

of composite materials for aircraft structures and the increasing dependence of flight control on microelectronics. Unfortunately, perhaps because of their newness, Uman presents almost no data on currents, rise times, and other physical characteristics of lightning strikes to airplanes, which are important in evaluating and protecting against the hazards they present.

I believe that *The Lightning Discharge*, owing mostly to its own high quality but also to the absence of any modern competitors, is a "must-have" book for all those studying problems associated with lightning. It should be useful in the engineering arena as well. Certainly it belongs in technical and scientific libraries.

W. DAVID RUST

National Severe Storms Laboratory,  
National Oceanographic and  
Atmospheric Administration,  
Norman, OK 73069

## Books Received

**Cancer Metastasis.** Biological and Biochemical Mechanisms and Clinical Aspects. Giorgio Prodi *et al.*, Eds. Plenum, New York, 1988. xiv, 490 pp., illus. \$95. Advances in Experimental Medicine and Biology, vol. 233. From a congress, Bologna, Italy, May 1987.

**Charm Physics.** Ming-han Ye and Tao Huang, Eds. Gordon and Breach, New York, 1987. xii, 561 pp., illus. \$85. World Laboratory, vol. 2. From a symposium, Beijing, China, June 1987.

**The Chemistry and Biology of Benz[a]anthracenes.** M. S. Newman, B. Tierney, and S. Veeraghavan. Cambridge University Press, New York, 1988. xiv, 228 pp., illus. \$69.50. Cambridge Monographs on Cancer Research.

**Chromosome Structure and Function.** Impact of New Concepts. J. Perry Gustafson and R. Appels, Eds. Plenum, New York, 1988. xvi, 326 pp., illus. \$59.50. Stadler Genetics Symposia Series. From a symposium, Columbia, MO, 1987.

**Competing for Control.** America's Stake in Microelectronics. Michael G. Borrus. Ballinger (Harper and Row), Cambridge, MA, 1988. xviii, 269 pp. \$32.

**Essays in Physical Chemistry.** A Sourcebook for Physical Chemistry Teachers. W. T. Lippincott, Ed. American Chemical Society, Washington, DC, 1988. vi, 174 pp., illus. Paper, \$39.95.

**Experimental Foundations of Behavioral Medicine.** Conditioning Approaches. Robert Ader, Herbert Weiner, and Andrew Baum, Eds. Erlbaum, Hillsdale, NJ, 1988. xii, 222 pp., illus. \$34.50. Based on a meeting, Kiawah Island, SC, 1985.

**Experiments in Animal Development.** Student Manual. Robert W. Merriam. Sinauer, Sunderland, MA, 1988. x, 101 pp., illus. Paper, \$14.95.

**Exploration of Halley's Comet.** M. Grewing, F. Praderie, and R. Reinhard, Eds. Springer-Verlag, New York, 1988. xxiv, 984 pp., illus. \$144. From a symposium, Heidelberg, F.R.G., Oct. 1986. Reprinted from *Astronomy and Astrophysics*, vol. 187, nos. 1 and 2 (1987).

**Health Policy, Ethics and Human Values.** European and North American Perspectives. Z. Bankowski and J. H. Bryant, Eds. Council for International Organizations of Medical Sciences, Geneva, 1988 (distributor, World Health Organization, Geneva). viii, 223 pp. Paper, SwF 20. Based on a conference, Noordwijk aan Zee, The Netherlands, June 1987.

**The Molecular Immunology of Complex Carbohydrates.** Albert M. Wu, Ed. Plenum, New York, 1988. xiv, 868 pp., illus. \$135. Advances in Experimental Medicine and Biology, vol. 228. From a symposium, College Station, TX, Sept. 1985.

**The Moral Dimension.** Toward a New Economics. Amitai Etzioni. Free Press (Macmillan), New York, 1988. xvi, 314 pp. \$24.95.

**Neurological Applications of Implanted Drug Pumps.** Richard D. Penn, Ed. New York Academy of

Sciences, New York, 1988. x, 215 pp., illus. Paper, \$56. Annals of the New York Academy of Sciences, vol. 531. From a conference, New York, June 1987.

**New Medical Devices.** Invention, Development, and Use. Karen B. Ekelman, Ed. National Academy Press, Washington, DC, 1988. xvi, 186 pp. \$34.50; paper, \$24.50. Series on Technology and Social Priorities. From a symposium, Washington, DC, March 1987.

**Pasteur and Modern Science.** René Dubos. 2nd ed. Science Tech, Madison, WI, 1988. xxiv, 168 pp., illus. \$18.95. Scientific Revolutionaries.

**Pharaohs and Mortals.** Egyptian Art in the Middle Kingdom. Janine Bourriau. Cambridge University Press, New York, and Fitzwilliam Museum, Cambridge, U.K., 1988. vi, 167 pp., illus. \$49.50; paper, \$17.95.

**Photonics.** Maintaining Competitiveness in the Information Era. National Research Council. National Academy Press, Washington, DC, 1988. x, 99 pp., illus. Paper, \$11.95.

**The Photosynthetic Bacterial Reaction Center.** Structure and Dynamics. Jacques Breton and André Verméglio, Eds. Plenum, New York, 1988. x, 443 pp., illus. \$85. NATO Advanced Science Institutes Series A, vol. 149. From a workshop, Cadarache, France, Sept. 1987.

**Physiological Limitations and the Genetic Improvement of Symbiotic Nitrogen Fixation.** F. O'Gara, S. Manian, and J. J. Drevon, Eds. Published for the Commission of the European Communities by Kluwer, Norwell, MA, 1988. x, 215 pp., illus. \$54. Advances in Agricultural Biotechnology. From a conference, Cork, Ireland, Sept. 1987.

**Phytoplankton Ecology.** Structure, Function and Fluctuation. Graham P. Harris. Routledge, Chapman and Hall, New York, 1987. x, 384 pp., illus. Paper, \$37.50. Reprint, 1986 ed.

**The Plant Viruses.** Vol. 4, The Filamentous Plant Viruses. R. G. Milne, Ed. Plenum, New York, 1988. xvi, 423 pp., illus. \$79.50. The Viruses.

**Policing and Punishing the Drinking Driver.** A Study of General and Specific Deterrence. Ross Homel. Springer-Verlag, New York, 1988. xx, 318 pp., illus. \$54. Research in Criminology.

**Polymer Motion in Dense Systems.** D. Richter and T. Springer, Eds. Springer-Verlag, New York, 1988. x, 307 pp., illus. \$55.90. Springer Proceedings in Physics, vol. 29. From a workshop, Grenoble, France, Sept. 1987.

**Principles of Optimal Design.** Modeling and Computation. Panos Y. Papalambros and Douglass J. Wilde. Cambridge University Press, New York, 1988. xxii, 416 pp., illus. \$49.50.

**Principles of Organometallic Chemistry.** P. Powell. 2nd ed. Chapman and Hall (Routledge, Chapman and Hall), New York, 1988. xvi, 414 pp., illus. \$39.95.

**The Role of Behavior in Evolution.** H. C. Plotkin, Ed. MIT Press, Cambridge, MA, 1988. x, 198 pp., illus. \$27.50. A Bradford Book.

**Science.** The Very Idea. Steve Woolgar. Horwood, Chichester, U.K., and Tavistock (Routledge, Chapman and Hall), New York, 1988. 119 pp. \$57.50; paper, \$9.95. Key Ideas.

**Science and the Unborn.** Choosing Human Futures. Clifford Grobstein. Basic Books, New York, 1988. xiv, 207 pp., illus. \$18.95.

**Science in Cinema.** Teaching Science Fact Through Science Fiction Films. Leroy W. Dubeck, Suzanne E. Moshier, and Judith E. Boss. Teachers College Press, New York, 1988. xviii, 187 pp., illus. \$28.95; paper, \$15.95.

**Scientific Genius.** A Psychology of Science. Dean Keith Simonton. Cambridge University Press, New York, 1988. x, 229 pp., illus. \$27.95.

**The Selection of Behavior.** The Operant Behaviorism of B. F. Skinner: Comments and Consequences. A. Charles Catania and Stevan Harnad, Eds. Cambridge University Press, New York, 1988. xxii, 563 pp. \$75; paper, \$29.95. Six "canonical" papers by Skinner, some 145 commentaries, and responses by Skinner. Based on an issue of *Brain and Behavioral Sciences*.

**Sixth International Conference on Cyclic Nucleotides, Calcium and Protein Phosphorylation.** (Bethesda, MD, Sept. 1986.) Robert S. Adelstein, Claude B. Klee, and Martin Rodbell, Eds. Raven, New York, 1988. 2 vols. Vol. 21. xviii, 222 pp., illus. \$80. Vol. 21A. Abstracts. Unpagged. Paper, \$39. Advances in Second Messenger and Phosphoprotein Research, vols. 21 and 21A.

**The Social and Built Environment in an Older Society.** Institute of Medicine and National Research Council. National Academy Press, Washington, DC, 1988. xii, 292 pp., illus. Paper, \$19.95. America's Aging.

**Special Security.** The First Half-Century. Gerald D. Nash, Noel H. Pugach, and Richard F. Tomasson, Eds.

University of New Mexico Press, Albuquerque, 1988. xiv, 344 pp., illus. \$24.95; paper, \$12.95. Public Policy Series. From a conference, Albuquerque, NM, March 1985.

**Soil Erosion Research Methods.** R. Lal, Ed. Soil and Water Conservation Society, Ankeny, IA, 1988. xiv, 244 pp., illus. Paper, \$16.

**Somesthetic System of the Rat.** Raimond Emmers. Raven, New York, 1988. xiv, 95 pp., illus. \$98.

**The Southern Ark.** Zoological Discovery in New Zealand, 1769-1900. J. R. H. Andrews. University of Hawaii Press, Honolulu, 1988. xii, 237 pp., illus. \$39.

**Spanish Artifacts from Santa Elena.** Stanley South, Russell K. Skowronck, and Richard E. Johnson. University of South Carolina, South Carolina Institute of Archaeology and Anthropology, Columbia, 1988. xxx, 472 pp., illus. Paper, \$30. Anthropological Studies, vol. 7.

**Speakable and Unspeakable in Quantum Mechanics.** J. S. Bell. Cambridge University Press, New York, 1988. xii, 212 pp., illus. Paper, \$14.95. Reprint, 1987 ed.

**The Spinorial Chessboard.** P. Budinich and A. Trautman. Springer-Verlag, New York, 1988. viii, 128 pp., illus. Paper, \$27.50. Trieste Notes in Physics.

**Stably Stratified Flow and Dense Gas Dispersion.** J. S. Puttock, Ed. Clarendon (Oxford University Press), New York, 1988. xiv, 430 pp., illus. \$89. The Institute of Mathematics and Its Applications Conference Series, vol. 15. From a conference, Chester, U.K., April 1986.

**The Status of Differentiation Therapy of Cancer.** S. Waxman, G. B. Rossi, and F. Takaku, Eds. Raven, New York, 1988. xvi, 422 pp., illus. \$61. Sero Symposium Publications from Raven Press, vol. 45. From a conference, Bermuda, 1987.

**Stones in a Glass House.** CFCs and Ozone Depletion. Douglas G. Cogan. Investor Responsibility Research Center, Washington, DC, 1988. viii, 147 pp., illus. Paper, \$50.

**String and Sticky Tape Experiments.** R. D. Edge. American Association of Physics Teachers, College Park, MD, 1987. Various pagged. Spiral bound, \$18.

**The Structure of Stuttering.** A Psycholinguistic Analysis. Marcel E. Wingate. Springer-Verlag, New York, 1988. xviii, 316 pp., illus. \$67.

**Structured Programming Using Turbo BASIC.** Wade Ellis, Jr. and Ed Lodi. Academic Press, San Diego, CA, 1988. xviii, 337 pp. Paper, \$23.95.

**Supernova 1987A in the Large Magellanic Cloud.** Minas Kafatos and Andrew G. Michalitsianos, Eds. Cambridge University Press, New York, 1988. xviii, 487 pp., illus. \$64.50. From a workshop, Fairfax, VA, Oct. 1987.

**Superstrings.** A Theory of Everything? P. C. W. Davies and Julian Brown, Eds. Cambridge University Press, New York, 1988. viii, 234 pp., illus. \$39.50; paper, \$10.95.

**Surfactant-Based Mobility Control.** Progress in Miscible-Flood Enhanced Oil Recovery. Duane H. Smith, Ed. American Chemical Society, Washington, DC, 1988. x, 449 pp., illus. \$94.95. ACS Symposium Series, vol. 373. From a symposium, Ann Arbor, MI, June 1987.

**Surveys of Some Recent Results in Operator Theory.** Vol. 1. John B. Conway and Bernard B. Morrel, Eds. Longman Scientific, Harlow, U.K., and Wiley, New York, 1988. xii, 259 pp. Paper, \$59.95. Pitman Research Notes in Mathematics, vol. 171. Based on a lecture series, Bloomington, IN, 1985-86.

**Syntheses and Separations Using Functional Polymers.** D. C. Sherrington and P. Hodge. Wiley, New York, 1988. x, 454 pp., illus. \$118. An updating of the authors' *Polymer-Supported Reactions in Organic Syntheses* (1979).

**Textbook of Endocrine Physiology.** James E. Griffin and Sergio R. Ojeda, Eds. Oxford University Press, New York, 1988. x, 351 pp., illus. \$35; paper, \$18.95.

**The Theory of Pseudo-Rigid Bodies.** Harley Cohen and Robert G. Muncester. Springer-Verlag, New York, 1988. x, 183 pp., illus. \$69.80. Springer Tracts in Natural Philosophy, vol. 33.

**Time's Arrow, Time's Cycle.** Myth and Metaphor in the Discovery of Geological Time. Stephen Jay Gould. Harvard University Press, Cambridge, MA, 1988. xvi, 221 pp., illus. Paper, \$8.95. Reprint, 1987 ed.

**Topics in Millimeter Wave Technology.** Vol. 1. Kenneth J. Button, Ed. Academic Press, San Diego, CA, 1988. viii, 375 pp., illus. \$99.50.

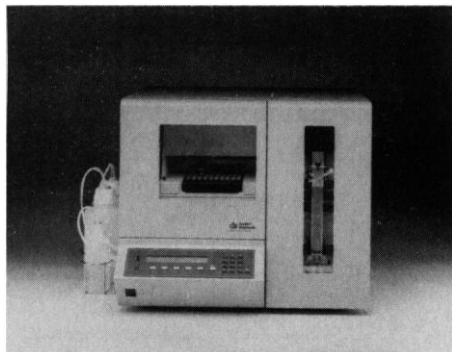
**Toward a Comprehensive Test Ban.** Steve Fetter. Ballinger (Harper and Row), Cambridge, MA, 1988. xviii, 205 pp. \$29.95.

**Treating the Criminal Offender.** Alexander B. Smith and Louis Berlin. 3rd ed. Plenum, New York, 1988. xviii, 426 pp. \$45. Criminal Justice and Public Safety.

## Products & Materials

### Biomolecular Purification

The model 230A HPEC System is a micropreparative instrument for the separation and purification of proteins, DNA, and synthetic oligonucleotides. Based on gel electrophoresis, the system separates, visualizes, quantitates, and recovers mixtures of



biological macromolecules. As the sample elutes from the tube gel, a continuous flow of elution buffer carries the separated sample components through an on-line detector and into an integral fraction collector. Standard electrophoresis protocols can be adapted to the tube gel format of the system. The temperature-controlled gel compartment accepts columns of several diameters and lengths, and the programmable power supply can operate in several modes. Applied Biosystems, Foster City Biosystems Division. Circle 536.

### Scientific Calculator

The HP-42S RPN is a scientific calculator with reverse Polish notation. Complex numbers and vectors can be calculated or incorporated in computations. A matrix editor prompts for inputs, allows computations to be done in each matrix element, and allows complex numbers to be matrix elements. The matrix editor can solve simultaneous equations. The calculator also incorporates an equation solver that prompts for variables. Programs for HP-41C/CV calculators will execute properly on the HP-42S RPN.

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

The user can assign programs, variables, and built-in functions to the keys in the top row for fast access. The HP-42S RPN features a two-line liquid-crystal display and 8 kilobytes of random-access memory. An optional infrared printer that links to the calculator by an infrared-light beam is available. \$120. Hewlett-Packard. Circle 555.

### Reaction Columns with Immobilized Enzymes

Mobicol Compact Reaction Columns contain immobilized enzymes and can be spun in table centrifuges. Substrate solutions with volumes of 10 to 30  $\mu$ l can be enzyme treated in the columns. First, the column is spun dry. Then the substrate solution is pipetted into the column, left for a few seconds, and then spun out. After treatment, the substrate solution has the same volume as before. The column retains its enzymatic activity unchanged by the treatment of the substrate solution. If the columns are washed with 10 ml of buffer and stored at 4°C, they remain active for months. An adapter for syringes allows the columns to be installed on-line. Mobitec (West Germany). Circle 552.

### Precast Electrophoresis Gels

Precast 16 cm by 18 cm gradient gels are available. These linear density gradient polyacrylamide gels are individually cast. A range of polyacrylamide gradient and single concentration formulations are available for high, medium, and low molecular weight applications. A survey gel is available for applications in which molecules of a wide range of weights must be separated. The gels come in thicknesses of 0.75 or 1.5 mm in either denaturing or nondenaturing formulations. The gels are individually packaged and have a shelf life of 4 months. Jule, Biotechnology Division. Circle 551.

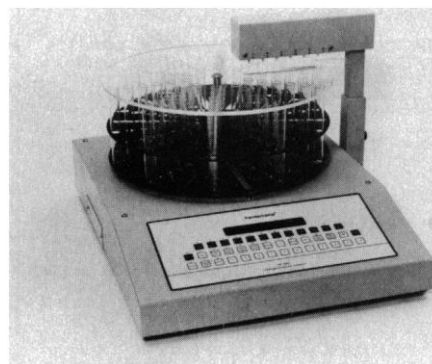
### Digital Camera

The EDC-1000 digital camera captures images without a frame grabber. With a computer-controlled display image sensor, the camera digitizes a scene into a 192 pixel by 165 pixel image. A computer, driven by menu commands, controls the exposure and frame-scanning times between 50 ms and 2 s. The camera comes with a lens, a 1.8-m-long cable, a computer interface card, software on a 5.25-inch diskette, and a manual. To operate, the camera requires an IBM PC-family, PS/2 model 25 or 30, or compatible

computer with a floppy disk drive, 256 kilobytes of random-access memory, and a free expansion slot for a half-sized card. \$400. Electrim. Circle 553.

### Automated Fraction Collector

The Vanderkamp VK3000 can collect samples at intervals of 3 min to 16 hours. Its microprocessor can be programmed for as many as ten collections over as long as 160 hours. Independent valve calibration allows each valve's delivery time to be set separately



for collecting precise amounts. As many as 12 samples may be collected simultaneously. Each time a sample is taken, the time, date, and volume are printed for test documentation. During collection, the keyboard display indicates the time remaining before the next sample will be taken. The operator can check each of the system's operations manually. Automatic cleaning of tubing and valves is controlled by a single key. The keyboard can be locked to prevent interference with the collection program. VanKel Industries. Circle 541.

### Literature

*Supercomputing on the 3090 with Vector Facility* is a brochure about applications for a supercomputer in scientific research, development, and education. IBM, Scientific and Technical Computing. Circle 562.

The 140-page catalog *NIH Repository of Human DNA Probes and Libraries* lists the probes, cloned genes, and genomic libraries in a genetic repository. American Type Culture Collection. Circle 563.

The *Nalgene Product News* introduces a line of square bottles, a heavy-duty bottle, and a desiccator cabinet. Nalge. Circle 564.

*Droplets, Microliter Samples* is a catalog of electrodes, probes, and oxygen meters. Microelectrodes. Circle 576.

# Personnel Placement

**SCIENCE** publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. 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. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

**LINE CLASSIFIED ADVERTISING DEADLINES:** Thursday, 10 a.m., 2 weeks prior to issue date (mailed on issue date). For deadlines for display advertising, please contact Scherago Associates.

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

**LINE CLASSIFIED (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth):** \$38.00 per line; \$380 minimum, per week (minimum charge covers one inch on a single column; one inch equals 10 lines of 52 characters and spaces per line). No charge for use of box number. No agency commission for ads less than 4 inches. No cash discount. Prepayment required for all foreign ads. Purchase orders and/or cover letter including billing address required for all other advertising.

**To ESTIMATE ad cost:** Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines × \$38.00 = approximate cost of ad. (This is an approximate cost ONLY: Allow for variation between estimated lines and actual typeset lines and the resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.)

**CANCELLATION POLICY:** NOTE: Ad cancellations made after Thursday, TWO weeks prior to issue date incur a 10% production charge. Final deadline for cancellations is 12 p.m. Tuesday, ONE week prior to issue date. Cancellations must be in writing.

Send copy for all **Positions Wanted** ads and **Line Classified** ads less than 1/6 page in size (39 lines) to:

**SCIENCE Classified Advertising**  
1333 H Street, NW, Room 940  
Washington, DC 20005  
Telephone: 202-326-6555

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

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

Blind ad replies should be addressed as follows:

**Box (give number)**  
**SCIENCE**  
1333 H Street, NW  
Washington, DC 20005

## POSITIONS WANTED

**Anatomist, Ph.D.** Nine years of experience teaching gross anatomy, histology and neuroanatomy to medical students. Prior teaching at undergraduate level. Seeks teaching position at medical school or university. Box 196, **SCIENCE**.

**Anatomist/Reproductive Biologist, Ph.D. (1986).** Two years of postdoctoral experience in reproductive biochemistry. Experience in tissue culture, light and electron microscopy, protein purification, column chromatography, SDS-PAGE, Western blots, lectins, immunostaining, ovulation induction drugs (clomiphene and pergonal), steroid hormones RIA, seeking a teaching (70%) and collaborative research position (30%) in Midwest area. Available in January 1989. Box 190, **SCIENCE**.

## POSITIONS WANTED

**Japanese Life Sciences Translations:** articles, patents, opposition statements, other documents translated from Japanese in cell biology, microbiology, mycology, plant pathology, immunology, pharmacology, and related fields. 1025 Laurel Street #3, Menlo Park, CA 94025. Telephone: 415-321-6317.

**Laboratory Animal Veterinarian.** Experience: 3½ years in a high quality surgical and medical clinical practice; 2½ years of experience in laboratory animal medicine, state and federal regulations, animal care and use committee, GLP and GMP regulations. USDA accredited, licensed. Seeks part/full-time position in biotechnology, pharmaceutical, research, government in south-central Pennsylvania, Baltimore, Philadelphia area. Box 197, **SCIENCE**.

**Medical Informatics, M.D.** Research and development expertise in artificial intelligence (Expert systems), medical information systems, and computer-assisted medical education. Also, experience teaching medical informatics. Seeking challenging position utilizing medical/biological and computer background in advanced academic and/or clinical research environments. P.O. Box 260324, Tampa, FL 33685.

**Plant Pathologist (Ph.D., 1967).** Twenty-one years of experience working in the Caribbean region on a wide range of crops, particularly tomato, bean, peanut, pigeon pea, cowpea, kenaf, citrus, yam, papaya. Considerable experience in: systems of fungicide application, bacterial wilt caused by *Ps. solanacearum*, disease diagnosis, teaching as extension agent to postgraduate levels, administration. Seeking position in academic, industry, or consultancy fields. Box 188, **SCIENCE**.

**Plant Tissue Culturist, M.S.** Research experience in foliage and woodies; meristem, callus, and embryo culture, somatic embryogenesis, protoplast culture. Management experience in mass production. Independent research. Seeks suitable position in industry/academia. Box 182, **SCIENCE**.

**Retrovirologist, Ph.D.** Experienced and published in human immunodeficiency virus and murine retroviruses. Demonstrated ability for independent research and laboratory management. Desires academic/research position. Box 194, **SCIENCE**.

**Toxicologist, Veterinarian, D.V.M.; M.S. (1975) (1984).** Eight years of experience in toxicology laboratory procedures, such as spectrophotometry, TLC, column chromatography, analysis of P-450 metabolizing enzymes, acute toxicity tests of NCE, fungicides, pesticides, Pyrogen-testing, teratological studies in mice, rats, and rabbits. Gross pathology, clinical pathology, laboratory animal care. Seeks challenging position in industry, diagnostic laboratories or academics. c/o Advertiser, 1925 Cornelia Road, Galesburg, IL 61401. Telephone: 309-342-8052.

## POSITIONS OPEN

Western Maryland College—an independent college of the liberal arts and sciences, located in central Maryland near Baltimore and Washington, D.C.—announces a tenure-track opening at the **ASSISTANT PROFESSOR** level beginning in September 1989. The four-member, ACS-certified chemistry department seeks applications from chemists who will possess by September 1989 a Ph.D. in biochemistry. The department is committed to attaining ACS approval for the chemistry/biochemistry option. The successful applicant will be expected to teach and develop courses in biochemistry and to participate in introductory courses for science and non-science majors. Although Western Maryland's emphasis is high quality teaching, research with students will be strongly encouraged. Prior teaching experience and/or postdoctoral work is desired but not required. Candidates should submit a résumé, all graduate and undergraduate transcripts, and three or more letters of recommendation to: **Dr. David W. Herlocker, Head, Search Committee, Department of Chemistry, Western Maryland College, Westminster, MD 21157** by 13 February 1989. *Western Maryland College is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT DIRECTOR FOR SCIENCE, M.D.** or Ph.D. Develop and implement research plans/science policy for Agency for Toxic Substances and Disease Registry (ATSDR). Chief spokesman in matters of science representing ATSDR before Congress, committees, task forces, or other groups. Required: extensive experience exhibiting capability in biomedical science; demonstrated achievement in environmental health area, professional papers in field of expertise, and personal creative contributions/accomplishments that resulted in awards/honors/recognition by professional and science community. Résumé to: **S. Gambrell, ATSDR, 1600 Clifton Road, Atlanta, GA 30333** within 2 weeks of publication. *ATSDR provides a smoke-free workplace and is an Equal Opportunity Employer.*

**ASSISTANT FACULTY MEMBER,** Division of Basic Immunology, performing original scientific research on questions related to antigen processing and presentation in T cell development, the study of the function and development of the cellular immune system, and the design of novel strategies in the treatment of cancer and infectious diseases. Direct supervision of technicians, graduate students and postdoctoral fellows required. Minimum requirements: Ph.D. in biology or immunology, with specialization in the function and activation of T lymphocytes, and 2 years of experience. \$3667 per month; 40 hour week. Send résumé to: **Colorado Department of Labor and Employment, 600 Grant Street, Suite 900, Denver, CO 80203-3528.** Refer to job order #CO2918107.

## COLLEGE OF WILLIAM AND MARY SCHOOL OF MARINE SCIENCE

**ASSISTANT PROFESSOR,** tenure-track. The School of Marine Science, Virginia Institute of Marine Science, College of William and Mary, is seeking a Ph.D. shellfish biologist with experience in molluscan culture and predator-prey biology. Applicant must be willing to work as part of an academic, research, hatchery and industry program to revitalize the Virginia oyster industry through use of mariculture. Successful applicant will be expected to develop the research portion of the program. *Women and minority scientists are encouraged to apply.* Send three references, curriculum vitae and statement of current research interests by 13 January 1989 to:

**Dr. Roger Mann, Chairman**  
**Shellfish Biologist Search Committee**  
**School of Marine Science**  
**Gloucester Point, VA 23062**

The position is expected to be filled by 1 March 1989.

## ASSISTANT PROFESSOR

Position available as assistant professor in the Division of Infectious Diseases, Department of Medicine, The Mount Sinai School of Medicine in New York City for an M.D. or Ph.D. independent investigator competitive for NIH grants. The applicant should be engaged in molecular research preferably in parasitology, mycology or virology. Working space will be in a completely outfitted molecular biology laboratory presently staffed by molecular investigators. Please send curriculum vitae to: **Dr. Shalom Z. Hirschman, Division of Infectious Diseases, The Mount Sinai School of Medicine, Box 1090, One Gustave L. Levy Place, New York, NY 10029.** Telephone: 212-241-6741. *An Equal Opportunity Employer.*

## ASSISTANT PROFESSOR

Applications are invited for a position at the level of assistant professor (tenure-track) in the Division of Interdisciplinary Studies, School of Allied Health. The position involves teaching and research and is open to any area of anatomy. Applicants must be strongly motivated toward research and committed to teaching at the undergraduate level. Interested persons should submit curriculum vitae, a description of research interests and three references to:

**Search Committee**  
**Interdisciplinary Studies**  
**SAHS, Route: J28**  
**University of Texas Medical Branch**  
**Galveston, TX 77550**

Deadline: 15 January 1989. *UTMB is an Equal Opportunity M/F/H/V Affirmative Action Employer. UTMB hires only individuals authorized to work in the United States.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR** at Presbyterian-related liberal arts women's college to teach biochemistry, general chemistry, nutrition, and other courses for science and non-science majors. Involves supervising senior research and some work with gifted girls and adults. Submit résumé, official transcript, and three letters of recommendation by 15 February 1989 to: **Biochemistry Search Committee, Dean of the College, Mary Baldwin College, Staunton, VA 24401.** *Equal Employment Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR.** (Tenure-track) position for person with Ph.D. and a broad background in oceanography, and research interests in recent and fossil radiolaria. The Marine Studies Program at the University of San Diego (USD) is a new "flagship" program at the University. Both graduate and undergraduate programs exist. The undergraduate program offers degrees in Marine Science (with a double major in a science) and Ocean Studies (with a double major in a non-science). The graduate program will begin in the fall of 1989 by offering a Master of Marine Science and a Master of Ocean Studies for those involved in science and non-science research respectively. A number of very specific marine areas of expertise are being developed, hence the search for a researcher in recent and fossil radiolarians to complement current expertise in that area. Some other areas of expertise not included in the search include aquaculture, marine management and marine vertebrate biology. Marine Studies at USD runs its program in conjunction with Sea World Research Institute and a number of other local marine groups, drawing on the vast marine expertise of the San Diego area especially for the graduate program. USD is an independent, Catholic university of about 6,000 students, approximately half of those students are undergraduates in the College of Arts and Sciences and half in graduate and professional colleges and schools. Please send curriculum vitae, and names and addresses for three potential letters of reference before 15 April 1989 to: **Director R. E. Casey, Marine Studies, University of San Diego, Alcalá Park, San Diego, CA 92110.** *The University of San Diego is an Affirmative Action/Equal Opportunity Employer.*

### ASSISTANT PROFESSOR— MOLECULAR BIOLOGY

The Division of Reproductive Endocrinology and the University of Maryland School of Medicine at Baltimore seek candidates for a full-time tenure-track faculty position at the assistant professor level. Starting date is August 1989. Minimum requirements for the position include a Ph.D. degree and no less than 2 years of postdoctoral experience. The successful applicant will be joining an expanding research unit concerned solely with the molecular and cellular endocrinology of the mammalian ovary. The position in question constitutes one of three appointments to be completed in the next 3 years. The successful applicant will be expected to develop extramurally supported, independent research program applying modern molecular biological approaches to the study of ovarian physiology. Participation in the graduate and undergraduate teaching programs is welcome but not required. Aside from competitive start-up funds and moving expenses, the position guarantees salary, operational, and technical support for 3 years.

Applications, including curriculum vitae should be sent to: **Dr. Eli Y. Adashi, Division of Reproductive Endocrinology, 655 West Baltimore Street, Room 11-007, Bressler Research Building, Baltimore, MD 21201.**

### ASSISTANT PROFESSOR MOLECULAR VIROLOGY

The Department of Ophthalmology, Baylor College of Medicine, seeks an innovative scientist to develop an independent research program on herpes virus infections of the eye. Joint faculty appointment is also available in the Department of Molecular Virology. Applicants for this tenure-track position should have a Ph.D. with at least 2 years of productive postdoctoral experience in molecular virology. Negotiable starting date. Send curriculum vitae, names of at least three references, and a statement of research interests to: **Dr. K. R. Wilhelmus, Chairperson—Search Committee for Molecular Virologist Position, Department of Ophthalmology, Cullen Eye Institute, Baylor College of Medicine, One Baylor Plaza (NC200), Houston, TX 77030.** *Equal Opportunity Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR.** Tenure-track, 12-month research and teaching position in crop biochemistry. Successful candidate will develop Crop Biochemistry project with continuing funding from Minnesota Agricultural Experiment Station, and emphasize research on biochemical bases of important crop traits. Minimum qualifications include Ph.D. in biochemistry or related field; and post Ph.D. (academic or industrial) research experience. Background in plant biology, research experience in plant biochemistry and molecular genetics, and participation in collaborative research are desired. Send résumé, a one- to two-page statement of interests relating to this position, and the names, addresses and telephone numbers of at least three references by 20 January 1989 to: **Biochemist Search, Department of Agronomy and Plant Genetics, 411 Borlaug Hall, University of Minnesota, St. Paul, MN 55108.** *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

### ASSISTANT PROFESSOR OF BIOCHEMISTRY BRANDEIS UNIVERSITY

A tenure-track position at the level of assistant professor is available in the Graduate Department of Biochemistry. We are seeking someone who plans to investigate basic mechanisms in molecular biology, in fields ranging from replication to gene expression. Curriculum vitae, statement of research interests, and at least three letters of recommendation should be sent to:

**Dr. Irwin B. Levitan  
Chairman, Search Committee  
Graduate Department of Biochemistry  
Brandeis University  
Waltham, MA 02254**

*Brandeis University is an Equal Opportunity/Affirmative Action Employer. We are seeking highly qualified candidates from all segments of the scientific community.*

**ASSISTANT PROFESSOR OF MEDICINE (CARDIOLOGY),** Stanford University School of Medicine—Two full-time positions.

We are seeking an academic cardiologist to establish a basic research program in areas directly related to cardiovascular disease. Prior training in clinical non-invasive and invasive cardiology is required. At least 3 years of basic research experience, preferably in molecular and cellular biology, is also necessary. Primary responsibilities will include a minor time commitment to clinical training and patient care.

We also are seeking a Ph.D. molecular biologist to establish a research program focused on the role of growth factors in atherosclerosis. Experience in cDNA cloning, site-directed mutagenesis, the use of eukaryotic expression systems and purification of membrane proteins is required. The applicant should have at least 3 years of postdoctoral training in molecular biology. Primary responsibilities will include the development of a basic research program and participation in a basic science training program for physicians and postdoctoral scientists.

*Stanford University is committed to the increasing representation of women and members of minority groups on the faculty and particularly encourages applications from such candidates.* Please send curriculum vitae and names and addresses of three potential referees to: **Dr. Edward D. Harris, Chairman, Department of Medicine, S102, Stanford University School of Medicine, Stanford, CA 94305-5109.**

### ASSISTANT PROFESSOR OF MICROBIOLOGY VIROLOGIST

Applications are invited for a position at the level of assistant professor. The tenure-track position will be filled by an individual who is capable of teaching virology. Research interests can be in any area. Development of an independent research program is imperative. Candidates must possess a Ph.D. degree, have completed postdoctoral training and possess an interest in teaching medical, graduate and allied health students.

Interested individuals should submit curriculum vitae and names of three references to: **Paul F. Smith, Ph.D., Chairman, Department of Microbiology, School of Medicine, University of South Dakota, Vermillion, SD 57069.** Closing date: 1 March 1989; the search will continue until position is filled. *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR IN PHARMACOLOGY/TOXICOLOGY:** The Department of Pharmacology and Toxicology at the University of Kansas, Lawrence, has an expanding program in membrane receptor biochemistry and pharmacology and is seeking a new faculty member with research interests and expertise in this area. Appointment will be at the assistant professor level in a tenure-track position. Salary range: \$30,000 to \$36,000. We are looking for an individual with training and experience in the areas of membrane receptor isolation and reconstitution, molecular biology of receptor/ion channels or membrane protein biochemistry and biophysics. Strong collaborations of departmental faculty with researchers in the departments of biochemistry, medicinal and pharmaceutical chemistry, microbiology, physiology/cell biology and chemistry are ongoing. Candidates should hold the Ph.D. or M.D. degree and have a minimum of 2 years of postdoctoral experience. All faculty are expected to establish a strong research program and participate in the teaching of graduate students in the department and of undergraduates in the School of Pharmacy. Send curriculum vitae, statement of research interests and names of at least three references to:

**Dr. Elias K. Michaelis, Chairman  
Department of Pharmacology/Toxicology  
University of Kansas  
Lawrence, KS 66045**

Applications must be postmarked by 31 January 1989. *Equal Employment Opportunity/Affirmative Action Employer. Women and minority groups are encouraged to apply.*

**ASSISTANT PROFESSOR OF RADIOLOGY.** Full-time teaching and research position to develop and conduct a research program in in-vivo spectroscopy. The candidate will participate in an extensive program of coil development and will work collaboratively with established research programs in Radiation Biophysics, Electron Spin Resonance and Radiology. Responsibilities will include teaching graduate courses, directing research and collaboration with physicians. Ph.D. degree in biochemistry or related field with speciality in MR Spectroscopy and 2 years of postdoctoral training in in vivo multi-nuclear spectroscopy. This experience should include coil development, RF electronics and tumor spectroscopy. Experience working in a clinical radiology setting is needed. In addition, the MR spectroscopy experience should include working with clinical and animal, as well as high-resolution magnetic strength systems. Submit résumé and curriculum vitae to: **Dr. James E. Youker, Professor and Chairman, Department of Radiology, Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, WI 53226.** *Equal Opportunity/Affirmative Action Employer M/F/H.*

**ASSISTANT PROFESSORS.** Tenure-track positions available for outstanding candidates with training in cell physiology, biophysics or regulatory biology. Candidates who plan to establish an independent research program involving neurobiology, angiogenesis or growth factors are encouraged to apply, but outstanding candidates in other fields will be considered. The abilities of the applicants are more important than specific research areas. Candidates should submit curriculum vitae, description of future research program, and have three letters of reference sent to: **James T. Stull, Ph.D., Chairman, Department of Physiology, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9040.** *An Affirmative Action/Equal Opportunity Employer.*

### ASSISTANT/ASSOCIATE PROFESSOR ANATOMY

Applications are invited for a tenure-track position in the Anatomy Department of Western States Chiropractic College. The starting date is September 1989. Responsibilities will include instruction in human gross anatomy (with emphasis on extremity, visceral or spinal anatomy) and coordination of anatomy instruction. Applicants should possess a Ph.D. in anatomy and have demonstrated excellence in teaching. Rank and salary are commensurate with experience.

Send curriculum vitae, a statement of educational philosophy, three letters of recommendation and unofficial copies of transcripts by 31 January 1989 to: **Dr. Robert Boal, Anatomy Search Committee, Western States Chiropractic College, 2900 N.E. 132nd Avenue, Portland, OR 97230.** *Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR REPRODUCTIVE/DEVELOPMENTAL TOXICOLOGY

Tenure-track position available immediately. Candidate must have Ph.D. or other doctoral degree and thorough training, including some postdoctoral experience in the field of reproductive and developmental biology. It is intended that the candidate join in expanding an existing research program investigating mechanisms whereby environmental agents of a toxic nature affect reproduction and development. Candidate would be expected to initiate independent research and to collaborate with other investigators with similar interests and objectives, including design of epidemiological investigations of environmental factors affecting reproduction and/or development. Interdepartmental collaboration encouraged with, for example, the Institute of Developmental Research here at the Medical Center. If interested, please send curriculum vitae and names of three references to: **Dr. Paul B. Hammond, Department of Environmental Health, University of Cincinnati Medical Center, 3223 Eden Avenue, Cincinnati, OH 45267-0056.** *Affirmative Action/Equal Opportunity Employer.*

The Department of Microbiology, University of Hawaii is seeking applicants for a tenure-track (9-month) **ASSISTANT/ASSOCIATE PROFESSOR** position in the area of prokaryotic microbial genetics to begin 1 August 1989. A Ph.D. in microbiology or a related field; at least 2 years of postdoctoral experience, a strong record of research funding or potential for funding is required, and a strong attraction to teach at both the undergraduate and graduate levels in microbial genetics and microbiology. Application deadline: 15 February 1989. Submit curriculum vitae, names of at least three references, and representative publications, if available to: **Dr. Philip C. Loh, Chairman, Department of Microbiology, University of Hawaii, Honolulu, HI 96822; telephone: 808-948-8603.** *An Equal Opportunity Employer.*

### ASSISTANT/ASSOCIATE PROFESSOR

The Department of Microbiology and Immunology of the Texas College of Osteopathic Medicine (TCOM) is seeking applicants for tenure-track faculty positions at the assistant or associate professor rank. TCOM is a state-supported medical school housed in new well-equipped facilities and affiliated with the University of North Texas. Requirements include postdoctoral training and a strong potential for the development of a successful independent research program. Teaching duties include instruction of medical and graduate students. Priority subdisciplines include molecular or cellular immunology, immunoparasitology, and immunogenetics, but applications will be accepted for related areas of microbiology and immunology. *TCOM is an Equal Opportunity/Affirmative Action Employer.*

Send curriculum vitae, summary of research interests and goals, and names and addresses of three references to: **Dr. Paul F. Cook, Chairman, Department of Microbiology and Immunology, Texas College of Osteopathic Medicine, 3500 Camp Bowie Boulevard, Fort Worth, TX 76107.**

### ASSISTANT/ASSOCIATE PROFESSOR OF BIOLOGY

Slippery Rock University, tenure-track position beginning August 1989.

Applications are invited from plant taxonomists holding the Ph.D. degree in botany and competent to teach taxonomy, anatomy, land plants and environmental biology. The successful applicant must have experience as a herbarium curator and must develop an independent research program. An individual with a strong professional orientation and enthusiastic interest in both teaching and research will be favored.

Salary and fringe benefits are competitive and applications from minorities and women are encouraged.

Send letter of application, long-term goals, curriculum vitae, transcripts, and three letters of reference to:

**Dr. Thomas W. Gaither  
Department of Biology  
Slippery Rock University  
Slippery Rock, PA 16057**

To ensure consideration, application materials must be received by 1 March 1989.

*Slippery Rock University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**ASSISTANT/ASSOCIATE PROFESSOR.** Research biochemist to join an academic group at North Shore University Hospital, a teaching affiliate of Cornell University Medical College. Research conducted on hormonal control of vascular resistance. Expertise in receptor protein isolation and purification, post-receptor signaling systems, and/or molecular biology techniques required. Please submit letter of application with curriculum vitae, reprints or preprints of recent experimental work to: **Dr. Barry M. Wilkes, Director, Research Laboratory of Nephrology and Hypertension, North Shore University Hospital, 300 Community Drive, Manhasset, NY 11030.** *An Equal Opportunity Employer M/F.*

### ASSISTANT/ASSOCIATE PROFESSOR— CHEMISTRY

The University of Southern Maine Department of Chemistry announces a tenure-track position at the assistant/associate professor level beginning 1 September 1989. A Ph.D. in inorganic or physical chemistry is required. Teaching and postdoctoral experience are desirable. Primary responsibilities include teaching in upper level courses as well as the freshman chemistry program. Participation in the development of an upper level integrated laboratory program and supervision of undergraduate research are also expected. Candidates with research interests in environmental chemistry are encouraged to apply. Salary commensurate with qualifications and experience. *The University of Southern Maine hires only United States citizens and lawfully authorized alien workers.*

Submit a résumé, a brief statement of research interests and three letters of recommendation by 31 January 1989 to:

**Dr. Thomas A. Newton, Chair  
Chemistry Search Committee  
University of Southern Maine  
96 Falmouth Street  
Portland, ME 04103**

*USM is an Equal Employment Opportunity/  
Affirmative Action Employer.*

### ASSISTANT, ASSOCIATE, OR FULL PROFESSOR—BIOLOGY PLANT PHYSIOLOGIST

The University of Southern Maine is seeking applications for a tenure-track position available starting September 1989. Teaching duties will include courses in botany, plant physiology and introductory biology. Successful candidate is expected to maintain an on-going research program involving undergraduate students, and to seek external funding. A candidate with a successful history of external funding is preferred. This Department of nine offers the B.A. in biology.

*The University of Southern Maine hires only United States citizens and lawfully authorized alien workers.*

Send résumé, a list of equipment needs, and three letters of reference by 1 February 1989 to:

**Chairman, Plant Physiology Search Committee  
Department of Biological Sciences  
University of Southern Maine  
96 Falmouth Street  
Portland, ME 04103**

*USM is an Equal Employment Opportunity/  
Affirmative Action Employer.*

### CHAIRPERSON DEPARTMENT OF PATHOLOGY FOX CHASE CANCER CENTER

The Fox Chase Cancer Center, a Philadelphia-based cancer center committed to research, teaching and cancer patient care, is seeking a Chairperson for the Department of Pathology. Suitable candidates should possess demonstrated skills in cancer research, the clinical aspects of pathology, and administration. The individual will be responsible for supervising programs in research, service and animal pathology for the Center, as well as postgraduate training in pathology. This position provides a unique opportunity to participate in the continued growth of a cancer center with a clear commitment to excellence in cancer research, patient care and teaching. Qualified candidates should send curriculum vitae and three references to: **Search Committee for Chair of Pathology, Care of Dr. James L. Weese, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** *We are an Equal Opportunity Employer.*

## POSITIONS OPEN

### TWO BIOLOGY TENURE-TRACK POSITIONS

1) **DEPARTMENT CHAIR: PROFESSOR.** September 1989. Ph.D. in a biological science. Research record and exemplary undergraduate teaching. Half-time administrative duties for directing ten-member department; lead in development/implementation of a masters program. Application letter, curriculum vitae, three reference letters, and narrative to include administrative philosophy and role of biology B.S. and M.S. programs in a liberal arts university.

2) **MICROBIOLOGY: ASSISTANT PROFESSOR.** September 1989. Ph.D. Potential to conduct reviewable research. Teaching experience desirable. Some expertise in genetics/invertebrate zoology desirable. Half of teaching assignment in microbiology for nursing and medical technology majors. Application letter, curriculum vitae, transcripts, three reference letters, and narrative on approach to develop student skills in problem solving, data analysis, and writing.

Deadline: 31 January 1989. Inquiries to: **Dr. Edwin H. Sasaki, Acting Chair, Department of Biology, California State University, Bakersfield, 9001 Stockdale Highway, Bakersfield, CA 93311-1099.** *An Equal Opportunity/Affirmative Action Employer.*

**BOTANIST:** The Biology Department of St. Lawrence University invites applications for the tenure-track position of assistant professor in botany or related disciplines beginning August 1989. Yearly teaching responsibilities include the lecture portion of the general biology course and two courses, including significant field experiences, dealing with some aspect of plant biology. Ph.D. in botany or related field required. Applicants should submit: curriculum vitae, list of publications, statement of current and projected research and teaching interests, and have three letters of recommendation sent to:

**Dr. Russell F. Wells  
Department of Biology  
St. Lawrence University  
Canton, NY 13617**

The Search Committee will begin reviewing applications by 15 February 1989. *St. Lawrence encourages applications from qualified minority groups and women. St. Lawrence University is an Equal Opportunity/Affirmative Action Employer and educational institution.*

### CELL BIOLOGIST/MORPHOLOGIST

Touro, located in New Orleans Garden District, has a challenging position for an individual to participate in vision research studies. This includes conducting independent investigations into the biology of ocular cells and tissues for work with retinal diseases and transplantation. Ph.D. is required.

Touro offers a competitive salary and benefits package. If qualified, please call collect, **Leon Mollere at 504-897-8441** or submit résumé and salary history to:

**Touro Infirmary  
Human Resources  
1401 Foucher Street  
New Orleans, LA 70115**  
*Equal Opportunity Employer.*

**CHEMIST OR BIOCHEMIST,** Ph.D. in Chemistry or Biochemistry required by fall 1989. Teaching and/or research experience in biochemistry. Tenure-track position as assistant professor; \$27,588 to \$38,136; salary depending upon qualifications. Send résumé, statement of research interests, teaching experience and goals to: **Chairman, Biochemistry Recruitment Committee, Chemistry Department, California State Polytechnic University, Pomona, 3801 West Temple Avenue, Pomona, CA 91768.** An application form will be sent upon receipt of résumé. Official confirmation of highest degree and three letters of reference will be required of all finalists. All materials must be received by 15 February 1989. *Affirmative Action/Equal Opportunity Employer. Cal Poly Pomona hires only individuals lawfully authorized to work in the United States.*



## LABORATORY DIRECTOR RESEARCH LEADER

### Appalachian Fruit Research Station Kearneysville, West Virginia

The Agricultural Research Service (ARS) has an opening for a Laboratory Director in its Station located in the eastern panhandle of West Virginia (near Harpers Ferry). The Station has over \$3M in programs aimed at improving fruit production, protection, harvesting, sorting, and maintenance of fruit quality in the Eastern U.S. It is housed in a modern building on 500 acres of land devoted to fruit crops. About 20 full-time researchers and 60 support personnel work at the Station. Approaches used include classical and molecular genetics, soil and weed science, horticulture, entomology, plant pathology, plant physiology, biochemistry, and agricultural engineering.

The Director is expected to lead, manage, and contribute to the research program and to provide oversight to the administrative and facility management staff. Therefore, candidates must have training and research accomplishments in one or more of the aforementioned areas of science and technology as well as demonstrated ability to work with people, manage resources, and represent the research facility to the public.

Must be a U.S. citizen, Ph.D. degree is highly desirable. Salary is commensurate with experience. GM-13- GM-15 (low \$40's to high \$60's). For information on application procedures, contact Alice MacNamara, USDA, ARS, PD, Bg. 419. Applications must be marked 8N041 and sent to the Beltsville, MD address by January 27, 1989.

**ARS IS AN EQUAL OPPORTUNITY EMPLOYER.  
WOMEN AND MINORITIES ARE  
ENCOURAGED TO APPLY.**



Agricultural  
Research  
Service

United States  
Department of  
Agriculture

## RESEARCH INVESTIGATOR

The Squibb Institute for Medical Research is recognized internationally as a leader in research & development of novel therapeutic agents for the treatment of cardiovascular & infectious diseases. We currently have an exceptional opportunity available for a Research Investigator to join our department of Pharmacology.

You will be responsible for research in the area of receptor pharmacology as it pertains to the therapeutic areas of cardiovascular disease.

Qualified candidates will have a Ph.D. with 3-5 years of post-doctoral research experience in biochemistry and/or pharmacology. Proficiency in experimental techniques relating to molecular characterization of pharmacological receptors (such as protein separation, purification & characterization) using a biotechnological approach is required.

For confidential consideration, please submit your resume to: **The Squibb Institute For Medical Research, Human Resource Department 111, P.O. Box 4000, Princeton, NJ 08543.** An equal opportunity employer.



**SQUIBB**

# UNSW

THE UNIVERSITY OF NEW SOUTH WALES - SYDNEY, AUSTRALIA

*Equality of employment opportunity is University policy.*

**DEPARTMENT OF CLINICAL  
PHARMACOLOGY AND TOXICOLOGY AT  
ST. VINCENT'S HOSPITAL**

## PROFESSOR OF CLINICAL PHARMACOLOGY AND DIRECTOR

Applications are invited for appointment to the above position. Applicants should possess medical qualifications registrable in New South Wales and have appropriate teaching, research and clinical experience.

The Chair is in the School of Physiology & Pharmacology. The successful applicant will have similar standing in the School of Medicine. The Directorship of the Department of Clinical Pharmacology and Toxicology at St. Vincent's also involves responsibility for the New South Wales State Reference Laboratory for drug analysis and clinical responsibilities within that teaching hospital and for consultations in toxicology referred from other hospitals.

The Professor will participate in the undergraduate teaching programs in pharmacology, clinical pharmacology, toxicology, and therapeutics on campus and at St. Vincent's Hospital and will also be involved in the development of these programs in the new Six Year medical curriculum. Responsibility for the co-ordination of teaching programs in these disciplines at the other teaching hospitals of the University of New South Wales is also involved. The appointee will be expected to engage in and promote research and advanced studies in the field of the Chair. Further information may be obtained from Professor W. E. Glover, Dean, Faculty of Medicine, or from Professor Ian McCloskey, Head, School of Physiology and Pharmacology, University of NSW, P.O. Box 1, Kensington, N.S.W. 2033, Australia.

The salary will be \$A63,397 per annum and a clinical loading of \$A11,176 per annum is also payable. There is an additional 'on-call' allowance of \$A13,003 per annum payable by the Hospital. There is also a 'clinical duties (Public Hospitals)' allowance payable by the Hospital of between \$A9,390 and \$A17,736 per annum depending on the level of administrative and service responsibility in the Hospital. Limited rights of private practice are also available. The University reserves the right to fill any Chair by invitation.

**Details of the position, together with the conditions of appointment and application procedure, are available from the Senior Appointments Unit, The University of New South Wales, P.O. Box 1, Kensington, N.S.W. 2033, Australia.**

**Applications close: 6 February 1989.**

## U.S. Department of Energy POSTGRADUATE RESEARCH PROGRAMS

Toxicology	Engineering
Fossil Energy	Physical Sciences
Hazardous Wastes	Environmental Sciences
Economics/ Energy Policy	Life Sciences
Artificial Intelligence	Computer Sciences

- Research at national laboratories
- Stipends \$19-35,000 depending on degree, program, research area
- Recent graduate degree
- U.S. citizens or PRAs eligible
- Information



**Postgraduate Research Programs  
University Programs Division  
Oak Ridge Associated Universities  
P.O. Box 117,  
Oak Ridge, TN 37831-0117  
(615) 576-3190**

## POSITIONS OPEN

### CELLULAR AND MOLECULAR ENDOCRINOLOGY POSTDOCTORAL RESEARCH ASSOCIATE

To study control of hormone secretion at the single cell level by use of reverse hemolytic plaque assays in combination with recombinant DNA technologies and other modern biochemical and microscopic techniques. Ongoing projects include: (i) Characterization of an extracellular mediator of prolactin action, (ii) ontogeny and functional interconversion of growth hormone and prolactin-secreting cells, (iii) differential regulation of hormone release from cells that simultaneously release both of these hormones, (iv) molecular heterogeneity of secreted forms of hormone, and (v) endocrine-immune interactions. Salary is highly competitive and commensurate with experience. Background in cellular or molecular biology is desirable, but not an absolute requirement. Please send curriculum vitae and names of three references to:

**Dr. L. Stephen Frawley**  
Department of Anatomy and Cell Biology  
Medical University of South Carolina  
171 Ashley Avenue  
Charleston, SC 29425  
Telephone: 803-792-3526

### CLINICAL PROJECT ASSOCIATE

Cedars-Sinai Medical Center has an exciting position available in the Department of Pediatrics. Position is responsible for the development and operation of a diagnostic DNA laboratory for hemoglobinopathy disorders, prenatal diagnosis, identification of non-symptomatic carriers and characterization of precise defects.

Ph.D. or M.S. with 2 years of working experience in molecular biology; familiarity with Southern blotting a must.

Interested applicants should send résumé to:

**Mark W. Schmitz**  
Cedars-Sinai Medical Center  
Employee Relations Department  
Brown Building, 1st Floor  
8700 Beverly Boulevard  
Los Angeles, CA 90048

### DEAN OF THE GRADUATE SCHOOL

The University of Akron invites applications and nominations for the position of Dean of the Graduate School. The post offers an unusual opportunity for an imaginative scholar committed to excellence in graduate education to guide the University in its continuing efforts to become a major institution of graduate education and research.

The University of Akron, the third largest state-assisted university in Ohio, has approximately 3000 full- and part-time graduate students enrolled in 37 master's and 14 doctoral degree programs.

The Dean of the Graduate School will be responsible for upholding University policies in the areas of admissions, degree requirements, and faculty participation in graduate programs; for working with the academic departments to advance graduate education; for promoting graduate studies in the University and in the larger scholarly community; for increasing graduate student research, for minority recruitment, and for conveying the interests and needs of graduate faculty and students to the University's diverse constituencies. The appointment is available 1 July 1989, or as soon thereafter as possible.

Qualifications: The candidate should have a terminal degree in an appropriate field of scholarship; a record of distinction in research and publication; the ability to promote graduate education and research; prior administrative experience; and a commitment to excellence. The individual chosen will report directly to the Associate Vice President for Research and Graduate Studies.

Salary: Salary and rank are competitive and will be commensurate with qualifications and experience.

Application and nomination procedure: The deadline for applications and nominations is 20 January 1989. Each applicant should submit complete résumé including the names of at least five references. *The search committee welcomes applications from women and minority candidates.*

Applications and nominations should be sent to: **Dean of the Graduate School Search Committee, Office of the Senior Vice President and Provost, The University of Akron, Akron, OH 44325.**

*The University of Akron is an Equal Education and Employment Institution.*

## POSITIONS OPEN

### COASTAL ECOLOGIST

Assistant professor (tenure-track) beginning August 1989. Teaching undergraduate field-oriented core course in ecology, specialty course for advanced undergraduates, graduates, and direct graduate students in M.S. (biology and/or marine biology). Ph.D. with solid ecology background and postdoctoral experience preferred. Send curriculum vitae, transcripts, and three letters of recommendation to: **Dr. David G. Lindquist, Department of Biological Sciences, University of North Carolina at Wilmington, NC 28403-3297, by 15 February 1989.** Affirmative Action/Equal Opportunity Employer.

### DEAN OF SCIENCE THE AMERICAN MUSEUM OF NATURAL HISTORY

The American Museum of Natural History invites applications and nominations for the position of Dean of Science. This is a vice presidential level position reporting to the President. The Dean will provide guidance and leadership to the curatorial staff; and will advise the President on all matters dealing with the direction of science at the Museum including such areas as staffing, budget allocation, equipment needs, collection management, and the role of scientific departments in research, exhibition and education. The Dean will be the chief spokesperson for the importance of the Museum's scientific efforts both internally and externally.

The American Museum has been a leader in inquiry in natural history and this position, new to the institution, expresses the commitment to continue and strengthen that tradition. The position will be arranged so that the Dean may continue his or her research activities, including field work if appropriate.

The American Museum intends to appoint a distinguished scientist to this position, ideally to begin 1 July 1989, and preferably from the collections-based fields now found at the Museum or from a closely associated field. The person should be eligible for tenure in one of the Museum's scientific departments. Salary and benefits will be commensurate with the responsibilities for this position and competitive with leading colleges and universities.

Inquiries, applications with résumés, and nominations should be submitted by 15 February 1989 to:

**Search Committee for Dean of Science**  
c/o William J. Moynihan  
Executive Assistant to the President  
American Museum of Natural History  
Central Park West at 79th Street  
New York, NY 10024-5192

*The American Museum is an Equal Opportunity Employer.*

### DIRECTOR CENTER FOR APPLIED ETHOLOGY AND HUMAN/ANIMAL INTERACTION

The School of Veterinary Medicine, Purdue University, invites applications for the Director, Center for Applied Ethology and Human/Animal Interaction. The successful candidate will be expected to develop a university-wide multidisciplinary teaching and research program in broad areas related to animal/human interactions, humane ethics, and animal welfare.

The position will be filled in the Department of Veterinary Pathobiology, Section of Epidemiology and Public Health, at the rank of associate or full professor depending on the individual's qualifications. Candidates should possess the D.V.M./M.D. and/or Ph.D. degree in the behavioral sciences, philosophy, epidemiology, ecology, or a related discipline. Demonstrated ability to collaborate with other scientists, compete successfully for extramural funds, and communicate with the public are required.

Please submit curriculum vitae, statement of career goals, and the names of three references to:

**Dr. Larry Glickman, Head**  
School of Veterinary Medicine  
Department of Pathobiology  
Purdue University  
West Lafayette, IN 47907

Final review of applications will begin February 1989. *Purdue University is an Affirmative Action/Equal Opportunity Employer/Educator. Women and minority candidates are encouraged to apply.*

## POSITIONS OPEN

### DEVELOPMENTAL BIOLOGIST MCGILL UNIVERSITY

The Department of Biology invites applications for a tenure-track position at the assistant professor level, effective 1 September 1989. We seek a developmental biologist using cellular, molecular and/or genetic approaches. The successful candidate is expected to establish a strong research program and to participate in teaching developmental biology. *Applications are invited from all, although, in accordance with Canadian immigration regulations, applications from Canadian citizens or permanent residents will be considered first.*

Send curriculum vitae, statement of research interests and goals, representative reprints, and three letters of reference to: **Dr. Barid Mukherjee, Chairman, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1.** Deadline: 15 February 1989.

**DIRECTOR, BIOTECHNOLOGY SYNTHESIS FACILITY.** The University of Utah Medical Center is developing an interdepartmental facility for oligonucleotide synthesis, peptide synthesis, protein sequencing, etc., and is recruiting a director for the facility. Qualified candidates should have a strong background in chemistry and/or molecular biology and be experienced with HPLC and other instruments. The University has strong, interactive research programs in molecular and cellular biology. Outdoor recreation opportunities (skiing, camping, etc.) are excellent and close by. Salary is negotiable. Closing date is 1 February 1989. Send curriculum vitae and three letters of reference to:

**Dr. David Stillman**  
Department of Cellular, Viral, and Molecular Biology  
University of Utah Medical Center  
Salt Lake City, UT 84132

*Equal Opportunity/Affirmative Action Employer.*

### DIRECTOR, WISCONSIN REGIONAL PRIMATE CENTER

The University of Wisconsin-Madison announces a search for Director of the Wisconsin Regional Primate Center. The Director will be expected to lead development of strong research programs involving University Faculty and Staff and outstanding visiting researchers in important biomedical areas in which the non-human primate offers unique opportunities for metabolic, developmental, reproductive and behavioral research relevant to the health of man and other primates. The Director will also hold a tenured professorship in an appropriate academic department and will have the opportunity to continue his/her research and graduate student/postdoctoral training. Applicants should supply a full curriculum vitae, a statement of research interests and names of three references no later than 1 February 1989. Starting date is flexible with September 1989 targeted but negotiable. Address correspondence to: **Primate Director Search Committee, 333 Bascom Hill, University of Wisconsin-Madison, Madison, WI 53706.** *The University is an Equal Opportunity/Affirmative Action Employer.*

**DIRECTORS**—Small, rapidly growing start-up company in the areas of protein design and antibody engineering seeks key scientific contributors. Three positions are available for Laboratory Directors in protein modeling, molecular biology and molecular immunology/immunochemistry. Attractive geographic location. Excellent compensation and stock options. Please reply in strict confidence to: **Box 198, SCIENCE.**

### ECOLOGIST/ASSISTANT PROFESSOR

An entry-level tenure-track position to begin August 1989. Ph.D. required. Teaching responsibilities include general biology, ecology, and upper-level courses in area of specialty. The development of an active research program and direction of graduate students is expected. The successful applicant will have the opportunity to interact with the departmental wildlife biology program, Hancock Biological Station, and the Center for Excellence in Reservoir Research. Application review will begin 1 February 1989. Submit copies of transcripts, names, and addresses of three references, curriculum vitae, and recent reprints to: **Dr. C. D. Wilder, Department of Biological Sciences, Murray State University, Murray, KY 42071.** *MSU is an Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.*

## WORK ENVIRONMENT DEPARTMENT FACULTY OPPORTUNITIES

Applications are invited for the following tenure track positions (Contingent upon available funding).

**INDUSTRIAL HYGIENIST:** Expertise in exposure assessment; interest in public policy is desirable.

**EPIDEMIOLOGIST:** Expertise in workplace hazard identification and quantification required. Research experience in health effects of physical-chemical or biochemical hazards is desirable.

**ERGONOMIST:** Expertise in the evaluation and control of biomechanical hazards required. Research experience in the solution of ergonomic programs in industry is desirable.

The University of Lowell, located in the center of the high-technology corridor northwest of Boston, is one of three public universities in Massachusetts. With a current enrollment of over 15,000, it is one of the foremost professional universities in the Northeast. Send letter of interest, resume, and reference to:

**Head, Department of Work Environment  
College of Engineering  
University of Lowell  
Lowell, MA 01854  
(508) 452-5000, ext. 3040**

*The University of Lowell is an Equal Opportunity/  
Affirmative Action, Title IX, 504 Employer.*

# University of Lowell



## Biochemistry Postdoctoral Position

CIBA-GEIGY Pharmaceuticals Division's 100 acre headquarters complex in Summit, New Jersey is engaged in research and development of drugs to treat cardiovascular and inflammatory disorders.

We seek a Ph.D. in Biochemistry or related field to participate in research on complement peptides. The primary focus of investigation will be to study the effect of complement peptides on endothelial cells. The study of complement protein interactions via synthetic peptides will also be pursued. To qualify for this challenging postdoctoral opportunity you must have experience in protein/peptide chemistry and an ability to perform cellular work is highly desirable.

CIBA-GEIGY offers a highly professional environment with competitive salary and benefits. Apply in confidence with resume and salary history to: **CIBA-GEIGY Corporation, Staffing Center, Pharmaceuticals Division, Dept. NIH, 556 Morris Avenue, Summit, New Jersey 07901.** We Are An Equal Opportunity Employer M/F/H/V.

Science Serving Mankind

# CIBA-GEIGY



Innovation

## CELSS Research Analyst

Lockheed Engineering & Sciences Company, in support of the NASA Johnson Space Center at Houston, Texas, is performing conceptual design studies of Closed Ecological Life Support Systems (CELSS) to be used on future manned space exploration missions. These systems will provide the crew with food, water and air, and will process waste products.

Lockheed is developing a dynamic computer simulation of a CELSS to perform system level design studies. These studies will evaluate the expected performance of proposed system elements and aid in the definition of supporting research associated with CELSS development.

We are seeking applicants who can participate in the development of this simulation capability and use the simulation to perform scientific and engineering studies. To qualify, the applicant should have a knowledge of the state-of-the-art in physical/chemical and biological processing technology, the ability to define mathematical models of engineering systems, and an understanding of process control theory. A BS (MS or PhD preferred) in the physical or biological sciences or engineering and 3 years of applicable experience is required.

Send resume and inquiries to:

**Lockheed Engineering &  
Sciences Company  
2400 NASA Road One  
Houston, Texas 77058  
Attn: P.S. Jones (713) 483-5011  
MC/C23**

 **Lockheed  
Engineering & Sciences Company**

Giving shape to imagination.

**Formerly the Lockheed Engineering  
and Management Services Company.**

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER



## POSITIONS OPEN

**DIRECTOR:** Wisconsin Field Office, The Nature Conservancy, Madison, Wisconsin. Challenging position with international conservation organization. Responsible for the administration and implementation of a comprehensive program to protect priority natural areas of importance to the nation's and state's natural heritage, including land acquisition and fundraising.

Graduate degree preferred, with at least 2 years of successful work experience in business, law or fundraising. Forward cover letter and résumé to: **Thomas Walkington, The Nature Conservancy, 1313 5th Street S.E., Minneapolis, MN 55414.** Deadline 6 January 1989.

## ECOLOGICAL GENETICS

A full-time research position for an ecological geneticist is available at the University of Georgia's Savannah River Ecology Laboratory in Aiken, South Carolina. Candidate must have a Ph.D., publications in the open literature and must be a U.S. citizen. Ability to develop computer software, experience with vertebrates, knowledge of mathematical procedures and experience with laboratory techniques used to genetically analyze natural populations required. Experience with graduate students is desirable. Faculty appointment will be at the **ASSISTANT OR ASSOCIATE ECOLOGIST** level with salary negotiable depending upon qualifications and experience. Send curriculum vitae, selected reprints and names, addresses, and telephone numbers of four references to: **Dr. Michael H. Smith, Director, Savannah River Ecology Laboratory, Drawer E, Aiken, SC 29802; telephone: 803-725-2959.** Applications will be accepted until 1 March 1989. *An Equal Employment Opportunity/Affirmative Action Institution.*

## ELECTRON MICROSCOPY RESEARCH SPECIALIST

Full-time position available beginning January 1989 for an individual to be responsible for the day-to-day operation and maintenance of our electron microscopy facility. A sound knowledge of transmission and scanning microscopy required. Also required: experience in handling of biological samples and clinical pathology specimens; preparative procedures (conventional and cryomethodologies, fixation and embedding, ultra thin sectioning, immunolabeling), and photographic techniques. Applicant must be willing to collaborate with a variety of laboratories and investigators. A master's degree in biology, biochemistry, or biophysics is preferred. We offer an excellent salary and benefits package. Qualified candidates send résumé or call: **Personnel Department.**

**Fox Chase Cancer Center**  
7701 Burholme Avenue  
Philadelphia, PA 19111  
Telephone: 215-728-2766  
*Equal Opportunity Employer.*

**ENVIRONMENTAL SCIENTIST.** Position available in EPA's Office of Radiation Programs in the area of risk assessment. Candidate will develop and apply environmental pathway models to estimate exposures, doses, and risks due to radionuclides in the environment. Evidence of ability to mathematically model physical processes plus basic knowledge of ionizing radiation and the behavior of radioactive materials essential. Knowledge of dispersion modeling, uncertainty analysis, and radiobiology also desirable. Grade/salary dependent on qualifications. Send curriculum vitae and three references or SF-171 to: **Dr. Jerome S. Puskin (ANR-461), EPA, 401 M Street, SW, Washington, DC 20460.**

## FACULTY POSITION

The Division of Gerontology and Geriatric Medicine at University of Alabama, Birmingham (UAB), invites applications for a Professor and Division Director to work with its teaching, research, and community service programs. Must be well-qualified and experienced in planning and conducting multidisciplinary research projects, working with community-support groups, and developing and teaching relevant courses for medical and other health science professions students and trainees.

Apply to: **Department of Medicine/Chairman's Office, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294, Attention: J. Claude Bennett, M.D.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**GBF Gesellschaft für Biotechnologische Forschung mbH, Braunschweig, FR Germany**—a government-supported Research Institute of Biotechnology—offers a permanent position for a scientist in the area of

## ENVIRONMENTAL BIOTECHNOLOGY

in the Division of Microbiology. The responsibility of the successful candidate will be to develop high-resolution analytical methods for the generation of unique chemical signatures for individual soil and water microorganisms, and for on-line monitoring of different microbial activities in microcosms and model ecosystems. The generation of a large number of chemical signatures will be accompanied by the development of a data bank that will be linked with related data banks in other countries.

The successful candidate will be expected to build up a small research group within a relatively short period of time. Resources for this development will be provided. The group will be tightly integrated within the environmental biotechnology program of the Division of Microbiology of the GBF.

Candidates must possess a doctoral degree in the natural sciences and have substantial experience (documented by relevant publications) in the application of high-resolution analytic methods, particularly mass spectrometry, in structural studies of microbial cell components. Experience in microbial ecology and data management would be distinctly advantageous.

Applications, which should be sent to: **The Personnel Department, GBF Mascheroder Weg 1, D-3300 Braunschweig, FRG,** should include a complete curriculum vitae, list of publications, reprints and preprints of the most important manuscripts, a description of previous and current research activities, and the names and addresses of three persons able to provide a critical appraisal of the candidate's qualities.

Informal enquiries may be made to: **Professor K. N. Timmis, telephone: FRG-531-6181-447.**

## THE UNIVERSITY OF CHICAGO DIVISION OF THE BIOLOGICAL SCIENCES

The Department of Pharmacological and Physiological Sciences and the Committee on Cell Physiology are considering **FACULTY APPOINTMENTS** from qualified candidates for a tenure-track position in the area of cellular physiology. Candidates with research interests in the areas of membrane receptors, signal transduction and second messenger mechanisms, membrane transport and channel activity, cell growth regulation or other aspects of cellular regulation will be considered. *From the time of its original charter, the principle of The University of Chicago has been to appoint scholars without regard to race, color, religion, sex or national origin.* Applicants should provide a brief statement of research interests and plans, curriculum vitae and bibliography, and the names of three individuals who are willing to write letters of recommendation to:

**Dr. Harry A. Fozzard, Chairman**  
Cell Physiology Search Committee  
Department of Medicine, Hospital Box 440  
The University of Chicago  
5841 South Maryland Avenue  
Chicago, IL 60637

## FISH ECOLOGY— POSTDOCTORAL FELLOW AND Ph.D. OPPORTUNITIES

Immediate: one postdoctoral fellow, two Ph.D.'s to participate in (i) mesocosm studies of size-selective predation on larval fishes, (ii) experimental and otolith analyses of life history trait variation in larval fishes.

March 1989: one to two postdoctoral fellows, two Ph.D.'s to participate in field and experimental analyses of early life history trait variation in larval fishes and its population consequences.

Interested candidates should forward curriculum vitae, representative reprints, names, addresses, and telephone numbers of three referees, and clearly specify a firm date of availability.

**Dr. W. C. Leggett**  
Department of Biology  
McGill University  
1205 Avenue Dr. Penfield  
Montreal, P.Q.  
H3A 1B1

## POSTDOCTORAL POSITIONS

**TWO POSTDOCTORAL POSITIONS (M.D. OR Ph.D.)** are available in the National Institutes of Arthritis, Musculoskeletal and Skin Diseases, National Institutes of Health, Public Health Service, to investigate gene expression during repair of bone and cartilaginous tissues. Studies will evaluate mRNA expression for structural and regulatory genes in models of normal or impaired healing, correlate observations with histological events, and explore the effect of exogenous growth factor administration on the repair process. The applicant should have a background in biochemistry, molecular biology, or orthopedics. Starting date is flexible. Salary is \$20,000 to \$50,744 per annum depending on experience. Send curriculum vitae and three letters of reference to: **Mark E. Bolander, M.D., Orthopaedic Research Unit, Bldg. 30, Rm. 414, 9000 Rockville Pike, Bethesda, MD 20892.** US Citizenship required.



AN EQUAL OPPORTUNITY EMPLOYER



## DEPARTMENT OF CHEMISTRY

## SENIOR PROTEIN BIOCHEMIST

The Department of Chemistry of Simon Fraser University anticipates authorization for a tenure-track position for a Protein Biochemist at the rank of Associate Professor or Professor to begin in 1989-90.

Applications are invited from biochemists with established and outstanding research programs in the areas of enzymology or protein structure-function relationships. In addition to maintenance of a strong research program the appointee would be expected to contribute to the undergraduate teaching program in Biochemistry.

In accordance with Canadian immigration requirements, this advertisement is directed initially to Canadian citizens and permanent residents.

Applicants should supply a curriculum vitae to:

**Prof. A.C. Oehlschlager, Chairman**  
Dept. of Chemistry  
SIMON FRASER UNIVERSITY  
Burnaby, British Columbia  
V5A 1S6  
CANADA

Deadline for receipt of applications is March 31, 1989.

## THE OHIO STATE UNIVERSITY

### PLANT MOLECULAR BIOLOGY Faculty Position

The Ohio State Biotechnology Center is searching for a person at the assistant or associate professor level with expertise in the area of regulation of gene expression relevant to plants, microbes and their interactions. This tenure track position, in conjunction with the Department of Botany, has its primary emphasis on research. Excellent laboratory facilities, start-up funds and infrastructural support are available for modern molecular biology work. The incumbent will have access to the Molecular, Cellular and Developmental Biology Program, an inter-departmental graduate program and there are good opportunities to interact with 36 faculty members active in the area of plant biotechnology. Salary will be commensurate with experience. Please send CV with one page statement of research objectives and names of three references by January 31, 1989 to the attention of **Prof. D.P.S. Verma, Chairman, Search Committee, Biotechnology Center, Rightmire Hall, The Ohio State University, 1060 Carmack Road, Columbus, OH 43210-1002 U.S.A.**

*Equal Opportunity/Affirmative  
Action Employer.*



## NATIONAL UNIVERSITY OF SINGAPORE DEPARTMENT OF ZOOLOGY

Applications are invited for teaching appointments in the Department of Zoology.

Candidates should have a Ph.D. degree and who are able to teach in one or more of the following areas:

Animal Behaviour particularly with research experience using the neurophysiological approach  
Immunology of aquatic animals  
Molecular Developmental Biology  
Biophysics particularly applications of computers/electronics in experimental biology

Gross annual emoluments range as follows:

Lecturer	S\$44,870 – 58,680
Senior Lecturer	S\$53,160 – 94,090
Associate Professor	S\$82,430 – 113,530

(US\$1.00 = S\$1.99 approximately)

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered.

Leave and medical benefits will be provided. Depending on the type of contract offered, other benefits may include: provident fund benefits or an end-of-contract gratuity, a settling-in allowance of S\$1,000 or S\$2,000, subsidised housing at nominal rentals ranging from S\$100 to S\$216 p.m., education allowance for up to three children subject to a maximum of S\$10,000 per annum per child, passage assistance and baggage allowance for the transportation of personal effects to Singapore. Staff members may undertake consultation work, subject to the approval of the University, and retain consultation fees up to a maximum of 60% of their gross annual emoluments in a calendar year.

The Department of Zoology is a department in the Faculty of Science. There are 8 faculties in the National University of Singapore with a current student enrollment of some 14,000. All departments are well-equipped with a wide range of facilities to enhance the teaching and research activities of staff members. The University is linked to BITNET, an international network that interconnects almost 500 mainframe computers at 200 institutions of higher learning and research centres around the world.

Application forms and further information on terms and conditions of service may be obtained from:

**The Director  
Personnel Department  
National University of Singapore  
10 Kent Ridge Crescent  
Singapore 0511**

**Director  
North American Office  
National University of Singapore  
780 Third Avenue, Suite 2403  
New York, NY 10017, U.S.A.  
Tel: (212) 751-0331**

Enquiries may also be sent through BITNET to: PERSDEPT @ NUSVM

## BIOPHYSICIST

Monsanto Company's Central Research Laboratories has an immediate opening for a Biophysicist in their New Technology Development Department.

The successful candidate will join a world class group in the science of membranes, bioseparations, and controlled delivery.

Candidates should possess a Ph.D. in either Biophysics/Physical Biochemistry/ or Biophysical Chemistry or equivalent. A minimum of two years' experience in materials, biocompatibility and protein interactions with polymers is desirable.

For consideration, please send resume and references to: **Dr. Jay M.S. Henis; Sr. Fellow/Director New Technology Development; Central Research Laboratories; MONSANTO COMPANY; Mail Zone U2E; 800 North Lindbergh Blvd.; St. Louis, MO 63167.** An Equal Opportunity Employer M/F/H/V.

# Monsanto

## Important Contributions To An Essential Effort.

If you've been looking for an organization where your contributions will make a strong and positive impact, may we suggest The MITRE Corporation. A not-for-profit organization providing expert systems engineering solutions to military and civil agencies of the U.S. Government, we are currently providing technical support to manage the nation's hazardous waste problems for the EPA and to meet the mandates of the Defense Environment Restoration Act. These are the essential efforts that can make excellent use of your proven expertise.

## Toxicologists

McLean, VA & San Antonio, TX

We currently have openings at our Washington Center and our San Antonio Site for professionals with high levels of skill and dedication to provide quality assurance of human health risk assessments performed by contractors on Air Force Installation Restoration Sites. Specific responsibilities include evaluating work plans for adequacy of approach; reviewing risk assessments for accuracy, completeness and validity of conclusions; and analyzing expert risk reductions. You will assist the Air Force in coordinating activities with EPA regional and state offices to ensure regulatory compliance. To qualify, you must have an advanced degree in Toxicology or related discipline, plus at least 3 years of experience in conducting chemical exposure and risk assessments, preferably at hazardous waste sites. Familiarity with CERCLA/SARA, the RI/FS process and EPA guidelines for conducting risk assessment at NPL sites is essential. Excellent communications skills a must.

**Please submit your resume to N.S. Scott, The MITRE Corporation, 7525 Colshire Dr., McLean, VA. 22102. U.S. Citizenship required. An Equal Opportunity Employer.**

# MITRE

## POSITIONS OPEN

**EVOLUTIONARY BIOLOGIST.** The Department of Biology, University of North Carolina at Chapel Hill, seeks an outstanding scientist investigating evolutionary mechanisms at the population level. The appointment to enhance our program in ecology, behavior, evolution, and organismic biology will probably be made at the rank of assistant or associate professor, although all levels will be considered. Appointment will begin in July 1989 or later at the convenience of the appointee. Applicants should send curriculum vitae, a description of research interests, selected publications and four letters of recommendation by 1 March 1989 to: **Evolutionary Biology Search, Department of Biology, University of North Carolina, Chapel Hill, NC 27599-3280.** *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.*

### HUMAN IN VITRO FERTILIZATION

**EMBRYOLOGIST** position available immediately to assist in maintaining a high and consistent pregnancy rate. Applicants with a B.S. or M.S. in biological sciences or related discipline, experience in reproductive physiology, embryology, or endocrinology, and laboratory experience (tissue culture) are encouraged to apply. We offer a competitive salary commensurate with experience and a comprehensive benefits package. Send résumé with salary history and requirements in confidence to: **Dr. Marcia E. Kendall, IVF Australia Program at United Hospital, 406 Boston Post Road, Port Chester, NY 10573.** *An Equal Opportunity Employer.*

### IMMUNOLOGIST

The Department of Biology at Loyola University of Chicago seeks an immunologist for a 9-month, tenure-track position at the level of assistant professor beginning August 1989. Ph.D. and postdoctoral experience required. The individual will develop an active research program, direct graduate students, and teach at graduate and undergraduate levels. Applicants should send curriculum vitae, statement of research interests, and list of at least three references by 10 February 1989 to: **Dr. Frederick H. Wezeman, Chairman, Department of Biology, Loyola University of Chicago, 6525 North Sheridan Road, Chicago, IL 60626.** *Loyola University of Chicago is an Equal Opportunity Employer.*

### MICROBIAL GENETICIST

A tenure-track assistant professorship is anticipated beginning August 1989. The Ph.D. is required with postdoctoral experience favored. The individual will be expected to teach undergraduate and graduate courses in microbial genetics (including laboratory) and to develop an active research program in microbial molecular biology. A commitment to excellence in teaching and research is required. To assure full consideration, send curriculum vitae, statement of research goals, transcripts, and names of three references by 17 February 1989.

**Microbiology Search Committee  
Department of Botany and Microbiology  
Oklahoma State University  
Stillwater, OK 74078**

*An Equal Opportunity/Affirmative Action Employer.*

The U.S. Department of Agriculture, Agricultural Research Service, is seeking applications for a postdoctoral position, **MICROBIOLOGIST/MOLECULAR BIOLOGIST**, for the National Animal Disease Center, Brucellosis Research Unit, in Ames, Iowa. The position is temporary, full-time. Responsibilities include the application of recombinant DNA technology, and isolation and characterization of *Brucella* proteins and lipopolysaccharides for use in the development of improved subunit vaccines and diagnostic tests for bovine brucellosis.

Salary is commensurate with experience (\$28,852 to \$37,510). For program and position information, contact: **Dr. George Lambert on 515-239-8204.** For information on application procedures/forms, contact: **Janie Carr on 301-344-2756.** Applications in response to this ad should be marked 9N001. Applications must be mailed no later than 1 February 1989.

Mail applications to:

**Janie Carr, USDA-ARS-PD  
Personnel Operations Branch  
Northern Section  
Building 419, BARC-East  
Beltsville, MD 20705**  
*An Equal Opportunity Employer.*

## POSITIONS OPEN

### MEDICINAL CHEMISTRY FACULTY POSITION— DRUG DESIGN USING NMR SPECTROSCOPY

The Department of Medicinal Chemistry, University of Minnesota invites applications for a tenure-track assistant professor position beginning in August 1989. Candidates should have a Ph.D. in medicinal chemistry or a related field, postdoctoral experience, and the desire to develop a strong graduate research program in the application of NMR spectroscopy to molecular biology and drug design. Teaching will be at both the undergraduate and graduate levels. Applicants should send curriculum vitae, a proposed research program, and arrange to have three letters of recommendation sent to: **Professor Robert Vince, Department of Medicinal Chemistry, College of Pharmacy, University of Minnesota, Minneapolis, MN 55455.** The deadline for receipt of applications is 15 February 1989. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

**MEMBRANE BIOCHEMIST.** A tenure-track assistant professor position is available in the Department of Biochemistry, beginning August 1989. Duties are to develop an active research program in membrane biochemistry and to teach graduate and undergraduate courses. Ph.D. and postdoctoral experience required. Salary range: \$30,000 to \$34,000 per 9 months. Send a statement of current research pursuits and future research goals, curriculum vitae, and reprints, and have three letters of recommendation sent separately to: **Dr. Robert F. Weaver, Department of Biochemistry, University of Kansas, Lawrence, KS 66045.** Closing date: 15 February 1989. Complete position description available upon request. *Equal Employment Opportunity/Affirmative Action Employer.*

**MOLECULAR BIOLOGIST**—The University of Richmond invites applications for a tenure-track position in biology at the assistant professor level. The primary teaching responsibility will be to coordinate and teach a core curriculum undergraduate course in cell and molecular biology and, on occasion, teach an undergraduate core course in molecular genetics. In addition, the appointee will be expected to develop advanced undergraduate and M.S.-level courses in molecular biology areas. Preference will be given to those who will develop an active research program in molecular biology involving undergraduate students. Candidates must have the Ph.D. degree in molecular biology or biochemistry, and postdoctoral experience is desirable. Submit résumé, undergraduate and graduate transcripts, a statement of research plans, and three letters of reference to: **Dr. F. B. Leftwich, Department of Biology, University of Richmond, VA 23173.** Consideration of applications will begin on 30 January 1989. *The University of Richmond is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority candidates.*

### MOLECULAR BIOLOGIST

The Department of Biomedical Research and the Division of Cardiology at St. Elizabeth's Hospital of Boston, Tufts University School of Medicine, is seeking two full-time staff members with expertise in molecular biology. The applicant must have established research productivity. Both Ph.D. or M.D. candidates are eligible. For M.D. candidates, opportunities are available to participate in patient care and teaching. In addition to development of his or her own research area, the applicant will have the opportunity to participate in interdivisional collaborative studies as well as in a postgraduate research training program. Academic appointment is at the level of assistant or associate professor, depending on qualifications.

The Department of Biomedical Research is currently comprised of basic and clinical scientists with expertise in pathology, physiology, biochemistry, cellular and molecular biology, with primary areas of interest in cell membranes, endothelium and vascular smooth muscle. Up to 1,600 square feet of laboratory and office space in newly constructed research laboratories as well as seed funds for further research development are available.

Applicants should send their curriculum vitae, summary of their academic goals and representative reprints to: **Jeffrey M. Isner, M.D., Director, Cardiovascular Research, St. Elizabeth's Hospital of Boston, Tufts University School of Medicine, 736 Cambridge Street, Boston, MA 02135.** *Equal Opportunity Employer.*

## POSITIONS OPEN

### MOLECULAR BIOLOGIST

Jacksonville State University invites applications for an assistant/associate professor tenure-track position beginning fall 1989. The successful candidate will develop a program of research and teaching in molecular biology and will assist in the general biology program. Ph.D. required. Postdoctoral research desirable. Demonstrated excellence in teaching. Salary competitive. Send letter of application, résumé, and three letters of recommendation by 15 January 1989 to: **Personnel Services, Jacksonville State University, Jacksonville, AL 36265.** *Jacksonville State University is an Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR BIOLOGY/BIOCHEMISTRY.

Two tenure-track **ASSISTANT PROFESSOR** positions in a multidisciplinary department beginning September 1989 to teach biochemistry and one or more of the following: molecular biology, microbial genetics, microbial physiology, or applied microbiology. Ph.D. and postdoctoral preferred. Strong commitment to teaching and research expected. The University of Michigan—Dearborn offers B.S. degrees in biochemistry, biological sciences, chemistry, environmental science, microbiology, and physics. Send curriculum vitae and names of three references to: **Molecular Biology/Biochemistry Search Secretary, Department of Natural Sciences, The University of Michigan—Dearborn, Dearborn, MI 48128-1491.** Review of applications will begin 1 February 1989. *The University of Michigan—Dearborn is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

### MOLECULAR NEUROBIOLOGIST/PEPTIDE

**CHEMIST.** A faculty position is available in the Division of Endocrinology at Rhode Island Hospital for a research scientist (Ph.D.) with experience in molecular and cell biology and in the processing of polypeptide precursors using pulse-chase techniques to join an active, well-equipped laboratory in neuroendocrine peptide biology and physiology. A track-record of research accomplishment and possession of laboratory management skills essential. The successful candidate should have the potential for developing an independent research program and must qualify for a position on the medical faculty of Brown University at the assistant professor level. Interested candidates should send their curricula vitae and the names of three references by 5 February 1989 to: **Ivor Jackson, M.D., Director, Division of Endocrinology, Brown University, Rhode Island Hospital, Providence, RI 02903.** *An Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR SYSTEMATICS POSITIONS SMITHSONIAN INSTITUTION

The National Museum of Natural History, Smithsonian Institution, is seeking two scientists who specialize in molecular or biochemical approaches to the study of systematics and evolution. Each position will carry a joint appointment in the newly established Laboratory of Molecular Systematics and one of the following departments: Botany, Invertebrate Zoology, Vertebrate Zoology, Entomology, Anthropology or Paleobiology. For one of the two positions, priority will be given to candidates working on the systematics of higher plants. The duties of the incumbents are to develop independent research programs in one of the above disciplines, maintain strong ties to their department and interact with other scientists and staff of the Laboratory to promote an atmosphere of excellence. Technical assistance and research support are provided. Preferred applicants will have a Ph.D., postdoctoral experience, a strong record of research in systematic or evolutionary biology and demonstrated expertise in a variety of molecular genetic methods relevant to the extraction of comparative information from nucleic acids and proteins.

The Laboratory is located at the Smithsonian's Museum Support Center in Suitland, Maryland. Salary and grade levels will be commensurate with experience and professional accomplishments. Applications should be submitted by 31 January 1989. Send curriculum vitae, federal application form (SF-171), selected publications, and names, addresses, and telephone numbers of three references to: **Office of Personnel Administration, (Attention: Michael Argerbright MPA #9-1001), A&I Building, Room 1410, 900 Jefferson Drive S.W., Washington, D.C. 20560.** *The Smithsonian Institution is an Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE  
HST OBSERVATIONS AND DATA ANALYSIS

The Laboratory for Atmospheric and Space Physics of the University of Colorado invites applications for the position of Research Associate. We anticipate an opening beginning in the fall of 1989 for participation in observations and data analysis for the Hubble Space Telescope (HST). The undersigned is the Principal Investigator for the Goddard High Resolution Spectrograph (GHRS) and the activities deal with the ultraviolet spectroscopy of comets and GHRS Team Projects covering a wide range of astrophysics.

LASP facilities include the data analysis and operations control center for the Solar Mesosphere Explorer mission; a development node of the Planetary Data System; a complete space instrument design, fabrication, test and calibration facility; and modern computer facilities. In addition, there is an ongoing sounding rocket program, and payloads for shuttle-launched missions are being developed. The Laboratory is an Institute of the University's Graduate School and has close ties with the Departments of Astrophysical, Planetary and Atmospheric Sciences and of Aerospace Engineering Sciences.

A doctorate in an appropriate discipline is required; salary will be in accord with experience. Send letters of application with an up-to-date resume and the names of two references to:

Dr. John C. Brandt, PI-GHRS  
LASP/University of Colorado  
Campus Box 392  
Boulder, CO 80309-0392

Applications will be accepted until February 1, 1989. The University of Colorado has a strong institutional commitment to the principle of diversity in all areas. In that spirit, we are particularly interested in receiving applications from a broad spectrum of people, including women, members of ethnic minorities and disabled individuals.

## RESEARCH ASSOCIATE CARDIOVASCULAR PHARMACOLOGY

The Squibb Institute For Medical Research is recognized internationally as a leader in research & development of novel therapeutic agents for the treatment of cardiovascular & infectious diseases. We currently have an exceptional opportunity available for a Research Associate to join our Department of Pharmacology with an emphasis on hypertension and myocardial ischemia.

You will conduct research in a laboratory focused on the membrane and molecular mechanisms of excitation and contraction in smooth and cardiac muscles. This involves the study of cation channel function, the use of in vitro techniques for determining mechanical activity in muscle, the biochemical analysis of various muscle proteins and enzymes, and the fluorometric analysis of cation movements. Responsibilities also include some animal handling, operation of standard laboratory equipment, and the collection, analysis, and presentation of data.

Qualified candidates will have a B.S. in Biology or equivalent with a minimum of 3 years relevant laboratory experience.

For confidential consideration, please submit your resume to: **The Squibb Institute For Medical Research Human Resource Department 146, P.O. Box 4000, Princeton, NJ 08543.** An equal opportunity employer.



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## SUMMER 1989 TEN ENVIRONMENTAL SCIENCE AND ENGINEERING FELLOWSHIPS

### Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for ten Environmental Science and Engineering Fellowships available for summer 1989. The Fellows will work closely with the Environmental Protection Agency (EPA), Office of Research and Development, and other program offices, in Washington, DC, and assist in identifying and assessing the significance of long-range environmental problems and opportunities. The ten-week appointments are scheduled for 5 June through 11 August 1989. The awards will be announced prior to the end of April 1989.

Postdoctoral to mid-career scientists, engineers, and other appropriate professionals are encouraged to apply. Candidates may be from the physical, biological, or behavioral sciences, or any field of engineering or other relevant professional fields. They are expected to be critical thinkers, articulate, adaptable, and able to work with a variety of people from different professional backgrounds.

The 1989 Environmental Fellows will receive a taxable stipend of \$750 per week and a nominal additional amount for temporary relocation expenses and travel in connection with the fellowships.

A detailed, future-oriented research project will be conducted by each Fellow, which is of mutual interest to him or herself and the EPA. A project report will be submitted at the completion of the summer's work. Typical areas of research interest within EPA include: environmental risk assessment; biological pesticides; acid deposition; mobile source air pollution; oxidants, gases and particles; municipal waste water and spills; drinking water; hazardous waste; chemical testing and assessment; pesticides; radiation; and energy.

For further information and specific application requirements contact:

**Environmental Science and Engineering Fellows Program  
American Association for the Advancement of Science  
1333 H Street, NW, Washington, DC 20005  
Telephone: 202-326-6600**

*Deadline for applications is 1 March 1989*

## POSITIONS OPEN

### NORTHEAST MISSOURI STATE UNIVERSITY

Northeast Missouri State University invites applications for two tenure-track positions, beginning August 1989 for **MOLECULAR/CELLULAR BIOLOGISTS**. Teaching may include courses in general biology for majors and non-majors as well as advanced courses for seniors and graduate students. These individuals will also be expected to involve undergraduate and graduate students in research. Laboratory space, basic instruments, and initial support will be provided. The mission of Northeast Missouri State University is to provide the outstanding educational environment of a small liberal arts and sciences university while remaining highly economically accessible. *Women and minorities are encouraged to apply.* Please send letter of application indicating teaching and research goals, curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation to: **Dr. L. Scott Ellis, Division of Science, Northeast Missouri State University, Kirksville, MO 63501.**

### PLANT MOLECULAR BIOLOGIST MCGILL UNIVERSITY

The Department of Biology invites applications for a tenure-track position in plant molecular biology. The successful candidate will be expected to develop a strong research program and to contribute to graduate and undergraduate teaching. The department has excellent facilities for plant growth and tissue culture.

The starting date will be on or before 1 September 1989. Rank and salary will be commensurate with experience.

Send curriculum vitae, statement of research interest, representative reprints, and have three letters of reference forwarded to:

**Dr. Barid Mukherjee, Chairman,**  
Department of Biology  
McGill University, 1205 Avenue Docteur Penfield  
Montreal, Quebec, Canada H3A 1B1  
Deadline for applications 15 February 1989.

## POSITIONS OPEN

### UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL WORCESTER, MASSACHUSETTS DEPARTMENTS OF MOLECULAR GENETICS AND MEDICINE MOLECULAR BIOLOGY/ VIROLOGY/IMMUNOLOGY

Positions available at the postdoctoral level for individuals interested in defining the structure of virus-specific T cell epitopes using T cell clones and determining the function of these cells in human infections, as part of an NIH-supported research team.

Applicants should submit curriculum vitae and three letters of recommendation to: **Professor Francis A. Ennis, Cell Science Center, University of Massachusetts Medical Center, 55 Lake Avenue, North, Worcester, MA 01605.**

### U.S. DEPARTMENT OF AGRICULTURE (USDA), AGRICULTURE RESEARCH SERVICE (ARS)

**POSTDOCTORAL BIOCHEMIST/MOLECULAR BIOLOGIST**, Gainesville, Florida. Two-year appointment. Education and/or experience in recombinant DNA techniques and isolation cloning, and evaluation of relevant genomic DNA preferred. Ph.D. must have been received within past 3 years. Salary: commensurate with experience (\$27,716 to \$33,218). For more information, contact: **Dr. D. A. Carlson at 904-374-5929.** *An Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** available immediately to study regulation of eukaryotic gene expression in primary hepatocytes and normal and transformed hepatocyte cell lines. Experience in molecular biology preferred. Send curriculum vitae, brief description of Ph.D. research, and names and addresses of three references to: **Dr. H. C. Isom, Department of Microbiology and Immunology, The Pennsylvania State University College of Medicine, Hershey, PA 17033.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### PLANT ECOLOGIST ASSISTANT PROFESSOR

The Department of Botany and Microbiology, Oklahoma State University (OSU), seeks applicants for an anticipated tenure-track position in community, vegetation, or landscape ecology. Applicants must have the Ph.D., a strong potential for research excellence with external funding, and a real commitment to undergraduate teaching. Participation in introductory courses and development of a course in the individual's discipline is expected. To assure full consideration send curriculum vitae, a statement of teaching philosophy, research goals, and names of three references by 17 February 1989 to: **Dr. James K. McPherson, Department of Botany and Microbiology, OSU, Stillwater, OK 74078.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL ASSOCIATE: POSTDOCTORAL POSITION IN X-RAY.** Microscopy starting in February 1989 to use the soft x-ray undulator beamline at the National Synchrotron Light Source, Brookhaven National Laboratory. The research program involves the development and use of scanning transmission microscopy, photoelectron microscopy, holography and diffraction studies of specimens of biological, physical or materials interest. A strong background in instrument development is required. Please send curriculum vitae, and names of three references to: **Dr. Janos Kirz, Physics Department, SUNY Stony Brook, Stony Brook, NY 11794-3800.** *Suny Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK#325.*

**POSTDOCTORAL FELLOWSHIPS** available immediately for research on the role of genes and protein products of the major histocompatibility complex in the immune response, reproduction, and aging. Background in immunology/biochemistry/molecular biology desirable. Send curriculum vitae and three letters of reference to: **Dr. Carol Warner, Department of Biology, Northeastern University, Boston, MA 02115.** *Northeastern is an Equal Opportunity/Affirmative Action, Title IX University.*

## Research Scientist

### Department of Biology

Research Scientist to work on a project involving genetic recombination and DNA repair in plant systems. Applicants must have a Ph.D. in Molecular Biology, at least 3 years of postdoctoral experience in molecular genetics, published papers in symposia and referred journals, and experience in training graduate students. Position requires laboratory experience in (I) higher plant genetics (including segregation analysis, mutagenesis, tissue culture, agrobacterial transformation, and electroporation), (II) basic molecular techniques (including isolation of DNA and RNA, Southern and Northern analysis, gene cloning, and DNA sequencing), and either (III) bacterial genetics (including transposon mutagenesis, fine structure mapping, gene and operon fusion analysis, and analysis of RecBCD recombination and SOS repair) or (IV) yeast genetics (including micromanipulation, complementation and tetrad analysis, and analysis of cross-over, gene conversion, sister chromatid exchange and RAD repair). A strong educational background in chemistry is also required.

Salary: \$30,000 per year. M.I.T. is a non-smoking environment.

Interested candidates should send two copies of both resume and cover letter referencing Job #R88-242 to: **Dr. Ethan R. Signer, c/o M.I.T. Personnel Office, 400 Main Street (Bldg. E19-239), Cambridge, MA 02139.**

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The newly created Department of Ecology invites applications for a

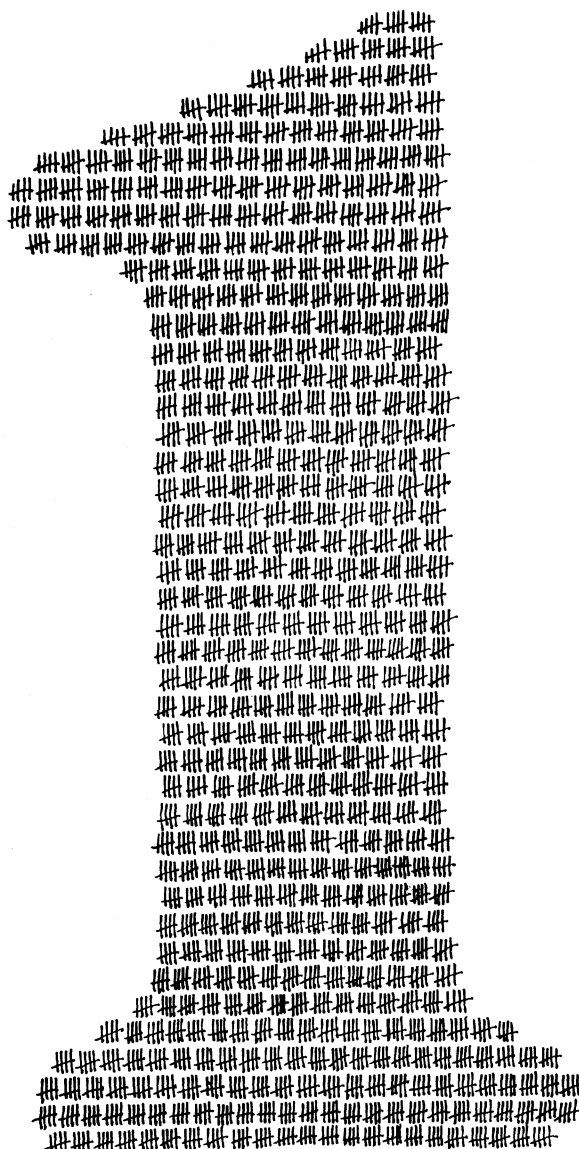
## POSITION IN ECOLOGY,

behavioral ecology, physiological ecology, population genetics or evolutionary biology. Our research projects aim at combining theoretical and empirical as well as ultimate and proximate approaches to the study of adaptation. The animals under study are mainly amphibians and birds, but other vertebrate taxa are not excluded.

Applicants must possess a Ph.D., some postdoctoral experience is also desirable. The successful candidate is expected to participate in ongoing research and teaching programmes and to develop his/her own programme. The position is available from January 20th 1989 for a period of three years. If you are interested, please, send me your application with curriculum vitae, list of publications, summary of research goals and letter(s) of reference.

**Prof. Dr. Heinz-Ulrich Reyer**  
Zoologisches Institut  
der Universität Zürich  
Winterthurerstrasse 190  
CH-8057 Zürich  
Schweiz

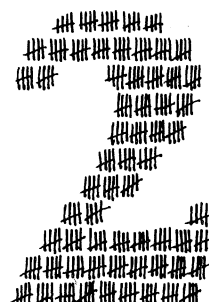




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## POSITIONS OPEN

### SHOWA UNIVERSITY RESEARCH INSTITUTE POSTDOCTORAL FELLOW POSITION

Showa University Research Institute is presently seeking a postdoctoral fellow for a joint research project with the Department of Microbiology, University of South Florida to study the drug effect on the immune functions, with particular interest on the expression of IL-1 and IL-2 receptor genes. For consideration of this position, please submit application and names and address of three references to:

**Dr. Patrick K. Lai**  
Showa University Research Institute  
10900 Roosevelt Boulevard  
St. Petersburg, FL 33716

Showa University Research Institute is a nonprofit cancer research institute located in the Tampa Bay area. Equal Opportunity Employer.

**POSTDOCTORAL POSITION** now available for collaborative studies of growth factor synthesis and function in hormone responsive and unresponsive prostate cancer cells. Molecular studies of hormonal regulation of gene expression and biochemical studies of growth factor function will be pursued with **Dr. Sydney A. Shain**. Candidates must have strong background and laboratory experience in cell biology and/or molecular biology. Appointments are for 1-year periods up to 3 years. Send curriculum vitae and the names and telephone numbers of three references to: **Personnel Director (847), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.** Equal Opportunity Employer M/F.

**POSTDOCTORAL POSITION** to study pharmacological and protein phosphorylation regulation of ion channels. Experience with phosphoprotein research desirable but not essential. Familiarity with intracellular recording, voltage- or patch-clamp techniques necessary. The position is available beginning January 1989 and will extend for a minimum of 2 years. Salary: \$21,000 to \$24,000 plus benefits. Send curriculum vitae and names of three references to: **J. Farley, Program in Neural Sciences, Indiana University, Bloomington, IN 47405.** Indiana University is an Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION** at Oak Ridge National Laboratory available to devise methods to label DNA with elements that have multiple stable isotopes and apply these to a new method for DNA sequencing. Background in organometallic or nucleic acid chemistry preferred. For information contact: **K. Bruce Jacobson** at 615-574-1204. For application materials contact: **Postgraduate Research, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117.** Telephone: 615-576-3456.

**POSTDOCTORAL POSITION** on the molecular basis for induction of glutathione S-transferase by herbicide antidotes. Ph.D. in plant physiology, biochemistry, molecular biology, or related field required. Experience with recombinant DNA technology, immunological methods, protein purification desirable. Contact: **Dr. Patrick Fuerst** at 509-335-7484. Submit letter, curriculum vitae, transcripts and three reference letters to: **Dr. Dwane Miller, Chair, Department of Agronomy and Soils, Washington State University, Pullman, WA 99164-6420.** Deadline is 1 March 1989. An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITIONS IN MOLECULAR NEUROBIOLOGY.** Two positions available for new Ph.D.s or more senior research associates to study the mechanism of permeability control by nicotinic acetylcholine receptors. The projects involve: (i) the study of the structure of the *Torpedo* acetylcholine receptor by biochemical and immunochemical techniques; (ii) the study of the structure and function of receptor-associated proteins in *Torpedo* and in muscle cells in culture. Candidates are sought with experience in protein chemistry, molecular biology, or cell biology. Send résumé and names of three references to: **Dr. Jonathan B. Cohen, Department of Anatomy and Neurobiology, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110.**

Equal Opportunity/Affirmative Action Employer

## POSITIONS OPEN

**POSTDOCTORAL POSITION:** The Dana-Farber Cancer Institute is seeking to fill one research position at the postdoctoral level to study gene coding coding for T-cell products that regulate the immune response in collaboration with other laboratory investigators. A joint appointment will be held in an appropriate department of Harvard Medical School. Send curriculum vitae and names of two references to: **Dr. Harvey Cantor, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.** An Equal Opportunity Employer.

A **POSTDOCTORAL POSITION** is available immediately to study membrane transport and mechanisms of proteolysis in muscle and cells. The applicant should be familiar with protein purification, enzymology, and cell culture techniques. The project is to study the influence of abnormalities in cation transport and intracellular ions on proteolysis. Send résumé and three reference letters: **William E. Mitch, M.D., Director, Renal Division, Emory University School of Medicine, Atlanta, GA 30322.** Emory University is an Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL POSITION** available immediately to join a research team working on molecular approaches to study viral diseases. Experience in biochemistry, molecular biology or cell biology required. Salary commensurate with qualifications and experience. Excellent fringe benefits. Send curriculum vitae, a brief summary of research interests, and three letters of reference to: **Dr. Beatriz G. T. Pogo, Box 1061, The Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574.** An Equal Opportunity Employer.

### POSTDOCTORAL POSITION UNIVERSITY OF CALIFORNIA, IRVINE

An opening is available immediately to study the cellular mechanisms of reinforcement and memory. Facilities, scientific environment, and funding for these studies are excellent. Applicants with backgrounds in neurophysiology or neuropharmacology will have an ideal opportunity to extend their expertise to behavioral science, or those with backgrounds in psychology and operant conditioning have an excellent opportunity to acquire neuropharmacological expertise. Please send curriculum vitae and references to: **Dr. Larry Stein, Department of Pharmacology, University of California, Irvine, CA 92717.** Telephone: 714-856-6771. The University of California, Irvine is an Affirmative Action/Equal Opportunity Employer.

### POSTDOCTORAL POSITIONS IN MYCOBACTERIOLOGY RESEARCH

Applications from qualified scientists are invited for three NIH-funded Postdoctoral Fellowships positions in mycobacteriology research in a prestigious research center. These positions involve studies of immunopathology or experimental chemotherapy of mycobacterial diseases. A doctoral degree in microbiology, immunology or pharmacology, preferably with experience in mycobacterial pathogens, is required. Interested candidates should submit the curriculum vitae, along with names of three references, to: **Dr. Pattisapu R. J. Gangadharan, Director, Mycobacteriology Research, National Jewish Center for Immunology and Respiratory Medicine, 1400 Jackson Street, Denver, CO 80206.** Deadline for applications is 15 January 1989.

**POSTDOCTORAL RESEARCH POSITION** available to study a novel system of regulation of gene expression and DNA replication by silicon in a lower eukaryote, by analysis of gene banks. Cloned yeast genes have been used successfully to identify diatom genes of similar function and at least one yeast mutation *leu 2<sup>-</sup>* has been complemented using cloned diatom DNA sequences. Background in molecular biology. Proficiency in recombinant DNA techniques: cDNA cloning, analysis of gene banks, vector construction, Southern and Northern hybridization, transformation, analysis of regulatory sequences, DNA sequencing. Salary starting at \$25,332 to \$27,624, depending on qualifications. Send detailed curriculum vitae and three names for reference to: **Dr. B. E. Volcani, Scripps Institution of Oceanography, University of California, La Jolla, CA 92093;** telephone: 619-534-2194. Applications will be accepted until positions are filled. An Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available to study protein kinases during mitosis in marine eggs. Emphasis is on calcium-calmodulin dependent kinases but will extend to other kinases as necessary. Studies will involve protein chemistry, immunolocalization, microinjection and structure determination using molecular biological techniques. Salary will be at NIH postdoctoral levels. Please send curriculum vitae and names of three references to: **L. I. Rebhun, Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, VA 22901.** Equal Opportunity/Affirmative Action.

### POSTDOCTORAL POSITION IN MOLECULAR VIROLOGY

A position is available February 1989 to investigate the molecular biology of the DNA baculoviruses (including gene regulation, expression vector systems, and associated transposable elements) as part of an NIH-funded program within the Institute for Molecular Virology and Department of Biochemistry, University of Wisconsin-Madison. Starting salary is \$22,500. Send letter of interest, curriculum vitae, and names of three references to: **Dr. Paul Friesen, Institute for Molecular Virology, 1525 Linden Drive, University of Wisconsin-Madison, Madison, WI 53706.** An Equal Employment Opportunity/Affirmative Action Employer.

**POSTDOCTORAL/RESEARCH ASSOCIATE** position available in molecular neurobiology of Alzheimer disease. Qualifications include a Ph.D. or M.D. with a strong background in immunocytochemistry, cell biology, and/or protein purification. Experience with eukaryotic in vitro expression systems desirable. The candidate will be part of an effort to study the mechanism of amyloid accumulation in the CNS of the Alzheimer disease and Down syndrome patients using molecular biology and immunochemistry. Our team is part of the Alzheimer disease research center at Mount Sinai Medical School which provides an excellent environment for basic research in this field. Please send résumé and the names of three references to: **Dr. Nikos Robakis, The Mount Sinai School of Medicine, Department of Psychiatry and Neurobiology Center, One Gustave L. Levy Place, Box 1230, New York, NY 10029-6574.** An Equal Opportunity Employer.

### MASSACHUSETTS GENERAL HOSPITAL HARVARD MEDICAL SCHOOL PROFESSOR OF NEUROSCIENCE

The Neurosurgical Service in the Department of Surgery at the Massachusetts General Hospital and the Harvard Medical School seeks to fill a tenured professorship with a cellular neurobiologist. In his/her research, this individual should have contributed significantly to understanding the integrating activity of the mammalian central nervous system, with special emphasis on developing novel morphological, cell biological and in vitro physiological techniques. Duties also include: teaching introductory neuroscience to medical students and supervising the research of residents and pre- and postdoctoral students. Please submit curriculum vitae along with a statement of research interests to: **Dr. Elio Raviola, Department of Anatomy and Cellular Biology, Harvard Medical School, 220 Longwood Avenue, Boston, MA 02115.** Harvard University is an Affirmative Action/Equal Opportunity Employer.

### INSTITUTE FOR SPACE AND TERRESTRIAL SCIENCE

**PROJECT SCIENTIST, Human Performance in Space Laboratory.** Applications are invited for a project scientist with a Ph.D. in physics or electrical engineering, and practical experience with electronics and computers (Unix), to research the magnetic activity of the human brain associated with visual and auditory functions using a 7-channel SQUID neuromagnetometer and shielded room in the Human Performance in Space Laboratory. Salary commensurate with qualifications. Excellent benefits. Applications, curriculum vitae, and names of three references should be sent to: **Ms. M. Li, Institute for Space and Terrestrial Science, 114 Farquharson Building, York University, North York, Ontario, Canada M3J 1P3** by 23 January 1989. The Institute for Space and Terrestrial Science is an Equal Opportunity Employer. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH** on the Effect of Mutations at an Enzyme Active Site on Function. A position is available for a candidate with research experience in enzymology or biophysical chemistry to join a research group active in this area [see *J. Biol. Chem.* 263, 9187 and 10304 (1988)]. Training will be provided in methods for studying ligand binding, conformational equilibria and catalysis, include methods for the study of transient state kinetics. Starting salary: \$22,000 or higher depending on relevant experience. To apply send curriculum vitae and three references to: **Dr. R. L. Blakley, Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. An Equal Opportunity Employer.**

**TWO POSTDOCTORATE POSITIONS** are available at Bay Area non-profit research Institute. **MOLECULAR BIOLOGIST:** This position requires a person experienced in cDNA cloning and related techniques to participate in study of the molecular biology of antigenic variation in breast cancer related to immunotherapy. **IMMUNOBIOLOGIST:** To conduct research in breast cancer antigens and immunotherapy with monoclonal antibodies. Applicant with experience in serum immunology, pharmacology, and/or radiobiology is being sought. Available 1 January 1989. Salary ranges from \$25,000 to \$32,000, based on experience. To apply, forward résumé and references to: **Roberto L. Ceriani, M.D., Ph.D./Jerry A. Peterson, Ph.D., John Muir Cancer and Aging Research Institute, 2055 North Broadway, Walnut Creek, CA 94956. Telephone: 415-943-1167.**

### PROFESSOR AND CHAIRPERSON DEPARTMENT OF PHYSIOLOGY ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE

The St. Louis University School of Medicine invites applications for the position of Professor and Chairperson of the Department of Physiology, St. Louis University School of Medicine. We are particularly looking for a scientist with an outstanding record of accomplishment in research and a clear commitment to medical, allied health professions and graduate education. Curriculum vitae and names and addresses of three references should be submitted to:

**Dr. Thomas C. Westfall**  
Chairman, Search Committee for Physiology  
Department of Pharmacology  
St. Louis University School of Medicine  
1402 South Grand Boulevard  
St. Louis, MO 63104

Application deadline is 15 March 1989. *St. Louis University is an Equal Opportunity Employer. M/F/V/H.*

The Harvard Medical School and the Massachusetts General Hospital are seeking an outstanding scientist (M.D. and/or Ph.D.) to fill a new tenured **PROFESSORSHIP** in the area of tumor biology. The individual's laboratories will be located at the recently developed Cancer Center of the Massachusetts General Hospital in Charlestown with over 55,000 square feet of research space. A major role will be to help guide the direction of the basic research effort of the Cancer Center and to be involved in training postdoctoral as well as graduate students. The individual selected will play a key role in the recruitment of junior faculty and help insure the scientific excellence of the ongoing research.

The individual selected will share, to a greater or lesser extent, in the administrative aspects of the Cancer Center and participate in the teaching activities of the Harvard Medical School department with which he or she will be affiliated. Salary and space negotiable.

Applications should be forwarded to: **Dr. Kurt J. Isselbacher, Chair, ad hoc Committee for Tumor Biology, Massachusetts General Hospital, Boston, MA 02114. Harvard and the Massachusetts General Hospital are Equal Opportunity/Affirmative Action Employers.**

### RESEARCH ASSOCIATE AND POSTDOCTORAL FELLOW

(Two positions) Quantification of recombinant DNA methods. Salary commensurate with qualifications. Send inquiries and curriculum vitae to: **Office of Personnel, Code 2840, Boston University Medical Campus, 80 East Concord Street, Boston, MA 02118.**

*Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**GBF—Gesellschaft für Biotechnologische Forschung mbH, Braunschweig, FR Germany**—a government supported Research Institute of Biotechnology—offers a permanent position for a scientist as a

### PROJECT LEADER

in the Division of Microbiology.

Applications are invited from suitably qualified scientists for the tenured position of Project Leader. The functions of the successful candidate, who will be directly responsible to the Head of the Division of Microbiology, Professor **Kenneth N. Timmis**, will be

- to set up and supervise the day-to-day functioning of a research group working on basic and applied aspects of the biodegradation of environmental pollutants;
- to continue existing and establish new collaborations with research groups interested in the practical application of biodegradation processes, and with agencies faced with the task of finding solutions to problems of pollution;
- to obtain grant support for the activities of the group; and
- to share in the administrative and educational duties of the Department of Microbiology.

Candidates must have a solid background in general microbiology and/or microbial physiology, as well as extensive postdoctoral experience in both fundamental aspects of biodegradation and in the development of processes for waste treatment. Experience with both aerobic and anaerobic processes is highly desirable. Demonstrated ability to supervise younger colleagues would be an advantage.

Applications, which should be sent to: **The Personnel Department, GBF, Mascheroder, Weg 1, d-3300 Braunschweig, FRG**, should include a complete curriculum vitae, list of publications, reprints/preprints of the most important publications, a description of past and present research activities, and the names and addresses of three persons willing to provide a critical appraisal of the candidate.

Informal enquiries may be made to: **Professor K. N. Timmis, telephone FRG-531-6181-447.**

**RESEARCH ASSOCIATE** position is available in the Department of Zoology for a Ph.D. in Parasitology/Zoology with at least 2 years of postdoctoral research experience (1-year concentration on *Schistosoma-Biomphalaria*) in classical parasitology and post-transcriptional regulation of protein synthesis in helminths. Utilizing TEM, 2D PAGE, in vitro translation, etc. the successful candidate will conduct independent research on life cycles of human parasites.

Salary \$24,000 plus benefits. Send curriculum vitae, list of publications and names of three referees to:

**Martha Harley**  
Employee Relations Officer  
The University of Western Ontario  
Stevenson Lawson Building, Room 262  
London, Ontario  
N6A 5B8

*In accordance with Canadian Immigration requirements this advertisement is directed to Canadian citizens and permanent residents of Canada.*

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**RESEARCH SCIENTIST** in field of functional role of human oncogene proteins in cell transformation. Require Ph.D. in medicine or M.D. and 5 years of experience. Five-day 40-hour week. Salary: \$690 per week. Send résumé with copy of ad attached to: **DEED, Room 212, 1100 North Eutaw Street, Baltimore, MD 21201, Job Order No. 7009431. Job location: Frederick, Maryland. Proof of legal right to work in U.S. required.**

**RESIDUE CHEMIST.** Washington, D.C. environmental consulting firm specializing in the evaluation of pesticides needs an analytical chemist who has experience and training in pesticide residue analysis, including residue analysis in plants and animals. The applicant should be able to manage a variety of studies which are conducted on behalf of our clients at different contract testing laboratories. Ph.D. or equivalent experience is required and laboratory experience is desired. No phone calls please. Send résumé to: **Job Code 202, Jellinek, Schwartz, Connolly and Freshman, Inc., 1350 New York Avenue, NW, Suite 400, Washington, DC 20005.** You will be contacted if we wish to schedule an interview. *Affirmative Action/Equal Opportunity Employer/M/F/V/H.*

## POSITIONS OPEN

### PROFESSORSHIP IN BREAST CANCER

The University of Texas Southwestern Medical School, Dallas announces a search for a professor of medical oncology with an emphasis on breast cancer. Candidates should have a distinguished record in cancer research, proven ability to attract research funds, and the administrative skills to organize a center for investigation and treatment of breast cancer. M.D. degree required. Inquiries may be addressed to: **Dr. Daniel W. Foster, Department of Internal Medicine, University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9030. An Equal Opportunity Employer.**

### RESEARCH ASSISTANT III

Research position available for molecular analysis of the human genome; involves cloning and mapping human chromosome 4 in yeast. Requires M.S. degree (or B.S. with several years of research experience) in biology, biochemistry, or related science. Must have experience in molecular cloning techniques. Salary: \$23,000 to \$27,000, depending upon experience. Send résumé and names of three references to: **Dr. Robert Malone, Department of Biology, University of Iowa, Iowa City, IA 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.**

### RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

The Department of Biotechnology Research has openings for a **RESEARCH ASSOCIATE** to work in the Molecular Genetics group. Current areas of research include preparation of a restriction fragment length polymorphism (RFLP) map of the maize genome and the utilization of this map to identify agronomically important genes. Research associates are involved in both the design and execution of the laboratory's projects.

Applicants should have a B.S. or M.S. degree, or equivalent, in one of the biological sciences with course work in biochemistry, molecular biology and genetics. Laboratory skills should include a demonstrated competency in the common methods involved in nucleic acids analysis, i.e., DNA extractions, agarose gel electrophoresis, and Southern transfers and hybridization. Practical experience in technique development and/or equipment design would be beneficial. The successful applicant will be able to work with minimal supervision and will be expected to take responsibility for data collection and to assist in its analysis. Some fieldwork will be required.

To apply, send a résumé, including the names and addresses of two references, and a description of relevant experience to:



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Louisiana State University (LSU) Eye Center is looking for a **SENIOR PHARMACOLOGIST**. Applicant should be interested in drug delivery systems, although other areas of research will be considered.

Previous experience in ophthalmology not necessary. Interested applicants send curriculum vitae to: **Herbert E. Kaufman, M.D., LSU Eye Center, 2020 Gravier Street, Suite B, New Orleans, LA 70112. LSUMC is an Equal Employment Opportunity/Affirmative Action Employer.**

**TOXICOLOGIST.** CanTox Inc., consultants in toxicology, has an opening for a Ph.D. level senior mammalian toxicologist with experience in toxicology research and/or evaluation and a demonstrated ability to analyze and resolve complex toxicological problems. Superior writing and communications skills are required. Proven management experience would be an asset. Salary commensurate with experience. CanTox Inc. has offices in Canada and the United States. Applications should be sent to: **Dr. C. I. Chappel, President, CanTox Inc., Suite 200, 627 Lyons Lane, Oakville, Ontario, Canada, L6J 5Z7.**

## POSITIONS OPEN

**SENIOR FACULTY POSITION IN ENVIRONMENTAL SCIENCES**, University of California, Los Angeles. Faculty Position in Environmental Science and Engineering (ESE), School of Public Health. Upper level tenure-track appointment in the Interdepartmental Environmental Science and Engineering Program and, jointly, in the Division of Environmental and Occupational Health Sciences. The candidate should have the potential to be director of the ESE program. Research and teaching in an environmentally pertinent area of biology, microbiology, chemistry, or biochemistry, as broadly defined. The ESE Program emphasizes the relationship between science and public policy, so a demonstrated interest in this relationship plus an outstanding record of research in a specialized area is required. Opportunity to participate in the M.S. and Ph.D. training programs of the Division and for interaction with engineers and basic scientists from other departments such as biology, microbiology, biological chemistry, chemistry, engineering, earth sciences, etc. Send curriculum vitae, statement of research and teaching goals, and names of three references by 15 March 1989 to: **Robert A. Mah, Chair, ESE Search Committee, School of Public Health, UCLA, Los Angeles, CA 90024.** *UCLA is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### SHELLFISH DISEASE RESEARCH SCIENTIST

Maryland Department of Natural Resources has three positions in research program on oyster health in Oxford, Maryland. Emphasis on diagnostic tests and disease processes. Send résumé and references to: **Dr. George E. Krantz, Director, Cooperative Oxford Laboratory, South Morris Street, ext., Oxford, MD 21654.**

## INTERNSHIPS

**NASA PLANETARY BIOLOGY INTERNSHIPS.** The Marine Biological Laboratory, Woods Hole, Massachusetts, invites applications from graduate students and seniors accepted to graduate programs for awards of \$2000 plus travel to participate in research at NASA centers and collaborating institutions for approximately 8 weeks. Typical intern programs include: global ecology, remote sensing, microbial ecology, biomineralization, origin and early evolution of life. Application deadline: 1 March 1989. For information/applications, contact: **Michael Enzien, Planetary Biology Intern Program, Boston University, Department of Biology, 2 Cumming Street, Boston, MA 02215.** *An Equal Opportunity/Affirmative Action Institution.*

## WORKSHOPS

### ELEANOR ROOSEVELT Institute

#### SOMATIC CELL AND MOLECULAR GENETICS WORKSHOP

An NCI-sponsored workshop in Denver, Colorado, 14 July to 30 July 1989, combining key procedures in both somatic cell and molecular genetics for cloning and functional analysis of mammalian genes. Laboratory exercises will include isolation of somatic cell mutants, somatic cell hybridization, DNA and RNA preparation and manipulation, DNA-mediated gene transfer, Northern, Southern, Westerns, DNA sequencing, pulse-field gel electrophoresis and preparation and use of cDNA and genomic libraries. The exercises are designed to provide an intensive introduction to current genetic technology for professional researchers wishing to apply these techniques to active programs. Those with research interests in malignancy are particularly encouraged to apply. No registration or tuition fees are charged, and a per diem will be provided to help with living expenses during the course. Applicants should submit curriculum vitae and a short paragraph describing research interests and expected contributions of this course to their program by 15 March 1989 to:

**Dr. Sherry Leonard, Program Director, Somatic Cell and Molecular Genetics Workshop, Eleanor Roosevelt Institute for Cancer Research, 1899 Gaylord Street, Denver, CO 80206.** Citizens or green card holders only.

## FELLOWSHIPS

### CANCER RESEARCH POSTDOCTORAL FELLOWSHIPS IN MOLECULAR GENETICS, ENDOCRINOLOGY, IMMUNOLOGY, AND TUMOR BIOLOGY

The University of Rochester Cancer Center invites applications for postdoctoral positions in our research training program for 2 years beginning in 1989. The program is conducted in an integrated research and clinical setting and provides laboratory research training in a specific area of cancer research as well as a comprehensive exposure to the biology and biochemistry of cancer. Projects involve molecular cloning and structural analysis of genes related to cellular proliferation, the role of oncogenes in carcinogenesis and the molecular biology of carcinogen-activating drug metabolizing enzymes, molecular mechanisms of hormonal and nutritional regulation of the expression of specific proteins, characterization of tumor antigens and applications of hybridoma technology, the design and synthesis of new agents to increase cytotoxic drug selectivity, and the evaluation of heterogeneous cell populations in tumors and their influence on responses to therapy. Please send résumé and three letters of recommendation to: **Dr. Edgar Henshaw, University of Rochester Cancer Center, 601 Elmwood Avenue, Box 704, Rochester, NY 14642.** *The University of Rochester is an Equal Opportunity/Affirmative Action Employer.*

### FELLOWSHIPS NOMINATIONS AND APPLICATIONS NOW BEING ACCEPTED FOR THE MCMASTER INSTITUTE JUNIOR FELLOWS PROGRAM

The McMaster Institute and the Center for Photochemical Sciences at Bowling Green State University are accepting applications for a full-fee fellowship program for Ph.D. study in the photochemical sciences. Successful Fellows will be selected from a pool of undergraduate students wishing to pursue doctoral studies in the photochemical sciences at the University. Potential applicants with undergraduate degrees in chemistry, physics, biology, and related areas must be nominated by faculty members from their undergraduate institutions.

For further information on the program and its eligibility requirements contact:

**Dr. D. C. Neckers**  
Center for Photochemical Sciences  
Bowling Green State University  
Bowling Green, OH 43403  
Telephone: 419-372-2031

### GRADUATE FELLOWSHIPS CENTER FOR THE STUDY OF EVOLUTION (CSEOL) AND THE ORIGIN OF LIFE UCLA

CSEOL invites applications for three first-year predoctoral fellowships for 1989-1990. Stipends are each \$9137 for 9 months with no teaching or other duties. Fellows are included in a select group of former Fellows and other graduate students invited to interact with Center faculty in a weekly dinner/seminar/discussion series. Applicants should be planning to carry out thesis research under the supervision of a CSEOL faculty member and in a subject area relating to evolution, broadly construed—of the solar system, of Earth, of the environment, of life, of humans. Areas of particular interest for 1989-1990 include: (i) the origin of life; (ii) biochemical phylogeny; (iii) Precambrian biotic-environmental evolution; and (iv) the interface between molecular biology and the known fossil record. Faculty are members of the UCLA Departments of Anthropology, Astronomy, Atmospheric Sciences, Biology, Chemistry and Biochemistry, Computer Science, Earth and Space Science, Geography, and Microbiology; the School of Medicine (Anatomy, Microbiology and Immunology; Physiology; Biobehavioral Sciences); and the School of Public Health. Fellowship applicants must apply by 1 March 1989, both to an appropriate academic department and to CSEOL. For application forms and a list of CSEOL members, contact:

**CSEOL Fellows Committee**  
Geology Building, Room 5687  
University of California, Los Angeles  
Los Angeles, CA 90024-1567  
Telephone: 213-825-1170

## FELLOWSHIPS

### HUDSON RIVER FOUNDATION FELLOWSHIPS

**DOCTORAL FELLOWSHIPS** sponsor doctoral research on topics of environmental, ecological, and public health concern to the Hudson River estuary. The Fellowships provide a stipend of \$11,000, plus \$1,000 toward supplies. Applications must be received by 31 March 1989.

**TIBOR T. POLGAR FELLOWSHIPS** support undergraduate and graduate summer research projects on the ecology (chemical, physical, and biological), and public policy aspects of the Hudson River estuary. Summer salaries of \$3500 and limited research funds will be provided. Sponsoring professors will receive a \$250 stipend. Proposals must be submitted by 3 March 1989.

Information on how to apply for either fellowship may be obtained by requesting the Foundation's Annual Program Plan from: **The Hudson River Foundation, 122 East 42 Street, Suite 1901, New York, NY 10168; telephone: 212-949-0028.**

## TRAINING PROGRAMS

### PRE- AND POSTDOCTORAL TRAINING IN NEUROBIOLOGY

The Department of Physiology and Neurobiology at the University of Connecticut, through an NIH training grant, is offering pre- and postdoctoral training in neurobiology. Areas of specialization and laboratories include: Molecular Neurobiology, **Jonathan Covault**; Developmental and Cellular Neurobiology, **Lynn Landmesser and Guillermo Pilar**; Auditory Physiology, **Andrew Moiseff**; Physiology of Movement, **William Chapple**; Neuroendocrinology, **Robert Gallo**; and Biological Rhythms and Reproductive Behavior, **Bruce Goldman**. Send curriculum vitae and names of three references to: **Lynn Landmesser, University of Connecticut, Box U-42, 75 North Eagleville Road, Storrs, CT 06268.** *Affirmative Action/Equal Opportunity Employer.*

**PRE- AND POSTDOCTORAL TRAINING IN TOXICOLOGY**—Pre- and postdoctoral trainee positions, supported by the National Institute of Environmental Health Sciences (NIEHS), are available at Oregon State University through the Toxicology Program and the Environmental Health Sciences Center. Trainees will engage in research with emphasis on basic mechanisms for toxicity of environmental agents. Fellowships are available on a competitive basis to applicants (*U.S. citizens and permanent residents only*) with training in chemistry, biochemistry, pharmacology, or the biological sciences. To apply for a NIEHS Fellowship, send curriculum vitae, academic records, and three letters of reference to: **Donald R. Buhler, Ph.D., Chairman, Toxicology Program, Environmental Health Sciences Center, Oregon State University, Weniger Hall 317, Corvallis, OR 97331-6504 (Telephone: 503-754-2363).** Closing date is 1 March 1989. *OSU is an Equal Opportunity/Affirmative Action Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

## MARKETPLACE

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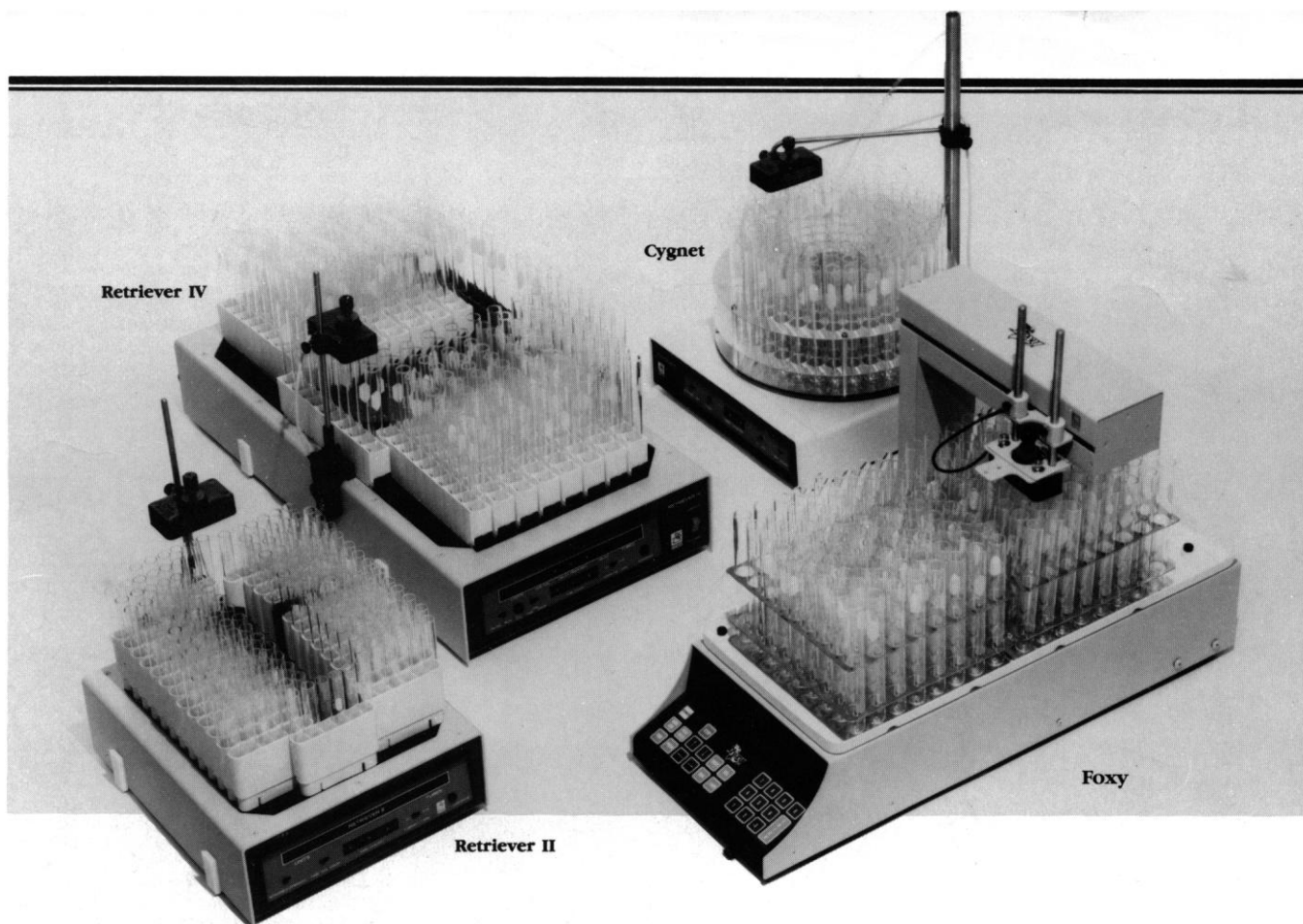
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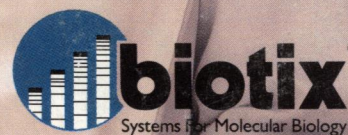
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