

clusion, which might have been better phrased as an apology. Nevertheless, for anyone interested in the current status of the imagery controversy, this volume offers a convenient introduction.

KEITH J. HOLYOAK

*Human Performance Center,  
Department of Psychology,  
University of Michigan,  
Ann Arbor 48104*

## Periplaneta americana

**The American Cockroach.** WILLIAM J. BELL and K. G. ADIYODI, Eds. Chapman and Hall, London, 1981 (U.S. distributor, Methuen, New York). xviii, 530 pp., illus. \$65.

For a small and retiring creature, the cockroach has had a large impact on the subjective quality of human life. Perhaps because it is cosmopolitan in its distribution, it, like the rat, has been transmogrified by scientists from a nasty pest into a quintessential experimental animal. An impressive amount of basic and applied research aimed at better understanding (and sometimes extermination) of the cockroach is recorded in the libraries of the world. In fact, thanks to their antiquity and adaptability, cockroaches are probably a good choice for the scientist bent on investigating any aspect of insect physiology; this book aims to be a resource for such people.

The book contains 15 chapters plus a brief introduction by L. M. Roth (which combines a clear summary of cockroach natural history with a chillingly extensive list of all the pathogenic organisms harbored by *Periplaneta americana*). A few of the chapters take a mainly cellular approach: integument (R. R. Mills); circulatory system (P. M. Fox); and fat body and metabolism (R. G. H. Downer). More of the chapters, however, are strongly organismal in their approach. Some focus on systems: nutrition (D. E. Bignell); respiration (P. L. Miller); osmoregulation (D. E. Mullins); nervous system and muscle (R. Pipa and F. Delcomyn); sense organs (G. Seelinger and T. R. Tobin); neurosecretion (S. S. Tobe and B. Stay); and reproduction (Bell and Adiyodi). Others are concerned with suprasystem functions: rhythms (D. J. Sutherland); development (R. R. Provine); pheromones and behavior (Bell); and regeneration (J. G. Kunkel). The editors seem to have put a good deal of effort into coordinating the chapters, both by cross-referencing between chapters and by copious reference to two earlier books on cockroach biology

(Guthrie and Tindall's *The Biology of the Cockroach*, 1968, and Cornwell's *The Cockroach*, vol. 1, 1968). This was probably a good way of expanding the scope of the book, although it sometimes makes the book less readable; one is continually brought up short in mid-idea by directives to pursue the point elsewhere. The breadth of the volume is impressive; it has sacrificed depth of coverage to achieve this and may prove frustrating for specialists looking for a deep view. On the other hand, it has brought together an immense and, like its subject, cosmopolitan collection of up-to-date references, and this is a valuable service.

In their preface, the editors express the hope that this volume will invite new researchers to consider the cockroach as an experimental animal. To this end, they ask their contributors to "place the cockroach in perspective with regard to its appropriateness . . . for various types of biological investigations" and, as well, to point out the unanswered questions of cockroach biology as a lure to potential investigators. Some (although perhaps not all) of the authors have risen to the challenge and have accomplished the delicate task of creating a sourcebook for both old and new ideas: a map from which readers may chart their own approaches, having before them not only the existing array of facts but also the most intriguing gaps in it.

MARGARET C. NELSON

*Section of Neurobiology and Behavior,  
Cornell University,  
Ithaca, New York 14853*

## Books Received

**The Chemical Industry.** Proceedings of a conference. Cambridge, England, Mar. 1981. D. H. Sharp and T. F. West, Eds. Published for the Society of Chemical Industry by Horwood, Chichester, England, 1982 (U.S. distributor, Halsted [Wiley], New York). 644 pp., illus. \$95.95.

**Child Nurture.** Vol. 1, Philosophy, Children, and the Family. Papers from a conference, East Lansing, Mich., Mar. 1980. Albert C. Cafagna, Richard T. Peterson, and Craig A. Staudenbaur, Eds. Plenum, New York, 1982. xiv, 378 pp. \$35.

**Children's Dreams.** Longitudinal Studies. David Foulkes. Wiley-Interscience, New York, 1982. xiv, 478 pp. \$32.50.

**Clinical Psychology and Medicine.** A Behavioral Perspective. Chris J. Main and William R. Lindsay, Eds. Plenum, New York, 1982. xii, 372 pp. \$39.50.

**Coal Utilisation.** Technology, Economics and Policy. L. Grainger and J. Gibson. Halsted (Wiley), New York, 1982. xxii, 504 pp., illus. \$49.95.

**College Algebra.** Karl J. Smith and Patrick J. Boyle. Brooks/Cole, Monterey, Calif., ed. 2, 1982. xiv, 356 pp., illus. \$19.95.

**Commemoration du Bicentenaire de la Naissance de Laennec, 1781-1826.** Papers from a colloquium, Feb. 1981. Palais de la Découverte, Paris, 1981. 344 pp., illus. Paper, 52 F. *Revue du Palais de la Découverte*, Numero Special 22.

**Encyclopedia of Statistical Sciences.** Vol. 1, A to Circular Probable Error. Samuel Kotz, Norman L. Johnson, and Campbell B. Read, Eds. Wiley-Interscience, New York, 1982. xii, 480 pp., illus. \$75.

**Energy: A Global Outlook.** The Case for Effective

International Co-operation. Abdulhady Hassan Taher. Pergamon, New York, 1982. xx, 388 pp. + plates. Cloth, \$39.50; paper, \$18.50.

**Energy, Force, and Matter.** The Conceptual Development of Nineteenth-Century Physics. P. M. Harman. Cambridge University Press, New York, 1982. x, 182 pp., illus. Cloth, \$27.50; paper, \$8.95.

**Energy Management Handbook.** Wayne C. Turner, Ed. Wiley-Interscience, New York, 1982. xxvi, 714 pp., illus. \$49.50.

**Energy Tomorrow.** Peter Harsanyi. Academic Publishing Company, Montreal, 1981. 174 pp., illus. \$15.95.

**Engines, Energy, and Entropy.** A Thermodynamics Primer. John B. Fenn. Freeman, San Francisco, 1982. xx, 294 pp., illus. Cloth, \$17.95; paper, \$9.95.

**Environmental Analysis of Transportation Systems.** Louis F. Cohn and Gary R. McVoy. Wiley-Interscience, New York, 1982. xiv, 374 pp., illus. \$44.95.

**Environmental Engineering and Sanitation.** Joseph A. Salvato. Wiley-Interscience, New York, ed. 3, 1982. xxvi, 1164 pp., illus. \$55. Environmental Science and Technology.

**Epitaph for Planet Earth.** How to Survive the Approaching End of the Human Species. Milo Don Appelman. Fell, New York, 1982. xii, 192 pp. \$14.95.

**Fifty Years On.** Looking Back on Some Developments in Neurohumoral Physiology. W. S. Feldberg. Liverpool University Press, Liverpool, England, 1982. xiv, 106 pp., illus. £6.25. The Sherrington Lectures XVI.

**First Lessons in Beekeeping.** C. P. Dadant. Revised and rewritten by M. G. Dadant, J. C. Dadant, G. H. Cale, Jr., and Howard Veatch. Scribner, New York, 1982. 128 pp., illus. Paper, \$4.95. Reprint of the 1976 edition.

**Immunomodulation by Bacteria and Their Products.** Papers from a conference, Tampa, Fla., Nov. 1979. Herman Freidman, Thomas W. Klein, and Andor Szentivanyi, Eds. Plenum, New York, 1981. xii, 308 pp., illus. \$42.50.

**Inside the Earth.** Evidence from Earthquakes. Bruce A. Bolt. Freeman, San Francisco, 1982. xiv, 192 pp., illus. Cloth, \$22.50; paper, \$10.95.

**Interferon.** The New Hope for Cancer. Mike Edelhart with Jean Lindenmann. Ballantine, New York, 1982. xii, 228 pp. Paper, \$3.50. Reprint of the 1981 edition.

**The Masterpiece of Nature.** The Evolution and Genetics of Sexuality. Graham Bell. University of California Press, Berkeley, 1982. 636 pp., illus. \$45.

**The Material Basis of Evolution.** Richard Goldschmidt. Yale University Press, New Haven, Conn., 1982. xlii, 438 pp., illus. Cloth, \$35; paper, \$12.95. Silliman Milestones in Science. Reprint of 1940 edition with added introduction.

**Measuring Emotions in Infants and Children.** Papers from two conferences, Princeton, N.J., Nov. 1978 and May 1979. Carroll E. Izard, Ed. Cambridge University Press, New York, 1982. x, 348 pp., illus. \$29.50. Cambridge Studies in Social and Emotional Development.

**Mechanics of Solids.** The Rodney Hill 60th Anniversary Volume. H. G. Hopkins and M. J. Sewell, Eds. Pergamon, New York, 1982. xxiv, 694 pp., illus. \$100.

**Neuronal Plasticity and Memory Formation.** Papers from a symposium, Magdeburg, Germany, 1980. Cosimo Ajmone Marsan and H. Matthies, Eds. Raven, New York, 1982. xxii, 660 pp., illus. \$65. International Brain Research Organization Monograph Series, vol. 9.

**Neuronal-glia Cell Interrelationships.** Papers from a workshop, Berlin, Nov. 1980. T. A. Sears, Ed. Springer-Verlag, New York, 1982. x, 378 pp., illus. \$23. Dahlem Workshop Reports. Life Sciences Research Report 20.

**Stressful Life Events and Their Contexts.** Barbara Snell Dohrenwend and Bruce P. Dohrenwend, Eds. PRODIST (Neale Watson), New York, 1981. xiv, 288 pp. Paper, \$12.95. Monographs in Psychosocial Epidemiology, 2.

**Surface and Colloid Phenomena in the Oral Cavity.** Methodological Aspects. Proceedings of a workshop, Strasbourg, France, Oct. 1981. R. M. Frank and S. A. Leach, Eds. IRL Press, Arlington, Va., 1982. xii, 276 pp., illus. Paper, \$24.

**Symptoms, Illness Behavior, and Help-Seeking.** David Mechanic, Ed. PRODIST (Neale Watson), New York, 1982. xvi, 158 pp. Paper, \$11.50. Monographs in Psychosocial Epidemiology, 3.

**Thermophysical Properties Research Literature Retrieval Guide, 1900-1980.** J. F. Chaney, V. Ramdas, C. R. Rodriguez, M. H. Wu, Eds. IFL/Plenum, New York, 1982. Seven volumes. Vol. 1, Elements. Vol. 2, Inorganic Compounds. Vol. 3, Organic Compounds and Polymeric Materials. Vol. 4, Alloys, Intermediate Compounds, and Cermet. Vol. 5, Oxide Mixtures and Minerals. Vol. 6, Mixtures and Solutions. Vol. 7, Coatings, Systems, Composites, Foods, Animal and Vegetable Products. Each volume, \$99.29.

# Disrupting? Emulsifying? Processing Cells/Tissues?

Anyway you want to do it; we have the system.

The most complete offering of mechanical or ultrasonic cell/tissue preparation systems from a single source.

Complete systems, and a full line of accessories, to suit all homogenization, disruption, shearing, grinding, and emulsification applications—regardless of sample size.

25 years of experience.

Send for Free Literature Today.



THE HOMOGENIZING PEOPLE



**HEAT SYSTEMS  
—ULTRASONICS** INCORPORATED  
38 EAST MALL, PLAINVIEW, NEW YORK 11803  
telephone 516/694-9555 • telex 14-3101

Circle No. 119 on Readers' Service Card



**Unrestrained animal drug  
infusion or blood withdrawal...**  
NOW POSSIBLE WITH THE NEW CORMED INFUSION SYSTEMS.

The CORMED Slimline Multi-Range Mobile Infusion Pumps are self-contained miniaturized systems for precise drug infusion or blood withdrawal...

- Offer greater versatility in clinical research on animals in more natural ambulatory state
- Precise flow control and extensive, adjustable flow ranges available (from 4 ml to 3 liters per 24 hrs.)... pumps employ peristaltic principle... weigh just 14 ounces
- Positive-closure, anodized aluminum Slimline case contains and protects the system from damage and contamination
- Reliable, rechargeable power pack operates up to 7 days
- Systems come complete with 2 powerpacks, charger, and plug-in flow rate calibration meter.

**CORMED** Inc.

P.O. Box 470, Dept. J., 591 Mahar St., Medina, NY 14103 • 716/798-4900 Ext. 12

Circle No. 166 on Readers' Service Card

# PROSTAGLANDINS

Upjohn Diagnostics now offers you 12 prostaglandin compounds — for use as laboratory research chemicals. They are:

- PGE<sub>1</sub>
- PGE<sub>2</sub>
- PGA<sub>1</sub>
- PGA<sub>2</sub>
- PGF<sub>1α</sub>
- PGF<sub>2α</sub> Tromethamine
- 13,14-diH-15-keto PGF<sub>2α</sub>
- Thromboxane B<sub>2</sub>
- 6-keto PGF<sub>1α</sub>

**NOW AVAILABLE!**

- PGI<sub>2</sub> (Prostacyclin) Na SALT
- PGD<sub>2</sub>
- Thromboxane B<sub>2</sub> Antiserum

For more information, call or write:

**Upjohn** diagnostics

Upjohn Diagnostics/Division of The Upjohn Company  
Kalamazoo, Michigan 49001/(616) 385-7111

To assure consistent quality, Upjohn prostaglandin chemicals are analyzed prior to release by our Quality Assurance Unit. For details about any batch analysis, contact Upjohn Diagnostics, Kalamazoo, Michigan.

Copyright 1982, The Upjohn Company

UD 79-014R

## 1981-1982 Guide to Scientific Instruments



An authoritative, thorough source of information on scientific instruments. Instruments from approximately 2,000 companies are classified for easy reference in more than 2,000 categories.

272 pp. \$10.00

Mail orders to:

AAAS Sales Dept. G-6-81

1515 Massachusetts Avenue, NW  
Washington, DC 20005

# Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. 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, handicap, or sexual preference.

## CLASSIFIED ADVERTISING DEADLINES:

13 August issue (mailed 6 August): 23 July  
20 August issue (mailed 13 August): 30 July  
27 August issue (mailed 20 August): 6 August  
3 September issue (mailed 27 August): 13 August

**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):** \$9 per millimeter, \$225 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 Avenue, 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 Avenue, NW  
Washington, D.C. 20005

## POSITIONS WANTED

**Biochemist/Neurochemist, Ph.D.** 1966. Extensive research, teaching, and clinical chemistry experience. Work in mental retardation, inborn errors of metabolism, enzymology, human nutrition, perinatal biology, and so forth. Publications and books. Seeks challenging research/teaching/clinical/consultant position in academia/hospitals/industry. Box 197, SCIENCE. X

**Biochemist/Tissue Culturist, M.S.** 1972, 10 years of research experience in electrophoresis, column chromatography, tissue culture, serum proteins, serum-free media, hormones, growth factors. Several publications; seeking position in industry or academic/research institution in New Jersey area. Box 182, SCIENCE. 7/23, 30

**Microbiologist, B.S.** Seeks industrial position in R & D or QC. Skilled in development of new selective/differential culture media for pathogenic bacteria. Experience in bacterial taxonomy, culture preservation, antimicrobial assays, QC procedures, GMP's, and handling and disposing of hazardous biological and chemical wastes. Presently with company manufacturing rapid microbial identification system. Box 192, SCIENCE. X

**Neurotoxicologist/Neurochemist, Ph.D.** 1980. Multidisciplinary background in neurochemistry, psychopharmacology, and neurotoxicology. Extensive teaching experience. Strong background in dementia and aging research. Experience in HPLC-EC, AA, histochemistry, behavioral testing, and enzymes. Seeks position in industry, government, or academia. Box 199, SCIENCE. X

**Wanted. Long-term research position** in two fields: intellectual systems engineering (includes robotics, logic chip brain design, relevancy sensitive superalgorithm synthesis) plus bio-language and life-systems-interrelation engineering (concerns genetic knowledge acquisition, cognition, and interrelation). Reply: Box 194, SCIENCE. X

## POSITIONS WANTED

**Biologist, M.S.** Experience with hybrid grass carp/aquatic weed control; also freshwater commercial fisheries. Four years of experience. Desires research, academic, or industrial position. Box 195, SCIENCE. X

**Cell Sorting/Analysis, Ph.D.** Pioneer in field with proven ability to develop new concepts, seeks position giving opportunity to pursue innovative applications of technology to medicine. Prefers academic position with solid funding. Box 196, SCIENCE. 7/23, 30; 8/6, 13

**Recombinant DNA Technician, B.S.,** experienced in genomic/cDNA cloning, hybridization, current recombinant DNA technologies, desires relocation in Colorado area. Challenging position in industry, government, or university sought. Box 198, SCIENCE. X

## POSITIONS OPEN

### ANATOMY—NEUROSCIENCE

The Department of Anatomy, University of Rochester School of Medicine, anticipates filling several faculty positions during the 1982 and 1983 academic years. We are interested in scientists whose research interests and accomplishments provide evidence of independent growth as well as group interactions especially for individuals at the more senior ranks. Major research emphasis in the department is in neurobiology with particular program focuses on central endocrine neurons, aging, transplantation, behavioral teratology, development, and transmitter interactions. We would prefer to add diversity in general areas including vision, plasticity, receptor localization, electrical properties, synaptogenesis, behavior, and cell-molecular biology, as well as building additional strength in certain of the existing areas of expertise. Teaching responsibility will reside in one of our medical school courses and in the training of pre- and postdoctoral students. Rank and salary will be commensurate with accomplishments. Please send curriculum vitae, representative publications, and a list of three references to:

**Dr. John R. Sladek, Jr., Professor and Chairman**  
Department of Anatomy—Box 603  
University of Rochester School of  
Medicine and Dentistry  
601 Elmwood Avenue  
Rochester, New York 14642

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

**ANATOMY ASSISTANT PROFESSOR**—The Department of Anatomy, The Medical College of Pennsylvania, has a tenure-track position at the assistant professor level beginning 1 July 1983. Applicants should be qualified to teach gross anatomy and embryology. Candidates should have postdoctoral research experience and a significant record of research accomplishment with the capacity to function as an independent researcher in the field of cellular or developmental neurobiology. Current research areas in the department include neurobiology, muscle biology, and cell biology. Salary is dependent upon qualifications and experience. Applicants are invited to submit curriculum vitae, names of three references, and a statement of research interests and teaching experience by 1 December 1982 to: **Dr. Leonard L. Ross, Chairman, Department of Anatomy, MEDICAL COLLEGE OF PENNSYLVANIA, 3300 Henry Avenue, Philadelphia, Pa. 19129. An Equal Opportunity Employer.**

**ASSISTANT PROFESSOR.** Applications are invited for a position at the level of assistant professor (tenure-track) in the Department of Chemistry at Stanford University in the general area of organic chemistry. Applicants must be strongly motivated toward research and have a commitment to teaching undergraduates as well as graduates. In applying, send curriculum vitae, list of publications, and a brief statement of research interests (three pages or less), and, in addition, have three letters of recommendation sent to: **Professor John I. Brauman, Chairman, Department of Chemistry, Stanford University, Stanford, California 94305. Stanford is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify minority persons and women with appropriate qualifications.** The deadline for receipt of applications is 15 October 1982.

## POSITIONS OPEN

### ACADEMIC POSITION IN ERGONOMICS AND WORK PHYSIOLOGY

The Southern Occupational Health Center, University of California, Irvine, is seeking candidates for a nontenure-track position in work physiology and ergonomics. Responsibilities will include direction of a work physiology laboratory, in association with programs in toxicology, industrial hygiene, and occupational medicine, and limited instruction of graduate students and medical residents. Evidence of productivity as a principal investigator with significant contributions to the scientific literature, ability to obtain extramural research support, and research in an area relevant to occupational health are required. Teaching experience at the graduate level is highly desirable.

Qualifications include an M.D. or earned graduate doctoral degree in a discipline pertinent to ergonomics. Salary and rank commensurate with experience and qualifications.

Please send curriculum vitae and names of three referees to:

**James L. Whittenberger, M.D.**  
Director, Southern Occupational Health Center  
19722 MacArthur Boulevard  
University of California, Irvine  
Irvine, Calif. 92717

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

**ASSISTANT PROFESSOR,** tenure-track position available for protein biochemist with HPLC experience. Opportunity for independent and collaborative research in a basic science department active in research related to reproductive physiology, biochemistry, and endocrinology. Medical School and Graduate School teaching opportunities in a vital Medical Center. Send curriculum vitae and three references to: **Dr. B. Sanborn, Chairperson, Committee for Faculty Recruitment, Department of Reproductive Medicine and Biology, University of Texas Medical School at Houston, P.O. Box 20708, Houston, Texas 77025. The University of Texas is an Equal Opportunity Employer.**

**VISITING ASSISTANT PROFESSOR**—Nontenure-track position for cellular and/or developmental biologist to begin January 1983; appointment will be for up to 3 years. Must have Ph.D.; postdoctoral experience preferred, but not necessary. Major teaching responsibilities in area of specialization and introductory cell biology. Research effort is expected. Salary competitive. Deadline for applications is 1 October 1982. Send résumé and three letters of recommendation to: **Dr. Gerald W. Esch, Department of Biology, Wake Forest University, Winston-Salem, N.C. 27109. Applications from women and minority candidates are encouraged.**

**ASSISTANT, ASSOCIATE, OR FULL PROFESSOR OF PHARMACOLOGY AND TOXICOLOGY.** Applications are invited by the Department of Pharmacology and Toxicology, University of Arizona College of Pharmacy, for two tenure-track positions available immediately. The applicants should possess a Ph.D. degree in pharmacology, toxicology, or related disciplines, two or more years of postdoctoral experience, demonstrated excellence in research, and an active interest in teaching at both the undergraduate and graduate levels. The candidates will be expected to establish and support an independent research program. Areas of specific interest to the department include, but are not limited to, neurotoxicology, immunopharmacology and toxicology, developmental toxicology, and biochemical pharmacology. Applicants should send detailed curriculum vitae and names of three references to: **Dr. I. Glenn Sipes, Head, Department of Pharmacology and Toxicology, College of Pharmacy, The University of Arizona, Tucson, Arizona 85724. An Equal Opportunity/Affirmative Action Employer.**

**FACULTY POSITION, ORGANIC CHEMISTRY.** Applications are invited for a tenured senior appointment in the Department of Chemistry at Stanford University. Applicants must have outstanding research credentials in the general area of organic chemistry and a strong commitment to teaching undergraduates as well as graduates. In applying, send curriculum vitae and bibliography to: **Professor J. I. Brauman, Department of Chemistry, Stanford University, Stanford, California 94305. Stanford is committed to Equal Opportunity through Affirmative Action in employment and we are especially eager to identify women and minority persons with appropriate qualifications.** Applications should be received by 15 October 1982.

## LIFE SCIENCES DIRECTOR

The Life Sciences Laboratories of Gulf South Research Institute located in the charming old South antebellum community of New Iberia, LA (just over 100 miles from New Orleans) is seeking a director who is a proven leader recognized in the scientific community, conversant in the Life Sciences with emphasis in one or more of the following areas: Animal Resources, Clinical Chemistry, Biochemistry, Toxicology and Animal Pathology. Committed to excellence and growth, the ideal candidate will have successfully developed research and development programs and marketing strategies, demonstrating an aggressive, high-energy and goal-oriented management style.

GSRI was established in May, 1964 through the joint efforts of an association of Louisiana business, labor and education leaders, and with the full support of the Louisiana state government. Its activities embrace the fields of foremost scientific and economic significance to the country at large as well as for Louisiana and the gulf region.

GSRI offers 100% vesting in a tax sheltered retirement annuity program; generous vacation leave; group life, accidental death and dismemberment, long-term disability, hospital and major medical insurance; an equitable sick leave policy; educational encouragement and assistance; sharing in patent royalties, incentives for contributions to corporate contributions and liberal household moving and personal relocation provisions.

Direct inquiries to:

**GULF SOUTH RESEARCH INSTITUTE**  
Corporate Headquarters  
Personnel Office  
P.O. Box 14787  
Baton Rouge, LA 70808

An Equal Opportunity Employer M/F.

## DEAN OF THE COLLEGE OF ARTS AND SCIENCE University of Missouri-Columbia (UMC)

University of Missouri, Columbia campus, is inviting applications and nominations for the position of dean of the College of Arts and Science. Established in 1841, the Arts and Science College is the oldest and largest division of the University. It has 28 departments offering a wide range of undergraduate and graduate programs in the arts, humanities, social sciences, and sciences; it has 417 faculty members and 9083 students enrolled in the College. The College also serves the programs of 17 other schools and colleges that make up the campus-wide enrollment of 24,774.

The dean assumes responsibility for the execution of policies, regulations, and professional matters within the College and will work with other deans and faculty committees that are active in recommending academic policies. The dean reports directly to the provost.

Candidates should possess an earned doctorate, or its equivalent, a record of intellectual leadership in their own discipline, and substantial experience in university teaching. Support of scholarship, research, and creative activity as well as sensitivity to the diverse needs of the humanities, performing arts, social sciences, and sciences is essential. A background that implies ability to plan and implement innovative policies and previous administrative experience is desirable. The dean will be expected to assume the position no later than August 1983.

Applications should include a letter of interest, curriculum vitae, and the names, addresses, and current telephone numbers of four references. Applications received by 15 October 1982 will receive full consideration.

Applications and nominations should be sent to:



Professor Robin Remington  
Chairwoman  
c/o Office of the Provost  
116 Jesse Hall  
University of Missouri-Columbia  
Columbia, Missouri 65211

UMC is an Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

The DEPARTMENT OF ANATOMY at the University of Minnesota Medical School in Minneapolis announces a tenure-track faculty position at the level of assistant professor beginning 1 December 1982. Applicants must have at least 2 years of postdoctoral experience and demonstrated potential for pursuing an active and productive research program in cell biology, preferably in the area(s) of cell motility, cytoskeleton, and/or cell surface. Teaching responsibilities will include participation in medical gross anatomy and graduate teaching in area of specialty. Training in human gross anatomy, preferably with teaching experience, is essential. Curriculum vitae, brief statement of research interests and goals, reprints of publications, and names of three references must be received by 1 September 1982, and should be addressed to:

Cell Biology Search Committee  
Department of Anatomy  
University of Minnesota  
4-135 Jackson Hall  
321 Church Street SE  
Minneapolis, Minnesota 55455

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

**ASSISTANT PROFESSOR—MEDICAL MICROBIOLOGY.** Duties include teaching courses in veterinary microbiology to veterinary medical students and in graduate/undergraduate microbiology. Successful candidate will have at least 2 years of postdoctoral experience and the ability to mount an independent research program competitive for external funding. Send applications to: Chairperson, Medical Microbiology Search Committee, Department of Microbiology, Giltner Hall, Michigan State University, East Lansing, Mich. 48824-1101. An Equal Opportunity/Affirmative Action Institution.

**ASSISTANT OR ASSOCIATE PROFESSOR OF PHARMACOLOGY AND TOXICOLOGY.** Applications are invited by the Department of Pharmacology and Toxicology, University of Texas Medical Branch (UTMB) at Galveston, for two tenure-track positions available on or after 1 January 1983. Applicants should possess an M.D. or a Ph.D. in pharmacology, toxicology, or a related scientific discipline, have three or more years of postdoctoral experience, and have demonstrated excellence in research. Candidates must have an active interest in teaching medical and graduate students and will be expected to establish and support an independent program of research. Preference will be given to applicants with an active research interest in biochemical and molecular aspects either of endocrine pharmacology (especially the Ca-regulating hormones, PTH, CT, and vitamin D) or of neuropharmacology. Applicants with experience or interest in clinical pharmacology are also welcomed. Please submit complete curriculum vitae, names of three people who can provide letters of reference, and a brief statement of research plans no later than 1 September 1982 to: Dr. Cary W. Cooper, Chairman, Department of Pharmacology and Toxicology, UTMB, Galveston, Texas 77550. UTMB is an Equal Opportunity/Affirmative Action Employer.

## ASSOCIATE PROFESSOR/ SENIOR LECTURER GENETICS

Applications are invited for the above post in the Department of Biochemistry. Salary will be in the range: senior lecturer, R16,557 to R24,045 and associate professor, R21,237 to R26,115, plus annual bonus.

Candidates should have strong research interest in eukaryotic molecular genetics and experience in recombinant DNA technology, and should assume duties during 1982 or 1983. Candidates should state for which post they wish to be considered.

The post may also be filled at the request of the applicant on a contract basis for 2 to 3 years with either the possibility of renewal or conversion into a tenured post.

Apply with full résumé and names of three references to: The Registrar (attention: Appointments Office), University of Cape Town, Rondebosch, 7700, South Africa. Closing date: 1 September 1982. University of Cape Town is an Equal Opportunity Employer.

## POSITIONS OPEN

**ASSISTANT PROFESSOR OF MEDICINE,** The Division of Geographic Medicine, Department of Medicine, Tufts-New England Medical Center, is recruiting for a teaching/research appointment in tropical medicine and immunochemistry. An M.D. degree and a Ph.D. or equivalent degree is required with demonstrated record of achievement and scholarly work in the biology of protozoan pathogens. Duties include teaching parasitology at the medical school, development of an immunochemistry laboratory focusing on cell surface carbohydrates, and conducting research on *Trypanosoma cruzi* in laboratory models, cell culture, and insect vectors in collaboration with current faculty. Candidate will be expected to generate research support. Interested candidates are invited to submit a letter of application, curriculum vitae, bibliography, and relevant publication to: Gerald Keusch, M.D., Chief, Division of Geographic Medicine, 136 Harrison Avenue, Boston, Mass. 02111, by 15 August 1982. We are an Affirmative Action/Equal Opportunity Employer.

**ASSISTANT PROFESSOR OF PHARMACOLOGY/TOXICOLOGY.** Successful candidate will participate in teaching undergraduate and graduate level courses in pharmacology/toxicology and will be expected to conduct independent and collaborative research in area of his/her interest. There is considerable latitude relative to area of interest, but it must be compatible with existing programs. Preference given to those having demonstrated expertise in environmental and/or industrial toxicology and holding B.S. degree in pharmacy. Send curriculum vitae and addresses of four references before 6 August 1982 to: Dr. William M. Bourn, Division of Pharmacology and Toxicology, School of Pharmacy, Northeast Louisiana University, Monroe, La. 71209. An Affirmative Action/Equal Opportunity Employer.

**ASSISTANT PROFESSOR OF PLANT PATHOLOGY** (tenure-track) to begin January 1983. Position involves 60 percent teaching and 40 percent research responsibilities. Possible summer support for research through the Agricultural Experiment Station. To teach a course in introductory mycology appropriate for both majors and nonmajors each year, and in alternating years one additional undergraduate course and one graduate level course in some aspect of plant pathology; develop an active research program on fungal or viral diseases in forest and/or vegetable species; supervise M.S. and Ph.D. students. Qualifications: Ph.D. in plant pathology or mycology with demonstrated interest and experience in teaching and demonstrated ability to conduct research; preference will be given to applicants who can teach a course in introductory virology and/or epidemiology. Candidates should send or have sent a résumé, transcripts, three letters of reference and reprints, lists of publications and papers presented, and/or other evidence of scholarly works by 15 September 1982 to: Dr. A. Linn Bogle, Chairman, Botany and Plant Pathology, Nesmith Hall, University of New Hampshire, Durham, N.H. 03824. The University is an Affirmative Action/Equal Opportunity Employer.

**BIOCHEMIST—CHEMIST.** Research assistant professor to purify and characterize lipopolysaccharides and lipoproteins from bacterial cell walls as part of NIH supported program. Must have experience in purifying macromolecules. Prefer person with experience in bacterial cell wall products purification. Send résumé and references immediately to: Dr. Ernest Hausmann, Department of Oral Biology, State University of New York at Buffalo, 4510 Main Street, Buffalo, N.Y. 14226. We are an Affirmative Action/Equal Opportunity Employer.

## DEPARTMENT OF INTERNAL MEDICINE JOB DESCRIPTION FOR DIVISION CHIEF OF GENERAL MEDICINE

The Department of Internal Medicine of the University of Michigan Medical School is searching for an associate professor to full professor to serve as chief of the Division of General Medicine. This person will be responsible for directing educational, patient care, and research activities in the area of general internal medicine at University Hospital, The Ann Arbor Veterans Hospital, and Wayne County General Hospital. Candidates should be certified in internal medicine, have a proven record in research, and previous administrative experiences.

Direct inquiries to: Jeffrey K. Stross, M.D., Director, Patient Care Program, Department of Internal Medicine, University of Michigan Medical School, M7330 Medical Science I Building, Box 045, 1335 East Catherine Street, Ann Arbor, Mich. 48109. A nondiscriminatory, Affirmative Action Employer. Code 07B0.

## POSITIONS OPEN

**CELLULAR IMMUNOLOGIST** with interest in aging. Ph.D. or M.D. Tenure-track assistant professor faculty position available in the Sanders-Brown Research Center on Aging, and Department of Medical Microbiology and Immunology, University of Kentucky College of Medicine. Commitment to high-quality research essential. Opportunity to relate to large group of investigators with interest in aging and aging training grant in new research building. Send curriculum vitae to: **W. R. Markesbery, M.D., 101 Sanders-Brown Building, University of Kentucky Medical Center, Lexington, Ky. 40536-0230.**

### WASHINGTON UNIVERSITY SCHOOL OF MEDICINE ST. LOUIS, MISSOURI

#### DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS CHAIRPERSON

Applications and nominations are invited for the position of chairperson of the Department of Physiology and Biophysics. Candidates should be distinguished as scholars and scientists with demonstrated commitment to medical and graduate education.

Curriculum vitae and bibliography may be submitted to:

**M. M. King, M.D.**  
Dean

Washington University School of Medicine  
660 South Euclid Avenue  
St. Louis, Missouri 63110

*An Equal Opportunity/Affirmative Action Employer*

## CLINICAL EPIDEMIOLOGY

Harvard Medical School

Applications are invited for the position of professor of clinical epidemiology. Individual must be eligible to hold a joint appointment in a Harvard Medical School clinical department and in the Department of Preventive Medicine and Clinical Epidemiology. Experience required in statistics, epidemiology, and clinical medicine. Position to include research in clinical practices, teaching in clinical specialty as well as in clinical epidemiology, and direction of clinical epidemiology activities in the Department of Preventive Medicine and Clinical Epidemiology. Applicants should send curriculum vitae and bibliography to: **David Hamburg, M.D., Chairman of the Search Committee, 398B Brookline Avenue, Suite 12, Boston, Mass. 02115.**

*Harvard Medical School is an Equal Opportunity/Affirmative Action Employer.*

### DENTAL RESEARCH

Full-time, tenure-track position in dental research is available in the School of Dentistry, University of Colorado Health Sciences Center in Denver. The work spectrum includes all aspects of cariology and dental biomaterials. Applicants should have a Ph.D. degree; a D.D.S. is preferable but not essential. At least 5 years of research experience is necessary together with a proven record of scholarship and the securing of research funds. The appointee will work under the direction of the associate dean for research. Salary will be commensurate with qualifications and experience. *The University of Colorado is an Equal Opportunity/Affirmative Action Employer.* Inquiries or application and curriculum vitae should be sent to: **Dr. Leon M. Silverstone, Associate Dean for Research, University of Colorado Health Sciences Center, School of Dentistry, 4200 East Ninth Avenue, Box C284, Denver, Colorado 80262.**

**ECOLOGICAL STATISTICIAN**—M.S. or Ph.D. with major or minor in biometrics, statistics, or systems analysis. Experience required in population modeling and computer programming and in either agriculture or forestry. Write: **Professor C. A. Shoemaker, Hollister Hall, Cornell University, Ithaca, N.Y. 14853.** Application deadline: 6 August 1982, or until suitable candidate is found.

## POSITIONS OPEN

### CHAIRMAN, DEPARTMENT OF ANATOMY COLLEGE OF MEDICINE UNIVERSITY OF TENNESSEE CENTER FOR THE HEALTH SCIENCES SEARCH REOPENED

The University of Tennessee College of Medicine has reopened its search for a new chairman of its Department of Anatomy. In addition to creative leadership abilities, the ideal candidate should have: (i) significant and continuing research achievements, (ii) an appropriate background in the anatomical sciences, (iii) commitment to excellence in teaching at the professional and graduate and postgraduate levels, and (iv) academic administrative experience. Continuation of an active research program with extramural support is expected; ability to interact effectively with both preclinical and clinical colleagues is essential. The department's current faculty members, who number over 20, have diverse research interests in neurobiology, reproductive and developmental biology, endocrinology, and other aspects of cell biology. The new chairman should continue the development of a department with strong research programs in several areas but is expected to maintain the current highly respected teaching programs. New faculty openings, as well as replacements for faculty approaching retirement, are expected to provide excellent growth potential over the next several years. Nominations or applications should include curriculum vitae and the names of three or more individuals who will provide references on request, and should be sent by 20 August 1982 to: **Dr. Robert E. Taylor, Jr., Chairman, Anatomy Search Committee, University of Tennessee Center for the Health Sciences, 800 Madison Avenue, Memphis, Tennessee 38163.** *An Equal Opportunity/Affirmative Action Employer.*

### Immediate Vacancy CLINICAL NEUROPSYCHOLOGIST in the Department of Psychological Services, Neuropsychology Unit

Duties include research collaboration with the Clinical Neurological Sciences Department in an acute stroke investigation unit, clinical neuropsychological assessment and consultation.

Ph.D. in psychology essential, eligibility for Ontario registration, and a good basic neuroscience background, preferably with experience working with neurological patients.

Applicants should submit curriculum vitae and the names of three references to:

Personnel Services  
UNIVERSITY HOSPITAL  
P.O. Box 5339, Station 'A'  
London, Ontario, Canada N6A 5A5

### DIRECTOR OF METHODS DEVELOPMENT FOR THE AMERICAN OIL CHEMISTS' SOCIETY (AOCS)

**Duties:** Interpreting, organizing, and coordinating a program to revise and maintain the AOCS Official and Tentative Methods; formulating a plan to collect, evaluate, and publish relevant methodology; maintaining liaison with related technical and industrial groups; and facilitating the efforts of technical committees involved in methods development. Reports to the executive director and Uniform Methods Committee.

**Desired qualifications:** Self-starter; experience in analytical chemistry, including fats, oils, and their derivations; experience in methods development; excellent oral and written communication skills; and ability to work with volunteers.

Send résumé and salary history to:

Search Committee  
c/o Executive Director  
508 South Sixth Street  
Champaign, Ill. 61820

**HEMATOPATHOLOGIST.** The Department of Pathology is seeking an experienced Board-certified pathologist for a position at a junior to intermediate faculty level with responsibilities to assist in Clinical Laboratories hematology services and educational programs. Proven teaching ability and research accomplishments are necessary. Particular expertise in coagulation is desired. Send curriculum vitae and names of four references to: **George S. Smith, M.D., Director, Clinical Laboratories, University of California, Los Angeles (UCLA) Center for Health Sciences, Los Angeles, Calif. 90024.** *UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

## CSIRO

**RESEARCH SCIENTIST (TWO POSITIONS)**  
A\$21,810 to A\$32,070 per annum  
DIVISION OF PLANT INDUSTRY  
CANBERRA, ACT, AUSTRALIA

**FIELD:** Molecular Biology.

**GENERAL:** The Division carries out research on problems fundamental to plant biology and agricultural production. The Molecular Plant Breeding Program is developing a molecular and cellular capability for the genetic improvement of agricultural crops. A part of this research deals with the genetic and molecular organization of chloroplast DNA and its interaction with the nuclear genome.

**DUTIES:** To develop a research area in a program aimed at a molecular analysis of the photosynthetic process. The program presently involves cloning and characterization of the nuclear and chloroplast genes, and studies of their expression and control.

**QUALIFICATIONS:** Applicants should have a Ph.D. degree and research experience in plant molecular biology.

**TENURE:** One appointment will be made with tenure for an indefinite period and one for a term of 3 years.

**APPLICATIONS:** Stating full personal and professional details, names and addresses of at least two references, and quoting reference Number A4658, A0708, should reach:

The Chief  
Division of Plant Industry  
CSIRO  
P.O. Box 1600  
Canberra City, ACT 2601, Australia  
by 20 August 1982.

## VICE PRESIDENT OF RESEARCH

Gulf South Research Institute, a private, not-for-profit, non-endowed contract research organization is seeking a VP conversant in the Physical and Engineering Sciences, Life Sciences, Management and Environmental Sciences. Committed to excellence and growth, the ideal candidate will have successfully developed research and development programs and marketing strategies, demonstrating an aggressive, high-energy and goal-oriented management style.

GSRI offers 100% vesting in a tax sheltered retirement annuity program; generous vacation leave; group life, accidental death and dismemberment, long-term disability, hospital and major medical insurance; an equitable sick leave policy; educational encouragement and assistance; sharing in patent royalties, incentives for contributions to corporate contributions and liberal household moving and personal relocation provisions.

Direct inquiries to:

**GULF SOUTH RESEARCH INSTITUTE**  
Corporate Headquarters  
Personnel Office  
P.O. Box 14787  
Baton Rouge, LA 70808

*An Equal Opportunity Employer M/F.*

## POSITIONS OPEN

### TENURE-TRACK SENIOR FACULTY POSITION ELECTRON MICROSCOPIST

The Materials Engineering Department at Rensselaer Polytechnic Institute invites applicants for a tenure-track position at the full professor level in the area of materials characterization. Position includes responsibility for departmental TEM, SEM, and microanalytical laboratories. Opportunities exist to teach courses at the undergraduate and graduate levels in quantitative microscopy, microanalysis, scanning and transmission electron microscopy, and diffraction theory. The successful candidate is expected to build a strong externally funded research program in the areas of metallurgy and ceramics as related to advanced electron microscopy. A Ph.D., D.Sc., or equivalent earned degree in material science and a minimum of 15 years of related research experience are required. Qualified candidates must demonstrate through research publications a high level of expertise and experience in advanced electron contrast techniques, including weak beam methods and kindred techniques. Qualified applicants should send curriculum vitae, a statement of research interests, and names of three references to: **Dr. M. E. Glicksman, Chairman, Materials Engineering Department, Rensselaer Polytechnic Institute, Troy, New York 12181.** Position available 1 September 1982. Applications will be accepted through 15 August 1982 or until a suitable candidate is identified.

*Rensselaer is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION

The Department of Biochemistry has available a position for a physical biochemist at the level of assistant professor, contingent upon funds. The candidate is expected to develop a research program relevant to hemostasis/thrombosis. The entire salary must be obtained from outside sources. Excellence in teaching is expected. Receipt deadline for applications is 1 October 1982. Send curriculum vitae and names of three references to: **Nancy Nye, Department of Biochemistry, University of North Carolina, Chapel Hill, N.C. 27514.** *We are keenly interested in attracting outstanding women and/or minority scientists to this department. Equal Opportunity/Affirmative Action Employer.*

**HEAD, DEPARTMENT OF BIOCHEMISTRY,** Clemson University, effective as soon as possible but no later than 15 August 1983. The applicant should have a Ph.D. or equivalent terminal degree with acknowledged experience and competence in biochemistry. The individual should meet the qualifications for full professor in the Department of Biochemistry at Clemson University. Candidates must have strong commitment to research and to both graduate and undergraduate education. Candidates should have experience in administering funded projects and/or academic units. Clemson University is the land-grant university for the state of South Carolina. The Department of Biochemistry is a unit of the College of Sciences and offers B.S., M.S., and Ph.D. degrees in biochemistry. Interested candidates should submit a letter of application and curriculum vitae, and have three letters of recommendation sent by 1 October 1982 to: **Dr. Richard H. Hilderman, Chairman, Biochemistry Search Committee, 132 Long Hall, Clemson University, Clemson, S.C. 29631.** *The University encourages applications from minorities and females. Clemson University is an Equal Opportunity/Affirmative Action Employer.*

### TRUDEAU INSTITUTE, INC.

A position exists for an **IMMUNOBIOLOGIST** at the **ASSISTANT PROFESSOR** level to develop an independent research program related to immunity to cancer or infectious diseases. Applicants should have at least 3 to 4 years of postdoctoral experience and provide visible evidence that they already have been scientifically productive. Funds are available to support the successful applicant for at least a 3-year period. The Trudeau Institute is a not-for-profit, pure research institute situated on the shore of Saranac Lake, 10 miles from Lake Placid, N.Y. Send résumé and names of three references to:

**Dr. R. J. North, Director  
Trudeau Institute, Inc.  
P.O. Box 59  
Saranac Lake, N.Y. 12983**

## POSITIONS OPEN

### CORNELL UNIVERSITY MEDICAL COLLEGE FACULTY POSITIONS IN CELLULAR, MOLECULAR, OR DEVELOPMENTAL BIOLOGY

Qualifications should include an M.D. or Ph.D., postdoctoral experience, a distinguished research record, and an ability to teach, or willingness to learn to teach, course material in either neuroanatomy, microscopic anatomy, or gross anatomy. Salary and rank depend upon qualifications. Candidates should send a résumé, published and prepublished work, and at least three letters of recommendation to: **Dr. Donald A. Fischman, Chairman, Department of Cell Biology and Anatomy, Cornell University Medical College, 1300 York Avenue, New York, N.Y. 10021.** *Cornell University Medical College is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITIONS IN CONTINENTAL GEOLOGY

The Department of Geological Sciences of Columbia University is seeking new faculty members (tenure-track or tenured) to strengthen its program in continental geology. Consideration will be given to candidates in the general areas of stratigraphy, tectonics, sedimentology, and metamorphic geology. Appointees would be expected to develop a vigorous research program at Lamont-Doherty Geological Observatory, and to contribute to undergraduate and graduate teaching both in the classroom and in the field.

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

Applications or nominations (the former accompanied by curriculum vitae and the names of three referees) should be sent prior to 30 August 1982 to: **Professor Ian W. D. Dalziel, Chairman of Geology Search Committee, Lamont-Doherty Geological Observatory, Palisades, New York 10964.**

**HEAD, DEPARTMENT OF ANIMAL SCIENCE,** University of Minnesota. Qualifications include a Ph.D. in the animal science. Application deadline is 15 October 1982. Apply to: **Dr. R. Morris, Chairman, Search Committee, College of Agriculture, 1420 Eckles Avenue, University of Minnesota, St. Paul, Minn. 55108.** Telephone: 612-373-1810. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

### HEAD, VIROLOGY DEPARTMENT

Ph.D. to be responsible for 1700 animal and 310 plant viruses and antisera, and research and development projects; supervise nine staff (two Ph.D.'s). Excellent benefits. Competitive salary. Curriculum vitae, outlining research interest and career goals, to: **Dr. R. E. Stevenson, American Type Culture Collection, 12301 Parklawn Drive, Rockville, Maryland 20852.** *Equal Opportunity Employer, M/F.*

### POPULATION ECOLOGIST (FISHERIES)

Academic position (assistant research biologist, University of California) available starting summer or fall 1982 for a Ph.D. experienced in working with the population dynamics of nearshore marine fishes. The successful candidate will assist the principal investigator of a multidisciplinary research program assessing environmental impacts of a southern California power plant on the local fish fauna. Applicants must have: (i) experience in solving problems related to the size, growth, yield, and mortality of fish stocks, (ii) demonstrated ability in scientific writing, and (iii) some practical experience in environmental consulting. Salary to depend on experience. Send résumé, including a brief description of experience in applied research and the names of three references, to: **Dr. E. DeMartini, 533 Stevens Avenue E-55, Solana Beach, California 92075,** before 20 August 1982. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### MEMORIAL UNIVERSITY OF NEWFOUNDLAND FACULTY OF SCIENCE HEAD OF THE DEPARTMENT OF PHYSICS

Applications and nominations are invited for the post of head of the Department of Physics at Memorial University. Applicants should be able to demonstrate ongoing and outstanding achievement in research in a field of physics compatible with the interests and development of the department. They should also be committed to maintaining and further developing a strong undergraduate and graduate program. This position offers a unique opportunity to interact with new developments in the university and the province and with the possibility of some expansion of the department.

The appointment will be at the rank of full professor, to take office as soon as may be mutually agreed. Salary will be negotiable and related to qualifications and experience.

Applications and nominations should be forwarded to:

**The Dean of Science  
(Dr. P. J. Heald)  
Faculty of Science  
Memorial University of Newfoundland  
St. John's, Newfoundland, Canada A1B 3X7**  
from whom further particulars can be obtained.

Challenging opportunity in oncology practice and clinical research for Board-certified/eligible **INTERNIST—ONCOLOGIST.** The opportunity features a research-based multispecialty group clinical practice in an oncology center. For those interested in the challenge of such an opportunity, submit your inquiries and résumé to: **Chief of Medicine, Morton Cancer and Research Hospital, P.O. Box 35988, Dallas, Texas 75235.**

Challenging opportunity in clinical practice and clinical research for **INTERNIST,** Board-certified/eligible in infectious diseases. The opportunity features a research-based multispecialty group clinical practice in an oncology center. For those interested in the challenge of such an opportunity, submit your inquiries and résumé to: **Chief of Medicine, Morton Cancer and Research Hospital, P.O. Box 35988, Dallas, Texas 75235.**

### ST. JUDE CHILDREN'S RESEARCH HOSPITAL, MEMPHIS, TENNESSEE MARROW TRANSPLANTATION RESEARCH

A new position is available at assistant professor level for a Ph.D. or M.D. to establish and supervise a tissue-typing laboratory for the Marrow Transplant Program of St. Jude Children's Research Hospital. The major responsibility will be the establishment of a research program directed toward the study of the major histocompatibility complex, its relationship to transplantation, and the specific problems of graft-versus-host disease and graft-versus-leukemia. A joint appointment will be offered in the Departments of Hematology-Oncology and Immunology.

Interested candidates should send their curriculum vitae to: **Dr. F. Leonard Johnson, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, Tennessee 38101.**

### NEUROPHYSIOLOGIST

Tenure-track assistant professor of physiology. Research emphasis should be functional organization of mammalian somatosensory systems, particularly modulation at the spinal level. Experience in intracellular recording and marking of neurons with peroxidase and other substances and with the analyses of results at light and electron microscopic levels is expected. Experience with biophysical analyses of excitability and EM immunocytochemistry is also required. An M.D. or Ph.D. and 2 years or more of postdoctoral training are expected. Teaching experience in organ system physiology at both undergraduate and medical school levels is expected and teaching experience in neuroanatomy is desirable. Excellence in teaching and proven ability to attract research funds will be considered major criteria for selection. *There is a strong interest in attracting outstanding women and/or minority scientists to this department.* Applicants should submit curriculum vitae, a bibliography, a plan for future research, and the names of three references prior to 1 September 1982 to: **Neurophysiology Search, Department of Physiology 206H, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27514.** *An Affirmative Action/Equal Opportunity Employer.*

## Biochemical Pharmacologist Cardiovascular/Renal Pharmacology

SmithKline Beckman, a leader in pharmaceutical research, is seeking an outstanding scientist to collaborate with others in the development and direction of a Biochemical Research program in Cardiovascular and Renal Pharmacology. The position offers significant opportunities for innovative basic research, participation in the development of new directions within the research division and career growth potential.

The successful candidate will apply known state-of-the-art technologies/theories and develop new methodologies where applicable to the discovery of drugs to treat disease of the cardiovascular and renal system.

Preference will be given to candidates who have:

- PhD in pharmacology with 6 or more years relevant post doctoral experience.
- Formal training and experience in one or more of the following: catecholamine receptor analyses and pharmacology; biochemical mechanism of vascular contraction and relaxation; cell culture techniques.
- Demonstrated record of bibliographic excellence.
- Capacity to initiate and develop novel research programs in Cardiovascular and Renal Pharmacology.

SmithKline Beckman offers an excellent compensation and benefits package along with opportunity for personal and professional growth. Please forward your resume in confidence to: Walter B. Flagg, SMITHKLINE BECKMAN CORPORATION, P.O. Box 7929, 1520 Spring Garden Street, Philadelphia, PA 19101.

**SK&F**  
a SmithKline company

We are an equal opportunity  
employer, M/F/H/V

## COORDINATOR, INSTRUCTIONAL PROGRAMS

The Marine Biological Laboratory (MBL) invites nominations and applications for the position of Coordinator, Instructional Programs. The appointee will be a member of the Laboratory's central administration, reporting to the director. The primary responsibility is to assist the instructors-in-chief of courses, the Committee on Instruction, the Executive Committee, and the director in management of the Laboratory's teaching programs, which continue the year round. Securing and providing for delivery of physical facilities (including instrumentation), logistical support, and financial aid, as well as management of the Admissions Office, are important elements of the task.

Current teaching programs include: the summer courses, primarily for graduate and postdoctorate students; certain month-long winter courses, for advanced undergraduates and graduate students; and a series of week-length short courses, offered throughout the year for technical, professional, and faculty people seeking experience with advanced research methods. Coordination of these activities entails oversight of some general-use laboratories that also serve the research community. Electron microscopy and radiation are examples.

An advanced degree in a biological science (Ph.D. or M.D. preferred but not essential) and background in college teaching or laboratory management are required. Prior experience in research, academic or industrial, with accomplishment documented by publication, is highly desirable. Although the position is demanding of time and attention, the Laboratory will consider candidates who wish to continue with a personal research program part time. Interpersonal skills of a high order are necessary. The coordinator must assist a distinguished, but diverse and normally time-pressured faculty in operating a technically sophisticated instructional program, attending at the same time to the needs of the Laboratory as a whole. For an administrator of appropriate background and temperament, the job can be rewarding, as well as challenging.

Starting date should be earlier than January 1983. Salary is flexible: together with benefits, it approximates the compensation of university faculty. MBL educational programs are nationally visible. To that extent there is upward mobility for the successful incumbent. Depending upon his or her specific career goals, the portfolio of responsibilities is adjustable.

Please address all correspondence to: Instruction Coordinator Search Committee, Marine Biological Laboratory, Woods Hole, Mass. 02543.

*The MBL is an Equal Opportunity Employer*

## Director, National Institute on Aging

The National Institutes of Health invites nominations and applications for the position of Director, National Institute on Aging (NIA). This Institute conducts, fosters, and supports research and training on one or more areas related to the aging process and the diseases and other special problems and needs of the aged. Programs encompass intramural laboratory research and extramural (grants and contracts) activities in fundamental clinical geriatric research.

This is a Civil Service position in the Senior Executive Service (SES), with an authorized salary range from \$54,755 to \$61,300 per annum (payment currently limited to \$58,500) depending on qualifications. Candidates may be eligible for Physicians Comparability Allowance up to \$10,000 per year. Alternately, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service. The SES individual selected, if not presently in the SES, must serve a one-year probationary period.

The mandatory qualifications are: (1) meet the minimum educational requirements for Medical Officer, GS-602, or Health Scientist, GS-601 (or equivalent combination of experience and training), as defined in the U.S. Office of Personnel Handbook X-118, Qualification Standards for positions under the General Schedule, which is available in Federal Job Infor-

mation Centers and Federal Personnel Offices; and (2) have research experience and knowledge of research programs in one or more areas related to the aging process and the diseases and other special problems and needs of the aged. In addition, candidates must meet the following managerial/executive qualifications: demonstrated competence to assume leadership responsibilities in: (1) assuring that key national and agency goals, priorities, and values are considered in making program decisions; (2) establishing effective external communications by being a representative spokesperson for the organization, and maintaining working relationships within the organization and with outside key individuals and groups; (3) developing policy, directing and guiding programs and projects, including establishing long-term and short-term goals and priorities, and the structure and processes necessary to carry them out; (4) obtaining and allocating the fiscal and material resources necessary to support program or policy implementation; (5) developing processes and overseeing activities to assure that people are appropriately employed, effectively and efficiently utilized, and dealt with in a fair and equitable manner; and (6) developing activities and procedures to assure that program and policy are being executed, adjusted as necessary, and that the appropriate results are being achieved.

Candidates who meet the mandatory requirements will be further evaluated by the Search Committee on the following desirable factors: scientific recognition/peer recognition; communications and interpersonal skills; training and education; honors and awards; and the degree to which they exceed the minimally qualified level of the mandatory managerial/executive qualifications. Information on any of the above requirements may be obtained by calling Mrs. Helen Stafford at (301) 496-4197.

Applications (Personal Qualifications Statement, SF-171) are to be sent to Helen C. Stafford, Executive Secretary, Search Committee for Director, NIA, National Institutes of Health, Building 1, Room 19, Bethesda, Maryland 20205. A current curriculum vitae and bibliography must accompany all applications. Applications of women and/or minority group members are especially solicited.

**National Institutes of Health  
Public Health Service  
Department of  
Health and Human Services**

Opening date: July 15, 1982  
Closing date: Aug. 15, 1982

(All applications must be postmarked before closing date)

**NIH is an Equal Opportunity Employer**

## POSITIONS OPEN

**MONASH UNIVERSITY, DEPARTMENTS OF ZOOLOGY AND BOTANY, FIXED-TERM LECTURER IN ECOLOGY.** A 5-year lectureship to be made jointly with the Departments of Botany and Zoology commencing in February 1983. Applicants should have a Ph.D., experience in university lecturing, and be capable of teaching in ecology bridging the disciplines of zoology and botany, for example, on co-evolution, ecosystems, and so forth. Further information from: **Chairman of Botany or Zoology.** Salary: \$20,963 to \$27,539 per annum. Applications, including reference number 44012A, curriculum vitae, and three references, to: **Registrar, Monash University, Clayton, Victoria, Australia 3168,** by 16 October 1982.

### WANTED

**PHYSICIAN/BIOCHEMICAL PHARMACOLOGIST—M.D., Ph.D.** to conduct studies on human mast cell mediator release with clinical relevance. Must have at least 10 years of clinical and research experience. Salary: \$16,000 to \$20,000 per annum. Apply to:

Box 180, SCIENCE

**POSTDOCTORAL POSITION** for recent Ph.D. or M.D., U.S. citizen or permanent resident, available immediately, supported by NIH Training Grant (National Research Service Awards), in the area of basic cancer chemotherapy, clinical cancer chemotherapy, cancer biology, or cancer drug development (organic synthesis). Application deadline: 1 month. Send résumé, indicating area(s) of interest, and two or more letters of reference to: **Dr. Sungman Cha, Brown University, Box G, Providence, R.I. 02912.** Telephone: 401-863-3114. *An Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL FELLOW POSITION

For 2 years, available immediately, to join a team study of the structural dynamics of boreal forest ecosystems in northern Alberta, Canada.

Send résumé and three letters of recommendation to: **Dr. George La Roi, Department of Botany, University of Alberta, Edmonton, Alberta, Canada T6G 2E9.**

### POSTDOCTORAL POSITION IN DEVELOPMENTAL NEUROBIOLOGY

Position available immediately for recent Ph.D. in developmental neurobiology having experience and interests in the use of immunocytochemical (for example, hybridoma) techniques. Experiments will involve the labeling and identification of neurons, and will study the transport of membrane components within the peripheral nervous system during limb transformation in Crustacea. Please send letter describing research interests, curriculum vitae, and names of three references to: **Dr. DeForest Mellon, Jr., Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, Va. 22901.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available immediately in the area of **CELL SURFACE.** Seek individual with background and interests in applying biochemical, genetic, or immunological approaches to the study of dynamic cell surface phenomena utilizing *Chlamydomonas* and its flagellar surface. Send résumé with list of references to: **Dr. R. A. Bloodgood, Department of Anatomy, Box 439, University of Virginia Medical Center, Charlottesville, Virginia 22908.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** in evoked potential clinical-research laboratory is available immediately, 1- to 3-year appointment. Applicant should have Ph.D. in psychology or physiology with electrophysiology background and computer experience. Approximate starting salary: \$15,000 per year. Send curriculum vitae and references to: **William W. Finley, Ph.D., Electrophysiology, Children's Medical Center, P.O. Box 35648, Tulsa, Oklahoma 74135.**

**POSTDOCTORAL POSITIONS** available 1 September 1982 for recent Ph.D.'s in microbiology, immunology, or biochemistry. Areas of research include trace metal metabolism in *Streptococcus mutans* (R. Byers), molecular genetics of viral DNA (M. Rhoades), and fish lymphocyte subpopulations and functional heterogeneity of IgM antibodies (L. W. Clem). Send résumés and names of three references to: **Dr. L. W. Clem, Department of Microbiology, University of Mississippi Medical Center, Jackson, Miss. 39216.** *An Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION** to study immune response to outer membrane proteins of *Haemophilus influenzae* type b. Project involves the use of monoclonal antibodies in the molecular antigenic analysis of these proteins and in the elucidation of the pathogenesis of *Haemophilus* disease. Background in immunology or microbial physiology preferred. Position available fall 1982; later starting dates possible. Beginning stipend: \$15,000. Send curriculum vitae and the names, addresses, and telephone numbers of three references to: **Dr. Eric J. Hansen, Department of Microbiology, University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235.** *An Equal Opportunity University.*

**POSTDOCTORAL POSITION IN FUNCTIONAL MORPHOLOGY** beginning September 1982 to study positional behavior of free-ranging sloths. Must be experienced radio tracker and climber and willing to live in Panama. Send curriculum vitae, statement of experience, and names and telephone numbers of three referees to: **Dr. F. Mendel, Department of Anatomical Sciences, 317 Farber Hall, State University of New York, Buffalo, N.Y. 14214.**

**TWO POSTDOCTORAL POSITIONS** available beginning 1 October 1982 in the Developmental Biology Center, University of California, Irvine. Recent Ph.D. required, preferably in the areas of cell biology, molecular biology, developmental biology, neurobiology, or genetics. The first position is for research in the laboratories of H. R. Bode (control of growth and differentiation in *Hydra*), R. Campbell (cell behavior and morphogenesis), J. L. Marsh (molecular genetics of *Drosophila* development using molecular cloning and hybridomas), or R. Meyer (developmental neurobiology). NIH regulations require that candidates for this position be citizens or permanent residents of the United States. The second position is specifically designated for a person interested in initiating a research program on mammalian limb development under the supervision of P. Bryant and S. Bryant. *The University of California is an Equal Opportunity/Affirmative Action Employer.* Submit résumé and brief description of research interests and experience, together with the names of three individuals willing to write on your behalf, to: **Peter J. Bryant, Developmental Biology Center, University of California, Irvine, Calif. 92717,** by 1 September 1982.

**POSTDOCTORAL POSITION IN SYSTEMATICS.** Appropriate fields: botany, entomology, herpetology, ichthyology, invertebrate zoology and paleontology, mammalogy, ornithology; also anthropology. Must have received Ph.D. within last 5 years. Pays \$17,000, plus \$1,000 expenses; begins as early as 1 October; normally a 1-year appointment. Provide a résumé, research plan, graduate transcripts, and three references by 15 August to: **Tilton Fellowship Committee, California Academy of Sciences, Golden Gate Park, San Francisco, Calif. 94118.**

### POSTDOCTORAL POSITION

Available now for projects related to reactivity of blood vessels in vitro. Preference given to those with electrophysiological experience. Stipend \$16,000 to \$17,000, depending on postdoctoral experience. Send curriculum vitae and references to: **Dr. Gordon Ross, Department of Physiology, University of California, Los Angeles, School of Medicine, Center for the Health Sciences, Los Angeles, Calif. 90024.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available immediately for studies on the molecular pharmacology and mechanism of action of antitumor and antiviral nucleoside analogs. Background in biochemistry, pharmacology, and analytical chemistry preferred. Send curriculum vitae and names of three references to: **Dr. T. C. Chou, Laboratory of Pharmacology, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, N.Y. 10021.**

### POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately to study genetics, physiology, and nitrogen-fixing potential of strains of *Rhizobium* isolated from arctic legumes. Background in microbial genetics, plasmid characterization, or biochemistry preferred.

Send curriculum vitae and names of references to: **Dr. H. M. Schulman, Lady Davis Institute, 3755 Côte St. Catherine Road, Montreal, Quebec, Canada H3T 1E2.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately to study the influence of environment and antibiotics on oral streptococcal cell surface polymers and adherence to teeth. Send curriculum vitae and two letters of reference to: **Dr. R. E. Kessler, Dental Research Institute, University of Michigan, Ann Arbor, Mich. 48109.** *An Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL POSITION

**ANTICANCER DRUGS AND CHROMATIN** Postdoctoral position available for studies of the relationship between DNA damage and repair and chromatin alterations as they relate to antitumor mechanism. Applicant may be an M.D. or Ph.D. Send curriculum vitae, including three references and personal letter, to: **Dr. Warren Ross, Department of Pharmacology, Box J267, J. H. Miller Health Center, Gainesville, Florida 32610.**

**POSTDOCTORAL POSITION** available immediately for 9 months to study the generation of free radicals in biological systems. Knowledge of EPR spectrometry essential. Send curriculum vitae and names of three references to: **Dr. Gerald M. Rosen, Department of Pharmacology, Box 3813, Duke University Medical Center, Durham, North Carolina 27710.** *Duke University is an Equal Opportunity Employer.*

**POSTDOCTORAL OR RESEARCH ASSOCIATE POSITION** available to study: (i) DNA protein interactions by both crystallographic and solution methods, and (ii) the regulation and mechanism of DNA replication in eukaryotes. Both aspects of this work will involve the synthesis of polynucleotides of defined sequence by solution and solid phase techniques. Experience in this area or related aspect of synthetic chemistry preferred. Salary: \$15,000 to \$22,000, depending on experience. Send curriculum vitae and three names for reference to: **Dr. Joseph A. Walder, Department of Biochemistry, The University of Iowa, Iowa City, Iowa 52242.** *The University of Iowa is an Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH ASSOCIATE—**Ph.D., medicinal or organic chemist, to prepare organic molecules for making technetium imaging agents. Starts 1 September 1982. Salary: \$15,000 to \$17,000 per year, plus benefits. Send résumé to: **Dr. Hank F. Kung, State University of New York at Buffalo, Nuclear Medicine Department, VA Medical Center, Building 5, 3495 Bailey Avenue, Buffalo, N.Y. 14215.** *Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH ASSOCIATE** position available for up to 5 years for studies on mammalian X chromosome inactivation and related subjects. Recent experience with recombinant DNA techniques desirable. Salary commensurate with experience. Send curriculum vitae and names of references to: **Dr. Stanley Gartler, Department of Genetics SK-50, University of Washington, Seattle, Washington 98195.** *An Equal Opportunity/Affirmative Action Employer.*

**THREE POSTDOCTORAL RESEARCH POSITIONS** are available beginning 1 September 1982, in the Departments of Biochemistry and Plant Pathology of the University of Kentucky. The appointments are for 2 years with starting salaries of \$17,000. Recent Ph.D. in biochemistry, molecular biology, virology, or related field with experience in nucleic acids is desired. Projects involve: (i) molecular cloning, translation, and expression of a plant viral RNA, (ii) study of virally infected plant protoplasts, and (iii) study of double-stranded RNA in *Endothia parasitica*, the causative agent of chestnut blight disease. Send curriculum vitae and names of three references to: **Dr. Robert E. Rhoads, Department of Biochemistry, University of Kentucky Medical Center, Lexington, Ky. 40536.** *An Equal Opportunity/Affirmative Action Employer.*

### POSTGRADUATE RESEARCH BIOLOGIST

Postgraduate research biologist position is available immediately in the Biology Department to participate in a study of the Y chromosome of *Drosophila*. The candidate is required to have a Ph.D., and must have demonstrated competence in the technology of molecular biology and be familiar with or willing to learn *Drosophila* genetics. Salary range: \$15,936 to \$19,848 per year. Applicants send curriculum vitae and names of three people to be contacted for references by 16 August to: **Dan L. Lindsley, Biology Department B-022, University of California, San Diego, La Jolla, Calif. 92093.**

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



The College of Science of King Saud University invites applications for posts of Theoretical Astrophysicists having five years experience at least in teaching, research and publications in the related field. Applicants should hold Doctorate or Master's Degree or Bachelor's Degree (very good grade).

Applications should be sent along with photocopies of academic and experience certificates within one month period starting from placement date of this advertisement to:

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

Selected candidates should be advised of place and date of the interview.

## CELL AND MOLECULAR BIOLOGISTS

**SUNGENE TECHNOLOGIES CORPORATION** is seeking experienced scientists to design, supervise and conduct genetic engineering research on seed crops in an interdisciplinary research environment.

Preference will be given to applicants with experience in plant systems and to those with backgrounds in industry. Excellent salaries, benefits and equity participation are offered.

Please send resume and references to:

Robert L. Erwin, Vice President  
of Research  
**SUNGENE TECHNOLOGIES CORPORATION**  
3330 Hillview Avenue  
Palo Alto, CA

*Equal Opportunity Employer*

## Medical Staff Fellowships for Laboratory of Applied Studies at NIH

The Laboratory of Applied Studies, Division of Computer Research and Technology of the National Institutes of Health is offering 2-3 year Medical Staff Fellowship positions to highly qualified physicians with backgrounds in physical science or engineering (including mathematics through differential equations), two years experience in computer programming, and at least one year's clinical experience beyond the M.D. degree.

Under the supervision of a higher level medical investigator, the Fellow will collaborate with clinicians in such areas as cardiology, hypertension, pulmonary, nuclear medicine, diagnostic radiology or medical intensive care. Projects include biosignal analysis, medical

imaging, and modeling of pathophysiological processes.

The Fellow will assist in data collection, investigation and computer implementation of models, and assessment of the clinical usefulness of results. Expert advice in applied mathematics, computer systems analysis, electronic engineering, and statistics will be provided by the Laboratory staff.

Facilities on the 306-acre NIH campus in suburban Washington, D.C. include a 480-bed research and teaching hospital, more than 1,000 laboratories, and the National Library of Medicine. As a Medical Staff Fellow you will receive an initial salary of \$30,000, with increments of \$2,000 per year up to a maximum salary of \$34,000. Moving, travel expenses and

Federal health care benefits are available. For further information, contact:

Dr. Eugene K. Harris  
Chief, Laboratory of Applied Studies  
Division of Computer Research and Technology  
Building 12A, Room 2041  
National Institutes of Health  
Public Health Service  
9000 Rockville Pike  
Bethesda, Maryland 20205  
(301) 496-1121

**An NIH Associate Program**  
NIH is an Equal Opportunity Employer



## POSITIONS OPEN

**RESEARCH ASSISTANT PROFESSOR** (Ph.D. in biological sciences) to work in a group interested in cytogenetic/cytokinetic effects of chemicals (for example, pesticides). Special interest or publications in chromosome banding, SCE's with 2-year postdoctoral experience in cytogenetics/cytokinetics is essential. Send résumé to: **Dr. A. Krishan, Scientific Director, Comprehensive Cancer Center, University of Miami School of Medicine, P.O. Box 016969, Miami, Florida 33101. An Affirmative Action/Equal Opportunity Employer.**

**RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW**—Position available 1 August 1982 for physiologist or biochemist to participate in research studies involving role of prostaglandins and catecholamines in gastrointestinal (biliary) physiology and endocrine response to shock and trauma. Independent research also encouraged. Ph.D. and experience with HPLC techniques essential. Familiarity with spectrophotometric, fluorescent enzyme assay, radioenzymatic, and RIA desirable. Salary: \$17,000, plus fringe benefits. Send curriculum vitae and names of three references to: **Dr. Tracy K. McIntosh, Department of Surgery, L-910, Boston University Medical Center, 80 East Concord Street, Boston, Mass. 02118. An Equal Opportunity Employer, M/F.**

Immediate opening for a **RESEARCH ASSOCIATE** specializing in synthetic organic chemistry and photochemistry. Candidate must have a Ph.D. degree. Applicants having prior experience in photochemical synthesis preferred. Salary: \$13,000 per year. Send résumé and three letters of recommendation to: **Job Service, Louisiana Department of Labor, 617 St. Charles Avenue, New Orleans, La. 70130. Job order 509251.**

### UNIVERSITY OF CAPE TOWN RESEARCH OFFICER (Department of Biochemistry)

Applications are invited for the above post at the postdoctoral level. The applicant should have a strong interest and experience in the field of recombinant DNA and sequencing technology to join a group working on structure and function of chromosomal proteins. The appointment will be for 3 years in the first instance, within the scale R12,657×780—R16,557×936—R22,173, according to qualifications and experience. For overseas candidates, a travel grant of up to R1,500 to Cape Town will be provided. The post should be filled during 1982.

Further information may be received from: **Professor C. von Holt**, to whom applications should be submitted, at: **Department of Biochemistry, University of Cape Town, Rondebosch, 7700, Cape Town, South Africa.**

**SENIOR RESEARCH TECHNICIAN** to be responsible for nucleotide sequencing laboratory. Will supervise and train staff in routine use of ultrathin 1-meter long sequencing gels capable of separating over 500 nucleotides. Will be project leader and assigned to sequence specific regions of a variety of DNA's. Expected to use computer technology to analyze resulting data. Minimum requirements: B.Sc. in zoology/botany, plus 3 years of experience in field or 6 years of experience in biochemistry. Should have experience in gel electrophoresis and development of unique methods for DNA sequencing. Salary: \$28,000 for 40-hour week. Send résumé to: **S. Menon, Wisconsin Job Service, 206 North Broom Street, Madison, Wis. 53703; telephone: 608-266-2341. This ad not paid for by Job Service funds.**

**TROPICAL MARINE ECOLOGIST** wanted to work in program on ecological effects of man's activities. Qualifications desired: Ph.D., generalist orientation, benthic faunal interest, experience with LC/50 studies, and interest in working in group research with tropical marine systems.

Serious candidates should send a letter of professional interest, curriculum vitae, and the names of at least three referees qualified to comment on their professional capabilities to: **Dr. Laurence J. Tilly, Center for Energy and Environment Research (CEER)/University of Puerto Rico, College Station, Mayaguez, Puerto Rico 00708.**

*CEER is an Equal Opportunity Employer.*

## POSITIONS OPEN

**RESEARCH ASSOCIATE.** Postdoctoral position available immediately in an active and well-equipped laboratory for a Ph.D. in biochemistry or microbiology. Research areas include plasmid DNA replication and gene expression. Techniques include DNA sequencing and recombinant DNA technology. Send curriculum vitae and names of two references to: **Dr. Saleem Khan, Department of Microbiology, University of Pittsburgh School of Medicine, Pittsburgh, Pa. 15261.**

**RESEARCH ASSOCIATES.** Multidisciplinary project on molecular cloning of plasma proteins. Preference will be given to candidates with experience in molecular genetics, protein biochemistry, immunochromatography, and/or blood coagulation. Position available immediately. M.D. or Ph.D. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. Frank E. Young, Dean and Director, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, N.Y. 14642. An Equal Opportunity Employer, M/F.**

**SENIOR RESEARCH SCIENTIST**—Liver Study Unit, Department of Medicine, Yale University School of Medicine. Ph.D. biochemistry, proven independent investigator with background in hepatic metabolism (bilirubin-alcohol). Send résumé to: **1080 LMP, 333 Cedar Street, New Haven, Conn. 06510.**

*Yale University is an Equal Opportunity Employer.*

### VETERINARY MEDICAL OFFICER

The Plum Island Animal Disease Center, U.S. Department of Agriculture, is accepting applications for a veterinary medical officer. Applicants must have a D.V.M. and 3 years of advanced research training and experience in veterinary microbiology with emphasis in virology and immunology. Advanced degree(s) with appropriate accomplishments demonstrated by thesis or publications may be substituted for experience. Candidates should have broad knowledge in virology and immunology. Duties and responsibilities involve analysis of foot-and-mouth disease virus antibody response in vaccinated bovine and swine, development of data on optimum dosage and adjuvants for primary and secondary vaccination, and statistical analysis of various innocuity and potency tests. This is a permanent position subject to Office of Personnel Management requirements and benefits. The salary is \$33,586 to \$43,666. To be assured of full consideration, applicants should submit current résumé and the names of three references to: **Beverly J. Hallock, Personnel Officer, Plum Island Animal Disease Center, P.O. Box 848, Greenport, New York 11944. All applicants will receive consideration without regard to race, color, religion, national origin, sex, age, or handicap.**

## TRAINING PROGRAM

### TRAINING PROGRAM

Postdoctoral traineeships are immediately available in the area of lipoprotein structure and metabolism. Research opportunities exist in the molecular aspects of lipoproteins and their subfractions, the role of enzymes in lipoprotein metabolism, and regulation of lipoprotein synthesis and catabolism by cells. A strong background in biochemistry or tissue culture techniques desirable. Limited to U.S. citizens or permanent residents. Stipends based on experience. Interested persons should send curriculum vitae and names and addresses of three references to: **Dr. Trudy Forte, Biology and Medicine Division, Lawrence Berkeley Laboratory, University of California, Berkeley, Calif. 94720. Affirmative Action/Equal Opportunity Employer, M/F/H.**

## TRAINING PROGRAM

### POSTDOCTORAL TRAINING PROGRAM IN THE MOLECULAR AND CELLULAR BIOLOGY OF PLASMA LIPOPROTEINS

Applications are invited for advanced research training. Candidates will participate in basic and clinical research with emphasis on the relationship to atherosclerosis and heart disease. The approach is a multidisciplinary one, drawing from biochemistry, molecular biology, physiology, biostatistics, and epidemiology. Candidates should hold a Ph.D. or M.D. degree and have experience in biochemistry, molecular genetics, medicine, or immunology. Appointments are for a maximum of 3 years with annual salary ranging from \$14,000 to \$17,000. Applications should include curriculum vitae, a short summary of research experience and background, and two letters of reference. Address to: **J. A. K. Harmony, Department of Biological Chemistry (522), University of Cincinnati College of Medicine, Cincinnati, Ohio 45267. The University of Cincinnati is an Affirmative Action/Equal Opportunity Employer.**

## FELLOWSHIPS

### IMPERIAL CANCER RESEARCH FUND RESEARCH FELLOWSHIP

Applications are invited for a 3-year postdoctoral appointment to clone mammalian DNA sequences specifying control regions, structural genes and transforming genes, and to test the expression and biological activity of the cloned sequences by the use of DNA transfection techniques and eukaryotic vector systems.

Salary range: £7700 to £9750, plus London Weighting of £1087, with entry according to qualifications and length of postdoctoral experience.

For further information, contact: **Dr. M. Fried (telephone: 01 242 0200, extension 297).** Applications, supported by full typescript curriculum vitae, including date Ph.D. obtained, list of publications, and the names and addresses of two referees, should be sent to: **The Secretary, Imperial Cancer Research Fund, Lincoln's Inn Fields, London W.C.2, England, quoting reference 91/82.**

### GRADUATE FELLOWSHIPS IN ENVIRONMENTAL ENGINEERING AND SCIENCE

Full and partial graduate fellowships and tuition scholarships are available for academic year 1982-1983 in the Environmental Engineering and Science Program of Manhattan College for students pursuing either a master of engineering (environmental) or master of science (environmental engineering). The program is professionally oriented and has a strong concentration both in water and waste treatment processes as well as analysis of natural water systems, especially through mathematical modeling techniques. Respond to:

**Director  
Environmental Engineering and Science  
Manhattan College  
Graduate Division  
Riverdale, N.Y. 10471**

## MARKETPLACE



**Thermocouple THERMOMETERS**

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

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

Models

- BAT-4 BIOLOGICAL
- BAT-5 CRYOGENIC
- BAT-12 DIGITAL
- BAT-8 DIGITAL °C or °F
- TH 3 NEW CLINICAL TYPES

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

Circle No. 11 on Readers' Service Card



FACULTY POSITIONS OPEN  
COLLEGE OF VETERINARY MEDICINE  
AND ANIMAL RESOURCES  
KING FAISAL UNIVERSITY  
HOFUF, SAUDI ARABIA

College of Veterinary Medicine and Animal Resources invites inquiries from qualified applicants for the 1982-1983 academic year in the following fields:

VETERINARY MYCOLOGY  
VETERINARY PHYSIOLOGY  
(Gastro-Intestinal or  
nutritional physiology)  
VETERINARY MEDICINE AND  
THERAPEUTICS  
PHYSICS  
VETERINARY PATHOLOGY AND  
MORBID ANATOMY

MEAT PRODUCTION AND  
ANIMAL BY-PRODUCTS  
(Meat Science, Meat Technology  
or Animal Industry)  
VETERINARY PHARMACOLOGY  
BIOCHEMISTRY  
VETERINARY SURGERY

**PREREQUISITES:** Advanced degrees D.V.M., Ph.D., or M.D., (holders of M.S. and B.S. degrees in the mentioned fields may also apply). Minimum of two years experience in university teaching and clinical practice (where applicable) and published research.

The successful applicants will teach in their respective disciplines, conduct practical classes; perform and supervise laboratory diagnosis. Duties also include conducting research and supervising the clinical practice in the Veterinary Teaching Hospital where applicable. Language of instruction is English.

Salaries are highly competitive and negotiable; contracts are for one year and renewable.

**Benefits** include furnished housing, air tickets to and from Saudi Arabia once per year for a family of four, a 60 day vacation with pay, generous overweight allowance and educational allowance for children. No Saudi tax.

Interviews will be held in the United Kingdom and the United States. Please send a copy of complete curriculum vitae and the names, addresses and telephone numbers of three references to:

Dr. Salah El Din Abdel Razig  
Dean, College of Veterinary Medicine and Animal Resources

King Faisal University  
U.S. Recruiting Office  
2425 West Loop South, Ste. 540  
Houston, Texas 77027  
U.S.A.

or

King Faisal University  
U.K. Recruiting Office  
29 Belgrave Square  
London SW1X 8QB  
ENGLAND



FACULTY POSITIONS OPEN  
COLLEGE OF AGRICULTURAL  
SCIENCES AND FOOD  
KING FAISAL UNIVERSITY  
HOFUF, SAUDI ARABIA

The expanding College of Agricultural Sciences and Foods of King Faisal University has vacancies in the following fields:

Soil & Water Engineering  
Physical Chemistry  
Marine Biology & Fisheries  
Food Technology  
(Metabolism, Food & Dairy)  
Agronomist  
(Range Mgmt & Crop Ecology)  
Water Resources & Development  
Irrigation & Drainage Engineering  
Agricultural Engineering &  
Farm Machinery

Plant Pathology (Virology)  
Plant Taxonomy  
Agricultural Extension  
Fish Meat Technology  
(Fish Biochemistry & Physiology)  
Agricultural Economics  
(Farm Management)  
Soil Microbiology (Biochemistry)  
Landscaping and Ornamentals  
Animal Husbandry

**PREREQUISITES:** Ph.D. or equivalent degrees (holders of M.S. Degrees may be considered in some of the above mentioned fields). Minimum of 2 years University level teaching is also required. Candidates who are bilingual (Arabic) will be given preference.

**BENEFITS:** Benefits include furnishing housing, air tickets to and from Saudi Arabia once per year for a family of four, a 60-day vacation with pay, generous overweight allowance and educational allowance for children. No Saudi tax.

Salaries are highly competitive and negotiable. Contracts are for one year and renewable.

Please send curriculum vitae with current telephone number and the names, addresses, and telephone numbers of three references to:

Dr. Yahai Makki, Dean, College of Agricultural Sciences  
and Foods.

c/o King Faisal University  
U.S. Recruiting Office  
2425 West Loop South, Ste. 540  
Houston, Texas 77027  
U.S.A.

or

c/o King Faisal University  
U.K. Recruiting Office  
29 Belgrave Square  
London, SW1X 8QB  
ENGLAND

R&D Growth Opportunity for:

**PROJECT ASSOCIATE - Plant Molecular Biology**

As part of SOHIO's massive commitment to develop future energy resources, our R&D group has engaged in long-term developmental research projects related to increasing crop production. At soon-to-be-completed facilities in our new Corporate Research Center, located in a pleasant suburban Cleveland community, the successful candidate will work closely with the Project Leader to:

- Design and perform experiments
- Record, analyze and summarize data
- Summarize project research and prepare reports
- Keep abreast of the literature and new technologies

Preferred background and experience includes a recent PhD in plant molecular biology or BS-MS with 3-5 years' work experience in plant molecular biology. You should have experience with standard molecular biological technologies including nucleic acid isolation, restriction endonuclease analysis, blot hybridization and cloning. Experience in vector development especially desired. PhD candidates willing to do directed research initially are preferred.

This challenging position provides an attractive salary, comprehensive benefits and excellent opportunities for advancement within the project team. **SOHIO's relocation package for new hires who are homeowners includes a mortgage interest differential allowance, third party home purchase option and other features normally restricted to internal transfers.**

Join us in this rewarding work. Send your resume and salary history/requirements, in complete confidence to:

E. Shannon Wyant, Sr. Executive Recruiter  
**THE STANDARD OIL COMPANY (Ohio)**  
1424 Midland Building — 411  
Cleveland, Ohio 44115

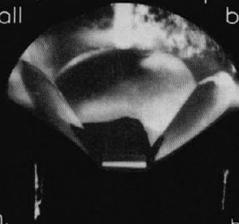
An Equal Opportunity Employer M/F/H/V  
NO THIRD PARTY INQUIRIES, PLEASE.

"Help us Help to Assure America's Energy Future"



# ULTRA-PRECISION MADE ULTRA-EASY

When it comes to ultra-thin, ultra-precise sectioning made easy, only one ultramicrotome is unmatched - the AO/Reichert Ultracut. □ Simple to operate, the Ultracut features fewer and simpler controls - all of which can be operated while viewing the specimen. A highly advanced mechanical feed system is inertia-free and less sensitive to temperature changes thus assuring accurate, reproducible sections. You can obtain continuously variable cutting speeds without disturbing knife to specimen orientation. □ Designed with a new, 3-piece shell construction,



the Ultracut insulates the feed and drive mechanisms from external disturbances - while the hydraulically dampened anti-vibration system provides further stability. □ The AO/Reichert Ultracut. For ultra-precision made ultra-easy. For a demonstration, see your AO/Reichert dealer or representative. Or write for our brochure: American Optical Instrument Division, Box 123, Buffalo, NY 14240.

Exclusive darkfield knife alignment lets you view the gap between specimen and knife. You see a bright slit on a dark background making it easy to orient the knife to the specimen.



**AO/Reichert**  
American Optical

Circle No. 102 on Readers' Service Card