

will be accessible only to chemists, though not necessarily only those who specialize in organic chemistry. Many of the chapters devoted to chemistry are mini-encyclopedic accounts of technical developments, although the chemistry is liberally interspersed with biographical sketches of the major contributing chemists. The book can be read straight through for an almost chronological account of the development of organic chemistry in the United States or selectively for an overview of a given research area.

Tarbell and Tarbell both have Ph.D.'s in organic chemistry, and Stanley Tarbell was a major contributor in the field for over 40 years. They have been studying and writing about the development of organic chemistry in the United States for some time and in 1981 published a major biography of Roger Adams. Because of the nature of Stanley Tarbell's training and much of his research we expect, and get, a very good account of physical organic chemistry. There is also exceptionally good coverage of natural products. (One of the highlights of Tarbell's career was his determination of the structure of fumagillin.) The chapter entitled "The instrumental revolution" is also particularly strong. It contains a good, albeit brief, account of most of the major modern instruments, discusses the changes in organic chemistry wrought by the advent of sophisticated instrumentation, and includes some acute comments on the effects of high technology and its costs on educational institutions. Throughout the book there are apt comments on chemical, institutional, and social changes.

In general the book is well edited, but there are occasional errors in nomenclature and structures. The most embarrassing error must be the misspelling of one author's name on the book cover.

There is a great deal of work yet to be done on the history of organic chemistry in the United States, but the Tarbells have done a great service by pointing the way. At the very least this book will serve as a primer of the recent past for teachers and advanced students of organic chemistry, and at best, it will give birth to a long series of doctoral theses, articles, and books by historians of chemistry.

LEON GORTLER

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## Books Received

**Aggregation and Fractal Aggregates.** R. Jullien and R. Botet, World Scientific, Singapore, 1987 (U.S.

distributor, Taylor and Francis, Philadelphia). x, 120 pp., illus. \$28.

**Aging and the Immune Response.** Cellular and Humoral Aspects. Edmond A. Goidl, Ed. Dekker, New York, 1987. xiv, 364 pp., illus. \$79.75. Immunology Series, vol. 31.

**AIDS Education.** The Public Health Challenge. Carolyn Siegel, Ed. Health Education Quarterly (Wiley), New York, 1986. Paper, \$25.95. *Health Education Quarterly*, vol. 13, no. 4 (pp. 285-432).

**Allelochemicals.** Role in Agriculture and Forestry. George R. Waller, Ed. American Chemical Society, Washington, DC, 1987. xviii, 606 pp., illus. \$94.95. Based on a symposium, Chicago, Sept. 1985.

**The Body Electric.** Electromagnetism and the Foundation of Life. Robert O. Becker and Gary Selden. Illustrated by David Bichell. Quill (Morrow), New York, 1987. 365 pp. Paper, \$8.95. Reprint, 1985 edition.

**The Brain Code.** Mechanisms of Information Transfer and the Role of the Corpus Callosum. Norman D. Cook. Methuen, New York, 1987. xvi, 256 pp., illus. \$35.

**Breasts, Bottles and Babies.** A History of Infant Feeding. Valerie A. Fildes. Edinburgh University Press, Edinburgh, 1986 (U.S. distributor, Columbia University Press, New York). xxviii, 462 pp., illus. \$30.

**Carbon-13 NMR Spectroscopy.** High-Resolution Methods and Applications in Organic Chemistry and Biochemistry. Eberhard Breitmaier and Wolfgang Voelter. 3rd ed. VCH, New York, 1987. xvi, 515 pp., illus. \$135.

**Cell Culture and Somatic Cell Genetics of Plants.** Vol. 3, Plant Regeneration and Genetic Variability. Indra K. Vasil, Ed. Academic Press, Orlando, FL, 1986. xx, 657 pp., illus. \$79.

**Cell Cycle and Oncogenes.** Widmar Tanner and Dieter Gallwitz, Eds. Springer-Verlag, New York, 1986. viii, 171 pp., illus. \$54.50. From a colloquium, Mosbach/Baden, F.R.G., April 1986.

**Dynamic Macroeconomic Theory.** Thomas J. Sargent. Harvard University Press, Cambridge, MA, 1987. xiv, 369 pp. \$35.

**Dynamic Processes in the Chemistry of the Upper Ocean.** J. D. Burton, P. G. Brewer, and R. Chesseelet, Eds. Plenum, New York, 1986. viii, 246 pp., illus. \$49.50. NATO Conference Series IV, Marine Sciences, vol. 17. From an institute, Jauy-en-Josas, France, July 1983.

**Dynamic Properties of Glia Cells II.** Cellular and Molecular Aspects. T. Grisar *et al.*, Eds. Pergamon, New York, 1986. xviii, 424 pp., illus. \$85. Advances in the Biosciences, vol. 61. From a symposium, Liège, Belgium, May 1985.

**Early Neolithic Settlement and Society at Olszanica.** Sarunas Milisauskas. University of Michigan Museum of Anthropology, Ann Arbor, MI, 1986. xx, 319 pp., illus. Paper, \$20. Museum of Anthropology Memoir no. 19.

**Geometry of Nonlinear Field Theories.** Roberto Percacci. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). x, 255 pp., illus. \$33.

**Geophysical Methods in Geology.** P. V. Sharma. 2nd ed. Elsevier, New York, 1986. xx, 442 pp., illus. \$37.50.

**GIREP Conference 1986.** (Copenhagen, Aug. 1986.) COSMOS- and Educational Challenge. European Space Agency, Paris, 1986. viii, 450 pp., illus. Paper, \$24. ESA SP-253.

**Gravitational Collapse and Relativity.** Humitaka Sato and Takashi Nakamura, Eds. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). xiv, 512 pp., illus. \$72. Yamada Conference XIV (Kyoto, Japan, April 1986).

**The Hall of Heavenly Records.** Korean Astronomical Instruments and Clocks, 1380-1780. Joseph Needham *et al.* Cambridge University Press, New York, 1986. xxii, 201 pp., illus. \$44.50.

**A Handbook of Introductory Statistical Methods.** C. Philip Cox. Wiley, New York, 1987. xxiv, 272 pp., illus. \$34.95. Wiley Series in Probability and Mathematical Statistics.

**Insect Neurochemistry and Neurophysiology 1986.** A. B. Borkovec and Dale B. Gelman, Eds. Humana, Clifton, NJ, 1986. xii, 484 pp., illus. \$69.50. Experimental and Clinical Neuroscience. From a conference, College Park, MD, Aug. 1986.

**The Machinery of Nature.** Paul R. Ehrlich. Simon and Schuster, New York, 1987. 320 pp., illus. Paper, \$8.95. Reprint, 1986 edition.

**Molecules of the Mind.** The Brave New Science of Molecular Psychology. Jon Franklin. Atheneum, New York, 1987. xiv, 303 pp. \$18.95.

**Multivariate Statistical Methods.** A Primer. Bryan F. J. Manly. Chapman and Hall (Methuen), New York, 1986. x, 159 pp., illus. \$35; paper, \$15.95.

**The Neglect of Experiment.** Allan Franklin. Cambridge University Press, New York, 1986. xiv, 290 pp., illus. \$42.50.

**Neurobehavioral Toxicology.** Zoltman Annau, Ed. Johns Hopkins University Press, Baltimore, 1986. xiv, 443 pp., illus. \$79.50. Johns Hopkins Series in Environmental Toxicology.

**Neurobiology of Taste and Smell.** Thomas E. Finger and Wayne L. Silver, Eds. Wiley-Interscience, New York, 1987. xii, 449 pp., illus. \$69.95. Wiley Series in Neurobiology.

**Neurobiology of the Control of Breathing.** Curt von Euler and Hugo Lagercrantz, Eds. Raven, New York, 1986. xxii, 321 pp., illus. \$68. Karolinska Institute Nobel Conference Series. From a conference, Stockholm, 1985.

**Organic Syntheses by Oxidation with Metal Compounds.** W. J. Mijs and C. R. H. I. de Jonge, Eds. Plenum, New York, 1986. xviii, 908 pp., illus. \$115.

**Organic Synthesis, Reactions and Mechanisms.** B. Christoph *et al.* Springer-Verlag, New York, 1987. viii, 260 pp., illus. \$83.50. Topics in Current Chemistry, 137.

**Organolithium Compounds/Solvated Electrons.** N. M. Alpatova *et al.* Springer-Verlag, New York, 1987. vi, 226 pp., illus. \$74.50. Topics in Current Chemistry, 138.

**The Origin and Domestication of Cultivated Plants.** C. Barigozzi, Ed. Elsevier, New York, 1986. vi, 218 pp., illus. \$71. Developments in Agricultural and Managed-Forest Ecology 16. From a symposium, Rome, Nov. 1985.

**Origins.** A Skeptic's Guide to the Creation of Life on Earth. Robert Shapiro. Bantam, New York, 1987. 333 pp. Paper. \$12.95. Reprint, 1986 edition.

**The Packaging of Power Semiconductor Devices.** C. A. Neugebauer *et al.* Gordon and Breach, New York, 1986. viii, 86 pp., illus. \$25. Electrocomponent Science Monographs, vol. 7.

**Particle Size Distribution.** Assessment and Characterization. Theodore Provder, Ed. American Chemical Society, Washington, DC, 1987. x, 308 pp., illus. \$59.95. ACS Symposium Series, 332. Based on a symposium, Chicago, Sept. 1985.

**Quantum Mechanical Tunneling and Its Applications.** D. K. Roy. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). xii, 372 pp., illus. \$53.

**Quantum Optics.** Adam Kujawski and Maciej Lewenstein, Eds. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). 324 pp., illus. \$69.50. From a school, Ustron, Poland, Sept. 1985.

**Radiative Properties of Hot Dense Matter III.** Balazs Rozsnyai *et al.*, Eds. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). x, 566 pp., illus. \$74. From a conference, Williamsburg, VA, Oct. 1985.

**Radon and Its Decay Products.** Occurrence, Properties, and Health Effects. Philip K. Hopke, Ed. American Chemical Society, Washington, DC, 1987. xii, 610 pp., illus. \$89.95. ACS Symposium Series, 331. Based on a meeting, New York, April 1986.

**The Rat Brain in Stereotaxic Coordinates.** George Paxinos and Charles Watson. 2nd ed. Academic Press, Orlando, FL, 1986. Unpaged. Spiral bound, \$50.

**Stereoselective Synthesis.** Mihaly Nogradi. VCH, New York, 1987. xiv, 356 pp., illus. \$93.

**A Stochastic Maximum Principle for Optimal Control of Diffusions.** U. G. Haussmann. Longman (Wiley), New York, 1986. vi, 109 pp. Paper, \$31.95. Pitman Research Notes in Mathematics Series, 151.

**Stochastic Simulation.** Brian D. Ripley. Wiley, New York, 1987. xiv, 237 pp., illus. \$32.95. Wiley Series in Probability and Mathematical Statistics.

**The Strangelove Legacy.** Children, Parents, and Teachers in the Nuclear Age. Phyllis La Farge. Harper and Row, New York, 1987. xii, 242 pp. \$15.95.

**Structural Phase Transitions in Layered Transition Metal Compounds.** Kazuko Morizuki, Ed. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). x, 300 pp., illus. \$94.50. Physics and Chemistry of Materials with Low-Dimensional Structures, Series A, Layered Structures.

**Structure, Dynamics and Function of Biomolecules.** A. Ehrenberg *et al.*, Eds. Springer-Verlag, New York, 1987. xvi, 302 pp., illus. \$71.50. Springer Series in Biophysics, 1. From a workshop, Stockholm, July 1986.

**Supersymmetry, Supergravity, Superstrings '86.** B. de Wit, P. Fayet, and M. Grisaru, Eds. x, 565 pp., illus. \$67. From a school, Trieste, Italy, April 1986.

## Products & Materials

### *Peptide Synthesizer*

The 9200 PepSynthesizer synthesizes peptides by fluorenylmethyloxycarbonyl-polyamide chemistry. The continuous-flow instrument provides faster cycle times and lower reagent consumption than do batch-flow instruments. It can synthesize both analytical and preparative quantities of peptides. Express-Peptide software for operation and data collection comes with the 9200 PepSynthesizer. The three-column instrument may be upgraded to a fully automated synthesizer. Milligen Division of Millipore. Circle 635.

### *Nonlinear Parameter Estimation Software*

MINSQ is a noncopy-protected software program for estimation of nonlinear parameters. Models may be defined from a file or the keyboard by either single or multiple statements. Both implicit and parametric functions are possible, as are models defined with definite integrals. Transcendental functions, hyperbolic functions, error functions, a differentiation operator, and an integral operator are built-in. MINSQ operates on IBM PC and compatible computers with a graphics adapter, two floppy disk drives, and 448 kilobytes of memory. MicroMath Scientific Software. Circle 639.

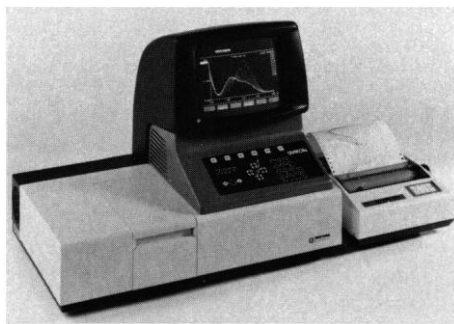
### *Ice Replacement*

Insul-Ice combines the thermal protection and reusability of refrigerant packs with the shock resistance and flexibility of insulating wrap and other packaging fillers. Uses include wrapping tissue specimens before transport, protecting refrigerated shipments from warming or breaking, and replacing ice in cold-water baths. When frozen to  $-9^{\circ}\text{C}$  or below, Insul-Ice stays frozen 130% as long as an equivalent amount of ice. The clear plastic film in which the refrigerant is sealed withstands pressures up to 4 atm for more than 5 minutes. Insul-Ice can be refrozen and used repeatedly. Polyfoam Packers. Circle 640.

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.

### *UV-VIS Spectrophotometer*

The Uvikon 860 ultraviolet-visible light spectrophotometer has special programs for enzyme kinetics, absorbance versus time, and wavelength, in addition to programs for the customary modes of measurement, fixed wavelength and wavelength scan. Parameters for several methods are preprogrammed. Decisions concerning data analy-



sis may be made after measurement. Analyses possible include curve expansion, multicurve overlay, curve addition and subtraction, peak determination, derivatization, and area calculation. A printer is included. Kontron Instruments. Circle 631.

### *Computer Graphics Terminal*

The PS 390 is a graphics terminal that allows calligraphic-quality lines and solid shaded images to be displayed on a single-color raster display. The PS 390 offers hardware antialiasing, end-point matching, perspective, depth cueing, six-plane clipping, and 127 line textures. The terminal can rotate complex three-dimensional wireframe models in real time. Images may be manipulated and displayed at a rate as high as 367,000 end points per second. Evans & Sutherland, Interactive Systems Division. Circle 663.

### *Open-Architecture Macintosh*

The Macintosh II is a personal computer based on the 32-bit 68020 microprocessor. Six expansion slots operating under NuBus protocols accept video cards, an Ethernet interface card, and a controller or coprocessor card for MS DOS file compatibility. The Macintosh II processes data at 2 million instructions per second. One megabyte of random-access memory (RAM) is standard; add-in boards can increase RAM to 1.5 gigabytes. Purchasers choose between two keyboards and two monitors. One keyboard is similar to a standard Macintosh keyboard;

the other includes function and special purpose keys for alternate operating systems. Both monitors offer 640 by 480 pixel resolution; one is a 12-inch monochrome monitor, and the other is a 13-inch red-green-blue color monitor. A version of the UNIX operating system will be available as an option. The system is available either with an 800-kilobyte floppy disk drive alone or with a 40-megabyte internal hard disk in addition. Apple Computer. Circle 649.

### *Expert System for Technical Writing*

RightWriter 2.1 is a grammar and spelling checker that works with many word-processing programs. RightWriter reviews documents for problems including passive voice, wordy phrases, weak sentences, overused words, clichés, redundant phrases, slang, misused words, and jargon. In addition to making recommendations for improvements, the program also measures the reading grade level. The program has a 45,000-word vocabulary and follows over 3000 rules to uncover possible problems. RightWriter 2.1 operates on IBM PC and compatible computers with PC DOS or MS DOS 2.0 or later. RightSoft. Circle 651.

### *Viewing Cabinet for Fluorescence Analysis*

The Spectroline CX-21 UV Viewing Cabinet was designed for quick, efficient fluorescence analysis of thin-layer chromatography plates. It has both long wave (365 nm) and short wave (254 nm) lights with specular finish reflectors for maximum ultraviolet intensities; a separate white light provides visible illumination. The user's eyes are protected by an ultraviolet-absorbing window in the contoured eyepiece, and the cabinet will not operate unless the door is closed. A removable bottom panel allows the Spectroline CX-21 to be placed over large objects. Spectronics. Circle 656.

### *Literature*

*Sequences of Proteins of Immunological Interest*, fourth edition, is an 800-page tabulation and analysis of amino acid and nucleic acid sequences of precursors, V-regions, C-regions, J-chains, T-cell receptors for antigen, T-cell surface antigens, complement, C-reactive protein, thymopoietin, postgamma globulin, and  $\alpha_2$ -macroglobulin. U.S. Department of Health and Human Services. Circle 648.

# 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.

**LINE CLASSIFIED ADVERTISING DEADLINES:**  
Thursday, 10 a.m., 2 weeks prior to issue date (mailed on issue date).

**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):** \$35.00 per line; \$350 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 42 characters per line. In ESTIMATING the cost, multiply total lines × \$35.00 = 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

**Biochemist/Cell Biologist, Ph.D., 1980.** Experience in industrial and basic research. Enzymology, protein chemistry, purification and characterization, protein sequencing, HPLC, cell culture, cloning, EIA, RIA, folate, pteridines biological role metabolisms, and so forth. Seeks research position. Box 87, SCIENCE.

6/12, 19, 26

**Biomedical Scientist, D.V.M., Ph.D.** Twelve years of experience in drug/medical device industry including efficacy/safety testing and new product registration with FDA/EPA. Seeks drug/device, animal health, or biotechnology firm to utilize managerial and scientific skills as member of R&D management team. Telephone: Dr. Charles Chesney, 612-450-0045.

X

**Biochemist, Ph.D. (1979).** Medicinal chemistry, M.Sc. International teaching with research experience in enzyme purification and characterization. Seeks any suitable position. Languages—English, French, and Arabic. Box 87, SCIENCE.

6/12, 19, 26; 7/3

## POSITIONS WANTED

**Entomologist, Ph.D.** Creative researcher interested in insect-plant interactions. Experience in natural and managed systems, reproductive strategies, biochemical techniques, gel electrophoresis, and GLC. Three years teaching experience. Excellent communication and analytical skills. Seeks research/teaching position in university/industry. Box 86, SCIENCE.

X

**M.D.** Experience in virology and clinical research, AIDS surveillance, education, and counseling seeks AIDS-related position. Box 88, SCIENCE.

X

**Microbial Biochemist/Molecular Biologist, Ph.D., England (1984).** Experienced in bacterial protein synthesis and ribosome/antibiotic interactions. Seeks academic position to work on archaeobacterial, mycobacterial, mycoplasma ribosomes, and antibiotic resistance mechanisms. Canada or the United States. Box 89, SCIENCE.

X

**Pathologist, M.D. (1980).** Certified AP/CP with strong interest in comparative pathology. Experienced in surgical pathology, electron microscopy, and microbiology. Seeks challenging position in comparative medicine in research/industry. Available July 1988. Box 88, SCIENCE.

6/12, 19, 26

**Plant Physiologist, Ph.D.** Postdoctoral experience. Expertise in tissue culture and hormone physiology. Recently established a forage stress physiology research program. Desire relocation to western United States in academic or industrial environment. Box 81, SCIENCE.

X

**Virology/Immunology, Ph.D.** Thirty years of pharmaceutical industry R&D experience; developing human vaccines, other biological products. Planning, implementing clinical studies to support licensing of new products, with statistical analysis, publication of results. Laboratory director, contract management. Seeking consultancy arrangements/professional assignments in areas of experience. Box 89, SCIENCE.

6/12, 19

**Zoologist, B.S. Animal Scientist, B.S.** Experience; neural-behavioral, teratology, and toxicology research. Seeks a position in any type of animal research. Will relocate. Available: 15 June 1987. Box 74, SCIENCE.

X

## POSITIONS OPEN

### UTAH STATE UNIVERSITY DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

**ASSISTANT PROFESSOR.** Tenure-track, to participate in interdepartmental molecular biology/biochemistry program. Research emphasis on molecular approaches to the structure and function of nucleic acids; experience in recombinant DNA technology desired. Teaching includes molecular biology and nucleic acid biochemistry. To be filled during the 1987 to 1988 academic year. Send résumé, description of future research interests, and names of at least three references by 30 June 1987 to: **Dr. E. A. Boeker, Utah State University, Logan, UT 84322-0300. Affirmative Action/Equal Employment Opportunity.**

**ASSISTANT PROFESSOR OF MICROBIOLOGY.** This tenure-track position is available immediately. Candidates should have a Ph.D., M.D., D.D.S., or an equivalent degree and postdoctoral training. Preference will be given to applicants with research interests in host-parasite interactions, especially in mechanisms of microbial pathogenesis and host immune response to infectious microorganisms. Teaching experience in medical microbiology is desirable. The appointee is expected to conduct vigorous independent research in medical microbiology and to teach microbiology to students of health-related professions. Laboratory space and start-up support will be provided. Salary is negotiable. Interested persons should send curriculum vitae and brief description of research as well as the names and addresses of three individuals from whom recommendations may be obtained to: **Dr. Thomas D. Flanagan, Professor and Chairman, Department of Microbiology, School of Medicine, State University of New York at Buffalo, 205 Sherman Hall, Buffalo, NY 14214.** Target date for receipt of applications is 1 August 1987. *State University of New York is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR, NEUROSCIENCE FACULTY/research** position for appropriate Ph.D. Qualifications and experience must include strong graduate or medical school teaching skills and significant research accomplishments. Applicant must have postdoctoral experience and a proven track record. Send curriculum vitae, statement of proposed research, and names of three references to: **Gloria Semente, Director of Special Projects, New York College of Osteopathic Medicine, Old Westbury, NY 11568.**

### ASSISTANT PROFESSOR OF BIOCHEMISTRY CHEMISTRY DEPARTMENT MONTANA STATE UNIVERSITY

Biochemistry position, tenure-track, assistant professor (higher ranks considered). Must have Ph.D. in a molecular area of biological sciences. Postdoctoral experience is preferred. Demonstrated ability for creative research and the promise of effective teaching of biochemistry courses at the undergraduate and graduate levels, and of establishing a vigorous well-supported research program. Preference given candidates who strengthen existing areas of molecular genetics, nucleic acid chemistry, protein chemistry, molecular pathology and toxicology, molecular ecology, bioregulators, transmembrane signaling, and/or cytoskeletal element research. Screening of applicants will begin 26 June 1987 and continue until a suitable applicant is hired. Applicants should send a letter of application, résumé, reprints of representative papers, a summary of research plans, and names, addresses, and current telephone numbers of three references to: **Biochemistry Search Committee, Department of Chemistry, Montana State University, Bozeman, MT 59717. Montana State University is an Affirmative Action/Equal Opportunity Employer.**

### ASSISTANT PROFESSOR OF PATHOLOGY NORTHWESTERN UNIVERSITY MEDICAL SCHOOL

A tenure-track position to begin October 1987. Competence in flow cytometry and associated computer and other instrumentation, as well as a demonstrated commitment to research are essential. Duties include supervision of a flow cytometry laboratory involved in both patient and research activities. Although persons involved in various facets of biological investigation will be considered, preference will be given to those doing research on cell growth and cell transformation. Applicants should send curriculum vitae, a statement of research, and names and addresses of three references by 15 July 1987 to: **Dr. D. G. Scarpelli, Chairman, Department of Pathology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.**

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

**ASSISTANT/ASSOCIATE PROFESSOR.** Molecular biology/virology—tenure track. Develop research program applying advanced molecular biology procedures in studies of viral respiratory diseases of cattle. Seek external funding to help support this research. Teach professional and graduate level courses. D.V.M. or equivalent and Ph.D. with postdoctoral experience preferred. Candidates with Ph.D. and a minimum of 2 years of postdoctoral experience will be considered.

Send curriculum vitae and names of three references to: **Dr. S. B. Mohanty, Associate Dean, Virginia-Maryland College of Veterinary Medicine, University of Maryland, College Park, MD 20742.** Application deadline 15 August 1987. *The University of Maryland is an Affirmative Action/Equal Opportunity Employer.*

The Section of Pediatric Neurology at the University of Michigan in Ann Arbor has a position available at the **ASSISTANT/ASSOCIATE RESEARCH SCIENTIST LEVEL (RESEARCH FACULTY TRACK).** A Ph.D. in molecular or cell biology and 2 years of postdoctoral training are required. We are investigating interactions between brain endothelial cells and astrocytes with an emphasis on response to injury. A joint appointment with the appropriate basic science department may be arranged. Contact: **Gary Goldstein, M.D., Section of Pediatric Neurology, University of Michigan Hospitals, Ann Arbor, MI 48109; Telephone: 313-763-6645. A nondiscriminatory Affirmative Action Employer.**

## POSITIONS OPEN

**ASSISTANT/ASSOCIATE PROFESSOR**—The University of Wisconsin—Madison and the William S. Middleton Memorial Veterans Hospital Psychiatry Service, Madison, Wisconsin, is seeking a Board-certified or Board-eligible psychiatrist to direct the Mental Health Clinic outpatient care. Candidates will receive a professorship at the assistant or associate level at the University of Wisconsin Department of Psychiatry. We are seeking a person with interest and expertise in alcohol or other substance abuse who is able to generate an independent research program in addition to providing leadership for clinical services in the drug and alcohol abuse area. Duties may include involvement at the University of Wisconsin Hospitals, collaboration with other faculty, and involvement in medical student and resident education programs. The salary is competitive. The position is available 1 July 1987 to 1 October 1987. Applications, including curriculum vitae, should be directed to: **Dr. Burr Eichelman, Chief, Psychiatry Service, William S. Middleton Memorial Veterans Hospital, 2500 Overlook Terrace, Madison, WI 53705.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*



### ASSISTANT/ASSOCIATE PROFESSOR INSTITUTE OF MOLECULAR BIOLOGY AND BIOCHEMISTRY SIMON FRASER UNIVERSITY

Applications are being accepted for an assistant/associate professor level appointment in the newly formed Institute of Molecular Biology and Biochemistry. Candidates should have research interests which involve modern molecular genetic techniques in the investigation of protein structure/function relationships. Postdoctoral experience, expertise in modern molecular biological techniques, and demonstrated research potential are required.

Applicants should forward a complete curriculum vitae, reprints of recent significant publications, and three letters of reference to:

**Dr. J. W. George Ivany**  
Vice-President, Academic  
Simon Fraser University  
Burnaby, B.C. V5A 1S6

Closing date for applications will be 15 September 1987. *Preference shall be given to applicants who are eligible for employment in Canada at the time of application.*

**BIOLOGY**—One-year appointment to teach animal physiology, embryology, histology, microbiology, and general biology. Fall term in Arkadelphia and spring term in Little Rock. Ph.D. preferred. Contact: **Dr. P. R. Dorris, HSU Box 7544, Arkadelphia, AR 71923;** telephone: 501-246-5511, extension 3207. *Henderson State University is an Equal Opportunity/Affirmative Action Employer.* Selection begins 1 July 1987.

**CHAIRPERSON**, Department of Medicinal Chemistry, Virginia Commonwealth University. Applications are invited for the position of Professor and Chairperson of the Department of Medicinal Chemistry, School of Pharmacy, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA. The Department, with eight full-time faculty, is an integral part of the undergraduate B.S. program in pharmacy and offers M.S. and Ph.D. degree programs in medicinal chemistry. Currently 14 predoctoral students are enrolled. Applicants must present a distinguished record of research and teaching accomplishments, extramural research funding, and a demonstrated capability for administration. The candidate must possess an earned Ph.D. or Sc.D. degree in medicinal chemistry or the related chemical or pharmaceutical sciences. A professional degree in pharmacy is desirable. The successful candidate must have strong interpersonal skills, the ability to motivate faculty and students, and a demonstrated capacity to provide effective program leadership. Salary and starting date are negotiable. The Search Committee will review applications received by 1 October 1987 or until a suitable candidate is identified. Applicants should send a complete curriculum vitae and the names of three references to: **Dr. Joseph F. Borzelleca, Chairman, Search Committee, Box 613 MCV Station, Virginia Commonwealth University, Richmond, VA 23298.** *Virginia Commonwealth University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**CELL GENETICIST**—To work as an independent investigator in a section of molecular genetics composed of four molecular geneticists and a protein chemist. Areas of research involve in situ hybridization, somatic cell hybrids, and the analysis of specific abnormalities in inherited disorders, solid tumors, and leukemias. Candidate should be trained in cytogenetic methods and have practical experience in molecular genetics. Position requires advanced degree and at least 2 years of relevant postdoctoral experience. Appointment will be on a tenure track with an academic rank equivalent to experience and training. Send résumé to: **John A. Barranger, M.D., Ph.D., Professor of Pediatrics and Biochemistry, USC School of Medicine; Head, Division of Medical Genetics, Childrens Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, CA 90027.** *Equal Opportunity Employer.*

### CHAIR, DEPARTMENT OF BIOCHEMISTRY AND NUTRITION

The School of Medicine of the University of North Carolina at Chapel Hill (UNC-CH) seeks an individual committed to academic excellence to provide professional and administrative leadership for the research and teaching programs of this basic science department. Located primarily in excellent modern facilities of the School of Medicine, the Department also serves as a university resource. There is a large research base within the Department, and excellent collaborative relationships exist with other basic science and clinical departments, research centers and institutes, other health professional schools, and the College of Arts and Sciences. Reply with curriculum vitae and a list of at least three references before 15 September 1987 to: **Dr. G. P. Manire, Chair, Search Committee for Chair of Biochemistry and Nutrition, Office of the Dean, School of Medicine, 125 MacNider 202H, University of North Carolina at Chapel Hill, Chapel Hill, NC 27514.** *Women and minorities are encouraged to identify themselves voluntarily. UNC-CH is an Equal Opportunity/Affirmative Action Employer.*

### CHAIRPERSON DEPARTMENT OF PHARMACOLOGY

The State University of New York Health Science Center at Syracuse, College of Medicine, a center for research, professional education, and patient care, invites applications and nominations for the position of Professor and Chairperson, Department of Pharmacology. Candidates must have an M.D., Ph.D., or equivalent degree, a distinguished research record, and proven leadership and administrative ability. A highly competitive salary and generous fringe benefits are offered. Send nominations or letters of application (with curriculum vitae, summary of experience, and four letters of reference) to: **Dr. Larry F. Lemanski, Chairperson, Search Committee, Department of Anatomy and Cell Biology, SUNY Health Science Center at Syracuse, 750 East Adams Street, Syracuse, NY 13210.** *Affirmative Action/Equal Opportunity Employer.*

**CLINICAL CHEMIST.** Applicants with M.D. and/or Ph.D. degree are invited to apply for an unexpected opening in our clinical chemistry section. Faculty appointment can be tenure-track or clinical-track depending on experience and interests. The successful candidate will help to lead the clinical chemistry laboratory of Barnes Hospital, a 1054-bed teaching hospital of the Washington University Medical Center. Successful candidates should have a commitment to excellence in teaching and patient care. Academic rank and salary will be commensurate with prior experience and accomplishments. Send letter of inquiry and curriculum vitae to: **Jack H. Ladenson, Ph.D. or Jay M. McDonald, M.D., Division of Laboratory Medicine, Washington University School of Medicine, 660 South Euclid—Box 8118, St. Louis, MO 63110.**

### CURATOR OF FISH

Requires B.A./B.S. in marine biology, biology, or zoology, with minimum of 3 years of experience as an aquarist. Must be experienced driver. Supervisory/administrative experience preferred. Will assist in the design and planning of major new public aquarium. Send letter, résumé, and three references to:

**Dr. Judith L. Wellington,**  
Vice President, Project Development,  
Zoological Society of Philadelphia,  
34th Street and Girard Avenue,  
Philadelphia, PA 19104.

## POSITIONS OPEN

**COMPUTER SCIENTIST.** Develop systemwide plans for scientific and commercial application of artificial intelligence. Implement plans for moderate size product components. Design solutions. Standard programming languages, Basic, Pascal, C, LISP, OPS5, PROLOG, and assembly languages PDP-8, PDP-11, 6502, IBM/370, UNIX operating system. Forty hours per week, 8:00 to 5:00, \$35,000 per year. Requirements: B.S. in computer science or computer engineering and 1 year of experience or Master of Computer Science with concentration in artificial intelligence; training required in programming and assembly languages; technical interview. Send résumés to: **Illinois Department of Employment Security, 402 North Randolph Street, Champaign, IL 61820; Attention: Wanda Byrd, Reference #7020-H.** An employer-paid ad.

### CYTOGENETICIST

A major university-affiliated hospital invites applications for a position to share the responsibilities to oversee the Clinical and Research Divisions of Genetics. Salary and position will be commensurate with experience. Please send curriculum vitae or telephone: 718-780-1576:



**James Campbell**  
Assistant Director of Personnel  
The Long Island  
College Hospital  
Brooklyn, NY 11201  
*Equal Opportunity Employer M/F/H*



### DIRECTOR INSTITUTE OF MOLECULAR BIOLOGY AND BIOCHEMISTRY SIMON FRASER UNIVERSITY

Applications are being accepted for the position of director of the newly formed and funded Institute of Molecular Biology and Biochemistry. The Institute is a multidisciplinary body with six faculty from the Departments of Biological Sciences and Chemistry. Current faculty research interests vary from physical biochemistry to molecular genetics.

The Director will be expected to oversee the growth of the Institute, including the selection of several new faculty members. The duties of the Director, in addition to maintaining a strong research program, will be to supervise the administration of the graduate program, to act as official spokesman for the Institute, and to administer all funds allocated to the Institute.

Applicants should forward a complete curriculum vitae, reprints of recent significant publications, and three letters of reference to:

**Dr. J. W. George Ivany**  
Vice-President, Academic  
Simon Fraser University  
Burnaby, B.C. V5A 1S6

Closing date for applications will be 15 September 1987. *Preference shall be given to applicants who are eligible for employment in Canada at the time of application.*

### DIRECTOR—BOTANIC GARDEN SANTA BARBARA, CALIFORNIA

Sixty-five acres plus herbarium, requires now an exceptional individual to lead it into the 21st century. Responsibilities: Lead, motivate, manage, and direct 35 staff to plan and implement programs of display, education, and research; establish inter-institutional links; undertake fund-raising; act as spokesman; be technical adviser to the Board. Qualifications: Scientist with leadership skills, to manage annual budget approaching \$1 million; written/oral communication skills; fund-raising experience; ability to manage research. Salary: competitive/commensurate with experience; health and retirement plans.

Submit résumé in confidence to: **Mr. Philip Thresher, President, Santa Barbara Botanic Garden, c/o P.O. Box 50437, Santa Barbara, CA 93150.** Job description on request. Appointment date soonest but to suit successful applicant.

## POSITIONS OPEN

### DIRECTOR OF AQUARIUM OPERATIONS

Requires 5 years of experience in facility maintenance. Experience in water treatment and management. Will assist in design and planning of facility mechanical and life support systems for major new public aquarium. Will be responsible for operation and maintenance of same.

Send letter, résumé, and three references to: **Dr. Judith L. Wellington, Vice President, Project Development, Zoological Society of Philadelphia, 34th Street and Girard Avenue, Philadelphia, PA 19104.**

### DIRECTOR CLINICAL CYTOGENETICS LABORATORY

The Department of Laboratories and Pathology at Los Angeles County—University of Southern California Medical Center, the principal teaching hospital of the University of Southern California School of Medicine, seeks a Director for its Cytogenetics Laboratory. Requirements include a Ph.D. in cytogenetics or related field, experience in medical diagnostic cytogenetics and molecular genetics, and eligible for or certified by the American Board of Medical Genetics. Responsibilities include directing the cytogenetics laboratory, establishing an independent research program and participation in the teaching programs of the Department of Pathology. Faculty appointment in the University of Southern California School of Medicine at a rank commensurate with qualifications and experience.

For further information, **telephone: 213-226-7151**. To apply, send curriculum vitae and three references to: **Edward T. Wong, M.D., Associate Director of Laboratories and Pathology, LAC/USC Medical Center, Room 2900, 1200 North State Street, Los Angeles, CA 90033.**

### DIRECTOR COAL EXTRACTION AND UTILIZATION RESEARCH CENTER SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

Applications are invited for the position of Director of the Coal Extraction and Utilization Research Center, available immediately. A Ph.D. degree in science or engineering is required. Applicants must have leadership ability and significant experience in coal or coal-related research, grantsmanship, and in developing coal or coal-related research programs. Applicants must also have demonstrated the ability to communicate well with others at all levels, and to work constructively with faculty and staff from a variety of disciplines. Responsibilities include developing and coordinating research programs related to coal, assisting the faculty in securing and managing external research funds, acting as an interface between the University and industry, the state government, and the federal government in coal-related matters, and to coordinate the collection and dissemination of the results of faculty and staff research relating to coal.

Inquiries should be directed to:

**Chairman, Search Committee  
Coal Research Center  
Southern Illinois University at Carbondale  
Carbondale, IL 62901**

Closing date: 15 June 1987, or until filled.  
*An Equal Opportunity/Affirmative Action Employer.*

### DIRECTOR, MOLECULAR BIOLOGY

A leading independent and well-established biotechnology company in southern California is seeking a qualified individual in their research and development department to direct the company's efforts in its newly formed molecular biology department.

The candidate should have a Ph.D. and at least 5 years of experience in all aspects of molecular biology and immunology, especially recombinant DNA such as nucleic acid hybridization, RFLP, and monoclonal technology. In this capacity the candidate will interface with a highly prestigious and knowledgeable scientific advisory board and will be responsible for recruiting an initial staff of ten scientists. The candidate must have proven leadership skills, and be able to communicate well both within the company as well as with outside contacts. Remuneration and fringe benefits commensurate with experience.

For further information please forward your résumé in strict confidence to **Box 82, SCIENCE.**

## EPIDEMIOLOGISTS

The Epidemiology Branch of Environmental Epidemiology and Biometry Division, Health Effects Research Laboratory, U.S. Environmental Protection Agency (EPA) seeks epidemiologists to conduct independent and collaborative research on the effects of environmental exposures on human health. Study designs integrating epidemiologic and laboratory approaches will be emphasized, initially focusing on the use of laboratory measurements of genetic damage in human specimens.

Candidates should have a M.D. or a doctoral degree in a health-related field, and a strong academic background in epidemiology and biology. Experience with complex field studies involving collection of biologic specimens, specialized clinical studies (such as neurologic testing), or other use of laboratory assays in collaborative clinical or epidemiologic studies would be highly desirable. Applications will be considered for positions ranging from the equivalent of postdoctoral fellows to tenured senior investigators (GS-11 to GS-13). The salary range is \$27,172 to \$50,346 per annum; physicians may be eligible for Comparability Pay up to \$10,000 annually. The position is located in Research Triangle Park, North Carolina.

Forward curriculum vitae and three references prior to July 10, 1987, to:

**Chief, Epidemiology Branch  
c/o Marcy Kesselman, PMD (MD-29)  
Research Triangle Park, NC 27711**

*AN EQUAL OPPORTUNITY EMPLOYER*



United States  
Department of  
Agriculture

## LEAD SCIENTIST DRUG RESIDUE RESEARCH FOOD SAFETY RESEARCH WYNDMOOR, PA

ARS is seeking a Research Chemist to lead a drug residue research program to develop poly and monoclonal and immunoaffinity, immunochemical and other chemical or biochemical methods to screen animal physiological fluids and tissues for drug residues. Candidate must have knowledge of and/or actual experience in the analysis of animal drugs, drug metabolism, pharmacology, pharmacokinetics and physico-chemical isolation techniques. Ph.D. is desired. Must be a U.S. Citizen. Salary is commensurate with experience GS-13/15 (\$38,727–\$53,830). For information on the research program/position, contact Dr. Donald W. Thayer, 215-233-6582. For information on application procedures/forms contact Lisa Botella, 215-233-6573. Applications in response to this announcement should be marked 7E023. Applications should be sent to: **Lisa Botella, USDA, ARS, NAA, 600 East Mermaid Lane, Philadelphia, PA 19118.** Applications must be received by June 29, 1987.

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

## B R I S T O L - M Y E R S

### POSTDOCTORAL FELLOWSHIP ELECTROPHYSIOLOGY LABORATORY

The Bristol-Myers' Pharmaceutical Research and Development Division is seeking a Postdoctoral Fellow to join its Central Nervous System Electrophysiology Research Team at our new research facility in Wallingford, CT. This appointment is for one year (with possible renewal for a second year) and is completely funded by the Company.

Responsibilities will include carrying out neuropharmacological and neurophysiological studies utilizing intracellular recordings from neurons maintained in-vitro. Publication of research results will be strongly encouraged.

The successful candidate will be working in a stimulating and interesting multidisciplinary research environment which includes ongoing work in the areas of neurochemistry, receptor binding, neuroanatomy, behavioral pharmacology, and medicinal chemistry. Besides Central Nervous System research, the Bristol-Myers Research Community is composed of Anti-Cancer, Infectious Disease and Cardiovascular research areas. Bristol-Myers supports and encourages interaction and collaboration with the scientific community both internally and externally with scientists affiliated with various academic institutions worldwide.

Candidates must have or be nearing completion of their Ph.D. Persons having previous experience with electrophysiological techniques, especially involving intracellular recording from brain slices or cultured neuron, will be given preference.

For confidential consideration forward your curriculum vitae in confidence to: **Bristol-Myers Company, Pharmaceutical Research & Development Division, Department PD-SC24, 5 Research Parkway, P.O. Box 5100, Wallingford, CT 06492.** An equal opportunity employer. (Principals Only Please)

# Bristol-Myers

**Pharmaceutical Research & Development Division**



## POSITIONS OPEN

### FACULTY POSITION UNIVERSITY OF UTAH SCHOOL OF MEDICINE

Research scientist (master's or Ph.D.) with special interest in the immunology of early pregnancy and pregnancy loss is needed for basic and clinical research program in reproductive immunology. Emphasis on cellular and molecular immunology desirable. Expected to be an independent investigator who is willing to work closely with clinicians and oversee an immunology laboratory which performs routine lymphocyte cultures and tissue typing assays. Assistant professor level preferred. For further information, send letter and curriculum vitae to:

**James R. Scott, M.D., Professor and Chairman**  
Department of Obstetrics and Gynecology  
University of Utah School of Medicine  
Salt Lake City, UT 84132

Applications must be postmarked by 30 July 1987. *The University of Utah is an Equal Opportunity/Affirmative Action Employer.* Applications received after the deadline may be considered if no qualified applications have been received by that time.

**FACULTY POSITION.** Portland State University. The Department of Chemistry announces a tenure-track position at the level of assistant professor starting September 1987. A Ph.D. and research experience in biochemistry and/or analytical/spectroscopy are required in addition to teaching ability at the undergraduate and graduate levels of chemistry. Candidates will be expected to develop a vigorous, externally funded research program which will complement our existing Ph.D. program. Applicants should send curriculum vitae, a statement of research interests, and three letters of reference by 15 July 1987 to: **Dr. John H. Golbeck, Department of Chemistry, Portland State University, Portland, OR 97207.** Position is contingent upon available funding. *Portland State University is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITIONS IN PHARMACOLOGY UNIVERSITY OF MINNESOTA SCHOOL OF MEDICINE

The Department of Pharmacology has tenure-track positions open for a full professor and an associate professor. Applications are invited from qualified candidates with a Ph.D. and/or M.D. in pharmacology or related field. The full professor position requires an established research program in the area of biochemical and physiological functions and controls of endogenous opioid and neural peptides. The successful candidate should also have demonstrated the ability to teach, advise graduate and health professional students, and direct a successful research program. The associate professor position requires an established research program in the application of an in vitro cell culture model system for studying mechanisms of drug action, have research experience in receptor-effector coupling and receptor-signal transduction, as well as a demonstrated ability to carry out a successful research program in molecular biological approaches to current pharmacological problems.

Curriculum vitae and names of three references should be sent to: **S. B. Sparber, Ph.D. (for full professor position), or A. E. Takemori, Ph.D. (for associate professor position), Search Committee, Department of Pharmacology, 3-260 Millard Hall, 435 Delaware Street S.E., University of Minnesota, Minneapolis, MN 55455.** Deadline for receipt of applications is 30 June 1987. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

The Department of Anatomy at the University of Missouri-Columbia invites applications from qualified individuals for two full-time, tenure-track **FACULTY POSITIONS** (one available 1 September 1987, the other 1 January 1988) to conduct research in such areas as molecular neurobiology, neuroendocrinology, and/or cell biology. Teaching duties are negotiable. Applicants should have a Ph.D. or equivalent and should have evidence of teaching experience and active research. Salary to be commensurate with qualifications and experience. Applicants should send their résumés to: **Dr. W. K. Paull, Chairman, Department of Anatomy, University of Missouri Medical School, University of Missouri-Columbia, Columbia, MO 65212** by 1 November 1987. *The University of Missouri is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### TWO FACULTY APPOINTMENTS DIVISION OF CELL BIOLOGY AND BIOPHYSICS UNIVERSITY OF MISSOURI-KANSAS CITY SCHOOL OF BASIC LIFE SCIENCES

The newly created Division is establishing a program in virus research with strength in the following areas: (i) viral genetics, (ii) virus structure/assembly, and (iii) molecular immunology. Applications are encouraged from individuals employing biochemical and biophysical methodologies, and molecular biologists experienced in recombinant DNA technology. Successful candidates must have demonstrated research potential through postdoctoral experience and recent publications, and are expected to maintain an independent research program, seek extramural funding, and participate in training of professional health science and graduate students. Start-up funds will be provided for tenure-track appointments at salary and rank appropriate to qualifications. Send curriculum vitae, statement of research goals, and names of references to: **Dr. George J. Thomas, Jr., Head, Division of Cell Biology and Biophysics, School of Basic Life Sciences, University of Missouri-Kansas City, Kansas City, MO 64110.** Screening of applicants will begin 1 August 1987 and continue until positions are filled. *UMKC is an Equal Opportunity/Affirmative Action Employer.*

**GENETICS:** Tenure-track position available in an expanding Department of Biological Sciences. Modern well-equipped facilities and modern programs provide exceptional opportunities for teaching, research, and consulting. Nine-month appointment starting September 1987 at salary commensurate with qualifications and experience. Responsibilities include: Teach introductory genetics at the undergraduate level; develop advanced undergraduate/graduate course in genetics; advise and direct undergraduate/graduate (M.A.) student research; maintain an active research program in modern eukaryotic genetics and work with other faculty and students in related areas such as physiology, biotechnology, toxicology, and cell biology.

Mankato State University, with a current enrollment of 14,200 students, is the second largest university in Minnesota. The Greater Mankato area population of 42,000 is located 80 miles from the Minneapolis-St. Paul metro area. Send three letters of reference, curriculum vitae, official undergraduate and graduate transcripts, and a one-page statement of teaching and research interests to: **Dr. John Frey, Chairperson, Department of Biology, Mankato State University, Mankato, MN 56001.** Applicants must be able to legally accept employment in the United States and have demonstrated ability to communicate effectively with students and colleagues. Closing date for applications is 14 July 1987 or until filled. *Mankato State is an Equal Opportunity Educator and Employer.*

### HYDROLOGIST OR GEOCHEMIST

The Bureau of Economic Geology has a position open for a research associate. Applicant must have a Ph.D. in hydrology/geochemistry or geohydrology with a broad fundamental background in aquifer systems and/or fluid-rock interactions, and some knowledge of modern approaches including modeling and isotopic applications. Preference will be given to applicants with expertise and experience in fluid-flow modeling and saline geochemistry, especially in basins with thick evaporite sequences. Knowledge of isotope applications and/or numerical modeling techniques is desired. The successful candidate will develop and conduct research aimed at resolving scientific issues related to isolation of high-level nuclear waste in bedded salt. Individual will be expected to review technical publications dealing with hydrologic and/or geochemical research that addresses nuclear waste isolation. Oral and written communication abilities are critical. Scientific publication record will be required.

Salary depends on research experience and publication record. *The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.* Send résumé and names of three references to:

**E. G. Wermund**  
Bureau of Economic Geology  
The University of Texas at Austin  
University Station-Box X  
Austin, TX 78713-7508

## POSITIONS OPEN

### GEOCHEMISTS

The Bureau of Economic Geology has openings for two Ph.D.-level research positions (research associates) in the field of low-temperature geochemistry. Applicants should have a Ph.D. in geology, geochemistry, or other physical science and interests in broad aspects of the geochemistry and petrology of sedimentary rocks. Preference will be given to individuals with expertise in one or more of the following areas: electron microprobe analysis, thermodynamic and kinetic modeling, and fluid inclusion research. Research will involve studies of diagenesis and water-rock interactions in evaporites, carbonates, and clastic rocks. The microprobe specialist will also supervise the operation of the Bureau's automated CA-MECA electron microprobe and JEOL scanning electron microscope with energy dispersive spectrometer.

Salary depends on experience and publication record. *The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.* Send résumé and names of three references to:

**E. G. Wermund**  
Bureau of Economic Geology  
The University of Texas at Austin  
University Station-Box X  
Austin, TX 78713-7508

### HYDROGEOLOGISTS

Two Ph.D.-level research associate positions are available at the Bureau of Economic Geology to conduct quantitative research on hydrogeologic processes and controls on chemical and isotopic composition of ground water. Requires Ph.D. in geology, geochemistry, geological sciences, or hydrology with specialization in physical hydrogeology or hydrogeology. A physical hydrogeologist position requires experience in modeling ground-water flow and solute transport; familiarity with stratigraphic mapping and aquifer testing is desired. A hydrogeochemist position requires experience in field data collection, use of environmental isotopes, and aqueous geochemical modeling; familiarity with modeling ground-water flow and solute transport, or with investigation techniques for vadose-water flow is desired. Salary depends on research experience and publication record. *The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.* Send résumé and names of three references to:

**E. G. Wermund**  
Bureau of Economic Geology  
The University of Texas at Austin  
University Station-Box X  
Austin, TX 78713-7508

### IMMUNOLOGY LABORATORY

**RESEARCH SCIENTIST—Ph.D.** required for senior research position in growing biotechnology firm headquartered in Palo Alto, California. Postdoctoral experience in cellular immunology necessary to investigate the therapeutic uses of growth factors, lymphokines, and cytokines. The company has a long-term commitment to R&D. Relocation package available. Please send curriculum vitae, bibliography, and names of several references to: **S. Hansen, Collagen Corporation, 2500 Faber Place, Palo Alto, CA 94303.** *An Equal Opportunity Employer.*

### IMMUNOPARASITOLOGIST/IMMUNOLOGIST

The Department of Tropical Medicine, Tulane University School of Public Health and Tropical Medicine, invites applications for a regular, tenure-track position at assistant or associate professor level in the area of immunoparasitology. The candidate must have a Ph.D. degree or its equivalent, postdoctoral training experience, and prospects for a competitive research program. He or she also must have a commitment to teaching and training at the graduate level. The research interests of the candidate should focus on cellular immunology especially as it relates to leishmaniasis, malaria, filariasis, or schistosomiasis. Rank and salary commensurate with training and experience. Starting date 1 October 1987 or thereafter. Send curriculum vitae to: **Chairman, Search Committee, Department of Tropical Medicine, Tulane Medical Center, 1430 Tulane Avenue, New Orleans, LA 70112.** Application deadline 15 August 1987. *Tulane University is an Equal Opportunity/Affirmative Action Employer.*

## NEUROTOXICOLOGIST

Northrop Services, Inc. - Environmental Sciences is seeking a neurobiologist with expertise in *in vitro* systems to implement, validate and apply various *in vitro* approaches to neurotoxicological evaluations.

The successful applicant will have a major role in developing an approach to utilize *in vitro* test methods for neurotoxicity screening, and testing chemicals and complex mixtures for their neurotoxic potential. Candidates should have a Ph.D. in neurobiology or related field, a record of publication, and experience with a variety of *in vitro* techniques.

Qualified applicants should send resume with salary history and salary requirements, in confidence to:

**Human Resources**

**NORTHROP SERVICES, INC.**

P.O. BOX 12313

RESEARCH TRIANGLE PARK, N.C. 27709

Northrop Services, Inc. is an Equal Opportunity Employer

## UNIVERSITY OF MINNESOTA, MINNEAPOLIS

### Endowed Chair in Materials Science Advanced Materials Synthesis, Characterization and Processing

Applications are invited for appointment to the 3M Harry Heltzer Multidisciplinary Chair in Materials Science. It is anticipated that this tenured professorship appointment will be as early as Fall 1987 but no later than Fall 1988.

The appointment will be made in a field of advanced materials science. This includes such areas as materials synthesis, characterization and processing. Scientists and engineers with outstanding records of research excellence are invited to apply. The new professor will be expected to provide leadership in research, postgraduate supervision, teaching in materials science, and as a link between the University, advanced engineering centers, and 3M.

The Department of Chemical Engineering and Materials Science has excellent facilities for materials research and a growing effort in Materials Science and Engineering. Currently, the Department has about 150 graduate students, mostly PhD candidates, and nearly one half of those are in various aspects of materials research. Additional resources include the Supercomputer Institute, the Surface Science Center, and the Microelectronics and Information Sciences Center (MEIS). Salary and research funds available are commensurate with the \$2 million endowment.

Applications should be made by September 1, 1987 to: Professor William Gerberich, Chairman 3M Chair Search Committee, 151 Amundson Hall, University of Minnesota, Minneapolis, MN 55455. Telephone (612) 625-8548. Include curriculum vitae and the names and addresses of three references. *The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.*

## UNIVERSITY OF MASSACHUSETTS

### DIRECTOR, GRADUATE PROGRAM IN NEUROSCIENCE AND BEHAVIOR

The University of Massachusetts at Amherst has opened a search for the Director of the new interdepartmental graduate program in Neuroscience and Behavior, now in its second year of operation. The membership of the Program includes 21 core faculty from the Departments of Psychology, Zoology, Computer and Information Sciences, Biochemistry, and Microbiology, as well as affiliated faculty at the University and at Amherst, Mount Holyoke, and Smith Colleges. Applicants should have a strong commitment to graduate education, a distinguished record of research accomplishment; and a position of leadership in an area of neuroscience or behavior. The successful candidate will be expected to ensure the excellence of the graduate training program, to assist in the planning and development of common research facilities, to participate actively in the recruitment of new faculty members, and to foster collaboration with other departments and programs in the university. Funding is available for graduate assistantships, support staff, equipment, and other program activities. Space and facilities will be provided for the candidate's own research group. Appointment will be made at the senior faculty level, preferably in affiliation with the Zoology Department. Salary will be commensurate with qualifications and experience. The position will be available September 1, 1988. Applications or nominations including the candidate's curriculum vitae, a current list of publications, and the names of three referees, should be sent to: **NSB Director Search, Neuroscience and Behavior Program, Morrill Science Center, University of Massachusetts, Amherst, MA 01003; telephone 413-545-2046.** Applications will be accepted until September 15, 1987, or until the position is filled. *The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.*

## BIO/MOLECULAR ENGINEERING

### Naval Research Laboratory

NRL, the Navy's corporate laboratory, is seeking highly motivated Ph.D.'s to fill permanent staff positions for expanding programs in Biosensor and Biomaterials Development. Current research areas include projects on the development of sensitive detection systems using immunological and receptor-based sensor technology, synthesis and characterization of novel lipids, research on the properties of lipid-derived tubules in various matrices, and the use of biomolecules in microlithography. Candidates should possess the following qualifications:

- **Biochemist/Immunochemist**-Experience in protein chemistry, fluorescence techniques, and antigen/antibody coupling to solid substrates.
- **Neurochemist/Pharmacologist**-Strong background in membrane protein biochemistry, receptor isolation, and diagnostic techniques.
- **Materials Scientist**-Experience in development and analysis of novel materials containing biological components.
- **Process Engineer**-Experience in colloids, coatings, and electrode processes with potential biophysical applications.
- **Lipid Physical Biochemist**-Experience in utilizing advanced physical probes to characterize lipids.
- **Genetic/Protein Engineer**-Experience in chemical and/or genetic modification of proteins.

Salary range GS-11 to 15 (\$27,172 to \$69,976) based on qualifications and experience. Postdoctoral and technical positions are also available. Send resume and references to:

Civilian Personnel Office  
Code 1813.1 (S)  
Naval Research Laboratory  
4555 Overlook Avenue, S.W.  
Washington, D.C. 20375-5000  
ATTN: Ms. Kathy Weaver

An Equal Opportunity Employer • U.S. Citizenship Required

U.S. Department of Energy

## POSTGRADUATE RESEARCH PROGRAMS

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## POSITIONS OPEN

### IMMEDIATE OPENING

A position to establish a cell culture laboratory for growing cerebral endothelium and tumor cell types. Additional experience in electron microscopy and in vivo techniques is desirable. Salary is commensurate with experience.

**Richard Broadwell, Ph.D.**  
Division of Neurological Surgery  
University of Maryland  
Medical School Teaching Facility  
10 South Pine Street; Room 634  
Baltimore, MD 21201  
Telephone: 301-328-5482

### INSTRUCTOR OF RESEARCH OPHTHALMOLOGY UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE

Applicants should possess a Ph.D. in biomedical engineering with emphasis on biological information processing or neuroscience, as well as evoked potentials. Must be experienced in research into the understanding of human brain function, specifically relating to vision. Candidates must possess the ability to establish and support an independent program of research, as well as teaching ability and interest. Submit current curriculum vitae, names of three references, and a statement of research plans to: **Kenneth W. Wright, M.D., Division of Ophthalmology, Childrens Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, CA 90027.** *Affirmative Action/Equal Opportunity Employer.*

### LABORATORY INVESTIGATOR IN BOWEL MOTILITY

Applications for a full-time research position at the assistant professor level are sought from candidates with a Ph.D. in an appropriate scientific discipline, an M.D. and at least 2 years of postdoctoral experience in studies of bowel motility in large animals with emphasis on changes in motility patterns due to surgical operations. Experience should include independent studies of the effects of hormones and of intestinal intrinsic neurons; experience with intrinsic denervation of small bowel is highly desirable. Publications in refereed journals are required as documentation of experience. Individual must be proficient in fabrication of bipolar electrodes and strain gages, in aseptic surgical implantation of these devices, and in recording and analyzing myoelectric and motor activities of the bowel. The successful applicant will conduct independent studies of intrinsic nerves and of regulation of small bowel motility, and studies of bowel motility in postoperative patients. Proven ability to secure extramural funding is required. Responsibilities include classroom teaching and supervision of postgraduate students in the Department of General Surgery. Submit curriculum vitae and references to: **Robert E. Condon, M.D., Ausman Foundation Professor and Chairman, Department of Surgery, Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, WI 53226.** *The Medical College of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

### MAGNETIC RESONANCE IMAGING SPECIALIST

The Fox Chase Cancer Center, a nationally known comprehensive cancer center, is seeking a highly qualified MRI Specialist. Candidates for this position should possess a Ph.D. in physics, chemistry, electrical engineering, or a related field, and have an understanding of MRI and NMR theory, as well as experience with hardware, software, and programming. The individual selected for this position will be responsible for developing and extending the imaging methodology with the department's 2T Magnetom Clinical Imager, the initiation and implementation of experimental imaging sequences on the department's 2.3T Biospec and 9.3T AM400 and in a broader sense, they will have responsibility for developing and expanding the imaging research program both in terms of technique and application within the overall goals of the MMR Department. For consideration, please send curriculum vitae along with list of references and publications to:

**Director of Personnel**  
Fox Chase Cancer Center  
7701 Burholme Avenue  
Philadelphia, PA 19111  
*Equal Opportunity Employer*

## POSITIONS OPEN

### MICROBIOLOGIST

A position is available in the Wadsworth Center for Laboratories and Research for a Ph.D. with background in sexually transmitted diseases, including chlamydia, mycoplasma, and viral agents. Duties of this position include participation and supervision of public health reference and diagnostic services and related research, laboratory evaluation and improvement. Salary commensurate with experience. Send curriculum vitae and three letters of references to: **Dr. Mehdi Shayegani, Wadsworth Center for Laboratories and Research, Empire State Plaza, Albany, NY 12201.**

### MOLECULAR BIOLOGIST

A position is available in the Laboratories for Bacteriology of the Wadsworth Laboratories for a Ph.D. with a strong background in molecular biology and prokaryotic genetics and an interest in clinical bacteriology. Duties of this position include genetic studies on bacterial pathogenicity, development of nucleic acid probes for detection and identification of certain bacteria, and other molecular epidemiology techniques appropriate for use in a public health laboratory. Salary commensurate with experience. Send curriculum vitae and three letters of reference to: **Dr. Mehdi Shayegani, Wadsworth Center for Laboratories and Research, Empire State Plaza, Albany, NY 12201.**

### MOLECULAR VIROLOGIST

The Department of Microbiology, Immunology and Parasitology, New York State College of Veterinary Medicine, Cornell University, seeks candidates for a tenure-track position as assistant professor. Appointment at a higher level may be possible for exceptional candidates. The successful applicant will be expected to develop an independent competitively funded research program focusing on an animal virus system and to teach veterinary and graduate students. Applicants should have a Ph.D. and preferably a D.V.M. or equivalent. Experience in molecular virology and training at the postdoctoral level is required. This position is part of a major commitment by the department to apply molecular approaches to infectious disease research. Applications including curriculum vitae and the names of three referees should be sent to: **Dr. Roger J. Avery, Chairman, Department of Microbiology, Immunology and Parasitology, New York State College of Veterinary Medicine, Schurman Hall, Cornell University, Ithaca, NY 14853-6401,** by the end of July 1987. Telephone inquiries will be welcomed: 607-253-3400. *Cornell University is an Equal Opportunity/Affirmative Action Employer/Educator.*

**NEUROBIOLOGY POSTDOCTORAL POSITION** available immediately to generate monoclonal antibodies to vertebrate olfactory epithelial tissue. Antibodies will be used as specific cell markers and for selection of cDNA clones from bacterial expression libraries. Experience in protein purification, Western blot analysis, antibody preparation, and monoclonal screening on tissue sections is particularly desirable. Opportunity to learn neuro-molecular biology and interact with a multidisciplinary group studying both human and animal olfactory neurobiology, supported by a Pew Neuroscience Program Grant. Salary is \$19,000 for at least 2 years. Send curriculum vitae and names of three references to: **Dona Chikaraishi, Neuroscience Program, Tufts University School of Medicine, 136 Harrison Avenue, Boston, MA 02111.**

**PATHOLOGIST—MOLECULAR.** The Department of Pathology at the University of California, Los Angeles (UCLA) School of Medicine, has a position available at the assistant professor level to start on or before 1 January 1988. Qualifications include an M.D. degree, Board eligibility or certification in anatomic and clinical pathology, eligibility for California licensure, and demonstrated research ability. Specialized training in molecular genetics and/or cell biology is required, and the individual selected will be expected to develop independent diagnostic and research programs in this area. Other duties will include teaching of undergraduate and graduate students and residents. Applications including curriculum vitae, summary of research interests, and names and addresses of four references should be sent to: **P. A. Cancilla, M.D., Chairman, Department of Pathology, UCLA School of Medicine, Los Angeles, CA 90024.** *UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

## POSITIONS OPEN

### NEOGENE/QUATERNARY STRATIGRAPHER

The Bureau of Economic Geology has a Ph.D.-level position open for a geologist or physical geographer (research associate) with a strong background in clastic sedimentation, soils, and geomorphic processes. The geologist will participate as a member of a research team studying the sedimentology, stratigraphy, geomorphology, and neotectonics of a large region in the Panhandle of Texas. The candidate is expected to contribute to this effort through his/her abilities to investigate Cenozoic stratigraphy, soils distribution and development, and geomorphic processes. Applicants should have Ph.D.-level experience in soils development, stratigraphy, and surface and near-surface geologic processes. Research experience in geologic processes in semiarid environments is desired. The successful candidate should have good interpersonal skills. Publication record of research results is expected.

*The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.* Send résumé and names of three references to:

**E. G. Wermund**  
Bureau of Economic Geology  
The University of Texas at Austin  
University Station—Box X  
Austin, TX 78713-7508

Roswell Park Memorial Institute is conducting an active search for a **PATHOLOGIST-SCIENTIST** to organize and direct a Tumor Procurement Unit to respond to current and future research needs. The position carries the opportunity to conduct and coordinate individual and group research and the candidate should be able to procure independent funding. An academic background of anatomic, clinical, and/or experimental pathology is essential and qualifications at the level of associate professor or full professor would be highly desirable.

Submit all correspondence to: **John F. Gaeta, M.D., Chief of Pathology, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263.** Telephone: 716-845-5716. *Affirmative Action/Equal Opportunity Employer.*

**PERMANENT TRACK POSITION** in immunology and molecular biology for person with M.D. and/or Ph.D. degree. Applicant should have experience in the techniques of molecular biology and conducting research related to the ontogeny and differentiation of immunocompetent cells and/or the pathogenesis of virally induced immune abnormalities. This position is in the Department of Immunology which conducts basic research and has active predoctoral and postdoctoral programs. Excellent start-up funds are available for the establishment of the laboratory. Will receive academic appointment commensurate with his/her qualifications. Send curriculum vitae and brief description of research interests to: **G. J. Gleich, M.D., Department of Immunology, Mayo Medical School and Mayo Foundation, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Institution.*

### PLANT MOLECULAR BIOLOGY

(Anticipated) postdoctoral position, available July 1987 for functional analysis of regulatory elements in plant embryo-specific genes. A Ph.D. in plant molecular biology, biochemistry, genetics, or with experience in recombinant DNA technique preferred. Salary \$24,000 per year. Send résumé to: **Dr. Norimoto Murai, Department of Plant Pathology and Crop Physiology, Louisiana State University, Baton Rouge, LA 70803;** telephone: 504-388-1380. *An Equal Opportunity Employer.*

### POSTDOCTORAL ASSOCIATE

Position available immediately to study microcirculatory blood flow by intravital techniques. Microhemodynamics of normal and abnormal erythrocytes; erythrocyte-endothelial interaction; role of vascular tone in blood flow. Candidate should be recent Ph.D. with background in circulation physiology. Please send curriculum vitae and names of three references to: **Dr. D. K. Kaul, Department of Medicine, U-917, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.** Salary range \$20,000 to \$25,000, depending on qualifications, plus fringe benefits. *Equal Opportunity Employer.*



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## **\* COATING ENGINEER**

The professional we seek will have responsibility for process development in our R & D area. Your engineering degree will be utilized in solving coating problems on both exciting and new R&D products. Will act as liaison with our Scientists requiring proficiency in light sensitive media coating.

## **\* CONVERTING ENGINEER**

Excellent opportunity for results oriented, hands-on individual able to solve problems of converting bulk rolls into manageable pieces. A proven track record working with light sensitive media as well as a thorough understanding of various converting techniques a must. Background in an R&D and/or process development environment required.

## **\* TOTAL QUALITY DIRECTOR**

Highly visible opportunity for seasoned professional with at least 10 years quality control experience in a photographic and/or light sensitive media industry. We require a problem solver with familiarity with SPC (Structured Process Control) and be familiar with Oriental philosophy of Q.C. (i.e. Kaizen). Responsibilities will entail maintaining Q.C. programs throughout the manufacturing level.

These outstanding opportunities offer excellent starting salaries, full range of benefits and growth potential. Please forward your confidential resume including salary history and indicating job preference to: **Professional Recruitment, MEAD IMAGING, 3385 Newmark Drive, Miamisburg, OH 45342.**

The logo for Mead Imaging, featuring the word "Mead" in a serif font and "Imaging" in a sans-serif font, with a horizontal line underlining the "i" in "Imaging".

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## POSITIONS OPEN

**POSTDOCTORAL ASSOCIATE** to conduct NIH-funded research on postsynthetic modifications of proteins in diabetes and aging. Candidates with a Ph.D. in biochemistry or chemistry and a strong background in fields related to protein chemistry, analytical biochemistry, and immunochemistry are invited to send curriculum vitae, reprints, and names of references to: **Dr. Vincent Monnier, Department of Pathology, Case Western Reserve University, Cleveland, OH 44105. CWRU is an Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL ASSOCIATES BIOPHYSICS/BIOCHEMISTRY

Research on structure and assembly of viruses, and protein-nucleic acid interactions, using laser spectroscopy, FTIR, and biochemical methods. Objectives include development of classical and resonance Raman methods to probe structure/function relationships, protein folding, DNA packaging. Positions require background in either (i) physical methods for macromolecular structure determination, or (ii) molecular virology. Send curriculum vitae, statement of research interests, and names of references to:

**Dr. George J. Thomas, Jr., Head  
Division of Cell Biology and Biophysics  
School of Basic Life Sciences  
University of Missouri-Kansas City  
Kansas City, MO 64110.**

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

**POSTDOCTORAL/INSTRUCTOR** position available immediately to study angiotensin II receptor regulation and relationship to changes in polyphosphoinositides and calcium flux in adrenal cells. Relevant Ph.D. required; experience in cell culture, cell fractionation, and membrane protein biochemistry desirable. Send curriculum vitae and names of three references to: **Thomas J. Moore, M.D.; Endocrinology Division; Brigham and Women's Hospital; 221 Longwood Avenue; Boston, MA 02115. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSTDOCTORAL FELLOW** in molecular genetics of human cancer. Position immediately available for a Ph.D. with a background in molecular biology and genetics. Candidate will work with team to map loci, refine linkages, and pursue molecular bases of these genetic diseases as linkages are found. Current projects focus on familial colon cancer, melanoma, and neurofibromatosis. Appointment for 2 years with possible renewal. Competitive salary. Send curriculum vitae with three letters of reference to: **David F. Barker, Genetic Epidemiology Group, Department of Medical Informatics, Research Park, 410 Chipeta Way #105, Salt Lake City, UT 84108. The University of Utah is an Equal Opportunity Employer.**

**POSTDOCTORAL FELLOW, PULMONARY HYPERSENSITIVITY.** Position beginning immediately with assured support for 3 years to develop methods for assessing the allergenic potential of inhaled anthroquinone-based dyes in small laboratory animals. These methods will then be used to evaluate several dye mixtures. Work would involve close collaboration with established small animal pulmonary physiologists and immunotoxicologists. Send curriculum vitae to: **Robert Spratt, Center for Environmental Medicine, University of North Carolina-Chapel Hill, Trailer #4, Medical Research Building C, 224H, Chapel Hill, NC 27514.**

**POSTDOCTORAL POSITION AVAILABLE:** immediately to study the generation of active oxygen radicals by cells and subcellular organelles and their roles in alcohol toxicity. Experience in oxygen radical biochemistry and/or liver cell preparations and cultures desirable. Salary commensurate with experience. Please send résumé, brief description of research experience and interest, and names of three references to: **Dr. Arthur I. Cederbaum, Department of Biochemistry, The Mt. Sinai Medical Center, Box 1020, One Gustave L. Levy Place, New York, NY 10029. An Equal Opportunity Employer.**

## POSITIONS OPEN

### POSTDOCTORAL POSITION HARVARD MEDICAL SCHOOL

An immediate opening for a recent Ph.D. in immunology with expertise in hybridoma technology. Candidate will work independently within a multidisciplinary group in the Department of Nuclear Medicine. Research involves the production of monoclonal antibodies and their use as carriers of radionuclides for diagnosis and therapy. Salary \$18,000. Please contact: **Dr. A. I. Kassis, Shield Warren Radiation Laboratory, 50 Binney Street Boston, MA 02115. Telephone: 617-732-2183.**

**POSTDOCTORAL POSITION IN MOLECULAR NEUROBIOLOGY** available immediately for molecular-level studies of peptide packaging and/or regulation of secretion from neuronal cells in culture and in reconstituted system. Applicant should have background in cell biology and neurobiology, and experience in biochemical, immunological, or molecular genetic approaches. Send curriculum vitae and three letters of reference to: **Dr. Erik Schweitzer, Department of Anatomy, University of Wisconsin School of Medicine, Madison, WI 53706.**

### POSTDOCTORAL POSITION IN SYSTEMS ECOLOGY

Systems ecologist for interdisciplinary study of coastal lagoon in Puerto Rico. Experience desirable in modeling of nutrient cycling and factors affecting productivity of coastal and mangrove-estuarine environments. Send curriculum vitae and three references to:

**Dr. José M. López  
Director, Marine Ecology Program  
Center for Energy and Environment Research  
University of Puerto Rico  
College Station, Mayaguez, PR 00708  
Telephone: 809-832-7912**

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## Senior Regulatory Toxicologist

The Agricultural Research Division of American Cyanamid Company has an immediate need for a Senior Regulatory Toxicologist to design, monitor and review the full range of toxicity testing performed in-house and on contract for EPA and FDA registrations of pesticides and animal drugs.

Requires PhD in Toxicology or related medical field and preferably 7 to 10 years of experience in toxicology in industry, government or a contract laboratory.

American Cyanamid offers a competitive compensation and benefits package. For prompt and confidential consideration, please forward your resume and salary history to the Employment Office



**American Cyanamid Company**  
Agricultural Research Division  
P.O. Box 400  
Princeton, New Jersey 08540  
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## The Texas A&M University System

### DIRECTOR

#### Institute of Biosciences and Technology The Texas Medical Center - Houston

Applications are being sought for the position of Director of a new Institute of Biosciences and Technology to be located in The Texas Medical Center in Houston. The qualified individual will have the responsibility for planning and implementing the development of the Institute in the areas of molecular biology, comparative animal medicine, nutrition and bioengineering; serving as scientific spokesman for Texas A&M in the Houston community; and developing linkages between the College Station campus and Texas Medical Center institutions. Candidates should have the Ph.D. degree in molecular biology or related fields with the Ph.D./M.D. being preferred, and at least 10 years of experience. Candidates also must have demonstrated achievement in research and leadership ability, direct line management experience at university department head level or higher, and competence to assume leadership in planning, staffing, directing and allocating resources for a major research program.

Closing date for applications is July 15, 1987, or until a suitable candidate is found. Applicants should send curriculum vitae to: **Dr. Perry L. Adkisson, Chancellor, The Texas A&M University System, College Station, Texas 77843.**

*The Texas A&M University System is an  
Equal Opportunity Employer*

## Immunoanalytical Chemist

The Procter & Gamble Company is seeking an individual with experience in the development and application of immunoassay (RIA, ELISA) techniques for the measurement of analytes in biological matrices. This individual should have Ph.D. or postdoctoral training in analytical chemistry, clinical chemistry, biochemistry, or immunology. The position is at the Miami Valley Laboratories in Cincinnati, Ohio.

Responsibilities will include the supervision of a divisional immunoassay/ligand binding laboratory as well as the development of assay systems for novel drug candidates and endogenous species of pharmaceutical interest. Background experience in poly/monoclonal antibody production and purification, hapten-carrier conjugation, and enzymatic/isotopic labeling is highly desired.

Good communication skills and research experience in an interdisciplinary team environment are also important candidate requirements.

Applicants must be U.S. citizens or possess a permanent resident visa and should send their resume and publication list to:

**Dr. T. J. Logan, Manager  
Ph.D. Recruiting  
Immunoanalytical Chemist Position  
The Procter & Gamble Company  
Miami Valley Laboratories  
P.O. Box 398707, Cincinnati, Ohio 45239-8707**

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## BIOCHEMIST ADME

BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc., a highly respected and rapidly growing pharmaceutical company is currently seeking to add a qualified individual to its Research and Development staff.

This opening is in a laboratory responsible for providing information on the absorption, distribution, metabolism and excretion of drug candidates at the preclinical stage of drug development. The incumbent will perform in vivo studies to determine drug pharmacokinetics, tissue distribution, routes of drug elimination, and metabolite profiles in biological samples. In vitro techniques will also be employed to answer special questions relating to drug absorption and metabolism. The position will involve new methods development and additional experimental capabilities are needed. The incumbent will also participate on interdepartmental project teams. The candidate we seek must be skillful in animal surgery and possess a Masters degree or equivalent experience in a biomedical discipline. Practical knowledge of analytical methods, such as chromatography and scintillation counting, and statistics is desirable.

Our state-of-the-art research facility located in DANBURY, combined with a competitive compensation/benefits package, including generous relocation assistance makes this an excellent opportunity for an individual interested in developing a career in pharmaceutical research.

Please send your resume and salary history to: Dept. JC-1J, R & D, BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc., 90 East Ridge, P.O. Box 368, Ridgefield, CT 06877. An equal opportunity employer m/f/h/v.



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We currently seek a specialist in AUTOIMMUNITY RESEARCH to establish relevant animal models for autoimmune diseases. You should possess a PhD/MD/DVM and at least two to three years of post-doctoral experience with spontaneous and antigen-induced models. A familiarity with the relationship between animal models and *in vitro* cellular interactions would be beneficial.

Please send resume in confidence to:

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## POSITIONS OPEN

### POSTDOCTORAL POSITIONS

**HUMAN IMMUNODEFICIENCY VIRUS REPLICATION**—Position involves participation in a project to clone and express the HIV reverse transcriptase in microorganisms, to develop assays for the purification of human host factors, and to reconstitute HIV reverse transcription in vitro.

**ENZYMOLGY OF DNA REPLICATION**—Position involves characterizing the unique reactions of a natural multiprotein replicative complex and/or determining its structure.

**GENETIC REGULATION OF REPLICATION PROTEIN SYNTHESIS**—Position involves studying the regulation of replication protein expression and the coordination of this process with the global control of cell division.

Applicants should send their curriculum vitae, a description of their research and career goals, and the names of three references to: **Dr. Charles McHenry, Professor, Department of Biochemistry, Biophysics and Genetics, B-121, University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver, CO 80262.** *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITIONS—PROTEIN KINASES/CANCER BIOLOGY.** Two positions available to study the role of the distal arms of signal transduction in the regulation of normal and neoplastic mouse lung development. One project will focus on cAMP-dependent protein kinase; RII-binding proteins, subunit turnover, role in lung cell pharmacology in vitro. The other concerns protein kinase C; interactions with calpain, in vitro changes using lung tumor promoters, characterization of endogenous substrates. Please send curriculum vitae and names of three references to: **Dr. Alvin M. Malkinson, Molecular and Environmental Toxicology Program, School of Pharmacy, University of Colorado, Boulder, CO 80309.** *The University of Colorado has a strong commitment to the principle of diversity. We are interested in receiving applications from women, ethnic minorities and disabled individuals.*

### POSTDOCTORAL POSITIONS DEPARTMENT OF MOLECULAR BIOLOGY GENENTECH, INC.

Positions are available for work in two areas: (i) the function of cellular oncogenes and their activated counterparts; and (ii) mechanisms of gene control and mammalian cells. Applications are invited from highly motivated individuals with backgrounds in related areas of molecular and cellular biology. Duration of appointments will be 2 years, with the possibility of extension. Salary is funded internally and is very attractive; excellent benefits are also provided. Please send curriculum vitae, names of three references, and a short summary of research interests to:

**Arthur D. Levinson**  
Genentech, Inc.  
460 Point San Bruno Boulevard  
South San Francisco, CA 94080

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### POSTDOCTORAL RESEARCH ASSOCIATE BIOCHEMIST/CELL BIOLOGIST

Study of peptide hormone processing and secretion by normal and genetically transformed mammalian cells. Background should include techniques of cell culture, protein separatory procedures, and familiarity with molecular biologic techniques. Salary \$18,000 to \$20,000 per annum, 2- to 3-year term. Send applications to: **Dr. David V. Cohn, Health Sciences Center, University of Louisville, Louisville, KY 40292, RS.**

*Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL RESEARCH** dealing with behavioral aspects of chemical communication in Lepidoptera. Application of communication theories to studies of the functions of multicomponent pheromones. Background in insect behavior or chemical ecology preferred. Available after 15 August 1987. Send curriculum vitae, relevant publications, and names and addresses of three references to: **Dr. Kenneth F. Haynes, Department of Entomology, University of Kentucky, Lexington, KY 40546.**

## POSITIONS OPEN

**TWO POSTDOCTORAL RESEARCH ASSOCIATES.** EPA-sponsored program on vegetation changes (one position) and hydrology (other position) in Great Basin. Experience needed in field ecology, ground water hydrology, computer databases, geographical information systems, federal and state resource agencies and the methods they use preferred. Available 1 July 1987, \$19,000 per year. Send curriculum vitae and letter of recommendation to: **Dr. Neil West, Range Science Department, Utah State University, Logan, UT 84322-8300. Telephone: 801-750-2572.**

### POSTDOCTORAL RESEARCH BIOCHEMISTRY/MOLECULAR NEUROBIOLOGY

Starting 1 December 1987, one or two postdoctoral positions will be available in a research program aimed at elucidating the function of protein carboxyl methylation in mammalian brain. The ideal candidate would possess experience in either of the following areas: (i) purification and characterization of proteins and HPLC of peptides and amino acids; (ii) cloning and sequencing of cDNAs. The overall ability, interests, and demonstrated productivity of the candidate are more important than the exact nature of their previous research experience. Salary for this position will be \$18,000 to \$22,000, depending on qualifications and experience. For consideration, send curriculum vitae, including the names, addresses, and telephone numbers of at least two references to: **Dana W. Aswad, School of Biological Sciences, 231 Steinhaus Hall, University of California, Irvine, CA 92717.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL RESEARCH POSITION

Participate in ongoing research into the biochemical mechanisms of transformation by SV40 and polyoma viruses. Studies involve the generation and characterization of mutant forms of the transforming proteins with the aim of identifying domains and activities contributing to oncogenic transformation. Approaches include in vitro mutagenesis, gene fusion and expression, and biochemical analysis. Initial assignment is for 2 years. Interested applicants should send their curriculum vitae and the names of three references to:

**Dr. Alan E. Smith**  
Department SC612  
Integrated Genetics, Inc.  
31 New York Avenue  
Framingham, MA 01701  
*An Equal Opportunity Employer*

**PROFESSOR OF NEUROLOGY**—The Harvard Medical School and its affiliated hospitals in the Longwood Medical Area have initiated a search for the James Jackson Putnam Professor of Neurology whose responsibility it will be to direct the academic program at these hospitals as well as at the Harvard-affiliated Veterans Administration Medical Center. Substantial research space for the department will be available at the Beth Israel Hospital, the Brigham and Women's Hospital, and the Children's Hospital Medical Center. The institutions are seeking a well-established investigator in some aspect of basic or clinical neuroscience who is sufficiently concerned about clinical aspects of neurology to provide the kind of leadership that will assure a vigorous clinical and teaching program. He/she must have the administrative and leadership skills to consolidate the activities of a large number of academic neurologists now in several hospitals into a single department. Please send curriculum vitae and bibliography to: **Eugene Braunwald, M.D., Brigham and Women's Hospital, Department of Medicine, 75 Francis Street, Boston, MA 02115.** *Harvard Medical School is an Equal Opportunity/Affirmative Action Employer. Qualified female and minority applicants are encouraged to apply.*

### RENAL CLINICAL RESEARCH/ CLINICAL LABORATORY TECHNICIAN

Newly established renal laboratory in University-affiliated hospital in Brooklyn Heights seeks technician with experience in clinical research and statistical methods at the master's or Ph.D. level. Some clinical laboratory experience (including microscopy, autoanalyzer, RIA, etc.) preferred. Good opportunity for motivated individual. Please contact: **Dr. Philip Goldwasser at 718-780-1247.** Strictest confidence is assured.

## POSITIONS OPEN

### PROTEIN CHEMIST

Junior faculty level position for experienced protein chemist to conduct an independent research program within the Center for Neurologic Diseases, Brigham and Women's Hospital and Harvard Medical School. Successful applicant will participate in a research program directed at the protein chemistry and molecular biology of neuronal aging, particularly in Alzheimer's disease, and will develop independent experiments in tandem with ongoing research at the Center. Candidate will also direct a protein microsequencing facility requiring a 25 to 30 percent time commitment. Prefer three plus years of productive postdoctoral research, including experience in protein purification and sequencing. Pending or secured grant support is desirable. Send curriculum vitae and letter detailing experience to: **Dr. Dennis J. Selkoe, Center for Neurologic Diseases, Brigham and Women's Hospital, Harvard Medical School, 75 Francis Street, Boston, MA 02115.** *An Equal Opportunity Employer.*

**PROTEIN CHEMISTRY:** Two postdoctoral/research associate positions available in the laboratory of **Professor Timasheff,** Brandeis University, to carry out research in protein chemistry. The areas of research are: (i) Mechanisms of protein- and protein assembly structural stabilization by solvent additives and of solvent modulation of biological activity; (ii) mechanisms of interaction of anticancer drugs with tubulin and consequent inhibition of microtubule formation; linkages between drug binding and tubulin polymerization, and effects of structural modifications and structural simplifications of the drug molecules on interactions with tubulin; (iii) pathways of tubulin self-assembly and ligand (nucleotides, ionic species) control of the end products formed (microtubules, rings, sheets); and (iv) solution mapping of the surface of the tubulin molecule by distance measurements between the various liganding sites (GTP, cations, drugs and drug moieties) using energy transfer fluorescence and resonance techniques, and changes in topography induced by the binding of various ligands. Send applications to: **Dr. Serge N. Timasheff, Graduate Department of Biochemistry, Brandeis University, Waltham, MA 02254.** *Equal Opportunity/Affirmative Action Employer.*

**RESEARCH ASSOCIATE (MEDICAL RESEARCHER):** Will perform medical research pertaining to the cardiovascular, metabolic, and nutritional assessments of endotoxin-induced shock. Will perform hemodynamic and liver function studies by cannulating carotid arteries, jugular veins, and portal veins in rats and dogs to determine cardiovascular measurements such as cardiac output and heart rate. Will perform such measurements using Roche dye-dilution densitometer, Roller Holter pump, Gould Universal amplifier, and X-Y plotter. Will prepare necessary biological samples after performing proper dissection. Will report to various societies on findings as well as instruct medical students and medical staff on proper research techniques and findings as they relate to any particular medical specialty. Requires M.D. or Ph.D. in physiology. Also requires 2 years of experience in the job to be performed. Experience must include cannulation of carotid arteries, jugular veins, and portal veins in rats and dogs as well as use of this equipment: Roche dye-dilution densitometer, Roller Holter pump, Gould Universal amplifier and X-Y plotter. Hours: 8:00 a.m. to 4:00 p.m., 40 hours per week at \$35,000 per year salary. This is a university position. Please send résumé to: **Illinois Department of Employment Security, 401 South State, 3 South, Chicago, IL 60605, Attention: Leonard Boksa, Reference #6756-B.** An employer-paid ad.

**RESEARCH ASSOCIATE/MOLECULAR VIROLOGIST:** We are seeking a scientist with expertise in molecular biology to direct research in an active retrovirology laboratory. Salary is commensurate with experience. Curriculum vitae and three letters of recommendation should be submitted to: **Lionel Resnick, M.D., Chief of Retrovirology Laboratories, Departments of Dermatology and Pathology, Mount Sinai Medical Center, 4300 Alton Road, Miami Beach, FL 33140.** *An Equal Opportunity/Affirmative Action Employer.*

## POSTDOCTORAL FELLOWSHIPS

The Garvan Institute of Medical Research has several postdoctoral positions available in molecular and cellular biology. Applicants should have experience in techniques of modern molecular biology and will join world class research teams investigating the molecular mechanisms responsible for diabetes, osteoporosis, senile dementia and cancer. In particular vacancies exist for work on DNA polymorphisms in Type II diabetes, steroid hormone regulation of gene expression, molecular genetics of osteoporosis and the role of growth factors in control of breast and prostate cancer.

Applicants should send a curriculum vitae including the names of two referees to:

**Dr. John Shine,  
Deputy Director,  
GARVAN INSTITUTE  
OF MEDICAL  
RESEARCH,  
St Vincent's Hospital,  
Darlinghurst,  
Sydney, NSW 2010  
AUSTRALIA**



**SHOWA UNIVERSITY RESEARCH INSTITUTE FOR BIOMEDICINE** announces the establishment of a Department of Cellular Biochemistry. The Institute, which is non-profit, is seeking a highly motivated **SENIOR INVESTIGATOR** with established leadership capabilities to serve as Chairman. This department, which will occupy approximately 8,000 sq. feet of laboratory space, will be comprised of five independent laboratory programs in the general area of cancer biology with particular emphasis being placed on the characterization of underlying mechanisms at the molecular genetic level. Investigations in this department will complement studies in the already established Departments of Virology and Molecular Genetics.

Showa University Research Institute is unique in its affiliation with a major Japanese medical university. The Institute is based in a new facility with excellent individual laboratory and office space and centralized services, including a biotechnology laboratory. Its central location within the rapidly growing Tampa Bay area is most attractive. Investigators are allowed complete freedom to pursue research goals and while generous program support is provided, scientists are expected to secure extramural funding. An internationally recognized group of scientists comprise the Scientific Advisory Board.

Institute professional staff hold academic ranks at the University of South Florida. A full range of predoctoral and postdoctoral training programs involving the Institute, Showa University Medical School in Tokyo and the University of South Florida are ongoing as are collaborative relationships with Bay area hospitals and clinics.

Individuals interested in the position should send their curriculum vitae, a list of publications and the names of five references to: **Chairman, Search Committee, Showa University Research Institute for Biomedicine, 10900 Roosevelt Boulevard, St. Petersburg, Florida 33702.**

*A not-for-profit organization/equal opportunity employer.*



## ELECTRON MICROSCOPY SCIENTIST

The sophisticated R&D projects conducted at our state-of-the-art Research Center in Richmond are major contributors to Philip Morris U.S.A.'s continued status as one of the world's most successful tobacco products manufacturers. Become part of the team involved in developing research techniques for a diversity of projects.

**You will be required to provide interactive problem-solving support to R&D groups and other departments in the areas of Light and Electron Microscopy (TEM and SEM) with particular emphasis on qualitative and quantitative x-ray microanalysis.**

Position requires an MS/PhD in Biology or Chemistry with 2-5 years experience in an Analytical Electron Microscopy Laboratory. Technical skills must include the ability to operate both light and electron microscopes (SEM, TEM), with emphasis on quantitative/qualitative x-ray microanalysis equipment; ability to prepare samples for transmission electron microscopy (including fixation, conventional and low temperature techniques), and subsequent morphological and elemental analysis; ability to work with various computers and software for statistical analysis; and knowledge of low temperature cryomicroscopy techniques.

We offer you a competitive salary and comprehensive benefits. For consideration please send your resume to: Barbara Wolf, Dept. #1987, PHILIP MORRIS U.S.A., P.O. Box 26603, Richmond, VA 23261. Equal Opportunity/ Affirmative Action Employer.

**Philip Morris U.S.A.**

## Visiting Scientist Immunology

**A postdoctoral Visiting Scientist position** is open within the Medical Products Department at Du Pont's Glenolden Laboratory in Pennsylvania. The successful candidate will conduct innovative basic research in immunoregulation with special emphasis on lymphokines and their cellular receptors. Candidate should possess a Ph.D. and one or more years of experience in Immunology or Molecular Biology. The appointment will be for one year, renewable for a second year upon mutual agreement.

**At the world renowned Du Pont Company**, you'll find a highly stimulating scientific environment in addition to an excellent salary. To be considered, please send resume, bibliography and references by July 31, 1987 to: Dr. Richard Robb, Glenolden Laboratory, E.I. Du Pont de Nemours and Company, 500 S. Ridgeway Avenue, Glenolden, PA 19036.



*U.S. Citizenship required.  
An Equal Opportunity Employer M/F*



## POSITIONS OPEN

**RESEARCH ASSOCIATE** for plant growth and development, specifically biochemistry and physiology of flowering and thigmomorphogenesis. Knowledge and experience in the study of biochemistry of the plant  $\beta$  (1,3) glucans, callose required and ability to use standard plant physiology laboratory equipment and expertise with high performance liquid chromatography. Assists in teaching graduate students and preparation of grants and technical papers. Requires a related Ph.D. and 2 years of directly related experience. Minimum salary of \$17,000 per year. Normal work week: 40 hours. Qualified persons should apply to: **Job Service, Post Office Box 82, Winston-Salem, NC 27102** and refer to job order number NC6913375 DOT Code 090.227-010.

**RESEARCH ASSOCIATE/PHARMACOLOGY—BIOCHEMISTRY POSITIONS AVAILABLE** immediately for investigation of various enzymes encapsulated into carrier erythrocytes for drug antagonism studies. Knowledge of enzymology and/or pharmacokinetics preferred. Send curriculum vitae and names of three references to: **Dr. J. L. Way, Department of Pharmacology, Texas A&M University, Medical Sciences Building, College Station, TX 77843. Equal Opportunity/Affirmative Action Employer.**

**RESEARCH COORDINATOR** to provide statistical consultation on multivariate analysis, experimental design, linear modeling, structure analysis, numerical analysis, and several stochastic inference fields in an interdisciplinary research institute of approximately 30 faculty members; checks the reasonableness and probable accuracy of statistical outcomes of computer-aided computations; gives statistical advice and counsel to faculty and graduate students; writes new statistical programs using SAS, SPSS, BMDP, LISREL, and other advanced languages. Require Ph.D. in statistics with demonstrable ability to perform stated duties. Salary: \$1,925 per month. Apply in person with résumé to: **Georgia Department of Labor, 788 Prince Avenue, P.O. Box 272, Athens, GA 30613**, or to the nearest Georgia Job Service Center. Control #GA 5222635.

### RESEARCH INVESTIGATOR

A research investigator is sought for a laboratory pursuing equilibrium and kinetic measurements of protein conformational changes. Candidates must have a Ph.D. in chemistry or biochemistry, a minimum of 2 years of postdoctoral training with progressive responsibility and documented evidence of experience with protein purification, size exclusion chromatography and optical instrumentation including circular dichroism, absorbance and fluorescence spectroscopy. Experience in computer programming and site-directed mutagenesis would be useful. Salary: \$21,500 per year, 40 hours per week. Send résumé and two letters of reference within 30 days to: **Iowa Job Service, 1810 Lower Muscatine Road, Iowa City, IA 52244. Job Order #1A1691056.**

**RESEARCH COORDINATOR.** Available 1 August 1987 at the University of Georgia School of Forest Resources. Coordinate research effort on a 2-year study of the effects of ozone and water stress on mature loblolly pine. Ph.D., preferably with experience in air pollution research and/or plant physiological ecology. Salary \$24,600. For information contact: **Dr. Robert Teskey, 404-542-5055.** Send résumé and names of three references, by 30 June 1987 to: **Ruth Anderson, Personnel Services, University of Georgia, Athens, GA 30602. Equal Opportunity/Affirmative Action Employer.**

### SCIENTIST MOLECULAR BIOLOGY

Position available in suburban Washington, D.C., for Ph.D. degreed scientist to direct, initiate, and perform experiments in prokaryotic gene expression of recombinant proteins. Ideal candidate will possess Ph.D. in molecular biology or biochemistry and 2 years of post-doctoral experience in *E. coli* expression vectors, DNA sequencing, and protein purification.

Send curriculum vitae, list of three references with addresses and telephone numbers and other pertinent material to:

**Bionetics Research, Inc.  
1330-A Piccard Drive  
Rockville, MD 20850**

*Equal Opportunity Employer. M/F/H/V*

## POSITIONS OPEN

### YORK UNIVERSITY DEPARTMENT OF PHYSICS

Applications are invited for **THREE TENURE-TRACK** appointments with effect from 1 September 1987, or as soon as possible thereafter, in the following research areas: experimental laser physics, astrophysical science (theoretical or observational), including astronomy and space physics, theoretical atomic and molecular physics. The appointments will be as assistant professor although consideration may be given to appointing an exceptional candidate at a higher level. The successful candidates will be expected to teach courses in physics and/or applied computational and mathematical science at the undergraduate and graduate levels and to pursue an active research program. *In accordance with Canadian Immigration requirements this advertisement is directed to Canadian citizens or permanent residents. York University is implementing a policy of employment equity. Qualified women and men are invited to apply.* Applications with curriculum vitae and the names of three referees (including the candidate's two most recent supervisors or collaborators) should be sent, to arrive by 31 July 1987, to: **Professor W. J. Megaw, Chairman, Department of Physics, York University, 4700 Keele Street, North York, Ontario M3J 1P3, Canada**

## SYMPOSIUM

### SYMPOSIUM RECEPTORS AND DISEASE ASPEN, COLORADO 11 TO 15 AUGUST 1987

A concentrated review and discussion of the role of Hormone Receptors in Disease by top national speakers, including recent Nobel Prize Winner **Michael S. Brown**. Course will be of interest to clinicians and investigators in all subspecialties of medicine as well as basic scientists. Inquiries to: **Office of Continuing Medical Education C-295, University of Colorado School of Medicine, 4200 East 9th Avenue, Denver, CO 80262; telephone: 303-394-5195.**

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIP.** Position for recent Ph.D., preferably in nucleic acid biochemistry to investigate mechanism of tryptophan action. Project involves mRNA isolation, in vitro translation, eukaryotic DNA cloning, and related techniques. Send curriculum vitae and names of three references to: **Dr. H. Sidransky, Department of Pathology, The George Washington University Medical Center, Washington, DC 20037. Equal Opportunity Employer.**

### POSTDOCTORAL FELLOWSHIPS UNIVERSITY OF NEBRASKA-LINCOLN

Two postdoctoral fellowships are available for the study of plant photoreceptor (phytochrome for light regulation of genes) and protozoan photoreceptor (stenotorin for photosensory responses in *Stentor*). Annual stipends are \$18,000 to \$22,000, depending on qualifications and experience in the area of protein and/or membrane biochemistry. Send curriculum vitae and arrange to send letters of recommendation by 15 July 1987 to: **Dr. Pill-Soon Song, Professor and Chairman, Department of Chemistry, University of Nebraska-Lincoln, Lincoln, NE 68588-0304. Telephone: 402-472-3501. Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL POSITIONS IN VISION

Several NIH postdoctoral fellowships are available beginning 1 July 1987 for a 2-year training period in the following research areas: Retinal cell biology, neurochemistry and anatomy, invertebrate neurophysiology, retinal and geniculocortical electrophysiology, axonal neurobiology and neurotoxicology, binocular vision and oculomotor systems, color vision, psychophysics, human development, low vision, and optics. The participating faculty are from the University of Houston College of Optometry, Rice University, and the University of Texas Health Science Center. Send curriculum vitae and three letters of reference by 26 June 1987 to: **Houston Area Vision Sciences Program, University of Texas, Sensory Sciences Center, Room 316, 6420 Lamar Fleming Avenue, Houston, TX 77030. Equal Opportunity Employer.**

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIP

The ICISI at Georgetown University has recently been awarded a postdoctoral training program in developmental immunology from the NICHD. Applications are invited for Fellowship Awards in interdisciplinary training programs in immunology.

The program provides a core curriculum of interdepartmental training in basic and clinical immunology, with an emphasis on developmental processes. Research opportunities are available in the basic science disciplines of immunobiology, immunochemistry, immunogenetics, immunopathology, and immunopharmacology, and the clinical disciplines of allergy and immunology, infectious disease, disorders of immune regulations, and respiratory diseases.

Applicants should have a Ph.D., M.D., or equivalent degree, and be interested in a career in academic medicine. Positions available immediately. The award for first year fellows is \$22,500. U.S. citizenship or permanent residency is required.

Send curriculum vitae, transcripts, and names of three references to:

**Dr. Stephen M. Peters, Associate Director  
International Center for Interdisciplinary  
Studies of Immunology  
Gorman Building, 130  
Georgetown University Medical Center  
3800 Reservoir Road, NW  
Washington, D.C. 20007**

**POSTDOCTORAL RESEARCH FELLOWSHIP:** M.D. or Ph.D. to work isolating, characterizing, and quantifying keratin proteins in body fluids. Candidate must have background in protein biochemistry. Position open 1 July 1987. Send résumé, curriculum vitae, and names of three references to: **Ray B. Nagle, M.D., Ph.D., Department of Pathology, University of Arizona Health Sciences Center, Tucson, AZ 85724. Equal Opportunity/Affirmative Action.**

### RESEARCH/INSTRUCTOR FELLOWSHIP IN EVOLUTIONARY BIOLOGY

The Biology Department at Rice University seeks to fill the Huxley Research Instructorship in Biology. This is a 1-year appointment, renewable for a second year, for teaching and research in evolutionary biology. The candidate will be expected to have recently completed a Ph.D. Possible areas of interest will include evolution of sociality in insects, plant ecology, biochemical evolution, microbial genetics, physiological adaptation, population dynamics, or other topics which complement present faculty interests. Duties will include an opportunity to do some teaching related to one's specialty and collaborative research with faculty in the department. Applications, including curriculum vitae, a summary of research and teaching interests, and at least three letters of reference, are to be sent to: **Dr. Raymon Glantz, Department of Biology, Rice University, Houston, TX 77251; telephone: 713-527-4915.** Application deadline is 1 July 1987. *Rice University is an Equal Opportunity/Affirmative Action Employer.*

## MARKETPLACE

Circle No. 312 on Reader Service Card

## PROVOST IOWA STATE UNIVERSITY

Iowa State University of Science and Technology invites nominations and applications for its newly-created position of provost. The provost is responsible for instruction and research, and reports directly to the president.

The provost will play a major role in the development and implementation of the University's strategic plan for instruction, research, and service.

Iowa State is a broad-based land grant university with 23,000 undergraduates and 4,000 graduate students organized into colleges of Agriculture, Business Administration, Design, Education, Engineering, Family and Consumer Sciences, Sciences and Humanities, and Veterinary Medicine. The University has special strengths in agriculture, engineering, and the physical and life sciences.

Nominees and applicants should have academic experience, including outstanding research and scholarship accomplishments, and demonstrated excellence in administration.

Iowa State subscribes to both the letter and spirit of affirmative action. Women and members of all other protected groups are urged to apply.

The position is available January 1, 1988. Applications will be accepted until August 31, 1987.

Direct nominations or applications to: David W. Lynch, Provost Search Committee  
Department of Physics  
Iowa State University  
Ames, Iowa 50011

(515) 294-5442



## DIRECTOR MOLECULAR BIOLOGY

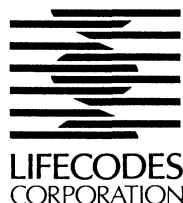
**We** are a young, dynamic, research-driven, result-oriented company, recognized as a leader in the field of peptide synthesis. We want to diversify and expand into the field of biotechnology. We are looking for an experienced molecular biologist to lead our molecular biology group.

**You** have experience and in-depth familiarity with cloning and expression of eukaryotic genes in bacteria as well as with protein purification. You will lead and direct a group of molecular biologists, geneticists, and biochemists. Further, you will be responsible for implementing new ideas and for developing and producing new proteins.

Qualifications must include a Ph.D. and several years of working experience.

For fully confidential consideration, please send your resume to:

**BACHEM BIOSCIENCE INC.**  
3700 Market Street  
Philadelphia, PA 19104



## MOLECULAR GENETICS

Lifecodes Corporation has a **RESEARCH SCIENTIST** position for a recent Ph.D. with demonstrated expertise in the area of recombinant DNA. We seek an imaginative and highly motivated individual who can carry out independent research as part of a multidisciplinary team working on the development of DNA probes for human genetic diagnostics.

Lifecodes Corporation which has successfully commercialized the use of recombinant DNA probes for human genetics is undergoing a major expansion. We are located in Westchester County, 30 minutes from New York City and have excellent research facilities, equipment and financial support.

Send curriculum vitae and the name and telephone number of three references to:

**Personnel Department  
Lifecodes Corporation  
4 Westchester Plaza  
Elmsford, New York 10523**

## RESEARCH OPPORTUNITIES IN CANCER THERAPEUTICS

The Dow Chemical Company, in Midland, Michigan, is a recognized world leader in the chemical industry. Expanded research efforts in the area of cancer therapeutics and immunotherapy have created an immediate need within the Biotechnology Laboratory in the Central Research Department for a:

### MAMMALIAN CELL BIOLOGIST

We are seeking a candidate with a Ph.D. with academic or industrial post doctoral experience for a position in a multidisciplinary group studying high density mammalian cell-culture. The successful candidate will have experience in handling multiple cell lines and associated analytical techniques and will have responsibility for planning, organizing and executing a high priority program in the development of optimal culture conditions.

The above candidate must also possess strong communication skills and a desire to carry out independent research while functioning as part of an interdisciplinary research team.

The Dow Chemical Company offers a stimulating work environment and a competitive salary and benefits package.

Send resume to:  
**Technical Recruiting  
Department M  
P.O. Box 1655  
Midland, MI 48641-1655**



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