute for Animal Health, Cornell University. Opening for Ph.D., M.D., or D.V.M. with relevant experience in parasitology and immunology to conduct research in collaboration with senior investigator on cellular mechanisms of resistance to *Trichinella spiralis*. Application deadline: 15 August 1981.

**Douglas D. McGregor, M.D., D.Phil.**

**James A. Baker Institute**

**Cornell University**

**Ithaca, New York 14853**

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

## RESEARCH PHYSICIST

The Department of Physics of the University of California, Irvine, offers a position for a theoretical research physicist with a Ph.D. degree and at least 3 years of experience in plasma physics to work on new accelerator concepts. One-year appointment can be extended if funds are available. Send résumé, bibliography, and names of three professional references to: **Professor Norman Rostoker, Department of Physics, University of California, Irvine, Irvine, California 92717. University of California is an Affirmative Action/Equal Opportunity Employer.**

## RESEARCH POSITION

Permanent position at university hospital. Immunochemist or immunologist with biochemical background. Doctorate required. Work on immunological aspects of human cancer. Experience in radioisotope work, antibody fractionation, labeling, and immunoassays. Excellent salary and benefits. Send curriculum vitae and bibliography to: **Parimal Desai, Immunochemistry Research, Evanston Hospital, 2650 Ridge Avenue, Evanston, Ill. 60201.**

**RESEARCH POSITIONS IN HUMAN CYTOGENETICS.** Persons with Ph.D. and M.S. with experience in cytogenetics are needed to work with cell synchronization and G-banded prophase in cancer or birth defects and prenatal diagnosis. Salary close to \$16,000. Please send curriculum vitae and references to: **Dr. Jorge J. Yunis, Professor, Department of Laboratory Medicine and Pathology, Box 198 Mayo Memorial Building, University of Minnesota, Minneapolis, Minn. 55455. Equal Opportunity Employer.**

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIP IN BIOCHEMISTRY.** Pathway enzymes of ergot alkaloid biosynthesis; \$11,000 to \$12,000 per year. Send curriculum vitae and have three references write to: **Dr. John A. Anderson, Department of Chemistry, Texas Tech University, Lubbock, Texas 79409. An Equal Opportunity/Affirmative Action Employer.**

## POSTDOCTORAL FELLOWSHIPS FOR RESEARCH TRAINING IN HYPERTENSION

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

For further information contact:

**Dr. E. G. Schneider  
University of Tennessee  
Center for the Health Sciences  
894 Union Avenue  
Memphis, Tennessee 38163**

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## FELLOWSHIPS

**POSTDOCTORAL RESEARCH ASSOCIATE.** Position beginning September 1981 to study central nervous system control of water and electrolyte metabolism. Background in neurophysiological techniques, catecholamine assays, or metabolism studies desirable. Participation in teaching also expected. Send curriculum vitae and names of three references to:

**Dr. John R. Thornborough  
Sophie Davis School of Biomedical Education  
The City College of New York  
137th Street and Convent Avenue  
Science Building, Room 909  
New York, N.Y. 10031**

*An Equal Opportunity/Affirmative Action Employer*

## WORKSHOP

### LEGIONNAIRES' DISEASE DETECTION WORKSHOP

**16 to 20 August 1981**

**by the Fresh Water Institute**

**at Rensselaer Polytechnic Institute, Troy, N.Y.**

The workshop will present the detection, quantitation and control of *Legionella* in heat rejection and potable water systems. The workshop will provide participants with all skills necessary to analyze samples, assess cooling systems and effect chemical treatments. *Designed for:* personnel in air conditioning, refrigeration, heating, sanitation, and waterworks who have had experience and training in microbiology; microbiologists; microbial ecologists. **Registration fee: \$650. For registration application and information, call: Fresh Water Institute, telephone: 518-270-6757.**

## PROGRAM

### CAREER CHANGE OPPORTUNITY FOR SCIENCE Ph.D.'s

This unique accelerated program offers science Ph.D.'s the opportunity to obtain a doctor of optometry (O.D.) degree in two calendar years. Employment opportunities exist in industry, education and research, administration and private practice. Contact: **The Dean of Admissions, The New England College of Optometry, 424 Beacon Street, Boston, Mass. 02115.**

## TRAINEESHIPS

### VIROLOGY

**POSTDOCTORAL TRAINEESHIPS** in biochemical genetics of phage and tumor viruses at The University of Michigan Medical School are now available through an NIH-funded interdisciplinary program. Research areas include animal cell transformation, tumor virus and phage DNA replication and recombination, regulation of gene expression and virus-cell interactions. Applicants need not have previous research experience in virology. Submit curriculum vitae and a list of three references to: **Virology Postdoctoral Training Program Committee (Department of Biological Chemistry), or to one of the following faculty: Dr. William R. Folk, Dr. G. R. Greenberg (Department of Biological Chemistry); Dr. William Brockman, Dr. D. I. Friedman (Microbiology); Dr. M. Levine (Human Genetics), The University of Michigan Medical School, Ann Arbor, Mich. 48109.**

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**POSTDOCTORAL FELLOWSHIPS IN NEUROBIOLOGY** An expanding multidisciplinary research program concerned with the neurobiology of development and regeneration has several openings commencing 1 September 1981 and extending for 2 years. The research areas included in the program are development of visual system, axonal sprouting in the cat spinal cord, behavioral correlates of recovery of function, survival and death of neurons during development, axonal regeneration, synaptic plasticity in the developing autonomic nervous system, and the development of biogenic amines and receptors. Send curriculum vitae and names of three references to:

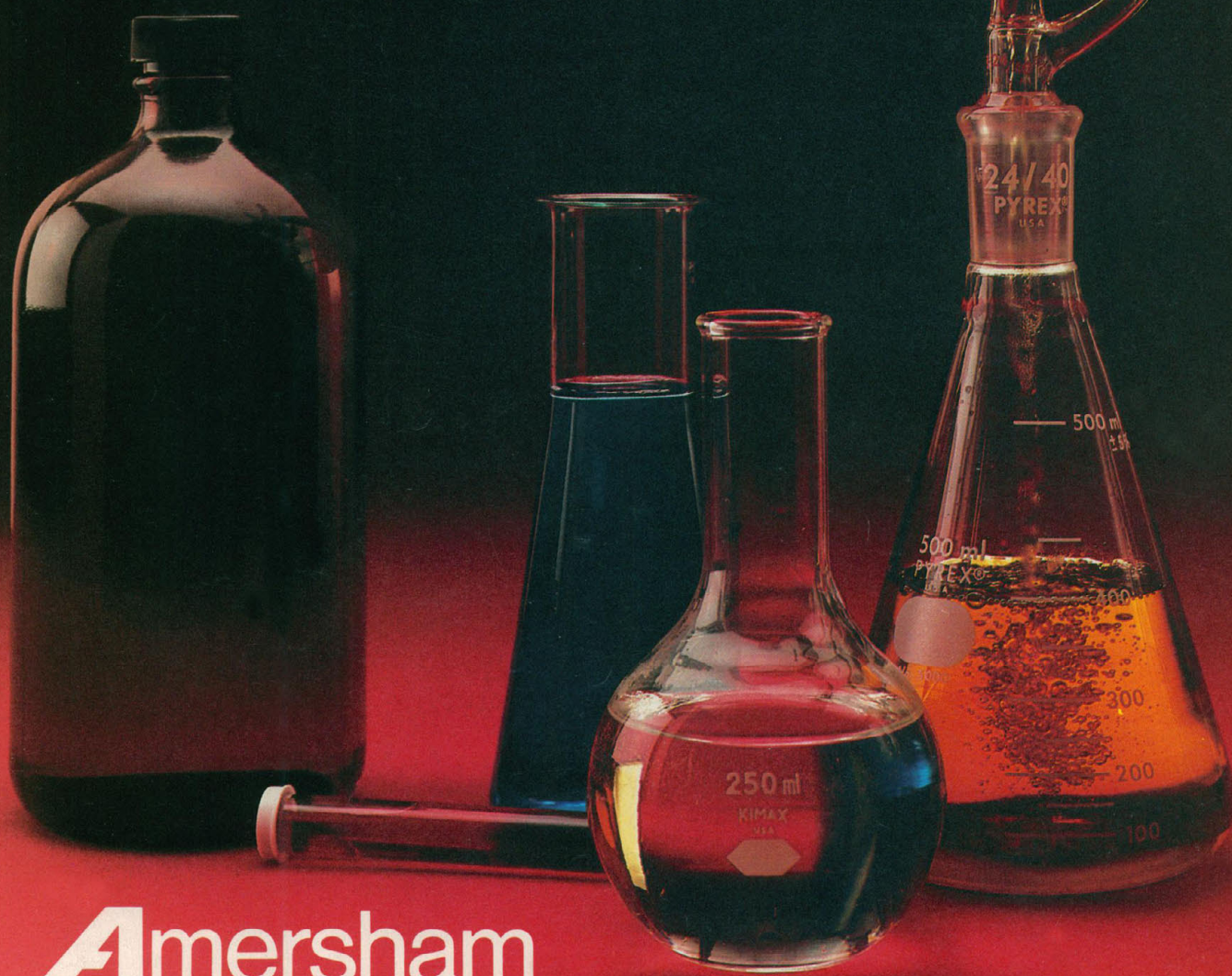
**Dr. Leonard L. Ross  
Department of Anatomy  
The Medical College of Pennsylvania  
3300 Henry Avenue  
Philadelphia, Pa. 19129**



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## Guide to gazing into inner space.

As the health sciences explore deeper into tissues and even cells, purer and more specialized biological stains and related products are needed. We offer 170 biological stains, 51 of them certified, plus fixatives, dehydrating agents, clearing agents, infiltration and embedding media, and solvents. These products are described in the brochure, "KODAK Biological Stains and Related Products," along with major uses and literature references. These are a few of the thousands of organic, inorganic, and biochemicals available through dealers. Write for our free guide on biological stains. Let it guide your imagination.



### The creative source.

**The ready source:** Dealers handling KODAK Laboratory Chemicals: American Scientific & Chemical; American Scientific Products; Bioclinical Laboratories NJ; BCL/New York; Brand-Nu Laboratories, Inc.; Bryant Laboratory, Inc.; CAMX Scientific; Fisher Scientific; Mays Chemical; Midland Scientific, Inc.; North-Strong Division; Preiser Scientific; Sargent-Welch Scientific; Scientific & Industrial Sales & Service, Inc.; Specialty Chemicals, Inc.; VWR Scientific Inc.; Ward's Natural Science Establishment, Inc.

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