

spreading contract funds widely. The analysis that indicates how SDIO went about seeing that the "iron triangle" would come into play is very useful, in part because it gives sufficient detail to enable the reader to form a judgment about the thesis proffered. It also offers a basis on which to observe future events to see whether the constituency that has been built is powerful enough to withstand the budgetary pressures that the Bush administration faces.

The story of the critical role of Congress in the evolution of SDI remains to be written. Alan Sweedler provides some early facts about budgetary review and hearings but does not discuss at all an issue that has had a major impact on the direction of SDI: the fact that the Senate considered the Reagan administration's reinterpretation of the ABM Treaty to be an attack upon its constitutional treaty power. There is no doubt that the four Nunn Reports on ABM Treaty interpretation and the Biden-Byrd Resolution on the INF ratification process affected the way Congress regarded SDI. They contributed to the rising concern that the SDI testing program, if not restrained, would sooner or later come into conflict with the ABM Treaty—thus undermining the arms control process. The various congressional amendments that have kept the testing program within the traditional interpretation may not have affected the pace of work but have certainly highlighted, if not caused in part, the growing deglamorization of SDI.

This book whets the appetite for a thoroughgoing political analysis of SDI but cannot begin to satisfy it.

ANTONIA CHAYES

*Endispute,*  
1820 Jefferson Place, NW,  
Washington, DC 20036

## Some Other Books of Interest

**Inorganic Mass Spectrometry.** F. ADAMS, R. GIJBELS, and R. VAN GRIEKEN, Eds. Wiley-Interscience, New York, 1988. xii, 404 pp., illus. \$65. Chemical Analysis, vol. 95.

"The scientific literature and conferences prove that mass spectrometry is most widely employed in the field of organic analysis, but this was not always the case," write the editors of this volume. Describing some difficulties that have limited its use with inorganic relative to organic materials, the editors note that recent developments have "implied a remedy, at least partially, to these limitations." Hence, "this book is published at a moment when there is, again, a sense of real excitement at the forefront of inorganic

mass spectrometry." In it 12 mostly European authors (half from the University of Antwerp) report on the state of the art. In a brief opening chapter I. Cornides provides a historical introduction to the subject, tracing it from J. J. Thomson's investigations of "positive" electricity through the development of commercial instrumentation in the 1940s to the present era. The main text of the book consists of six chapters on the principles and applications of particular mass-spectroscopic techniques: spark source (Ramendik *et al.*), glow discharge (Harrison), secondary ion (Lodding), laser microprobe (Verbueken *et al.*), inductively coupled plasma source (Gray), and isotope dilution (Heumann). In a final chapter Gijbels and Adams discuss "recent trends and future prospects," noting the existence of "a profound interaction between those who design and build new mass spectrometric instrumentation and those who use it, which tends to push the field quickly forwards."—K.L.

**Ultrasound.** Its Chemical, Physical, and Biological Effects. KENNETH S. SUSLICK, Ed. VCH, New York, 1988. xiv, 336 pp., illus. \$65.

The preface of this volume opens by tracing the discovery of cavitation, one of the mechanisms by which ultrasound affects liquid media, to difficulties experienced by the British destroyer H.M.S. *Daring* in 1894 and goes on to observe that "in spite of the impact that ultrasound has had on modern science and technology . . . there has been almost a complete lack of review materials on the underlying principles from which such effects originate." Noting both the diversity of uses for ultrasound and continuity in the underlying physical phenomena, the editor hopes with this volume to produce a "cross-fertilization [that will] be fruitful to each of the areas of specialization represented" in it. The opening chapter is a 64-page exposition by A. A. Atchley and L. A. Crum of acoustic cavitation and bubble dynamics, beginning with a basic definition of cavitation ("the formation and the subsequent dynamic life of bubbles in liquids") and including a historical perspective. James A. Rooney then discusses other nonlinear acoustic phenomena—streaming, emulsification and aggregate dispersal, atomization and droplet formation, radiation force, bubble oscillations. There follow chapters on industrial applications of ultrasound by A. Shoh, on homogeneous and heterogeneous sonochemistry by Suslick and P. Boudjouk, respectively, and on sonoluminescence by R. E. Verrall and C. M. Sehgal. The volume concludes with two chapters on biological effects, L. A. Frizzell on in vitro and non-human systems includ-

ing plants and G. ter Haar on clinical applications. Each chapter has its own reference list, and there is an index for the volume as a whole.—K.L.

## Books Received

**Conservation Farming on Steep Lands.** W. C. Moldenhauer and N. W. Hudson, Eds. Soil and Water Conservation Society, Ankeny, IA, 1988. xiv, 296 pp., illus. \$25. From a workshop, San Juan, Puerto Rico, March 1987.

**Consider a Spherical Cow.** A Course in Environmental Problem Solving. John Harte. University Science Books, Mill Valley, CA, 1988. xvi, 283 pp., illus. Paper, \$18.

**Coordinates in Geodesy.** Siegfried Heitz. Springer-Verlag, New York, 1988. xii, 255 pp. Paper, \$39.50. Translated and revised from the German edition (Bonn, 1985).

**Coordination of Observation Projects in Astronomy.** C. Jaschek and C. Sterken, Eds. Cambridge University Press, New York, 1988. xii, 270 pp., illus. \$49.50. From a conference, Strasbourg, France, Nov. 1987.

**Crisis Stability and Nuclear War.** Kurt Gottfried and Bruce G. Blair, Eds. Oxford University Press, New York, 1988. xii, 354 pp. \$29.95; paper, \$10.95.

**Critical Levels in the Development of Natural Systems.** Alexey V. Zhirmunsky and Victor I. Kuzmin. Springer-Verlag, New York, 1988. x, 170 pp., illus. \$69.50. Revision of *Critical Levels in the Developmental Processes of Biological Systems*.

**Critical Observations Versus Physical Models for Close Binary Systems.** Kam-Ching Leung, Ed. Gordon and Breach, New York, 1988. xvi, 472 pp., illus. \$95. From a colloquium, Beijing, China, Nov. 1985.

**Crystallographic Statistics in Chemical Physics.** An Approach to Statistical Evaluation of Internuclear Distances in Transition Element Compounds. F. Valach, J. Ondráček, and M. Melník. Springer-Verlag, New York, 1988. x, 185 pp., illus. \$99.50. Inorganic Chemical Concepts, vol. 12.

**CSL '87.** E. Börger, H. Kleine Büning, and M. M. Richter, Eds. Springer-Verlag, New York, 1988. vi, 346 pp., illus. Paper, \$25.70. Lecture Notes in Computer Science, vol. 329. From a workshop, Karlsruhe, F.R.G., Oct. 1987.

**Emanuel Swedenborg.** A Continuing Vision. Rob-in Larsen *et al.*, Eds. Swedenborg Foundation, New York, 1988. xvi, 558 pp., illus. \$75.

**The Encyclopedic Dictionary of Science.** Bernard Dixon *et al.* Facts on File, New York, 1988. 256 pp., illus. \$29.95.

**The Human Brain.** Paul Glees. Cambridge University Press, New York, 1988. vii, 204 pp., illus. \$59.50. Revision of *Das menschliche Gehirn* (Stuttgart, 1968).

**Human-Computer Interaction.** Psychonomic Aspects. Gerrit C. van der Veer and Gijsbertus Mulder. Springer-Verlag, New York, 1988. xiv, 458 pp., illus. \$79. Based on a conference, Amsterdam, The Netherlands, Dec. 1985.

**Increasing Small Ruminant Productivity in Semi-Arid Areas.** E. F. Thomson and F. S. Thomason, Eds. Kluwer, Norwell, MA, 1988. x, 296 pp., illus. Current Topics in Veterinary Medicine and Animal Science, vol. 47. From a workshop, Aleppo, Syria, Nov.-Dec. 1987.

**Inhalation Toxicology.** The Design and Interpretation of Inhalation Studies and Their Use in Risk Assessment. U. Mohr *et al.*, Eds. Springer-Verlag, New York, 1988. xiv, 318 pp., illus. \$98. International Life Sciences Institute Monograph Series.

**International Classification in Psychiatry.** Unity and Diversity. Juan E. Mezzich and Michael von Cranach, Eds. Cambridge University Press, New York, 1988. xxii, 390 pp. \$59.50. From a conference, Montreal, Quebec, June 1985.

**Interpreting Spectra of Organic Molecules.** Thomas N. Sorrell. University Science Books, Mill Valley, CA, 1988. xii, 175 pp., illus. Paper, \$18. A Series of Books in Organic Chemistry.

**Neuroimmunoendocrinology.** J. Edwin Blalock and Kenneth L. Bost, Eds. Karger, Basel, 1988. x, 165 pp., illus. \$92.75. Progress in Allergy, vol. 43.

**New Ideas in Astronomy.** F. Bertola, J. W. Sulentic, and B. F. Madore, Eds. Cambridge University Press, New York, 1988. x, 349 pp., illus. \$54.50. From a conference, Venice, Italy, May 1987.

(Continued on page 1501)

## Products & Materials

### Microscope Imaging Workstation

The BioVision Personal Microscope Workstation is an entry-level workstation based on the Macintosh II personal computer. The workstation can acquire, process, and analyze images and comes with a computer, a charge-coupled device camera, and software. The workstation can be expanded into a multimode workstation with a dedicated real-time image processor and complete microscope automation. Perceptics, Biotechnical Division. Circle 433.

### Biocompatible HPLC Columns

PL-SAX 1000A Quaternary amine columns for high-performance liquid chromatography (HPLC) contain no metal. The columns are filled with a rigid macroporous strong anion-exchange material with a uniform pore structure, a large pore size, and a particle size of 8  $\mu\text{m}$ . The borosilicate glass column has a fluoropolymer end fitting and a 5- $\mu\text{m}$  porous borosilicate frit. The analytical 50 by 5 mm column operates at 4.0 ml/min and 800 psi; a 100 by 10 mm preparative column is also available. The columns have internal threads for direct connection to liquid chromatographs. Polymer Laboratories. Circle 435.

### Mathematics Software

Mathematica is a mathematical computation program. It interactively performs numerical, algebraic, and graphical calculations. Data may be entered from files, programs, or the keyboard. The program accepts integers, rational numbers, and complex numbers. It can solve functions, analyze data, perform matrix operations, and provide analytic solutions to linear and polynomial equations and systems of equations. Mathematica contains a programming

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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.

language with blocks, loops, and error condition handling. Versions are available for the following personal computers and workstations: Macintosh Plus, SE, and II; 80386-based MS-DOS computers, such as the IBM PS/2 models 70 and 80; Ardent Titan; IBM AIX/RT; MIPS M/120; NeXT; Silicon Graphics Iris 4D; Sony NEWS; Stellar GS-1000; and Sun 3, 4, and 386i. Wolfram Research. Circle 447.

### Software for Finite Element Analysis

The COSMOS/M program solves finite element problems that have as many as 25,000 degrees of freedom. With substructuring, the program can solve a system with 100,000 degrees of freedom. The program generates color stress and thermal-contour plots. The program can solve nonlinear problems by an incremental solution technique, and it uses isoparametric elements for increased accuracy when boundaries are curved or high stress variations exist. COSMOS/M operates on Macintosh II computers with 4 megabytes of random-access memory and a 50-megabyte hard disk. Structural Research and Analysis. Circle 443.

### DAB in Liquid Concentrate Form

DAB Substrate Concentrate is a one-component concentrate of 3,3'-diaminobenzidine (DAB). This concentrate can detect peroxidase activity during immunohistochemical, protein immunoblot, and dot blot procedures and is also appropriate for ultrastructure research when reacted with osmium tetroxide. To use DAB Substrate Concentrate, the researcher dilutes it with buffer and hydrogen peroxide. The solution is stable under refrigeration for at least 1 year and thus does not need to be filtered. Kirkegaard & Perry Laboratories. Circle 440.

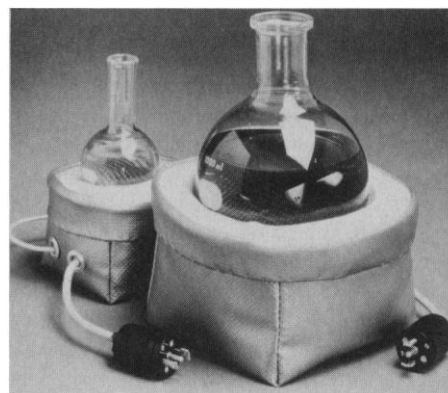
### Peptide Analysis by HPLC

The Peptide Analyzer is a high-performance liquid chromatography (HPLC) system with dual flow paths optimized for microbore and analytical-scale operation. The Peptide Analyzer can prepare picomole quantities of peptides for sequence determination, peptide mapping, or qualitative structural analysis. Analyses may be performed with as little as 1 pmol of a decapeptide. The photodiode-array detector collects

ultraviolet-visible spectra of 190 to 800 nm throughout the chromatogram. The researcher can examine absorbance for each peak and compare spectra directly to previously acquired spectra. The controller allows single-point control of gradient, injection, and detection parameters. Waters Division of Millipore. Circle 462.

### Heating Mantles for Flasks

OMEGALUX are self-standing laboratory heating mantles for heating laboratory flasks. These heating jackets stand up by themselves directly on a counter, with no need for jack stands, support rings, or metal



case units. Magnetic stirring is possible through the mantle. The mantles are available in eight sizes and a variety of wattages to accommodate 50-ml to 5-liter flasks. Omega Engineering. Circle 446.

### Literature

The *Enzyme Manual* is a catalog of enzymes, related biochemicals, and clinical reagents that provides a technical description and a list of literature references for each item. Worthington Biochemical. Circle 452.

*The Solution to the Unfilterable Solution* describes optimal separation and clarification of small-volume samples. Schleicher & Schuell. Circle 455.

*Currents* is a newsletter about capillary electrophoresis products, applications, and techniques. Microphoretic Systems. Circle 456.

The *1988 Fungi/Yeast Update* is a catalog of 1150 strains of 600 species of fungi and yeasts that includes literature citations. American Type Culture Collection. Circle 457.

*Supercritical Fluid Technology* is a color brochure about a line of products for supercritical fluid extraction and chromatography. Computer Chemical Systems. Circle 459.

**Non-Radiometric Assays.** Technology and Application in Polypeptide and Steroid Hormone Detection. Barry D. Albertson and Florence P. Haseltine, Eds. Liss, New York, 1988. xx, 361 pp., illus. \$68. Progress in Clinical and Biological Research, vol. 285. From a meeting, Bethesda, MD, Oct. 1987.

**Optical Nonlinearities and Instabilities in Semiconductors.** Hartmut Haug, Ed. Academic Press, San Diego, CA, 1988. xii, 400 pp., illus. \$65.

**Optimal Experience.** Psychological Studies of Flow in Consciousness. Mihaly Csikszentmihalyi and Isabella Selega Csikszentmihalyi, Eds. Cambridge University Press, New York, 1988. xiv, 416 pp., illus. \$37.50.

**Oxy-Radicals in Molecular Biology and Pathology.** Peter A. Cerutti, Irwin Fridovich, and Joe M. McCord, Eds. Liss, New York, 1988. xx, 586 pp., illus. \$110. UCLA Symposia on Molecular and Cellular Biology, vol. 82. From a symposium, Park City, UT, Jan. 1988.

**Particle Physics and Introduction to Field Theory.** T. D. Lee. 2nd ed. Harwood, New York, 1988. xviii, 865 pp. \$82; paper, \$24. Contemporary Concepts in Physics, vol. 1. Updated reprint, 1981 ed.

**Peregrine Falcon Populations.** Their Management and Recovery. Tom J. Cade *et al.*, Eds. The Peregrine Fund, Boise, ID, 1988. xviii, 949 pp., illus. + plates. \$45. From a conference, Sacramento, CA, Nov. 1985.

**Physical and Computational Aspects of Convective Heat Transfer.** Tuncer Cebeci and Peter Bradshaw. 2nd ed. Springer-Verlag, New York, 1988. xii, 487 pp., illus. Paper, \$45.

**The Physics and Applications of Amorphous Semiconductors.** Arun Madan and Melvin P. Shaw. Academic Press, San Diego, CA, 1988. xii, 545 pp., illus. \$69.50.

**Physics at LEAR with Low Energy Antiprotons.** C. Amsler *et al.*, Eds. Harwood, New York, 1988. xviii, 827 pp., illus. \$112. Nuclear Science Research Conference Series, vol. 14. From a workshop, Villars-sur-Ollon, Switzerland, Sept. 1987.

**Probability and Inference in the Law of Evidence.** The Uses and Limits of Bayesianism. Peter Tillers and Eric D. Green, Eds. Kluwer, Norwell, MA, 1988. xii, 345 pp., illus. \$79. Boston Studies in the Philosophy of Science, vol. 109. Based on a symposium, Boston, MA, April 1986.

**Probability in the Sciences.** Evandro Agazzi, Ed. Kluwer, Norwell, MA, 1988. x, 269 pp. \$59. Synthese Library, vol. 201.

**Schirra's Space.** Walter M. Schirra, Jr. with Richard N. Billings. Quinlan, Boston, 1988. xii, 227 pp. + plates. \$16.95.

**School Matters.** Peter Mortimore *et al.*, University of California Press, Berkeley, 1988. vi, 313 pp. \$35; paper, \$12.95.

**Science and Civilisation in China.** Vol. 5, Chemistry and Chemical Technology. Part 9, Textile Technology: Spinning and Reeling. Dieter Kuhn. Cambridge University Press, New York, 1988. xxxiv, 520 pp., illus. \$110.

**Science and Corporate Strategy.** DuPont R&D, 1902-1980. David A. Hounshell and John Kenly Smith, Jr. Cambridge University Press, New York, 1988. xx, 756 pp., illus. + plates. \$39.50. Studies in Economic History and Policy.

**Simulation Fidelity in Training System Design.** Bridging the Gap between Reality and Training. Robert T. Hays and Michael J. Singer. Springer-Verlag, New York, 1989. xx, 415 pp., illus. Paper, \$39. Recent Research in Psychology.

**Single-Mode Fibers.** Fundamentals. E.-G. Neu-mann. Springer-Verlag, New York, 1988. xiv, 530 pp., illus. \$89.50. Springer Series in Optical Sciences, vol. 57.

**The Social Psychology of Knowledge.** Daniel Bar-Tal and Arie W. Kruglanski, Ed. Cambridge University Press, New York, and Editions de la Maison des Sciences de l'Homme, Paris, 1988. xii, 399 pp. \$54.50.

**Social Structure and Personality Development.** The Individual as a Productive Processor of Reality. Klaus Hurrelmann. Cambridge University Press, New York, 1988. x, 163 pp. \$34.50; paper, \$12.95.

**Solitons and Polarons in Conducting Polymers.** Lu Yu. World Scientific, Teaneck, NJ, 1988. xvi, 754 pp., illus. \$78; paper, \$37.

**Solvents and Solvent Effects in Organic Chemistry.** Christian Reichardt. 2nd ed. VCH, New York, 1988. xxii, 534 pp., illus. \$98.

**Somatic Cell Genetics of Woody Plants.** M. R. Ahuja, Ed. Kluwer, Norwell, MA, 1988. xxii, 225 pp., illus. \$59. Forestry Sciences. From a meeting, Grossshandorf, F.R.G., Aug. 1987.

# Personnel Placement

**SCIENCE** publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

## LINE CLASSIFIED ADVERTISING DEADLINES:

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

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

**LINE CLASSIFIED (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth):** \$40.00 per line; \$400 minimum, per week (minimum charge covers one inch on a single column; one inch equals 10 lines of 52 characters and spaces per line). No charge for use of box number. No agency commission for ads less than 4 inches. No cash discount. Prepayment required for all foreign ads. Purchase orders and/or cover letter including billing address required for all other advertising.

## To ESTIMATE ad cost:

Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines  $\times$  \$40.00 = 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.)

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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:

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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, Ph.D.** Extensive experience in lipoprotein and cholesterol metabolism in tissue culture systems and animal models. Enzymology, protein isolation and characterization, receptor studies. Strong publications. Seeks academic or industrial position. Box 36, **SCIENCE**.

**Biopharmaceutics/Pharmacokinetics, Ph.D.** with 11 years of experience in academia seeks position in pharmaceutical industry evaluating clinical protocol, training representatives, professional relations or similar position. References and résumé available upon request. Box 37, **SCIENCE**.

**Chemist, Biochemist, Physiological Sciences, Ph.D., M.D.**, Extensive teaching: clinical and analytic biochemistry, cancer, instrumentation; visible, UV, infrared, TLC, GC, electrophoresis, fluorometry; government, academic/hospital. Box 354, Rochelle Park, NJ 07662.

## POSITIONS WANTED

**Environmental/Comparison Physiologist, Ph.D.** Established investigator with publications in thermoregulation, perinatal development, and drug-stress interaction. Current funding in ethanol research. Seeks academic position offering teaching and research opportunities. Box 27, **SCIENCE**.

**Insect Biochemist, Ph.D.** Entomology, M.S. Biochemistry; expert HPLC, expert enzyme, expert hormones, expert Macintosh, antibodies, Polydnavirus, pheromones, reviewer for *Science*. Seeks research position. Box 22, **SCIENCE**.

## POSITIONS OPEN

Environmental Monitoring Research Branch, **ANALYTICAL RESEARCH LABORATORY MANAGER**, Georgia Tech Research Institute. Our Environment, Health and Safety Division is currently seeking an analytical chemist who meets the following minimum requirements: (i) Ph.D. in analytical chemistry. (ii) Minimum of 5 years of experience beyond doctorate. (iii) Excellent research reputation in indoor air quality. (iv) Broad-based analytical experience. (v) Experience in environmental protection issues. (vi) Ability to manage activities of analytical facility. GTRI offers competitive salaries and an outstanding benefits package. Send résumé to: **Russ Cappello, Technical Recruiter, Human Resources Department, Code: SCI-2 Georgia Tech Research Institute, Georgia Institute of Technology, Atlanta, GA 30332-0800. An Equal Education/Employment Opportunity Institution.**

## ANATOMY POSITION UNIVERSITY OF NEW ENGLAND

The Division of Life Sciences invites application for a tenure-track position in anatomy and physiology at the rank of assistant professor. Requirements include a Ph.D. in anatomy and experience in undergraduate teaching. Other desirable experiences/interests include interdisciplinary curriculum development, scholarship, and teaching students in physical/occupational therapy programs and life science majors. Duties include teaching gross human anatomy, neuroanatomy, and anatomy/physiology courses. Projected starting date is summer 1989. Submit a résumé and a statement of teaching goals by 7 April 1989 to: **Mr. Michael Miles, Director of Personnel, University of New England, Biddeford, ME 04005. The University of New England is an Affirmative Action/Equal Opportunity Employer.**

**ASSISTANT PROFESSOR IN ANATOMY.** Applications are invited from qualified individuals possessing the Ph.D. or M.D. degree and a minimum of 2 years of postdoctoral studies, for a position at the rank of assistant professor. The responsibilities of the position include participation in microscopic and neuroanatomy courses taught to medical and graduate students, and demonstration of an active, productive research program in cell and/or molecular biology.

Applications should include curriculum vitae and the names of three references, and sent before 1 May 1989 to: **Anthony J. Schmidt, Ph.D., Professor and Chairman, Department of Anatomy, Rush Medical College, 1653 West Congress Boulevard, Chicago, IL 60612.**

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

**ASSISTANT PROFESSORS**, School of Pharmacy, University of Colorado. Applications are invited for two tenure-track positions at the assistant professor level in pharmacology/pharmaceutical chemistry. Positions require a Ph.D. in an appropriate area and relevant postdoctoral experience. Preference will be given to those having an undergraduate degree in pharmacy. The successful applicants will be expected to develop strong extramurally-funded research programs in their areas of interest. Other responsibilities include teaching at the undergraduate and graduate levels. Applicants should submit curriculum vitae, a one-page summary of research plans, and the names and addresses of three references by 20 April 1989 to: **Dr. John A. Thompson, School of Pharmacy, University of Colorado, Boulder, CO 80309-0297. The University of Colorado is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### ASSISTANT DIRECTOR DIAGNOSTIC MOLECULAR GENETICS

The Department of Pathology (Diagnostic Laboratories) of Vanderbilt University Medical Center invites applications for the position of Assistant Director, Immunopathology Laboratory, Division of Molecular Genetics. Candidates must have a Ph.D. degree with extensive experience in molecular biology techniques with particular interest in the development of diagnostic tests. Faculty appointment available commensurate with credentials.

Please submit curriculum vitae, synopsis of research interests and career objectives to:

**Thomas L. McCurley, M.D.**  
Director, Immunopathology Laboratory  
Room 4605, The Vanderbilt Clinic  
Vanderbilt University Medical Center  
Nashville, TN 37232-5310

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

### ASSISTANT PROFESSOR CELL PHYSIOLOGY/ ELECTRON MICROSCOPY

The Biology Department at the University of Puget Sound is accepting applications for a tenure-track position in the areas of cellular physiology and electron microscopy to begin August 1989. Requires Ph.D., strong background in cellular-animal physiology and electron microscopy, and a commitment to undergraduate teaching. Special areas of interest include endocrinology, neurobiology, immunology and epithelial transport. Teach a course which meets the physiology requirement for biology majors, participate in the introductory biology program, offer an advanced elective specialty course and provide department with expertise in electron microscopy. Initiate/maintain a strong research program involving undergraduates, participate in student advising and departmental/University governance, and continue professional development. The Department has nine full-time faculty with diverse expertise and modern facilities including an electron microscope laboratory with a Zeiss EM 109 TEM and ISI SS40 SEM. Submit letter describing interests and goals, curriculum vitae, transcripts and three letters of reference by 7 April 1989, to: **Physiology Search, University of Puget Sound, P.O. Box 7297, Tacoma, WA 98407.** *An Equal Opportunity/Affirmative Action Employer.*

### THE UNIVERSITY OF CALGARY ASSISTANT PROFESSOR IN BIOCHEMISTRY

The University of Calgary Department of Biological Sciences invites applications for a tenure-track appointment in biochemistry at the assistant professor level effective 1 January 1990.

Requirements include a minimum of 2 years of postdoctoral experience with a record of creative work and potential for teaching and developing an independent research program. Applicants with an interest in any aspect of contemporary protein biochemistry will be considered but those with experience in aspects of the structure and function of membrane proteins, glycoproteins, or transport and translocation mechanisms, and a willingness to teach a course on modern membrane biochemistry will be preferred.

The Biochemistry Division of the Department of Biological Sciences is responsible for the undergraduate program in biochemistry and contributes to the graduate program in coordination with the Department of Medical Biochemistry. The Department is well-equipped for protein biochemistry and DNA sequencing. State-of-the-art equipment for biological fermentations, 400- and 500-MHz NMR and access to the University's CYBER 205 supercomputer are available.

Salary and rank are commensurate with qualifications and experiences. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. The University of Calgary is committed to employment equity.*

Qualified individuals should send curriculum vitae, a detailed description of their research objectives and arrange to have three letters of reference sent by 1 May 1989 to: **Dr. T. A. Thorpe, Head, Department of Biological Sciences, The University of Calgary, 2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4.**

## POSITIONS OPEN

**ASSISTANT PROFESSOR:** To conduct and supervise independent research in the metabolic roles and genetics of the zinc metalloenzyme alcohol dehydrogenase (ADH) isozymes and to isolate and characterize pharmacologically active compounds from plants with preventive or therapeutic effects on alcohol intoxication. Applicants should have experience in the isolation of ADH or related isozymes from human and animal tissues and in the determination of the phenotypes of human ADH isozymes; culture of mammalian cells; working with laboratory animals; receptor binding assay techniques; ion and ligand uptake experiments; kinetic analysis and chemical characterization of metalloenzymes. Applicants should also have knowledge of identifying herbs with preventive or therapeutic effects on alcohol intoxication and experience in the extraction and purification of pharmacologically active materials from plants. Requirements include Ph.D. in biochemistry and 6 to 8 years of related research experience. Salary: \$30,000 to \$35,000. Send résumés to: **CBBSM, Harvard Medical School, 250 Longwood Avenue, Boston, MA 02115.** Attention: Charles Alongi.

### ASSISTANT PROFESSOR MOLECULAR NEUROBIOLOGY CASE WESTERN RESERVE UNIVERSITY

The newly established Center for Neurosciences at Case Western Reserve University School of Medicine has a tenure-track opening at the assistant professor level for a person using molecular biological techniques to study neural function. Candidates should have a strong background in molecular biology, at least 2 years of postdoctoral research experience, and should be ready to start an independent research program. Renovated laboratory space and start-up funds will be available. Teaching duties will involve lecturing on the neurosciences to graduate and medical students. The Center for Neurosciences currently includes six primary faculty appointments and will expand over the next several years to approximately twice that size. In addition, more than fifteen neuroscientists with appointments in other departments play an active role in the research and teaching activities of the Center. The research interests of the current faculty are focused on neuronal development and on neuronal plasticity in adult organisms. Interested candidates should send their curriculum vitae, a brief summary of their future research plans, and the names of four references to: **Dr. Story C. Landis, Center for Neurosciences, Case Western Reserve University School of Medicine, 2119 Abington Road, Cleveland, OH 44106-2333,** by 18 April 1989. *Case Western Reserve University is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT PROFESSOR, TOXICOLOGY.** The Department of Physiological Sciences of the University of Florida, College of Veterinary Medicine, is seeking applicants for a tenure-track assistant professor position in toxicology. Preference will be given to an individual with demonstrated experience in molecular or biochemical toxicology. The incumbent is expected to develop a productive research program in association with the Center for Environmental Toxicology and participate in instruction of toxicology. Interested applicants should have a Ph.D. degree in toxicology, pharmacology, or a related field. Salary will be commensurate with professional and academic credentials and experience.

Applicants should send curriculum vitae, a statement of professional goals, and names of three potential references to: **Dr. S. F. Sundlof, Search Committee Chairperson, Position VM-8811, University of Florida, Box J-137, Gainesville, FL 32610.** Application deadline is 30 April 1989. *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT RESEARCH SCIENTIST.** To participate in a research program on the cellular and molecular genetic manipulation of cereal/grass species. Ph.D. with 3 to 4 years of postdoctoral experience and strong background in cell culture and the use of recombinant DNA techniques in cereal and grass species. Salary: \$30,918 per annum plus retirement and health insurance benefits. Send curriculum vitae, transcripts, copies of relevant publications, a statement of research interests, and arrange for four letters of recommendation to be sent to: **Professor Indra K. Vasil, 511 Carr Hall, University of Florida, Gainesville, FL 32611.** Telephone: 904-392-1193; FAX: 904-392-6479, before 30 April 1989. *Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### ASSISTANT OR ASSOCIATE PROFESSOR TENURE-TRACK POSITION DEPARTMENT OF OTOLARYNGOLOGY

The Otolaryngological Research Group is seeking a research biochemist with a background in carbohydrate/protein biochemistry with an emphasis on receptors, or cell adherence relative to developmental biology, to develop a biochemical/molecular biological program in the Department of Otolaryngology. Additional skill/knowledge of molecular biology desirable. Individual will participate in a team effort with a group of researchers studying ear disease. Salary commensurate with experience. Postdoctoral experience required. Send curriculum vitae with three professional references to: **Ms. Teresa Martin, The Ohio State University, Otolaryngological Research Laboratories, 456 West 10th Avenue, Room 4331, Columbus, OH 43210.**

University of California, San Diego (UCSD), School of Medicine is seeking outstanding candidates to fill tenure-track positions at the ASSISTANT TO FULL PROFESSOR levels. Demonstrated creativity and productivity in the field of molecular biology as applied to neurosciences are an essential criteria for appointment. The positions require teaching at the graduate and medical school undergraduate levels. Opportunities exist for collaborative research with the broad, interdisciplinary Neurosciences Group at UCSD and associated institutions. Salary will depend on qualifications of the applicants. All applications received by 20 May 1989 will receive thorough consideration. Send curriculum vitae, bibliography, and names and addresses of five references to: **Dr. Robert Katzman, Department of Neurosciences, M-024, University of California, San Diego, La Jolla, CA 92093.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF MARYLAND ASSOCIATE DIRECTOR AGRICULTURAL EXPERIMENT STATION

Assist in the development of programs, budgets, funding initiatives, and the allocation and control of resources. Headquarters at the University of Maryland at College Park, with nine field locations throughout Maryland. Earned doctorate and qualification for appointment at full professor rank in an academic department required. Exemplary research background, a record of competitive grantsmanship, quality publications, experience in graduate education and, preferably, administrative experience. Salary commensurate with qualifications and experience. This position will be filled as soon as a qualified candidate is identified. Closing date for nominations and/or applications is 1 May 1989. Applications must be accompanied by curriculum vitae. Three reference letters should be sent directly to the **Chair, Search Committee.** All correspondence should be addressed to: **Dr. Sashi Mohanty, Chair, Search Committee, Regional College of Veterinary Medicine, Room 3222, Chemistry Building, University of Maryland, College Park, MD 20742.** *The University of Maryland is an Affirmative Action/Equal Opportunity Employer.*

**ASSOCIATE DIRECTOR/ASSOCIATE DEAN.** The University of Vermont is seeking an Associate Director of the Extension Service and Associate Dean of the Division of Agriculture, Natural Resources, and Extension. This person is responsible to the Director of the Extension Service for the day-to-day management of the Extension Service, including all programming, budgeting, human resources and related activities, and will act as the liaison with other units within and outside the University to enhance integration of research and outreach education. Candidates must have successful administrative and human resource management experience and a strong commitment to outreach education and research. An earned Ph.D. in a research discipline is required. Professional experience in the Extension Service is desirable. Applicants should submit a letter of application, a current curriculum vitae, a list of publications, evidence of successful leadership and effective communications, a statement of professional goals and philosophy, and a list of five names of referees. Nominations and applications should be sent to: **Dr. Lorraine P. Berkett, Chair, Extension Associate Director Search Committee, Department of Plant and Soil Science, University of Vermont, Burlington, VT 05405-0082.** Deadline for receiving application and supporting material is 2 May 1989. The position will be available on or before 1 September 1989.

## POSITIONS OPEN

### ASSOCIATE IN CLINICAL RESEARCH DEPARTMENT OF SURGERY BRIGHAM AND WOMEN'S HOSPITAL BOSTON, MASSACHUSETTS

Division of Cardiac Surgery at Harvard Medical School and Brigham and Women's Hospital has an opening for a clinical research associate. Applicant should have experience with data entry, and basic programming skills to head up large data bank for coronary artery surgery. Excellent wages and benefits.

Send résumé to:

**Lawrence H. Cohn, M.D.**  
Chief, Division of Cardiac Surgery  
Brigham and Women's Hospital  
75 Francis Street  
Boston, MA 02115

### ASSOCIATE IN PHYSIOLOGY UNIVERSITY OF IOWA COLLEGE OF MEDICINE

Applications are invited for faculty positions at the associate (non-tenure) level. Individuals whose interests coincide with existing faculty strengths in cellular and molecular aspects of endocrine regulation, nervous system signalling or membrane structure and function are particularly encouraged to apply. Candidates should have the Ph.D. or equivalent degree and at least 2 years of postdoctoral research experience. Please submit a letter of application, with curriculum vitae, three reprints of recent experimental work, and names of at least three references, to:

**Dr. Robert E. Fellows**  
Department of Physiology and Biophysics  
The University of Iowa  
5-660 Bowen Science Building  
Iowa City, IA 52242

*The University of Iowa is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

### ASSOCIATE IN RESEARCH DEPARTMENT OF SURGERY HARVARD MEDICAL SCHOOL AND BRIGHAM AND WOMEN'S HOSPITAL BOSTON, MASSACHUSETTS

Division of Cardiac Surgery at Harvard Medical School and Brigham and Women's Hospital has an opening for a research associate in cardiac surgical research. Applicant should have experience with in-vivo and in-vitro experimentation, chronic animal preparations and basic cardiac research techniques including isotopic blood flow measurement, cardiac biochemistry and ultrasonic crystals. Candidate should have a Ph.D., or M.D./Ph.D. in cardiovascular physiology, pathology, or related field and capacity for interdisciplinary research and growth. Please send résumé and references to:

**Lawrence H. Cohn, M.D.**  
Chief, Division of Cardiac Surgery  
Brigham and Women's Hospital  
75 Francis Street  
Boston, MA 02115

**BIOLOGIST:** Assistant professor, tenure-track. Start 1 September 1989. Teach developmental biology, genetics, course in specialty. Participate in general courses for majors and non-majors. Opportunity for research. Ph.D. required. Letter of application, evidence of teaching potential, curriculum vitae, and three reference letters by 14 April 1989 to: **Dr. Tom Frederick, Biology Department, Rochester Institute of Technology, 1 Lomb Memorial Drive, Rochester, NY 14623.** *Affirmative Action/Equal Opportunity Employer.*

**BIOLOGISTS.** Two 1-year leave/sabbatical replacements beginning fall 1989. We seek broadly trained biologists able to teach at least two of the following: genetics, general biology for non-majors, invertebrate zoology, developmental biology, introductory zoology. It is probable that the positions will be filled with one full-time and one three-quarter time appointment. Send letter of application, curriculum vitae, transcripts, and three letters of reference to: **Dr. Larry H. Jones, Chair, Biology Department, The University of the South, Seawee, TN 37375.** Application review will begin 30 March 1989. *Equal Opportunity Employer. Women and minorities are encouraged to apply.*

## POSITIONS OPEN

### BIOCHEMIST

A Midwest manufacturer of specialty ingredients for the animal feed industry seeks a biochemist to join its technical service group. The position involves traveling with the company's sales force to affect technical training in the field, and to meet with customers. The individual will also coordinate field experiments with various universities, and writing of technical/sales bulletins. This position involves 60% travel in the United States and abroad. The successful candidate will possess excellent verbal and written communication skills and enjoy communicating science to the feed industry. The position requires a Ph.D. in biochemistry or related field. An excellent compensation package is offered. *U.S. citizenship required.*

Please submit résumés to: **J. W. Harms, Executive Director of Sales and Marketing, Kemin Industries, Inc., P.O. Box 70, Des Moines, IA 50301.**

*An Equal Opportunity Employer.*

### BIOLOGICAL PHYSICS CORNELL UNIVERSITY

**SENIOR RESEARCH ASSOCIATE** for position as supervising scientist for the Developmental Resource for Biophysical Imaging and Opto-electronics. Will have operating responsibility for the resource laboratories and ample opportunities for research applying modern physical optics to the molecular biophysics of cellular dynamics. Current emphasis on electro-optical microscopic image acquisition, digital image analysis, non-linear optics, photolysis and fluorescence photochemistry, confocal imaging, picometer imaging interferometry. Ph.D. in experimental biophysics, optical or chemical physics or biophysical chemistry should be appropriate. This position carries laboratory management responsibility as well as research opportunity for interdisciplinary research with collaborating biophysicists and biologists. Some postdoctoral experience desirable.

A **POSTDOCTORAL RESEARCH ASSOCIATE** position is also available in the Developmental Resource for Biophysical Imaging and Opto-electronics for research, innovative biophysical instrumentation development and opportunities for interdisciplinary research in molecular and cellular biophysics.

Send résumé, statement of research interests, names of three referees or letters of recommendation to: **Professor Watt W. Webb, Cornell University, Applied and Engineering Physics, Clark Hall, Ithaca, NY 14853-2501.** *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

**BIOLOGIST.** A tenured-track position at the rank of assistant professor is available August 1989. Instructional responsibilities emphasize the presentation of an evening offering of introductory biology fall and spring semesters and an opportunity to offer graduate courses. A Ph.D. is required with teaching experience preferred. Candidates are expected to develop a productive research program. Send curriculum vitae, a description of research plans and names and addresses of three references to: **Harold G. Marshall, Chairman, Department of Biological Sciences, Old Dominion University, Norfolk, VA 23508.** Review process will begin 1 April 1989 and will remain open until a qualified candidate is found. *An Affirmative Action/Equal Opportunity Institution and requires compliance with the Immigration Reform and Control Act of 1986.*

### CHEMICAL ENGINEERING MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Applicants are invited for a tenure-track **FACULTY POSITION** in the Department of Chemical Engineering. Applicants should have a Ph.D. in chemical engineering or a closely related field, should have demonstrated excellence in academic research, and should have a strong interest in teaching graduate and undergraduate chemical engineering. Applicants are preferred with interest in either polymer science and engineering or chemical reaction engineering applied to processing of advanced materials. Exceptional candidates for senior level positions will be considered. Send résumé including the names of at least three references, graduate transcripts and a description of research interests to: **Dr. Robert A. Brown, Head, Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139.** Material should be received by 15 April 1989. *MIT is an Equal Opportunity/Affirmative Action Employer and encourages applications from minorities and women.*

## POSITIONS OPEN

### CARDIOVASCULAR FACULTY POSITION

Applications are invited for a tenure-track faculty position in the area of cardiovascular physiology and control of circulation at the level of associate or full professor. Candidates must have a Ph.D. or M.D. degree and sufficient postdoctoral teaching and research experience commensurate with the expected level of appointment. This position will complement an interactive group of faculty with strong commitment to the study of cellular and integrative aspects of neural and endocrine control of physiological systems. The successful candidate will be expected to develop and maintain a strong independent research program and to participate in teaching the medical and graduate students. Interested applicants should submit by 1 June 1989 curriculum vitae, statement of research goals and accomplishments, summary of teaching experience, and the names of four references to:

**Esmail Koushanpour, Ph.D.**  
Chairman, Search Committee  
Department of Physiology  
Northwestern University Medical School  
303 East Chicago Avenue  
Chicago, IL 60611  
Telephone: 312-908-8220/7991

*Northwestern University is an Affirmative Action/Equal Opportunity Employer. Hiring is contingent upon eligibility to work in the United States.*

**CELL BIOLOGIST/ELECTRON MICROSCOPIST.** The Department of Physiology and Neurobiology, University of Connecticut, Storrs, Connecticut, is soliciting applications for an anticipated tenure-track position at the associate/full professor level beginning 1 January 1990. A Ph.D. or M.D. degree is necessary. The position will require participation in the Department's graduate program, development of an independent research program, and supervision of a well equipped and staffed biological EM facility and its service function. Proficiency in TEM and SEM instrumentation and application of ultrastructural and analytical methods to biological samples is required. Research interests should complement existing faculty research programs in renal physiology, endocrinology, and neurobiology. Possible areas of interest include, but are not limited to, ultrastructural studies of membrane transport, secretory processes, synapses, cell motility, determinants of cell shape, and cell-cell or cell-substrate interactions. *Qualified women and members of minority groups are encouraged to apply.* Curriculum vitae, including a description of research interests, and names of three references should be sent to: **Dr. Guillermo R. Pilar, Head, Department of Physiology and Neurobiology, Box U-42, The University of Connecticut, 75 North Eagleville Road, Storrs, CT 06269-3042.** Salary negotiable according to qualifications. Screening will begin 14 April 1989, and will continue until the position is filled. *Affirmative Action/Equal Opportunity Employer. Search #9A162.*

**CELLULAR BIOLOGIST (IMMUNOLOGIST)**—Tenure-track assistant professorship starting fall 1989. We seek a cellular biologist with expertise in immunology who will teach upper level and graduate courses in these areas, and share teaching general biology. Research opportunities include a modern laboratory and much equipment. Send curriculum vitae and three letters of reference by 17 April to: **Dr. Alfred Chaet, Search Committee Chairperson, Department of Biology, The University of West Florida, Pensacola, FL 32514.** *Equal Opportunity/Affirmative Action Institution.*

National Park Service, Indiana Dunes National Lakeshore, Porter, Indiana, invites applications for **CHIEF SCIENTIST.** Incumbent is responsible for all park research activities in the fields of geology, soil science, hydrology, air quality, zoology, botany, and fire ecology as well as personnel and administrative matters of the division. Also, conducts studies in own area of expertise. *Must be a U.S. citizen.* Ph.D. or equivalent combination of professional experience and graduate education required in the major areas of ecological inquiry. Salary commensurate with experience. Further details from: **Glen Alexander, Indiana Dunes. Telephone: 219-926-7561, extension 411.** *The National Park Service is an Equal Opportunity/Affirmative Action Employer.*



## POSITIONS OPEN

### IMMUNOMEDICS

#### M.S./PH.D.—CHEMIST

Immunomedics, the pioneer company in the use of antibodies for cancer imaging and therapy, is expanding its Department of Radiochemistry and Immunochemistry.

Applicant: M.S./Ph.D.-level with expertise in organic synthesis and experience in one or more of the following: analytical chemistry, radiochemistry, or immunochemistry.

We offer an attractive employment package including paid health/dental, a 401K retirement plan and the opportunity for stock and stock option merit rewards.

Please send curriculum vitae, salary requirements, and career objectives to:

**Personnel Director**  
**Immunomedics, Inc.**  
150 Mt. Bethel Road  
CN 4918  
Warren, NJ 07060

*An Equal Opportunity Employer M/F.*

**CHIEF, DIVISION OF ONCOLOGY/HEMATOLOGY**—Full-time academic appointment available at Southern Illinois University School of Medicine. Associate Professor or Professor of Medicine, depending on experience. Internal Medicine and Oncology/Hematology certification or equivalency is required. Teaching and patient care responsibilities with a strong interest in clinical research. Send résumés to: **Oliver E. Owen, M.D., Professor and Chairman, Department of Internal Medicine, SIU School of Medicine, P.O. Box 19230, Springfield, IL 62794-9230.** *SIU School of Medicine is an Equal Opportunity/Affirmative Action Employer.* This position will be open until April 1989 or until filled.

#### DEVELOPMENTAL PHYSIOLOGIST/GENETICIST TENURE-TRACK ASSISTANT PROFESSOR

The Department of Biological Sciences at the University of Windsor, is seeking a person with a research program in developmental physiology or developmental genetics of animal systems. Preference will be given to an individual working on aquatic organisms. The successful candidate will be expected to obtain external research funding. Duties will include: participating in the teaching of undergraduate animal physiology courses, and graduate courses in area of specialization; and the directing of graduate students at M.Sc. and Ph.D. levels. This position is available 1 July 1989. Later start date may be negotiated.

Please send application by 15 April 1989 to:

**Dr. M. L. Petras**  
**Department of Biological Sciences**  
**University of Windsor**  
**Windsor, Ontario**  
**Canada, N9B 3P4**

*The University of Windsor offers Equal Opportunities to qualified female and male candidates. Women are particularly encouraged to apply.*

*In accordance with Canadian immigration requirements priority will be given to Canadian citizens and permanent residents.*

#### DIRECTOR IDAHO WATER RESOURCES RESEARCH INSTITUTE UNIVERSITY OF IDAHO MOSCOW, IDAHO

Required qualifications include: a Ph.D. and ability to qualify as a tenured professor in an academic department; experience in program initiation, budgeting and personnel management; ability to communicate orally and in writing; and experience in obtaining and administering research grants and contracts. Full-time 12-month position. Requires travel. Salary is competitive and commensurate with qualifications.

Send detailed résumé and the names of three references to: **Peggy Hammel, Secretary, IWRRI Search Committee, 106 Morrill Hall, University of Idaho, Moscow, ID 83843.** Telephone: 208-885-6429. Search and selection procedures will be closed when qualified candidates have been identified, but not earlier than 21 April 1989. *Equal Opportunity Employer/Affirmative Action Institution.*

## POSITIONS OPEN

**DEPUTY DIRECTOR GENERAL**—The International Center for Living Aquatic Resources Management (ICLARM), which carries out research in aquaculture, capture fisheries and coastal area management in tropical developing countries, is seeking a Deputy with a strong background in the aquatic or agricultural sciences. The Deputy's main roles will be to foster relationships with donors and represent the Center internationally. Send application as soon as possible, including addresses and telephone numbers of three references to: **Director General, ICLARM, MC P.O. Box 1501, Makati, Philippines, or Fax: (63-2) 816-3183.**

**DIRECTOR AND PROFESSOR**, School of Natural Resources and Associate Dean, College of Agriculture, The Ohio State University. Applications and nominations are invited for the position of Director of the School of Natural Resources, which offers the only comprehensive, multi-disciplinary undergraduate and graduate academic programs in natural resources in Ohio. At present, there are 27 full-time faculty and approximately 250 undergraduate and 45 graduate students in the School. The Director, who reports to the Vice President and Executive Dean of the College of Agriculture, has fiscal and administrative responsibility for all instructional, research, and public service/extension programs in the School. Qualifications for the position include an earned doctorate and a record of research and teaching consistent with appointment as a tenured full professor. Candidates shall have demonstrated administrative experience and leadership ability, preferably in a multi-disciplinary academic unit. Candidates shall also have the ability to communicate effectively. Nominations and expressions of interest will be received until 15 April 1989 or until suitable candidates have been identified; the position is available 1 September 1989. A position description and application materials will be provided. Address correspondence to: **Dr. James H. Brown, Chair, SNR Director Search Committee, 210 Kottman Hall, The Ohio State University, Columbus, OH 43210-1085 or call: 614-292-2265.** *The Ohio State University is an Equal Opportunity/Affirmative Action Employer.*

#### YALE UNIVERSITY DIRECTOR SCIENCE AND ENGINEERING COMPUTING FACILITY (SECF)

Yale University invites applications from individuals with experience supporting the use of distributed computers in a forefront academic institution. The Director will supervise a small staff of technical personnel and will provide technical advice and assistance to the faculty in the science and engineering departments and to the Office of the Provost on the instructional and research applications of the full range of computers (micros to supers). The Director also represents the interests of our scientific computing community with vendors and with various consortia (e.g., DECUS, Apple University Consortium, the national supercomputer centers). Applicants should have a doctoral degree or equivalent in some field of science or engineering. The possibility exists for combining this position with a teaching or research appointment in the science or engineering department that corresponds most directly with the candidate's interests. Review of candidates will begin upon receipt of applications or nominations. To be considered applications must be received by 1 May 1989. Send résumé with the names of three references to: **Professor R. Apfel, Chair, SECF Search Committee, Council of Engineering, P.O. Box 1968 Yale Station, Yale University, New Haven, CT 06520.** *Yale University is an Affirmative Action/Equal Opportunity Employer and encourages applications from members of minority groups.*

#### EASTERN KENTUCKY UNIVERSITY ECOLOGIST

One-year visiting position or sabbatical leave replacement beginning 15 August 1989, teaching biology and ecology to students not majoring in the sciences. Ph.D. required. Send curriculum vitae, photocopies of all transcripts, and three letters of reference to: **Bruce MacLaren, Department of Natural Science, Eastern Kentucky University, Richmond, KY 40475** by 7 April 1989. Telephone: 606-622-2319.

*Employment eligibility verification required, Immigration Reform and Control Act of 1986. Eastern Kentucky University is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**EDUCATION—FACULTY POSITION—MICRO-FLUID DYNAMICS**—The Applied Ocean Science Program at the University of Delaware's College of Marine Studies invites applications for a tenure-track faculty position to start anytime after 1 September 1989. Requires Ph.D. in the physical sciences or engineering fields. Strong background in theoretical and experimental work on underwater fluid dynamics desirable. Involves teaching at the graduate level and development of an independent, funded research program in micro-fluid dynamics including interactions at solid boundaries. Opportunity to interact with ongoing research in: remote sensing, electromagnetic and sound wave interaction with suspended particles, theoretical and numerical methods in acoustic wave propagation, air/sea interactions, corrosion and fouling. Send résumé with names and addresses of three references to: **Dr. Stephen C. Dexter, Chairman, AOS Search Committee, College of Marine Studies, University of Delaware, Lewes, DE 19958.** Closing date: 1 June 1989. *The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.*

**ENDOCRINOLOGIST**—Diabetologist/Nutritionist Board-certified physician needed for a full-time academic appointment with Southern Illinois University School of Medicine. This position is needed to expand the current metabolic, endocrine, nutritional and diabetes center. Rank and salary to be negotiated. Research and service activities are integrated with an innovative teaching program. Send résumés to: **Oliver E. Owen, M.D., Professor and Chairman, Department of Internal Medicine, Southern Illinois University School of Medicine, P.O. Box 19230, Springfield, IL 62794-9230.** This position will be open until April 1989 or until filled. *SIU is an Equal Opportunity/Affirmative Action Employer.*

#### ENVIRONMENTAL BIOLOGIST ECOTOXICOLOGY

The Department of Biology, University of Northern Iowa, invites applications from individuals with a Ph.D. degree, with postdoctoral or equivalent experience preferred, for a new tenure-track position effective August 1989. The applicant's research should address the toxic effects of air, water, or soil-borne pollutants and/or hazardous substances upon organisms in ecological systems. The research should invite participation by undergraduate and M.A. students. Teaching responsibilities typically include three courses per year from the following: specialties, introductory biology, and general education. Research and consulting opportunities exist with the on-campus Center for Safe and Economic Management of Solid Waste and Hazardous Substances. Excellence in both teaching and research is expected. Salary is competitive and faculty rank is open. Applicants should send curriculum vitae, graduate transcripts, a statement of interests and goals in both teaching and research, relevant reprints, and four letters of reference by 15 April 1989 to:

**Dr. E. Russell TePaske**  
**Department of Biology**  
**University of Northern Iowa**  
**Cedar Falls, IA 50614-0421**

*The University of Northern Iowa is an Equal Opportunity Educator and Employer with a comprehensive plan for Affirmative Action. The University specifically invites and encourages applications from women and minorities.*

#### FACULTY POSITION IN X-RAY CRYSTALLOGRAPHY OR STRUCTURAL BIOPHYSICS BAYLOR COLLEGE OF MEDICINE

We invite applications for two tenure-track positions in macromolecular x-ray crystallography and related areas of structural and theoretical biophysics. The department is seeking outstanding scientists who are committed to establishing productive research programs in the expanding structural biophysics group. Preference will be given to applicants at the assistant professor level, but more senior individuals will be considered. A new core x-ray laboratory, equipped with state-of-the-art instruments, has been established. Applicants should send curriculum vitae, three representative publications, a statement of present and future research interests, and have three letters of reference sent to: **Dr. F. A. Quiocho, Howard Hughes Medical Institute and Department of Biochemistry, Baylor College of Medicine, Houston, TX 77030.** *An Equal Opportunity Employer.*

**NATIONAL INSTITUTES  
OF HEALTH  
POST DOCTORAL  
FELLOWSHIP  
TRANSGENIC MICE**

Experience in molecular biology to work in laboratory using transgenic mice to study the pathogenesis of viruses (e.g., HIV and HSV) and autoimmune diseases. Initial appointment will be for two years, with renewals on a yearly basis. Starting salary range, depending on experience, is \$24,000 to \$40,000 per year. The position is available immediately. Send Curriculum Vitae and names of references to **Dr. Lois Salzman, Deputy Director, Intramural Research Program, National Institute of Dental Research, National Institutes of Health, 9000 Rockville Pike, Building 30, Room 121, Bethesda, Maryland 20892.**

NIH is an Equal Opportunity Employer

## POSTDOCTORAL POSITIONS

BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc. is engaged in the discovery, development, manufacture and marketing of novel therapeutic agents. Our commitment to research has created the opportunity for the following postdoctoral positions in our drug discovery programs.

### Cellular/Molecular Immunologist

This individual will conduct research in the field of neutrophil or lymphocyte adhesion or adhesion molecule related functions. RESPOND TO DEPT. JC-1S-PDRR

### Cell Biologist

This position requires an interest in cancer and/or viral immunology. The incumbent will perform important research projects in this area. RESPOND TO DEPT. JC-1S-PDVM

### Biochemist

Candidates should have a background and interest in enzymology, physical organic chemistry or kinetics. Research goals will be to investigate the kinetics, specificity and mechanism of viral proteases. RESPOND TO DEPT. JC-1S-PDMS

BOEHRINGER INGELHEIM offers a competitive salary and benefits package, modern and fully equipped laboratories and the opportunity to apply your education and experience to challenging areas of research. Our Research and Development Center is situated in a very desirable area of SOUTHWESTERN CONNECTICUT (in DANBURY).

Candidates interested in these positions should send a curriculum vitae, along with the names of three references, indicating appropriate dept. code, to: BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc., 90 East Ridge, P.O. Box 368, Ridgefield, CT 06877. We are an equal opportunity employer m/f/h/v.



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## Medical Affairs Officer

T CELL SCIENCES, INC., is a health care company engaged in the development and marketing of therapeutic and diagnostic products. Positions at T CELL SCIENCES include a career-enhancing environment and offer the opportunity to interface with internationally recognized scientists in converting their discoveries into products.

We are seeking an experienced Medical Affairs Officer to participate in planning, conducting and evaluating a clinical trial program involving recombinant product(s) in potential therapies for myocardial injury and events involving tissue damages. Clinical trials for future products will include autoimmune diseases and certain cancers. The individual will be responsible for identifying and coordinating multicenter clinical trials; coordinating the development of clinical protocols; reviewing and interpreting all safety and efficacy issues of the therapeutic agents under evaluation; and preparing clinical study reports, IND updates and NDA submissions.

The successful candidate will have an M.D. degree (Board Certified in Internal Medicine) with additional training in one or more of the following disciplines: immunology, cardiology, infectious diseases and rheumatology; 3 or more years of pharmaceutical drug trial experience; knowledge of regulatory affairs; and exceptional organizational, communications and management skills.

Interested candidates please forward resume/C.V., salary requirements and description of career goals/publications or abstracts to Paula R. Freeman, T Cell Sciences, Inc., 38 Sidney St. Cambridge, MA 02139.

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SCIENCES**



## Important Contributions To An Essential Effort.

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

## Toxicologists

McLean, VA & San Antonio, TX

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

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

**MITRE**

## POSITIONS OPEN

**ENDOCRINOLOGIST/PHYSIOLOGIST:** KRUG International, support contractor for the Bio-medical Labs at NASA/JSC, seeks a Ph.D. with research experience in fluid and electrolyte regulation. The candidate's research will be expected to focus on hormonal and/or biochemical mechanisms of acute and chronic volume changes. Training on human clinical research with a physiological emphasis is preferred. Applicants should submit curriculum vitae and four references to: **June E. Richmond, Human Resources Manager, KRUG International, P.O. Box 58827, Houston, TX 77258.** An Equal Opportunity Employer/employment eligibility verification required.

### FACULTY POSITION ANALYTICAL MICROSCOPIST/ MATERIALS SCIENTIST

Applicants are sought for a full-time tenure-track position at the assistant professor level. A strong background in analytical electron microscopy and a Ph.D. in materials science or a related discipline is required. Candidates should be interested in teaching undergraduate and graduate courses and in developing a strong research program. Proposed starting date is negotiable. In order to ensure full considerations, applications should be received by 1 May 1989.

*Northwestern is an Affirmative Action/Equal Opportunity Employer. Hiring is contingent upon eligibility to work in the United States.* Send résumé, publications and the names of three references to:

**Professor L. D. Marks  
Northwestern University  
Department of Materials Science  
and Engineering  
Evanston, IL 60208**

### FACULTY POSITIONS

The Department of Molecular Genetics, Biochemistry and Microbiology announces the opening of several tenure-track faculty positions. These are in the areas of (i) human genetics, particularly for an individual currently interested in genetic diseases affecting the cardiovascular system, (ii) protein chemistry, the utilization of genetic techniques to study structure-function, and (iii) molecular immunology. Appointments can be at any level. Generous space and start-up monies are available. The current department has 27 faculty and 50 graduate students and maintains core facilities in cell culture, recombinant technology including DNA sequencing, and transgenic mice production. Interested applicants should submit curriculum vitae, brief description of anticipated research, and names of three qualified references to: **Jerry B. Lingrel, Ph.D., Professor and Chair, Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, OH 45267-0524.**

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

### FACULTY POSITIONS IN APPLIED MOLECULAR BIOLOGY/BIOCHEMISTRY

The Department of Chemical and Biological Sciences at the Oregon Graduate Center is expanding its biotechnology program and invites applications for three faculty positions in molecular biology and protein engineering. We are interested in researchers in the fields of (i) molecular biology of yeast/fungi, (ii) molecular biology/biochemistry of prokaryotic soil microorganisms, and (iii) genetic engineering of proteins.

Rank and salary are open. Investigators who value an environment fostering excellence in research are encouraged to apply.

Minimum requirements: Ph.D., several years of post-doctoral experience, and ability to develop a strong research program and graduate level courses in areas of specialty. Appointments will be made at the level of assistant professor or higher depending on qualifications.

Send curriculum vitae, a statement of research interests, and the names, addresses, and telephone numbers of three references to:

**Dr. Michael H. Gold, Search Committee Chair  
Department of Chemical and Biological Sciences  
Oregon Graduate Center  
19600 N.W. Von Neumann Drive  
Beaverton, OR 97006-1999**  
*Equal Opportunity Employer.*

## POSITIONS OPEN

### FACULTY POSITION BIOLOGICAL SCIENCES

**COMPARATIVE PHYSIOLOGIST:** Tenure-track assistant professor position anticipated for fall 1989 at a comprehensive university of 25,000 students, located in a pleasant community 60 miles west of Chicago. A Ph.D. and postdoctoral experience are required. The successful candidate will be expected to maintain a vigorous research program, and direct graduate (M.S. and Ph.D.) students.

Candidates must have a broad knowledge of comparative physiology and preference will be given to a person with a research program in invertebrate physiology. To teach comparative physiology and participate in introductory courses.

Send curriculum vitae, statement of research goals, three letters of reference and representative reprints by 15 April 1989 to: **Dr. Marvin J. Starzyk, Chairman, Department of Biological Sciences, Northern Illinois University, DeKalb, IL 60115-2861. Telephone: 815-753-1753.** *The University is an Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITIONS IN X-RAY CRYSTALLOGRAPHY

The Department of Biological Chemistry and Molecular Pharmacology at Harvard Medical School and the Dana-Farber Cancer Institute are seeking applications to fill two positions at the assistant professor level to be located at the Dana-Farber Cancer Institute. Applicants should be interested in using crystallographic methods to solve problems in structural biology and biochemistry and should have an appropriate combination of related graduate and postdoctoral level research experience. Interested applicants should send an outline of future research plans, curriculum vitae, bibliography and the names of three to four references to: **Professor Christopher Walsh, Chairman, Biological Chemistry and Molecular Pharmacology, Search Committee, Harvard Medical School, 240 Longwood Avenue, Room C1-213, Boston, MA 02115.** *Women and minorities are encouraged to apply. Harvard University and Dana-Farber Cancer Institute are Equal Opportunity Employers.*

The Bugher Foundation and the American Heart Association have recently established a Center for Research on the Molecular Biology of the Cardiovascular System at the University of Texas Southwestern Texas Medical Center. **FELLOWSHIPS** are available to people interested in establishing a career in basic cardiovascular research. Successful candidates will work 2 or 3 years in laboratories at the Medical Center using the techniques of molecular biology to study the cardiovascular system in health and disease. Selected candidates will also be given the opportunity to extend their clinical training in cardiology. Applicants holding M.D. or M.D./Ph.D. degrees should send copies of their curriculum vitae and two letters of reference from their mentors to: **Dr. J. Sambrook, Chairman, Biochemistry Department, UT Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9038.** *Equal Opportunity/Affirmative Action Employer.*

**HIV MOLECULAR BIOLOGIST,** a junior level research position in our Department of Virology and Immunology. We are seeking a scientist with research interests in the molecular biology of human immunodeficiency virus (HIV) infection. Candidates should have a Ph.D., M.D., or D.V.M. degree with accomplishments that demonstrate the ability to maintain an independent research program. The appointee will complement the current research in HIV infection conducted by **Drs. Jonathan S. Allan, Tran C. Chanh, Jorg W. Eichberg, Patrick Kanda, and Ronald C. Kennedy.** The program focuses on vaccines, therapeutics, and pathogenesis of HIV and SIV infection in nonhuman primate animal models.

The Southwest Foundation for Biomedical Research is a nonprofit, private research institution with a staff of 45 scientists and facilities for DNA sequencing, oligonucleotide and peptide synthesis, hybridomas, electron microscopy, flow cytometry, and computer modeling. It also has extensive nonhuman primate resources which include baboons, rhesus monkeys, and chimpanzees.

Interested candidates should mail curriculum vitae, brief summary of research goals, and names and telephone numbers of three references to: **Personnel Director (9), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.** *Equal Opportunity Employer M/F.*

## POSITIONS OPEN

**FOSSIL ENERGY POSTGRADUATE RESEARCH PROGRAM—**Opportunities at Energy Technology Centers in Morgantown (West Virginia) and Pittsburgh. Research positions in the areas of physical sciences, engineering, and microbiology available. Degree within last 3 years required as is U.S. citizenship or PRA status. Contact: **Fossil Energy Postgraduate Program, University Programs Division, Oak Ridge Associated Universities, Box 117, Oak Ridge, TN 37831-0117; Telephone: 615-576-3456.**

### HUMAN GENETICIST— STAFF COLLABORATOR

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) invites applications for a staff collaborator position for a multi-site research program. "Collaborative Studies on the Genetics of Alcoholism Cooperative Agreement" to identify the genetic basis for alcoholism. The staff collaborator will have substantial scientific input, in collaboration with participating grantees, in the planning and conduct of the research programs. Applicants must have a Ph.D. or M.D. and have experience in conducting independent research in human genetics, genetic epidemiology or molecular genetics. This opportunity may be filled as a competitive Civil Service appointment (annual salary range \$41,121 to \$63,172) or as a visiting scientist or comparable appointment. Send curriculum vitae or request for information to: **Sue Shafer, Ph.D., Acting Director, Division of Basic Research, NIAAA, 5600 Fishers Lane, Rockville, MD 20857. Telephone: 301-443-2530.** *NIAAA is an Equal Opportunity Employer.*

### IMMUNOLOGY POSITION OPENING

Assistant/associate professor, tenure-track. Candidates should be prepared to pursue a vigorous research program. Send curriculum vitae, statement of research interests, and three letters of reference to: **H. K. Ziegler, Ph.D., Department of Microbiology and Immunology, Emory University School of Medicine, Atlanta, GA 30322.** *Equal Opportunity/Affirmative Action Employer.*

### INSTRUCTOR IN PHYSIOLOGY

Applications are invited from persons with a Ph.D. and/or M.D. for the position of instructor in physiology. The successful candidate will assist faculty in teaching of physiology to medical students and advanced courses of endocrinology to graduate students. (s)he will perform research with a neuroendocrine group investigating the roles played by peptides in central disorders and in small-cell carcinoma. Some teaching experience is highly desirable. Preference will be given to candidates with a background in small animal surgery, radioimmunoassay, high performance liquid chromatography and/or cell culture. Applicants should send curriculum vitae and three letters of reference to: **Dr. William G. North, Department of Physiology, Dartmouth Medical School, Hanover, NH 03756.** *Dartmouth College is an Equal Opportunity/Affirmative Action Employer.*

### LABORATORY SUPERVISOR

**HISTOLOGY LABORATORY SUPERVISOR.** Experienced ASCP certified histology technician with supervisory experience is needed for a high volume private pathology research laboratory located in the Washington, DC metro area near Dulles International Airport. Salary commensurate with experience and qualifications. Benefits package includes paid vacation, health insurance, 401K retirement plan, and much more. Interested and qualified individuals should send résumés to: **Experimental Pathology Laboratories, Inc., P.O. Box 474, Herndon, VA 22070; or telephone: Cynthia Bono at 703-471-7060** for information. *Equal Opportunity Employer M/F/H/V.*

**MALARIA RESEARCH. TWO POSTDOCTORAL POSITIONS** available 1 April 1989 to study: (i) interaction of malarial proteins with red cell membranes; (ii) regulation of gene expression. Applicants with appropriate training for either position contact or send curriculum vitae to: **Dr. A. Kilejian, Public Health Research Institute, 455 First Avenue, New York, NY 10016. Telephone: 212-578-0829.** *PHRI is an Equal Opportunity Employer.*



## Manager, Ophthalmic/ Sterile Products

The Consumer Products Division of Pfizer, located in Parsippany, NJ, is recognized worldwide for its quality ophthalmic/sterile products such as Visine, and for proprietary over-the-counter health care products. This growth oriented division has immediate challenges for a scientist with strong leadership abilities, a background in production and solid research capabilities.

In this key position, you will help develop new products and improve existing ones. This will involve supervising both chemists and research assistants in all aspects of product development, including animal and human studies, evaluative testing and product performance. You will also develop test methodologies, coordinate product stability programs and assist in cost savings programs. Your achievements will impact directly on research, production, marketing and sales.

To qualify, you must possess a BS or MS in Chemistry or a related science, and at least five years experience in ophthalmic or sterile liquid dosage form development. A PhD would be a plus.

Pfizer offers a competitive salary and excellent benefits package. For prompt consideration, please forward resume and salary requirements in confidence to: A. J. Murphy, Personnel Director, Pfizer Inc., 100 Jefferson Road, Parsippany, NJ 07054. An equal opportunity employer.



Switzerland

## CHEMIST / BIOCHEMIST

MAAG is the Agrochemical Division of Hoffmann-La Roche with headquarters in Switzerland and subsidiaries in France and the USA. As part of our expansion program, we require a Ph.D. chemist or biochemist with experience in analytical techniques (especially HPLC) to join our Metabolism Section in the Department of Registration and Environmental Studies. Duties will include the study of the behaviour of new candidate plant protection compounds in plants, soil and water. Study reports are used to support the international registration of our successful research compounds. Industrial experience as well as experience in working with radiolabelled compounds ( $^{14}\text{C}$ ) would both be advantages but are not essential. Our laboratories are modern and fully equipped. Dielsdorf is situated in pleasant, rural surroundings about 10 miles outside Zurich. We hope to fill this important position with a scientist who is interested in laboratory work and who would thrive on the inter-disciplinary nature of the position. The successful candidate will supervise 1-2 lab. technicians.

Candidates with Swiss citizenship or who qualify for a Swiss Work Permit "C" are eligible to apply. Please send a detailed CV to the **Personnel Officer, Dr. R. MAAG AG, CH-8157 Dielsdorf, Switzerland.** (Telephone: 011 41 1 855 11 11).

# Pharmaceutical Research

## Opportunities in Drug Metabolism

Smith Kline & French Laboratories, a leader in pharmaceutical research, is expanding its Drug Metabolism Department. We are seeking technically skilled and highly motivated scientists from various backgrounds to participate in our drug discovery and drug development research. We have newly created openings in the following areas:

### Protein/Peptide Chemistry

Opportunities exist for those with interest and experience in the study of the metabolism, disposition and pharmacokinetics of therapeutic peptides and proteins. The successful candidates will design, conduct and interpret studies and prepare reports and publications of their findings. In addition, the successful applicant will establish a research program which will advance the understanding of peptide/protein metabolism. Positions are available for those with B.S., M.S. or Ph.D. degrees in protein chemistry or related areas. Prior experience in the chemical and physical methods for protein isolation and structure determination is essential. Refer to position L0040.

### Bioanalytical Chemistry

Several positions are available in the Bioanalytical Methods Development Section. The primary function of these jobs will be to develop analytical methodology HPLC, GC, GCMS, RIA, etc., for the analysis of potential therapeutic agents in biological fluids. The successful candidates will be expected to develop or participate in the development of independent research programs in the area of novel "trace" analysis. Positions are available for those with B.S., M.S. or Ph.D. degrees in analytical chemistry or related areas. Prior experience in the area of bioanalytical methods development and trace analysis is essential. Refer to position L0041.

### Pharmacokinetics

Challenging positions are open for those with expertise in the areas of clinical pharmacokinetics, preclinical pharmacokinetics, toxicokinetics and in vitro kinetics. The successful applicants will apply pharmacokinetics principles to the discovery and development of potential new therapeutic agents. Duties will include the design, conduct, interpretation and reporting of pharmacokinetic studies. Openings are available for persons with B.S., M.S., Ph.D. or Pharm.D. degrees in pharmaceutical chemistry or related areas. Prior experience in the area of pharmacokinetics is essential. Refer to position L0042.

### Mass Spectrometry

The Department has recently expanded the Mass Spectrometry Section and is seeking scientists with experience in running a mass spectrometer. The successful candidate will work with senior staff in the structure elucidation of metabolic products of potential new therapeutic agents. Primary duties will include design of studies, generation of mass spectrometric data, interpretation of results, reporting of conclusions and maintenance of equipment. The successful candidates will have B.S. or M.S. degrees in chemistry or related areas with prior experience in running and maintaining a mass spectrometer. Refer to position L0043.

Based in a new, state-of-the-art research facility in suburban Philadelphia near Valley Forge, SK&F provides a stimulating and challenging scientific environment in which to grow and excel. We offer an attractive compensation/benefits and relocation package and support continuing education efforts. For confidential review, please forward your C.V. and names of three references to: Liz McKendry, Associate Employment Administrator, Smith Kline & French Laboratories, Research and Development, P.O. Box 1539, King of Prussia, PA 19406-0939. M/F/H/V.

**SK&F**  
A SmithKline Beckman Company

## POSITIONS OPEN

### MICROBIOLOGIST— ASSISTANT PROFESSOR UNIVERSITY OF CALIFORNIA, DAVIS

The Department of Food Science and Technology seeks a microbiologist for a tenure-track position as assistant professor and assistant microbiologist in the Agricultural Experiment Station. The candidate will be expected to use molecular or classical approaches in developing a research program that investigates microorganisms or microbiological problems of importance to foods or food processing. Applicants will be selected for interviews on the basis of research accomplishments, potential for developing a strong research program, and ability to train, teach, and advise students in food science and related basic disciplines. Graduate training at Davis uses the Graduate Group system, and the appointee would direct Ph.D. and M.S. students from the Microbiology, Food Science, Biochemistry, and/or Genetics Graduate Groups, depending on research interests. Undergraduate teaching responsibilities will be coordinated with the four microbiologists currently in the Department and will be within the appointee's area of specialization. A Ph.D. in microbiology or related field is required. Send curriculum vitae, publication list, statement of research interests, and the names and addresses of four references to: **Dr. C. W. Price, Department of Food Science and Technology, University of California, Davis, CA 95616.** To assure consideration, please submit application by 1 May 1989. *UC Davis is an Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR ENTOMOLOGY— PLANT PROTECTION BOYCE THOMPSON INSTITUTE AT CORNELL UNIVERSITY

The Boyce Thompson Institute at Cornell University invites applications for a tenure-track position in plant protection at the level of **ASSISTANT SCIENTIST**. The Institute has an ongoing program in plant protection which includes research projects on microbial pathogens of insects and insect-plant interactions. The candidate will be expected to establish a vigorous, independent research program that will combine the principles of molecular biology with the fundamentals of insect biology to develop novel strategies for plant protection. Applicants should have strong experience in basic molecular biology that could be applied to insect development, reproduction, and/or pathology of insects. Candidates with records of achievement in postdoctoral positions or their equivalent will be considered. Send curriculum vitae, transcripts of college records, a list of three references, and a statement of research interests by 15 May 1989 to: **Dr. Richard C. Staples, Chairman, Plant Protection Search Committee, Boyce Thompson Institute, Tower Road, Ithaca, NY 14853.**

### OREGON HEALTH SCIENCES UNIVERSITY CENTER FOR RESEARCH ON OCCUPATIONAL AND ENVIRONMENTAL TOXICOLOGY NEUROTOXICOLOGICAL SCIENCES

Newly created, state-supported, multidisciplinary Center in neuroscience-rich environment seeks potential or established independent **SCIENTISTS** primarily to conduct basic research on molecular and cellular mechanisms underlying adverse actions of chemicals on the mammalian nervous system. Special interest areas in xenobiotic-receptor-gene interactions, perturbations of gene-product expression and their relationship to neurodegenerative diseases. Other areas include behavioral toxicology; analytical and synthetic chemistry; chronotoxicology; developmental neurobiology and mutagenesis; geronto-neurotoxicology; immunoneurotoxicology; neuroepidemiology; molecular neurophysiology; molecular toxicogenetics; neuroendocrine and neurosensory toxicology; toxicogenosy; and tumorigenesis. Ten scientist and staff scientist positions available (start-up 1989 to 1991) on term, tenure-track or tenure appointments equivalent to assistant, associate or full professor, depending on qualifications, experience and potential. Salaries competitive with other major universities, with 50%+ generated from funded research. Submit fully developed application by 7 April 1989 to: **Dr. P. S. Spencer, Director and Senior Scientist, Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, P.O. Box 8366, Portland, OR 97207-8366.** *Oregon Health Sciences University is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**NEUROSCIENTIST—RESEARCH FACULTY POSITION** available. Duties include supervising graduate students and postdoctoral fellows. The candidate should have Ph.D. and/or M.D. degrees with at least 2 years of postdoctoral experience in areas of physiology and biophysics of mammalian cortical neurons and circuits and mechanisms of epilepsy. Ability to compete successfully for extramural funds is essential. Applications should include curriculum vitae and names of three references. Write to: **Dr. Timothy A. Pedley, The Neurological Institute, 710 West 168th Street, New York, NY 10032.** *Columbia University takes Affirmative Action to ensure Equal Opportunity.*

**NMR STAFF SCIENTIST** position available in the Department of Neurology at Henry Ford Hospital. Areas of research include the application of NMR to the study of human and animal brain metabolism and blood flow with an emphasis on stroke, dementia, and Parkinson's disease. The successful applicant will have a Ph.D. and at least 2 years of postdoctoral training in vivo NMR, and will be encouraged to develop their own research interests. The Department of Neurology, a NINCDS Center for Stroke Research, has two dedicated research NMR systems; an 80-MHz whole-body and a 400-MHz wide-bore system. The purchase and installation of an additional whole-body 3.0T magnet is planned for fall 1989. Other facilities include numerous biochemistry labs and fully-equipped machine and electronics shops. Résumé should be sent to: **Dr. J. A. Helpert, Director of NMR Research, Department of Neurology, Henry Ford Hospital, 2799 West Grand Boulevard, Detroit, MI 48202.** Telephone: 313-876-2620.

**OCEANOGRAPHER.** The Oceanographic Center of Nova University intends to fill a faculty position in at least one of the following areas: Experimental physical oceanography, theoretical physical oceanography, fisheries biology. The successful applicant will have the Ph.D. degree in one of these disciplines or in a related area and will have the ability to develop a rigorous, independent research program. Research projects will be supported entirely by contracts and grants. To supplement research salaries, limited graduate teaching opportunities are available. Submit curriculum vitae and three references to: **Dr. Julian McCreary, Director, Nova University Oceanographic Center, 8000 North Ocean Drive, Dania, FL 33004.** *An Equal Opportunity/Affirmative Action Employer.*

### PEDIATRIC CARDIOLOGISTS

The Department of Pediatrics at the University of Michigan is seeking two Board-eligible/certified pediatric cardiologists for full-time, academic tenure-track positions. Send curriculum vitae to: **A. Rosenthal, M.D., Director, Pediatric Cardiology, C.S. Mott Children's Hospital, University of Michigan Medical Center, Ann Arbor, MI 49109-0204.** *The University of Michigan is an Equal Opportunity/Affirmative Action Employer.*

**Ph.D. IN IMMUNOLOGY/VIROLOGY/MOLECULAR BIOLOGY** needed by young company in Boston area to work on development of novel products for HIV testing, antibody-based research/diagnostic tests, and nucleic acid hybridization. Focus will be on new laboratory instruments. Candidate should have experience with protein/DNA electrophoresis, western and southern blotting, and other molecular biology techniques. Please send curriculum vitae to: **Carol Watkins, Immunetics, Inc., 380 Green Street, Cambridge, MA 02139.**

**POSTDOCTORAL FELLOW IN NEUROSCIENCE** position available immediately to join a multidisciplinary neuropharmacology group studying the regulation of central and peripheral neuropeptide processing and metabolism by drugs and disease. Opportunities to learn solid-phase peptide synthesis and purification, cell culture, RIA/HPLC, peptide mapping by HPLC and brain micro-slice techniques. Salary is negotiable. Closing date 30 December 1989. Send curriculum vitae and names of three references to: **Dr. Thomas P. Davis, Department of Pharmacology, University of Arizona, College of Medicine, Tucson, AZ 85724.** *An Equal Opportunity/Affirmative Action Title IX Section 504 Employer.*

## POSITIONS OPEN

**POPULATION/QUANTITATIVE GENETICIST** with focus in fisheries science. Assistant professor in marine science, tenure-track. Expertise in contemporary methods of genetic analysis of natural populations, evolutionary biology and stats essential. Successful applicant to develop a vigorous, independent research program using marine organisms, collaborate in fisheries projects, participate in graduate teaching and research programs, and supervise Ph.D. and M.A. students. Ph.D. required. Postdoctoral or other appropriate research preferred. Send three references, curriculum vitae, and statement of research interests by 15 April 1989 to: **Dr. Roger Mann, Chair, Populations Genetics Search Committee, School of Marine Science, College of William and Mary, Gloucester Point, VA 23062.** The position to be filled by 1 July 1989. *The College of William and Mary is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

Applications are invited for **POSTDOCTORAL ASSOCIATE** positions in the laboratory of **Dr. Stephen Reeders**, Assistant Investigator, Howard Hughes Medical Institute at Yale University. Molecular and cell biological approaches will be applied to renal organogenesis, and the growth and differentiation of renal tubular elements. Another main interest of the laboratory is the study of inherited disorders of renal development. Applicants should have a strong background in molecular biology, cell biology, development biology, or genetics. Appointments are for 2 years with an additional year possible. The salary range is \$20,000 to \$25,000 per year, based on qualifications and experience, and an excellent benefits package is offered. Send curriculum vitae:

**Stephen Reeders**  
Assistant Investigator  
Howard Hughes Medical Institute  
LCI 208, 333 Cedar Street  
Yale University School of Medicine  
New Haven, CT 06510  
Telephone: 203-785-6737

**POSTDOCTORAL ASSOCIATE POSITION IN VISUAL NEUROPHYSIOLOGY** available for research on extrastriate and inferior temporal cortex. Current research includes single neuron recording and behavioral, ablation and anatomical experiments. Experience in single neuron recording required. Behavioral, anatomical, and/or "C" programming experience desirable. Send curriculum vitae, reprints, and names of three references to: **C. G. Gross, Department of Psychology, Princeton University, Princeton, NJ 08544.** *Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE

Two positions available immediately. Type of position dependent on qualifications of the applicant. Ongoing projects include:

Chromosome 3 deletion in small cell lung cancer  
Retinoblastoma gene aberration in small cell lung cancer

Identification of tumor suppressor genes  
Role of receptor kinases in cell differentiation

Please send in curriculum vitae, a summary of research interests and names of three references by 1 June 1989 to:

**Susan L. Naylor, Ph.D., or Alan Y. Sakaguchi, Ph.D.**  
Department of Cellular and Structural Biology  
University of Texas Health Science Center  
7703 Floyd Curl Drive  
San Antonio, TX 78284  
Telephone: 512-567-3842 or 512-567-3857  
*An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWSHIP** available July 1989 for studies of post-receptor pathways of growth factor action in human fibroblasts. Experience in analysis of growth factor response pathways or in basic molecular biology techniques useful. Supported by a NIH training grant—U.S. citizenship required. May participate in endocrinology fellowship if qualified. Send curriculum vitae and names/telephone numbers of three references to: **Dr. R. W. Rees-Jones, Department of Medicine, Columbia University, 630 West 168th Street, New York, NY 10032.** *Columbia University takes Affirmative Action to ensure Equal Opportunity.*

## POSITIONS OPEN

### POSTDOCTORAL FELLOW AND/OR RESEARCH ASSOCIATE RETROVIRUS RESEARCH LABORATORY COLORADO STATE UNIVERSITY

A person(s) with experience in research techniques in virology, protein biochemistry, immunology, and/or cellular biology to participate in investigations of the mechanisms of retrovirus infection and disease in model systems is sought. Background in virologic and immunologic assays, nucleic acid, protein detection and purification methods are most relevant. Capacity for independent work and ability to interact productively with colleagues are important. Minimum requirements: M.S. or Ph.D. in biologic science, relevant experience. Salary commensurate with credentials.

Deadline: 1 June 1989

Please send résumé to: **Dr. Edward A. Hoover, Professor, Department of Pathology, Colorado State University, Fort Collins, CO 80523.**

*Colorado State University is an Equal Opportunity/Affirmative Action Employer and complies with all Federal and Colorado State laws, regulations, and executive orders regarding Affirmative Action requirements.*

**POSTDOCTORAL FELLOWSHIP/RESEARCH ASSOCIATE** available immediately to study cellular and molecular biology of regulation of microfilaments cytoskeletal organization and motility in neutrophils and myeloid cells. Background in cell biology, biochemistry, and/or molecular biology preferred. Appointment in laboratory will be in Department of Cell Biology and Anatomy at the University of Alabama at Birmingham. Send curriculum vitae, names and addresses of three references to: **Dr. Thomas H. Howard, University of Alabama at Birmingham, Pediatric Hematology Oncology, The Children's Hospital of Alabama, 1600 7th Avenue South, Birmingham, AL 35233.** *The University of Alabama at Birmingham is an Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL FELLOWSHIPS DEPARTMENT OF CELLULAR AND DEVELOPMENTAL BIOLOGY ORGANISMIC AND EVOLUTIONARY BIOLOGY HARVARD UNIVERSITY

A limited number of postdoctoral research positions become available from time to time. Some appointments are funded through research grants awarded to faculty members and are ordinarily for 1 year, sometimes renewable, other appointments are possible through postdoctoral fellowships. For a list of faculty members who have postdoctoral positions available, write to the respective department office: **Harvard University, 16 Divinity Avenue, Cambridge, MA 02138.** (Do not send applications.) *Harvard University is an Equal Opportunity Affirmative Action Employer.*

### POSTDOCTORAL OPPORTUNITIES

Howard Hughes Medical Institute, a leading medical research organization, has postdoctoral positions available to study the structure-function relationships of blood-clotting proteins or cellular regulation of receptor expression.

You will work in a new facility with monoclonal, tissue culture and structural biology core facilities. Experience in molecular or cell biology, or protein or physical chemistry is preferred.

To apply, send curriculum vitae and two recommendations to: **Charles T. Esmon, Ph.D., Howard Hughes Medical Institute, c/o Oklahoma Medical Research Foundation, 825 NE 13, Oklahoma City, OK 73104.** *Equal Opportunity Employer.*

### POSTDOCTORAL POSITION

Available for a microbiologist with biochemical background. Candidates should have experience in handling anaerobic microorganisms, in the characterization of lipopolysaccharides and proteins, and in the use of isotopes. Send résumé and two letters of reference to: **Professor William W. Yotis, Department of Microbiology, Loyola University Stritch School of Medicine, Maywood, IL 60153. Telephone: 312-531-3397.** *Loyola University of Chicago is an Equal Opportunity/Affirmative Action Employer.*

# Biotechnology Research

Cal Bio, a leading biotechnology company engaged in developing human therapeutics and protein drug delivery systems, has positions available in the following research areas:

## Scientist/Sr. Scientist — Biological Testing

Use a broad physiology background and 3-5 years' relevant experience to test in vivo models for tissue repair, drug delivery systems, cardiopulmonary functions, or metabolic systems. Position includes supervision of 2-3 Research Associates. A PhD is required and industry experience preferred. Code LM-CK.

## Protein Biochemist — Neurobiology

Join a team of molecular and cell biologists developing novel therapeutics for the treatment of neuropathies. Position requires experience with protein analysis and purification techniques including all types of chromatography as well as biochemical, biological, and immuno assays. Experience with polypeptide hormones and their receptors is helpful. Qualified candidate has a PhD in a scientific discipline with or without postdoctoral experience. Previous research experience in neurobiology not required. Code LM-FF.

## Scientist

Apply your expertise to cDNA library construction, oligonucleotide design and screening, and expressions strategies for cloned cDNA's. Candidate should possess a PhD and 2-4 years' related experience. Code LM-LJ.

## Protein Biochemist

Conduct research on human therapeutics for Diabetes/Obesity, one of Cal Bio's four focus areas. This position requires protein purification expertise involving analytical HPLC method development. Individual should possess a PhD with 1-2 years' experience, or a BS/MS with 3-5 years' experience. Code LM-RA.

## Postdoctoral

Two opportunities exist: the first involves research into the molecular biology and biochemistry of growth factors and their role in wound healing, the second requires analysis of the receptors for atrial natriuretic peptides and their synthetic analogs. Code LM-JF.

## Research Associates/Sr. Research Associates

Several positions exist for researchers in our four focus areas: diabetes/obesity, tissue repair, cardiopulmonary, and drug delivery research. A BS/MS plus 1-3 years' lab experience in one of the following areas is required: Protein Chemistry, Molecular Biology, Biochemistry and Cell Biology. Code LM-RR.

Cal Bio offers a stimulating work environment and a competitive compensation and benefits program. For immediate consideration, please forward your curriculum vitae, **indicating job code**, to: **Liza Mingione, California Biotechnology Inc., Human Resources, 2450 Bayshore Parkway, Mountain View, CA 94043.** We are an equal opportunity/affirmative action employer.

# CAL BIO

## Skin Biology-Associates

The Hairgrowth Research Group of The Upjohn Company is seeking highly motivated applicants for research associate positions to participate in studies of mechanisms that control growth and differentiation in hair and/or skin. These positions are available to MS or BS level professionals having several years of related experience. Must have demonstrated ability to work independently and in collaboration with members of a multidisciplinary research team.

**Morphologist**-Conduct *in vivo* research with animals and primates to characterize structural derangement in the skin and hair follicles of animal models. Develop assays to quantitatively evaluate stimulation or inhibition of hair growth. Must be skilled in administration of drugs to animals, collection and preparation of skin and hair for examination at the light and electron microscopic levels. Experience in modern morphological techniques such as computerized image analysis, immunohistochemistry and autoradiography is desirable.

**Cell Biologist**-Identify and characterize molecules that modulate intercellular communication in hair follicles and/or skin. Studies require experience in generating monoclonal antibodies, developing immunoassays, or preparing skin specimens for histological examination. Additional knowledge of biochemical techniques (e.g., purification, electrophoretic analyses) is desirable.

We are located in southwestern Michigan, midway between Chicago and Detroit. Upjohn offers personal and career advancement opportunities, a highly competitive salary, comprehensive benefits and relocation assistance. For confidential consideration, call from outside of Michigan toll free 1/800/253/8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent. Please refer to advertisement number 23690-HA when calling. An Equal Opportunity Employer M/F.

Our Commitment to Scientific  
Excellence Continues . . .

**Upjohn**

## Clinical Pathologist

The Department of Experimental Pathology, Smith Kline & French Laboratories, has a position available for a veterinary clinical pathologist. Smith Kline & French, a leader in pharmaceutical research, is located in suburban Philadelphia, near Valley Forge.

The successful applicant must have demonstrated expertise in the field of clinical pathology and a proven record of accomplishment either through publication or relevant postdoctoral experience leading to an M.S. or Ph.D. degree. Board certification is preferred but is not essential. Expertise in comparative hematopathology is highly desirable. The position has managerial responsibility for a group of ten technologists in hematology and clinical chemistry. The incumbent will direct studies intended to define the toxicologic profile of pharmacological agents and will participate as a member of a team engaged in drug development. The successful candidate will be expected to design and conduct studies to resolve issues surrounding drug-induced hematotoxicities. The position offers substantial opportunity for collaboration with scientists involved in the discovery and development of novel thrombolytic agents and hematopoietic growth factors. Opportunities for professional growth are also offered through publication and presentation at scientific meetings.

Smith Kline & French Laboratories offers excellent compensation and work related benefits, an attractive relocation policy and a collegial work environment that offers considerable opportunity for personal and professional growth. For confidential consideration, please forward your curriculum vitae to: Elizabeth McKendry, Associate Employment Administrator, L0045, Smith Kline & French Laboratories, Research and Development, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

**SK&F**  
A SmithKline Beckman Company

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Alcohol, Drug Abuse, and Mental Health Administration  
National Institute of Mental Health

## Extramural Staff Fellowships in Neuroscience

The Neurosciences Research Branch, of the Division of Basic Sciences, an extramural grant program of the NIMH, has immediate staffing opportunities in the areas of **Molecular Neurobiology/Immunology** and **Theoretical Neuroscience**. The staff fellows will assist existing program staff in the development of two new grant support programs designed to encourage the application of experimental strategies utilizing either advanced molecular biological/immunological techniques or mathematical and computational techniques toward understanding basic brain function and mental health research problems. Responsibilities include: conducting, analyzing and evaluating research and research trends; consulting with grant applicants; conducting workshops; interacting with researchers in various research settings.

Applicants must have a Ph.D. degree and up to three years of post-doctoral research experience in a neuroscience-related discipline, with extensive training in either molecular biological theory and technology or mathematical/computational/theoretical neuroscience. Initial appointments will be made for up to two years with yearly extensions to a maximum of seven years. Starting salaries range from \$28,850 to \$53,460. Relocation expenses may be paid. U.S. citizenship or permanent residency status is required. Fellows are eligible for full Government benefits and leave. Duty station is Rockville, MD. Applications will be accepted until positions are filled.

Interested persons should send a letter of interest and a curriculum vita in confidence to: Ronald Schoenfeld, Ph.D., Acting Chief, Neurosciences Research Branch, Division of Basic Sciences, National Institute of Mental Health, Room 11-105, 5600 Fishers Lane, Rockville, MD 20857. (301) 443-1504.

ADAMHA is an Equal Opportunity Employer

## ASSISTANT DIRECTOR

The Princeton Plasma Physics Laboratory, one of the world's leading laboratories engaged in the development of magnetic fusion as an inexhaustible energy source, seeks an Assistant Director who will serve as Executive Officer for the Laboratory's internal and external Advisory Councils and be responsible for the Laboratory's interaction with federal and state government and long-range planning activities.

The essential qualifications for this position are experience with FFR&D laboratory relationships with federal and state legislative bodies and executive agencies, an advanced degree and experience in physics or a closely allied engineering discipline, and experience as a technical manager. Familiarity with the interactions of the academic and industrial sectors with FFR&D institutions is highly desirable.

The Laboratory offers stimulating and challenging work, a salary fully commensurate with experience and a comprehensive benefit package.

Please forward a detailed resume, names of references, and salary requirements by 31 March 1989 to:

Dr. Harold P. Furth, Director  
Princeton Plasma Physics Laboratory  
Post Office Box 451  
Princeton, New Jersey 08543

An Equal Opportunity/Affirmative Action Employer

**Plasma Physics  
Laboratory**  
Princeton University

## Director Human Studies Division

Health Effects  
Research Laboratory  
Research Triangle Park, NC



**U.S.  
Environmental  
Protection  
Agency**

An Equal Opportunity Employer

**T**he U.S. Environmental Protection Agency (EPA) is seeking candidates for the position of Director, Human Studies Division, Health Effects Research Laboratory (HERL). This position is located in Research Triangle Park, N.C. and is a permanent full-time position with a salary range of \$57,158 to \$74,303 per annum commensurate with qualifications. Additional salary incentives are available should a physician be selected for this position.

HERL has a staff of about 300, over 100 of whom hold doctoral level degrees. The Laboratory has a diverse program which includes *in vitro*, animal, human, clinical, and epidemiological research designed to address issues related to the health effects of air and water chemical and biological pollutants.

The Human Studies Division (HSD) is a multi-disciplinary program organized into two branches: Clinical Research and Epidemiology with a combined EPA staff of 35, with approximately 75 on-site contractor personnel. The Division is a focal point for planning, conducting, coordinating, supporting and evaluating a program of clinical and epidemiological investigations to improve the understanding of human health risks associated with environmental pollution. The program includes both intramural investigations and extramural arrangements with universities, industry, private research institutions and other government agencies. The primary responsibilities of the Director are to

direct and manage the program. This includes developing the program to meet the evolving needs of EPA, presenting the program, developing and managing budgets, supervising the staff, directing the progress of the program and ensuring the scientific quality and productivity of the program.

The preferred candidate for this position would possess the following qualifications:

1. Advanced degree in a biological or medical discipline or epidemiology with at least six years of professional experience in any of these areas. Applicable graduate coursework may be substituted for a portion of the preferred experience.
2. Experience as a supervisor of a scientific/professional staff.
3. Recognized scientific expertise as evidenced by multiple publications in peer-reviewed literature and invitations to participate in national and international meetings/panels.
4. Proven ability to provide leadership in directing the development and progress of a creative and effective multidisciplinary human research program.
5. U.S. citizenship is required.

Forward curriculum vitae and names of three references prior to May 1 (previously April 17) 1989 to: **Dr. Lawrence W. Reiter, c/o Terri Burrell, HRMD (MD-29), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.**



## GLAXO INSTITUTE FOR MOLECULAR BIOLOGY S.A.

The Geneva biotechnology research unit of the largest U.K. pharmaceutical group has a vacancy for:

## AN ANIMAL-CELL FERMENTATION SCIENTIST

We are expanding our activities in the area of animal cell cultivation and are seeking a scientist to lead a cell culture laboratory within our Fermentation group. The successful candidate should have a strong scientific background in the general area of animal cell biology or fermentation and post-doctoral experience in the culture of animal cells in fermenters. In addition the applicant should be able to contribute actively to the development of research projects in one or more of the areas of current interest to the Institute. Current projects include antiviral and antifungal therapeutics, inflammatory diseases and the regulation of cell proliferation and development.

The Institute has a staff of over one hundred, grouped in small teams of specialists from several domains of modern biology. We are part of the Glaxo Group – one of the world's leading pharmaceutical companies – which has an outstanding reputation for the quality of its research and products.

We offer an excellent salary and benefits package, with opportunities for career development in one of the most attractive parts of Europe.

If you are interested in this position, please send your curriculum vitae with a list of publications and the names of three references to: Rita Gloor, Personnel Manager, GLAXO IMB SA, 46, route des Acacias, 1211 Geneva 24, Switzerland.



## POSITIONS OPEN

### POSTDOCTORAL PHARMACOLOGIST

XOMA Corporation is a world leader in the development and clinical testing of therapeutic pharmaceuticals for human use. This highly visible position is responsible for the overall scientific and administrative direction of the Pharmacology group. Design, carry out an interpreted pharmacological pharmacokinetic and efficacy studies with XOMA products currently in development. Will also develop animal model systems for evaluation of septic shock, anti-cancer and immune-related diseases publication/presentation to the FDA. One to two junior scientists report to this position. Ph.D. in Pharmacology or related discipline, 0 to 5 years of postdoctoral experience, including extensive use of laboratory rodents for pharmacokinetic, tissue distribution studies. Experience with immunological model systems using normal and nude mice, biostatistics and computer usage desirable; supervision experience desired. XOMA offers competitive salary and comprehensive benefits in an outstanding work environment. For consideration, please forward your curriculum vitae and salary history to: **Director of Human Resources, XOMA Corporation, 2910 Seventh Street, Berkeley, CA 94710. Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available 1 July 1989 or thereafter to study the role of autocrine growth factors and mechanisms of oncogene action in the regulation of epithelial growth and differentiation in culture and in vivo. This project will employ techniques of human keratinocyte, mesothelial, and fibroblast cell culture and defective retroviral transduction, and may also involve in vitro mutagenesis and gene cloning. Applicants should have a recent Ph.D. in molecular genetics, biochemistry, or epithelial cell biology. Position carries joint appointment in the Department of Cellular and Molecular Physiology at Harvard Medical School. Send curriculum vitae, summary of research and course experience, thesis abstract, and the names of three references to: **Dr. James G. Rheinwald, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. An Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** for a Ph.D. to study electrophysiology of transmitter release at the neuromuscular junction. Available up to 3 years starting at \$21,370 per annum. Send curriculum vitae and names of three references to: **M. D. Miyamoto, Pharmacology Department, Box 19810A, East Tennessee State University, Johnson City, TN 37614. ETSU is an Equal Opportunity/Affirmative Action Employer and employs only U.S. citizens and aliens authorized to work in the United States. Position contingent upon grant funding.**

**POSTDOCTORAL POSITION** available immediately to study regeneration in the central and peripheral nervous system. Both in vivo and in vitro models will be used. Experience with animal models, cell biology, immunocytochemistry and tissue culture desirable. Send curriculum vitae, names, addresses, and telephone numbers of three references, and a brief description of research experience to: **R. Pitas, Gladstone Foundation Laboratories for Cardiovascular Disease, University of California, P.O. Box 40608, San Francisco, CA 94140-0608.**

**POSTDOCTORAL POSITION** available immediately to study the enzymatic mechanisms of DNA recombinases and DNA helicases. The research will include the use of protein engineering to construct mutant enzymes having altered catalytic properties. Experience in mechanistic enzymology, nucleic acid biochemistry, or protein chemistry is required. Send curriculum vitae and names of references to: **Dr. F. R. Bryant, Department of Biochemistry, Johns Hopkins University, 615 North Wolfe Street, Baltimore, MD 21205.**

**POSTDOCTORAL POSITION** available in Cell Biology laboratory interested in hematopoietic cell differentiation. Opportunity to study the role of tyrosine kinase oncogenes in megakaryocyte differentiation or the role of nuclear oncogenes in normal human monocyte differentiation. Experience with techniques in contemporary cell and molecular biology required. Send curriculum vitae with three references to: **R. A. Mufson, Ph.D., American Red Cross, Holland Laboratory, 15601 Crabbs Branch Way, Rockville, MD 20855. Equal Opportunity Employer/M/F/V/H.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately to study translational regulation of growth factors. Recent Ph.D. with experience in recombinant DNA technology is preferred. Salary commensurate with qualifications. Send curriculum vitae and three letters of reference to:

**Kailash C. Gupta, Ph.D.  
Department of Immunology/Microbiology  
Rush Medical College  
1653 West Congress Parkway  
Chicago, IL 60612**

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

**POSTDOCTORAL POSITION** in computer-aided drug design, available 1 June 1989. The project involves developing novel methods of deducing the receptor site geometry and energetics from experimental binding data. The ability to write computer programs is essential, and familiarity with QSAR is helpful. Send curriculum vitae and names of three references to: **Dr. G. M. Crippen, College of Pharmacy, University of Michigan, Ann Arbor, MI 48109. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available immediately for pharmacologist/biochemist to study signal transduction in tumor promotion and progression. Interested candidates should send their curriculum vitae and names of three references to: **Dr. Barbour S. Warren, University of Texas M. D. Anderson Cancer Center, Science Park, P.O. Box 389, Smithville, TX 78957. An Equal Opportunity/Affirmative Action Employer. UTMD Anderson Cancer Center is a smoke-free workplace.**

**POSTDOCTORAL POSITION** available immediately for multidisciplinary study of angiogenesis in amphibian model systems. Background in cell culture and immunocytochemistry desirable. Send curriculum vitae and names of three references to: **Dr. Carl M. Rovainen, Department of Cell Biology and Physiology, Box 8101, Washington University School of Medicine, 660 South Euclid, St. Louis, MO 63110. Telephone: 314-362-2299. Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL POSITION

Laboratories studying phospholipid-derived mediators and ionic fluxes in pancreatic islets have positions for postdoctoral fellows with experience in biochemistry, chemistry, pharmacology, or a related discipline. Training provided in GC, HPLC, GC/MS, phosphoprotein analysis, immunoassays, small animal surgery. In department with multidisciplinary collaborative interactions in study of insulin secretion, insulin action, diabetic complications, and islet transplantation. Positions supported by training grant requiring U.S. citizenship or permanent resident status. Salary on NIH scale. Contact: **Dr. John Turk or Dr. Michael McDaniel, Box 8118, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110. Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION— ECOSYSTEM MODELING

Applicants should have a strong background in quantitative studies, experience in simulation modeling, and an interest in holistic studies of ecosystems. Doctoral training may be in any area of biological or environmental science. Appointment will begin in August, 1989 or later. This is a full-time, 12-month appointment with a salary of \$20,000 and a full range of benefits. A 1-year renewal is possible. Submit résumé, three letters of recommendation and transcripts of all academic work to: **Orie L. Loucks, Department of Zoology, Miami University, Oxford, OH 45056. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN MOLECULAR ENDOCRINOLOGY.** Position available July 1989 for studies of hormonal regulation of gonadotropin genes. Research involves promoter mutagenesis, gene transfer experiments and interactions of hormone response elements with transcription factors. Background in molecular biology preferred. Send curriculum vitae, description of research background, and three letters of reference to: **Dr. Larry Jameson, Chief, Thyroid Unit, Massachusetts General Hospital, Boston, MA 02114. An Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### POSTDOCTORAL POSITION IN MARINE AND ESTUARINE SCIENCES

The University of Maryland Center for Environmental and Estuarine Studies (UMCEES), Horn Point Environmental Laboratories, located on Chesapeake Bay, is seeking to fill a postdoctoral position in any one of a broad spectrum of disciplines. These include: physical oceanography; phytoplankton, zooplankton and bacterioplankton dynamics; ecology of vascular plant communities; nutrient cycling processes; benthic ecology and geochemistry; invertebrate behavior, development and physiology; and seafood technology. The position is available from 1 November 1989, for 1 year with possible renewal for a maximum of 2 years. Send résumé and three letters of reference by 30 April 1989 to: **Dr. W. Michael Kemp, Chairman, Postdoctoral Search Committee, Horn Point Environmental Laboratories, P.O. Box 775, Cambridge, MD 21613. The University of Maryland is an Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL POSITION IN PLANT MOLECULAR BIOLOGY

To work on one of the following: (i) Evolution of gene families and mechanisms of DNA duplication and movement within and among the plant genomes, (ii) Molecular evolution of flower-pollinator interaction. Other topics in molecular evolution might also be suitable. Position available 1 July 1989. Write to: **Eran Pichersky, Biology Department, University of Michigan, Ann Arbor, MI 48109; Telephone: 313-936-3522. Please include curriculum vitae, and have three letters of recommendation sent directly.**

*The University of Michigan is a non-discriminatory/Affirmative Action Employer.*

**POSTDOCTORAL POSITIONS** available immediately to study cytoskeletal-membrane interactions in neural cells. Projects deal with the interaction of brain spectrin with other proteins (synapsin I, amelin, ankyrin, actin, calmodulin and adducin). Candidates should have background in biochemistry/molecular biology or monoclonal antibody technology. Send curriculum vitae and the names of three references to:

**Dr. Steven R. Goodman, Chairman  
Department of Structural and Cellular Biology  
University of South Alabama  
College of Medicine, Room 2042 MSB  
Mobile, AL 36688**

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

Several **POSTDOCTORAL POSITIONS** in isotope biochemistry available 1 June 1989 or later. Studies of isotope fractionation in enzyme-catalyzed reactions and in plants. Send curriculum vitae and letters of recommendation by 1 May 1989 (or until suitable candidates apply) to: **Dr. Marion H. O'Leary, Head, Department of Biochemistry, University of Nebraska-Lincoln, Lincoln, NE 68583-0718.**

### U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE

**POSTDOCTORAL RESEARCH ASSOCIATE** immediately available to characterize and clone avian lymphokines. Candidate must have background in biochemistry, immunology or molecular biology. Experience in lymphokine research is desired. Ph.D. required. Salary is commensurate with experience (\$28,852 to \$34,580). Send applications (SF-171) to: **Dr. H. Lillehoj, USDA, ARS, Protozoan Diseases Laboratory, Building 1040, BARC-East, Beltsville, MD 20705 or call: 301-344-1771. Applications should be marked 9E002 and received by 1 September 1989. An Equal Opportunity Employer.**

### POSTDOCTORAL RESEARCH ASSOCIATE

Position available to study the structure and functional domains of the two surface glycoproteins of the Paramyxovirus, Newcastle disease virus, and the mechanism of viral neutralization by monoclonal antibodies. Send curriculum vitae and the names of three references to: **Dr. Ronald Iorio, Department of Molecular Genetics and Microbiology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 01655. Affirmative Action/Equal Opportunity Employer.**

# Opportunities in Inflammation, Pulmonary and Immunology Research

---

Pfizer Central Research has several immediate openings for research assistants within its expanding Department of Immunology and Infectious Diseases. You will join multidisciplinary project teams engaged in research towards discovery of novel therapies for a variety of inflammatory, pulmonary and autoimmune diseases.

## Histologist/Electron Microscopist

You will conduct *in vitro* and *in vivo* experiments utilizing histological and ultrastructural techniques. Ideally, you should have an MS or BS degree in a biological science with experience operating and maintaining a range of laboratory instruments including SEM, TEM and ultramicrotomes. Laboratory skills in one or more of the following areas are also desirable: immunohistochemistry, immuno-electron microscopy, image analysis and cell labeling.

## Biochemist

Will conduct experiments related to the biochemistry and physiology of human and mammalian white blood cells. You should possess an MS or BS degree in biochemistry, immunology or biology. Laboratory experience in the following areas is desirable: isolation of cells from blood and exudates; measurement of membrane receptors using radioligand binding assays; quantitation, isolation and purification of arachidonic acid pathway metabolites and intracellular proteins. Experience with HPLC and electrophoretic techniques would be particularly useful.

## Immunologist

Requires an MS in immunology or biochemistry or a BS with extensive laboratory experience. Experience in one or more of the following areas is necessary: cell mediated immunity; regulation of lymphokine production/activity; production, characterization and purification of monoclonal and polyclonal antibodies; *in vivo* models of arthritis and autoimmunity.

## Pulmonary Biologist

The successful candidate will have a BS or MS degree in physiology or biology and experience with pulmonary pharmacology. Ideally, this experience should

include the development of aerosol drug delivery systems and the measurement of the mechanics of respiration.

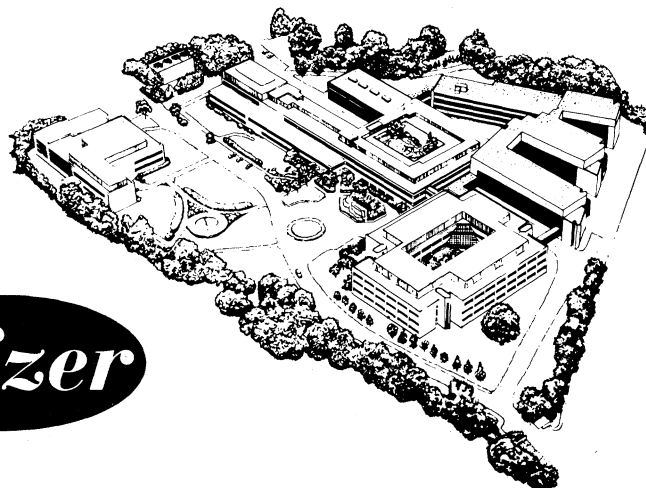
## Cellular Physiologist

A BS or MS degree plus several years of relevant research experience in cellular physiology or immunology and cell surface phenotyping are required. Expertise in characterizing ion channels by whole cell patch-clamp recording techniques and/or fluorescence imaging would be especially valuable. Other useful experience would include a working knowledge of basic fluorescence and computers.

## Analytical Biochemist

You will quantitatively analyze a variety of mediators and investigative compounds in the context of *in vivo* models. Requires at least a BS degree in a relevant area of science and experience with HPLC techniques. Experience with other analytical methods such as RIA and ELISA, as well as a familiarity with computer analysis of data, is also desirable.

Pfizer offers a stimulating scientific research environment with the opportunity to interact with scientists from several disciplines. In addition, Pfizer has a competitive compensation/benefit package along with relocation assistance to this southeastern Connecticut shoreline community. Please send a resume indicating position of interest, a description of your research experience, and names of three references to: Mrs. Lorraine C. Corr, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.



## CYTOGENETICIST

A cytogeneticist (PhD) with credentials in clinical cytogenetics is required for a 700+ bed teaching hospital in New York City. A laboratory for clinical material of 600 sq. ft. is available and additional space for research will be remodeled for a candidate with research grant support. The hospital is the major affiliate of SUNY (Downstate) and an appointment will be made at the assistant or associate professor level. The present clinical load is 400 amniocentesis and 50-70 leukemias/year.

Please send resume to:

**H. Simpkins, M.D., Ph.D.**  
Professor of Pathology (SUNY)  
Chair, Department of Pathology

**The Staten Island Hospital and  
Richmond Memorial Hospital**  
Community Health System of Staten Island  
"Partners in Quality Care"  
475 Seaview Ave, Staten Island, NY 10305

## UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO FACULTY POSITION

The Program in Physical Therapy Education announces a 12-month, tenure track position at the Associate/Assistant Professor rank. We are seeking an individual with expertise in cardiopulmonary physiology/rehabilitation, exercise physiology, neurophysiology or a closely related area. Applicants need not be physical therapists but must have interest and background in areas related to rehabilitation. Opportunities to teach at the graduate and undergraduate levels as well as perform research in areas of interest and related activities. **Research support including start-up monies is negotiable.**

San Antonio offers high quality, affordable living in a city which has numerous recreational opportunities and major tourist attractions. All this with **no state income tax**. Our program is very well resourced and numerous opportunities exist for collaborative research with other departments within the Health Science Center. **Salary and benefits package are excellent.**

Applications are now being accepted and will continue to be accepted until the position is filled. Start date is negotiable.



### Contact:

Pamela A. Stanton, EdD,  
Director  
Physical Therapy Program  
The University of Texas Health  
Science Center at San Antonio  
7703 Floyd Curl Drive  
San Antonio, Texas 78284

*The University of Texas Health Science Center  
at San Antonio is an equal opportunity/  
affirmative action employer.*

## Cell Biology

We are currently seeking a staff scientist to join our tissue growth and repair group. The ideal candidate will be responsible for initiating and directing research aimed at understanding the roles of growth factors and their receptors in cell differentiation, with particular emphasis on the mechanisms of signal transduction. A PhD in cell and developmental biology, at least 2 years of relevant postdoctoral work and previous experience with growth factors, receptors and in vitro assays required.

We offer a stimulating and dynamic work environment in addition to an excellent salary and comprehensive benefits program.

**Interested candidates should forward a resume, in confidence, to: Barbara Covell, Director of Human Resources, Genetics Institute, 87 Cambridge Park Drive, Cambridge, MA 02140.**

An Equal Opportunity  
Employer, M/F/H/V.

## Genetics Institute

## JUNIOR RESEARCH BIOLOGIST

Merck Sharp and Dohme Research Laboratories, a world leader in the development of ethical pharmaceuticals for human and animal health, is currently offering an excellent career opportunity for a biologist to join a team working on avian coccidiosis in the Department of Biochemical Parasitology in Rahway, New Jersey.

The position requires a M.S. degree or equivalent (or B.S. plus two or more years of research experience) in Poultry Science or related field. Experience in avian parasitology or immunology would be useful.

Salary and benefits are excellent. Our location is Rahway, New Jersey, 25 miles from New York City. Interested applicants should submit a resume to **Ms. Delores Barefield, Merck Sharp and Dohme Research Laboratories, P.O. Box 2000, WBD-362, Rahway, New Jersey 07065.** An equal opportunity employer m/f/v/h.



**Merck & Co., Inc.**

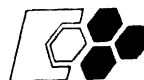
## POLYMER/ ORGANIC CHEMISTRY

*Enzymatics, Inc. uses state-of-the-art applied enzymology in developing a new generation of machine independent medical diagnostics and biosensors. We are looking for motivated problem solvers to join our rapidly growing team.*

*Research Scientist, Ph.D.: Will have 4+ years postdoctoral experience. Strong background in organic chemistry with experience in polymer or protein chemistry required.*

*Research Associates, MS/BS: Requires 2+ years of problem solving experience in biochemistry.*

*Enzymatics, Inc. exists in an innovative and dynamic R&D environment. We offer equity participation, competitive salary and benefits, and unlimited growth potential. Send resume, including salary history and three references to:*



**Personnel, Enzymatics, Inc.**

355 Business Center Drive • Horsbarn, PA  
19044 EOE M/F

## TERATOLOGIST/ REPRODUCTION TOXICOLOGIST

Life Science Research-Roma Toxicology Centre seeks applications for the position of Study Director from individuals with 2 to 5 years experience in product safety assessment using the Segment I, II and III protocols. Working knowledge of visceral and skeletal examination methods for assessing altered fetal development is desirable. An interest in investigation of alternative methods for indicating developmental and reproductive hazards will be useful.

Ability to effectively communicate in English is essential. Knowledge of Italian is desirable, but instruction will be provided.

The laboratory is located on the coast of Italy 20km south of Rome. We offer a unique opportunity to gain international experience in contract toxicology with a competitive salary.

Please send Curriculum Vitae by express mail to:

**Director of Toxicology  
Life Science Research-  
Roma Toxicology Centre  
Via Tito Speri, 14  
00040 Pomezia (Roma)-Italia  
Fax no. : 36-6-9125387  
Tel. no. : 39-6-9120351**

# **NATIONAL INSTITUTES OF HEALTH IMMUNOLOGIST/ CELL BIOLOGIST**

Experience in immunology, cell biology and molecular biology to study the role of human CD5<sup>+</sup> B lymphocytes in the normal and autoimmune repertoire and to make human monoclonal antibodies. The candidate should have at least two years postdoctoral experience. The initial appointment will be for two years, with renewals on a yearly basis. Starting salary range, depending on experience, is \$30,000 to \$50,000 per year. The position is available immediately. Send Curriculum Vitae and names of references to **Dr. Lois Salzman, Deputy Director Intramural Research Program, National Institute of Dental Research, National Institutes of Health, 9000 Rockville Pike, Building 30, Room 121, Bethesda, Maryland 20892.** NIH is an Equal Opportunity Employer.

# **Group Leader Protein Chemistry —Enzymology—**

The Henkel Group, a leader in applied chemistry, with worldwide annual sales of \$5 billion, seeks a senior scientist to join existing biotechnology efforts. A position of responsibility is available at Henkel's West Coast research facility in Northern California.

The successful candidate will report to the Director and assist in program development. Applicants should have a PhD in Chemistry, Biochemistry, Microbiology or a closely related field and three or more years' experience after postdoctorate in industry or academia. Scientific leadership in protein chemistry and enzymology is essential, as is experience directing PhD scientists. Incumbent will plan, direct and conduct research in the analysis and application of industrial enzymes for Henkel products and processes.

For confidential consideration, send complete curriculum vitae with references and salary requirements to: Personnel Director, HENKEL RESEARCH CORPORATION, 2330 Circadian Way, Santa Rosa, CA 95407. We are an equal opportunity employer.

**Henkel**

# **CHAIRMAN MEDICAL SCIENCES DIVISION**

Nominations and applications are invited for the position of Chairman of the Medical Sciences Division of Oak Ridge Associated Universities. ORAU is a private, not-for-profit consortium of 49 colleges and universities and a management and operating contractor of the U.S. Department of Energy. Its mission is to carry out research and development in medical sciences, science/engineering education, productivity management and training, and energy/environment systems.

The chairman provides scientific and managerial leadership to strengthen, build and conduct Division programs that address critical medical and health issues associated with energy. The Chairman's responsibilities include providing broad scientific and managerial leadership, developing a strong staff, allocating resources, and representing the Division to federal agencies, universities, and other organizations.

The Division's interdisciplinary staff of about 125 investigates the medical benefits and costs to the human body from natural and synthetic substances, primarily those from energy and energy-related technologies. It carries out basic preclinical research; develops beneficial applications to human health from science and technology; develops techniques to avoid moderate, or reverse negative health impacts; analyzes the health risks and outcomes from applications of technologies; and provides information systems and management expertise to deal with health-related impacts.

Qualifications for the position include a doctorate in medicine and/or health science; an established record of excellence in research and/or research leadership; the ability to build a strong organization and staff, and to work effectively within and outside ORAU. Excellent writing and presentation skills and leadership qualities reflected in vision, innovation, and organization are required.

Applications should include a letter of interest, a vita, a list of publications, and the names and addresses of at least three references. The Search Committee will begin its review in April 1989 and continue until the position is filled. The appointee will assume the full responsibilities of Chairman in early 1990. A transition period preceding the retirement of the incumbent is planned.

Applications, nominations, and inquiries should be sent to: **Jon M. Veigel, President, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117.** An Equal Opportunity Employer.

**OAK RIDGE  
ASSOCIATED UNIVERSITIES**

# **RESEARCH SAFETY MANAGER**

The new Miles Research Center is currently looking for a Research Safety Manager to establish and manage the Center's Health and Safety program. The selected candidate will have the following responsibilities:

- Develop & implement new state-of-the-art research related safety and health programs
- Assure compliance with NIH guidelines for scientific research
- Assure general health and safety of Miles Research Center employees
- Assure compliance with federal, state and local health & safety requirements

The ideal candidate will have a PhD in Science, Health, or Industrial Hygiene and 10 years of related experience in the establishment and management of health & safety programs. Board certification in Industrial Hygiene is recommended along with excellent written and oral communication skills.

We offer a competitive starting salary and comprehensive benefits that include medical and dental insurance, tuition reimbursement, 13 paid holidays, credit union, 401K savings plan, as well as a premier relocation program. For prompt consideration, please forward your resume and current salary to: Department AMB.



**Miles Research Center  
A Bayer USA INC. COMPANY  
400 Morgan Lane  
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## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE** to develop nonconventional systems for crop improvement. Two-year appointment at \$22,000 per year, available immediately. Funded by the Christine Lee Shepard Memorial Fund, established to promote innovative research for plant improvement. Required: Ph.D.; training in recombinant DNA and/or plant tissue culture. Send curriculum vitae, including coursework transcripts, a statement of research interests, and have three letters of reference sent by 15 April 1989, to: **Dr. Frank White, Department of Plant Pathology, Throckmorton Hall, Kansas State University, Manhattan, KS 66506. Telephone: 913-532-6176. Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL RESEARCH ASSOCIATE POSITION

A postdoctoral position is open to study nuclear scaffold enzymes in relation to RNA Transport. Applicants should have a strong background (with publications) in either monoclonal antibody production and handling or in cloning/sequencing procedures. Salary commensurate with experience. Excellent benefit package. *Equal Employment Opportunity.* For further information, contact: **Dr. Gary Clawson, 202-994-5057.**

### THE ROCKEFELLER UNIVERSITY POSTDOCTORAL RESEARCH FELLOWSHIP

One position is available for a postdoctoral researcher trained in molecular and/or biochemical techniques to study various aspects of growth regulation and response of epithelial cells to autocrine hormones and cytokines. Applicants with backgrounds in growth regulation, growth factors/oncogenes, or immunology are preferred. Salary depends upon experience. Please send curriculum vitae and names of three references to: **Dr. D. M. Carter, The Rockefeller University, 1230 York Avenue, New York, NY 10021-6399.**

### RICE UNIVERSITY POSTDOCTORAL RESEARCH POSITION

For studies of regulation of sterol synthesis. Experience in mammalian cell culture and/or metabolic and bioanalytical studies of sterols and related compounds desirable. Salary dependent on qualifications and experience. Send résumé with names of references to: **G. J. Schroepfer, Jr., Department of Biochemistry, Rice University, P.O. Box 1892, Houston, TX 77251. Rice University is an Equal Opportunity/Affirmative Action Employer.**

**POSTGRADUATE POSITION IN MICROBIOLOGY** to do research in Microbial Coal Cleaning Section of the Pittsburgh Energy Technology Center. Project involves isolation of bacteria that remove sulfur from model compounds and coal. Graduate degree within past 3 years and U.S. citizenship or PRA status required. Contact: **Fossil Energy Postgraduate Program, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-3456.**

**RESEARCH ASSOCIATE** on neurotransmitter interactions using biochemical and histological techniques in brain and culture. Ph.D. with experience in cDNA hybridization, immunocytochemistry, RIA, HPLC or cell culture preferred. Stipend \$20,000 per year. Excitement of expanding neurobiology group. Respond with curriculum vitae and names of three references to: **R. M. Beckstead, Department of Anatomy and Cell Biology, Medical University of South Carolina, Charleston, SC 29524. Equal Opportunity Employer.**

**RESEARCH ASSOCIATE (POSTDOCTORAL)** available immediately to study the neuronal mechanisms underlying the behavioral effects of hallucinogens, CNS stimulants and related compounds. The applicant should have a Ph.D. (or ABD) in experimental psychology, pharmacology or related biomedical science, knowledge of drug discrimination methods, and an interest in more "molecular" techniques (neurotoxin lesions, in vivo dialysis, etc.) in conjunction with this procedure. Expertise in computer programming and interfacing is desirable but not mandatory. Send curriculum vitae and three letters of reference to: **James B. Appel, Ph.D., Behavioral Pharmacology Laboratory, Department of Psychology, University of South Carolina, Columbia, SC 29208. The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH:** Biodehalogenation, microbial, enzymatic, and active site dehalogenation reactions:  $^{14}\text{C}$  synthesis, metabolism, quantitation of pathways and kinetics, active site chemistry. Available 1 February 1989. Send résumé and three letters of recommendation to: **Dr. C. E. Castro, Nematology Department, University of California at Riverside, Riverside, CA 92521.**

### YALE UNIVERSITY

**RENAL RESEARCH**—Department of Cellular and Molecular Physiology, Investigate ion transport by renal epithelial cells. Research involves the regulation of ion channels by different hormones and second messengers.

Applicants should have a M.D. or Ph.D. degree with at least 3 years of experience. A background in renal cell separation and patch-clamp technique is essential.

Salary commensurate with qualifications and experience. Applications, with curriculum vitae and the name of three referees, should be sent to: **Dr. G. Giebisch, Department of Cellular and Molecular Physiology, 333 Cedar Street, New Haven, CT 06511.**

### RESEARCH POSITION

The Universities Space Research Association has an ongoing need for research scientists and assistants to investigate processes or products which are limited or affected by conditions not shared by the Space and Earth environments (e.g., microgravity, high vacuum, etc.). Candidates should be able to quantify these limitations and effects theoretically and/or experimentally. They will be expected to: develop theories for various heat and mass transport processes encountered during crystal growth and solidification; develop numerical codes and perform analysis on mass redistribution, interface stability, defect formation in structural, electronic, and optical materials; and/or evaluate the effects of residual gravitational forces on materials and processes. Additionally, candidates could provide assistance with ground-based and flight hardware related to studies to ascertain the potential benefits of processing materials in space. Work will be conducted in the Microgravity Sciences Division of the Space Science Laboratory, NASA/Marshall Space Flight Center. Scientists must have Ph.D. in related field (e.g., Materials Science or Physics). Assistants must have undergraduate degree in related field. The appointment will be for 1 year, renewable. Salary commensurate with experience (minimum \$33,000 per year for scientists) with full medical and retirement benefits. Send résumé to: **USRA, Dr. James M. Van Alstine, 4950 Corporate Drive, Suite 100, Huntsville, AL 35806. USRA is an Equal Opportunity/Affirmative Action Employer.**

### PENNINGTON BIOMEDICAL RESEARCH CENTER BATON ROUGE, LOUISIANA

Pennington Biomedical Research Center, a newly-opened modern research facility affiliated with Louisiana State University Medical Center in New Orleans, invites application to fill several **RESEARCH POSITIONS** in the Laboratory of Neurosciences. The primary research goal of this center is in the area of nutrition.

(1) **Senior Neurochemist** (one position): The candidate must have a Ph.D. or M.D. with at least 3 years of postdoctoral experience and strong research accomplishments. Preference will be given to candidates with experience in nutritional research. Salary and faculty rank will be commensurate with background.

(2) **Research Associate** (two positions): The candidate may have a B.S., M.S., or Ph.D. degree in chemistry, biochemistry, psychology, or pharmacology with experience in neurochemical/neuropharmacological research. Salary will be commensurate with educational background and experience.

(3) **Research Associate in Anatomy** (one position): The candidate may have a B.S., M.S., or Ph.D. degree in chemical or biological sciences. Candidates with experience in receptor autoradiography, and brain microdissection techniques. Salary will be commensurate with educational background and experience.

Qualified candidates should contact:

**Dr. Chandan Prasad  
Department of Medicine  
LSU Medical Center  
1542 Tulane Avenue  
New Orleans, LA 70112-2822**

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

## POSITIONS OPEN

The Medical College of Wisconsin Department of Ophthalmology invites applications for two full-time, tenure-track **RESEARCH POSITIONS** at senior and junior faculty levels. Requires Ph.D. or M.D. with at least 2 years of postdoctoral research experience and NIH RO1 support. Candidates should have training in one of the following areas: cell biology, molecular biology (genetics) or immunology, and an interest in working on clinically relevant problems. Send curriculum vitae, summary of research interests, and names of three references to: **Search Committee, Medical College of Wisconsin Eye Institute, 8700 West Wisconsin Avenue, Milwaukee, WI 53226. Affirmative Action/Equal Opportunity Employer M/F/H.**

### RESEARCH TECHNICIAN HOWARD HUGHES MEDICAL INSTITUTE—DALLAS

A position for a research technician is currently available for an experienced B.A./B.S. or M.S. histologist/microscopist to join an ongoing investigation (in collaboration with **Dr. Robert Hammer**) of insulin receptor structure/function in transgenic mice. Experience required includes the preparation of frozen and paraffin sections for immunocytochemistry and immunofluorescence. Preference will be given to candidates who also have experience with in situ hybridization, light microscopy (bright field, phase, fluorescence) and photomicroscopy. Excellent facilities are available. Send a current curriculum vitae and the names of three references to:

**Dr. Leland Ellis  
Howard Hughes Medical Institute  
University of Texas Southwestern Medical Center  
5323 Harry Hines Boulevard  
Dallas, TX 75235-9050**

### SUPERVISORY PHARMACOLOGIST OR RESEARCH CHEMIST, GM-14

Supervisory Pharmacologist or Research Chemist, GM-14, to serve as Chief of the Pharmacodynamics Team, Biochemical Pharmacology Branch, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland. Responsible for supervising and managing fundamental research on mechanisms of action of toxic agents, and the development of concepts of prophylaxis and therapy. Qualified applicants must have established expertise in pharmacokinetic modeling, neurotransmitter pharmacology, enzyme kinetics, toxicokinetics or molecular biology as indicated through peer reviewed publications. Demonstrated ability to effectively manage and supervise research in the above areas is highly desirable. Salary range is \$48,592 to \$63,172 per annum. Position requires Bachelor's Degree (or higher) in an appropriate discipline and 3 years of professional experience. Ph.D. desired. *U.S. citizenship is required and the applicant must be able to obtain a security clearance.* Résumés must be received by 15 April 1989 and sent to: **Commander, U.S. Army Aberdeen Proving Ground Support Activity, Attention: STEAP-PA-CR-D (Ms. Davis), Aberdeen Proving Ground, MD 21005-5001. Equal Opportunity Employer.**

### SUPERVISORY PHARMACOLOGIST OR RESEARCH CHEMIST, GM-15

Supervisory Pharmacologist or Research Chemist, GM-15, to serve as Chief of the Biochemical Pharmacology Branch, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland. Responsible for supervising and managing fundamental research on mechanisms of action of toxic agents, and the development of concepts of prophylaxis and therapy. Qualified applicants must have established expertise in biochemical pharmacology as indicated through peer-reviewed publications. Demonstrated ability to efficiently and effectively manage and supervise interdisciplinary research teams is highly desirable. Salary range is \$57,158 to \$74,303 per annum. Position requires Bachelor's Degree (or higher) in an appropriate discipline and 3 years of professional experience. Ph.D. desired. *U.S. citizenship is required and the applicant must be able to obtain a security clearance.* Résumés must be received by 15 April 1989 and sent to: **Commander, U.S. Army Aberdeen Proving Ground Support Activity, Attention: STEAP-PA-CR-D (Ms. Davis), Aberdeen Proving Ground, MD 21005-5001. Equal Opportunity Employer.**



# Toxicologist

The Parke-Davis Pharmaceutical Research Division of Warner-Lambert, a world leader in pharmaceutical development, has an immediate opening in the Pathology and Experimental Toxicology Department for a Toxicologist.

Requires an outstanding individual with industrial or academic background and training in experimental toxicology. This individual will participate in designing, conducting and reporting of various preclinical toxicology studies with new drug candidates. The successful candidate must be able to work independently and as a member of a highly specialized team. This position requires a Ph.D. degree or equivalent in a biological science and 1-3 years' experience in toxicology. ABT certification is desirable.

Our research facilities, adjoining The University of Michigan campus in Ann Arbor, Michigan, are among the finest and best equipped in the world and are devoted exclusively to the discovery and development of new drugs.

Join the exciting research and development team at Warner-Lambert and enjoy outstanding compensation and environment. Interested, qualified applicants should send their resume and salary requirements in confidence to: **Ms. S. Hultquist, Human Resources Representative, PARKE-DAVIS, 2800 Plymouth Road, Ann Arbor, MI 48105.**

## PARKE-DAVIS

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NEW YORK, N.Y. 10036**

CIBA-GEIGY Animal Health is seeking qualified individuals to fill open positions within its BIOVET Unit, a young and dynamic R & D group established in 1985 to pursue product opportunities in animal health care based on biotechnology-derived materials. Specifically, we look for a

## R & D Scientist

with a DVM degree plus a minimum of 2-3 years of post-graduate training (such as residency, industrial experience or a PhD) in the areas of Internal Clinical Medicine and/or Pathology. We also look for a

## Postdoctoral Fellow

with a DVM degree plus further training in Immunology or Microbiology.

Candidates for both positions must have a thorough knowledge of the livestock industry in North America or Europe and a minimum of one year experience in general veterinary practice. Expertise in data management and statistics is desirable.

The prospective members of the team will be working in our R & D center situated in the French-speaking area of Switzerland. They will have the excellent opportunity to work in a highly interactive environment and to contribute actively to the solution of practical problems in animal health care.

Please send your application with documented history under code "Science 239" to Mr. H. Schmid, CIBA-GEIGY Ltd., Personnel Department, P.O. Box, CH-4002 Basle.

## CIBA-GEIGY

## U.S. PATENT AND TRADEMARK OFFICE

**POSITION:** Microbiologist/Patent Examiner Opportunity involves the scientific and legal evaluation of patent applications involving recombinant DNA, molecular and cellular immunology, molecular genetics, microorganisms, cell biology, cell culture, fermentation, enzymology or clinical chemistry.

**QUALIFICATIONS:** A full 4-year or longer professional curriculum in an accredited college or university leading to a Bachelor's Degree or higher with specific study in Molecular Biology, Biochemistry, Immunology, Enzymology, Embryology, Protein Chemistry, Microbiology or Cell Biology.

A Ph.D. or M.S. degree with relevant research experience is preferred. A B.S. degree with significant research experience will be considered.

Research Experience in any of the following areas would be beneficial: DNA cloning, protein chemistry, gene expression, sequencing techniques, muteins, hybridoma technologies, monoclonal antibody applications, mammalian or plant cell lines, cell culture, immunossays, hybridization techniques, fermentation, enzymatic reaction, diagnostics and automation of clinical analysis.

**SALARY:** Dependent upon experience and qualifications.

**LOCATION OF POSITION:** Arlington, VA

For further information contact:

Patent and Trademark Office  
Office of Personnel, C&E  
CPK 1, Suite 700  
Washington, D.C. 20231  
703-557-3631  
Toll free: 800-368-3064

## DEPARTMENT OF HEALTH AND HUMAN SERVICES Alcohol, Drug Abuse, and Mental Health Administration U.S. Public Health Service

### National Institute of Mental Health Deputy Division Director

The Division of Basic Sciences has an immediate opening for a supervisory health scientist administrator to serve as Deputy Director of the Division. The Division supports a broad range of research in neurosciences and behavioral sciences through grants and contracts to universities, hospitals, and other research organizations. The Division has an annual budget of approximately \$70 million, which supports research, research development, and research training activities, and has a staff of about 40. The Deputy Director assists the Director in the scientific and administrative management of the Division, and in the evaluation and development of basic research programs related to mental illness. Therefore, a broad knowledge of the scientific fields represented by Division programs is essential.

Applicants should possess an M.D. or a Ph.D. degree, or equivalent training, in a discipline related to neuroscience or behavioral science, and should have extensive experience in direct research as well as research administration. The position will be filled through the Civil Service or Commissioned Corps of the U.S. Public Health Service. The grade of the position is a GM-15, with a salary range from \$57,158 to \$75,500 per annum. Benefits include a retirement plan, health and life insurance, sick and annual leave. Relocation expenses may be paid. Duty station is Rockville, MD. U.S. citizenship is required.

Any applicant not currently employed in the Federal Government will be required to obtain an eligible notice of rating.

Submit applications for Federal Employment (SF-171) and curriculum vita to Ms. Benesch, Division of Personnel Management, Room 15C-12, 5600 Fishers Lane, Rockville, MD 20857, (301)443-5407. Applications must be postmarked no later than May 12, 1989.

ADAMHA is an Equal Opportunity Employer

# Molecular Genetics

Smith Kline & French Laboratories, a leader in pharmaceutical research, is seeking additional Postdoctoral Scientists to expand its current research programs. These are excellent opportunities for innovative interdisciplinary research in our new and superbly equipped Research and Development Center in suburban Philadelphia near Valley Forge, PA.

The Department of Molecular Genetics is seeking outstanding Ph.D. scientists to pursue research in the following areas:

- Molecular genetics of yeast (*S. cerevisiae* and *C. albicans*).
- Molecular biology of Interleukin 1 secretion and/or receptor recognition.

The successful candidates must have:

- Ph.D. in Biological Science or related area.
- Experience in recombinant DNA techniques.
- Experience in Molecular Biology and protein purification is desirable.

For confidential review, qualified candidates should forward your C.V. and names of 3 references to: Barbara J. Schwartz, S0065, Employment Administrator, Smith Kline & French Laboratories, Research & Development, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

**SK&F**  
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# Immunologist

Pfizer Central Research has an opening in its immunotherapy research group for an immunologist interested in participating in the discovery of new immunostimulatory agents. You will join a multidisciplinary team of scientists working in state-of-the-art research facilities. Our current interests encompass the pharmacologic manipulation of T-cells, macrophages, and/or hemopoietic stem cells in patients at increased risk of infection.

You must have a PhD and postdoctoral training in immunobiology or immunochemistry with an emphasis on mechanisms of cellular activation and a documented record of accomplishment. Areas of research interest could include receptor-ligand interactions, second messenger systems or maturational processes. Previous industrial research experience is welcome but not essential.

This position offers excellent opportunities for professional recognition and development. We offer an excellent salary, benefit and relocation package plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume, including the names, addresses and phone numbers of three professional references, to: J.K. Larson, PhD, Assistant Director, Employee Resources, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.

**Pfizer**

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## Scientists

*If actively impacting  
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We have immediate challenges within our Biotechnology Group in Union, New Jersey for innovative scientific thinkers who would like to participate in one of today's most exciting and significant areas of health care, with opportunities to impact on the areas of cell culture development and rDNA technology.

This is an outstanding opportunity to enhance your own considerable expertise while supporting scale-up of recombinant protein expression in mammalian cells. Your involvement will include maintaining and characterizing cell cultures, as well as performing various cell biology/physiology studies. You should have a BS or MS in Biochemistry, Cell Biology or a closely related field providing in-depth understanding of cell biology. Background must include 1-7 years hands-on experience, preferably in an industrial setting, using advanced techniques in molecular biology and analytical procedures for detecting proteins.

As part of a \$3-billion pacesetter in the health care industry, you'll receive the support to pursue your best ideas, as well as an attractive salary and full benefits package. For immediate, confidential consideration, forward your resume and salary history to: Mr. Michael Urdanick, Schering-Plough Corporation, 1011 Morris Avenue, Union, NJ 07083. We are an equal opportunity employer.

*What you have in mind, we put in action.*



Schering-Plough

## Molecular Biologist/ Biochemist Ph.D. Level

### Pharmaceutical Research

The Parke-Davis Pharmaceutical Research Division of Warner-Lambert has an excellent career opportunity for a creative and energetic Scientist to join our Biochemistry Section as Group Leader in Molecular Biology. The successful candidate will lead a growing group of Ph.D. and assistant scientists in a highly interactive environment, providing enabling technology for various drug discovery efforts. Our labs, recently equipped for state-of-the-art DNA synthesis and sequencing, peptide synthesis, and amino acid analysis, provide an exciting environment for basic and applied research which will be complemented by interaction with collaborators in leading academic laboratories and biotechnology companies.

Qualifications should include:

- Ph.D. in Molecular Biology/Biochemistry
- At least 4 years' postdoctoral experience in modern molecular biology
- Experience in cardiovascular pharmacology, especially lipoproteins and atherosclerosis, preferred
- Experience in protein separation and purification desired
- Effective oral, written and interpersonal skills

Responsibilities will be:

- Supervision of studies applying all aspects of modern molecular biology technologies to drug discovery
- Isolation and purification of therapeutically relevant proteins
- Interact with other biochemists, biologists, medicinal chemists and pharmacologists involved in ongoing drug discovery efforts
- Liaison with senior molecular biologists involved in drug discovery at collaborating leading biotechnology laboratories

We offer excellent compensation and benefits at our modern facilities adjacent to the University of Michigan campus. Qualified applicants should send curriculum vitae in confidence to: **Ms. S. Hultquist, Human Resources, Parke-Davis Pharmaceutical Research Division, Warner-Lambert Company, 2800 Plymouth Road, Ann Arbor, MI 48105.**

**PARKE-DAVIS**

DIVISION OF WARNER-LAMBERT COMPANY

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## POSITIONS OPEN

**SABBATICAL REPLACEMENT.** Organic area. Assistant professor for 1 year with possible extension to 2 years beginning August, 1989. Ph.D. required. Denison University is a high-quality liberal arts college located in central Ohio. This ACS-certified department has excellent facilities for teaching and research including modern instrumentation. Primary responsibilities will be in the organic area but participation in the general chemistry program will also be expected. Some experience in the biochemistry area would be helpful. A strong commitment to undergraduate teaching is required. Interested applicants should send letter of application, résumé, transcripts, and three letters of recommendation by 31 March 1989 to: **Dr. Richard R. Doyle, Chairman, Department of Chemistry, Denison University, Granville, OH 43023.** An Equal Opportunity Employer. Women and minorities are encouraged to apply.

A full-time **STAFF SCIENTIST** position is available to study molecular biology of signal transduction in plants. Candidates must have a Ph.D. in plant science and at least five publications in peer-reviewed professional journals evidencing experience in signal transduction in plants. Postdoctoral experience in calcium research as it relates to signal-induced processes as well as experience in recombinant DNA techniques are required. Salary range \$30,000 to \$36,000 per year. Submit curriculum vitae, a list of publications, and three letters of reference by 20 April 1989 to: **Professor B. W. Poovaiah, Department of Horticulture and Landscape Architecture, Washington State University, Pullman, WA 99164-6414.** WSU is an Equal Opportunity/Affirmative Action educator and employer. Protected group members are encouraged to apply.

### SUPERVISORY NEUROSCIENTIST GM-14

To serve as Research Team Leader, Neurotoxicology Branch, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland. Responsible for supervising, managing and conducting research on either (i) the molecular mechanisms of action of neurotoxic threat agents or (ii) the effects of neurotoxic agents on the integration of neural events, system function and behavior. Research is focused on biological toxins (e.g., saxitoxin, brevetoxin, etc.), and the development of concepts of prophylaxis and therapy. Qualified applicants must have established expertise in electrophysiology, membrane biophysics, neuropharmacology, integrative neural systems, experimental psychology and/or neurotoxicology as indicated by peer-reviewed publications. Demonstrated ability in multidisciplinary research program planning and administration is highly desirable. The ideal candidate will have a Ph.D. in one of the basic animal sciences, physiology, pharmacology, psychology, or a closely related discipline. Salary range is \$48,592 to \$63,172 per annum. U.S. citizenship is required and the applicant must be able to obtain a security clearance. Résumés must be received by 17 April 1989. Send to: **Commander, U.S. Army Aberdeen Proving Ground, Attention: STEAP-CP-RT (Ms. C. Davis), Aberdeen Proving Ground, MD 21005-5001.** Equal Opportunity Employer.

### SUPERVISORY NEUROSCIENTIST GM-15

To serve as Chief of the Neurotoxicology Branch, Pathophysiology Division, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland. Responsibilities include supervising and managing research on the mechanisms of action of neurotoxic threat agents with particular emphasis on biological toxins (e.g., saxitoxin, brevetoxin, etc.). The goals of these research initiatives are the development of effective medical treatment regimes for threat agents. Qualified applicants should have a background in neurophysiology, neuroanatomy, neuropharmacology, experimental psychology and neurotoxicology as indicated by peer-reviewed publications. Demonstrated ability in multidisciplinary research program planning and administration is highly desirable. The ideal candidate will have a Ph.D. in one of the basic animal sciences, physiology, pharmacology, psychology, or a closely related discipline. Salary range is \$57,158 to \$74,303 per annum. U.S. citizenship is required and the applicant must be able to obtain a security clearance. Résumés must be received by 17 April 1989. Send to: **Commander, U.S. Army Aberdeen Proving Ground, Attention: STEAP-CP-RT (Ms. C. Davis), Aberdeen Proving Ground, MD 21005-5001.** Equal Opportunity Employer.

## POSITIONS OPEN



### SCIENCE ITEM WRITERS

Opportunity for present or former science teachers (undergraduate college experience preferred) to work part-time at home writing questions for a testing program administered nationally by The American College Testing Program (ACT). In addition to a strong background in science, the work requires precise writing to meet exacting standards.

For additional information, write as soon as possible to: **Editorial Manager, Test Development Department (S), ACT National Office, 2201 North Dodge Street, P.O. Box 168, Iowa City, IA 52243.** Please identify areas of specialization—biology (botany, zoology), chemistry (general, biochemistry), physics, or physical science. Include résumé to indicate formal education and teaching experience.

ACT is an Equal Opportunity/Affirmative Action Employer.



## STRATAGENE

### TECHNICAL SALES REPRESENTATIVE

Stratagene, a rapidly growing innovative supplier of molecular biology research products, currently has an opening for qualified and experienced technical sales representatives. Immediate openings are available in the Southern California and Midwest areas. These positions represent a unique opportunity for qualified individuals to participate in a growing technical sales organization. Candidates should have strong practical experience in molecular biology, and a B.S. degree in molecular biology or related field. Prior sales experience is beneficial. Please forward résumé of qualifications to: **Stratagene, Attention: Kim Brown/Personnel, 11099 North Torrey Pines Road, LaJolla, CA 92037.**

The Division of Nutritional Sciences at Cornell University invites applications for **TWO TENURE-TRACK POSITIONS** in nutritional biochemistry/molecular genetics/cell biology. Candidates should have a doctoral degree, postdoctoral experience, and demonstrate potential for outstanding accomplishments in research and teaching.

The Division of Nutritional Sciences is a broadly based interdisciplinary unit of 38 tenure-track faculty concerned with the chemical, biological, clinical, and social science aspects of nutritional science. The successful candidates would be expected to have or develop strong research programs suitable for graduate student training in basic sciences, e.g., mammalian metabolism, and to participate in the Division's undergraduate and graduate teaching program. Initial appointments will be made at the rank and salary indicated by the qualifications of successful candidates. Screening will begin 1 May 1989 and continue until the positions are filled. Send application with résumé and the names and addresses of at least three references to: **Dr. Michael N. Kazarinoff, 230 Savage Hall, Cornell University, Ithaca, NY 14853.**

**TOXICOLOGIST** (436488) \$469.20 to \$646.40 per week. The Department of Agriculture, Food and Rural Resources is recruiting qualified candidates to fill an immediate vacancy in the Board of Pesticides Control in Augusta, Maine. This is professional work in the identification of health hazards due to pesticides in the air, water and land. Minimum qualifications are an 8-year combination of education, training and experience with primary emphasis in toxicology. An example of an acceptable combination of training and experience would be a Bachelors degree in toxicology, epidemiology, biochemistry or directly related and 4 years of experience in toxicology, pesticides, or directly related field. Preference will be given to candidates with experience in performing and/or interpreting chemical analyses of pesticides. Applications and Supplemental Qualifications Questionnaires available at the Bureau of Human Resources and Job Service Offices must be submitted to: **The Bureau of Human Resources, State Office Building, Station 4, Room 214, Augusta, ME 04333** no later than 5:00 p.m. on 3 April 1989. An Equal Opportunity/Affirmative Action Employer M/F/H.

## POSITIONS OPEN

### SYSTEMATIC ENTOMOLOGIST

Assistant Professor/Assistant Curator, Departments of Entomology, Systematics and Ecology, and Snow Entomological Museum. Tenure-track, 9-month appointment, expected starting date 27 August 1989. Duties include: (i) productive research in systematic entomology; (ii) enhance collections and programs of Snow Entomological Museum; (iii) teaching graduate and undergraduate courses in entomology or biological sciences; (iv) promote and direct graduate student research. Required qualifications: (i) Ph.D. in insect systematics or closely related field; (ii) evidence of ability to communicate ideas effectively; carry out a vigorous research and field program; (iii) familiarity with appropriate curatorial procedures; (iv) commitment to excellence in research, graduate training and teaching.

Applications, including curriculum vitae; publications, manuscripts, grant applications; statement of research interests, goals and activities; teaching philosophy and experience, and courses the candidate would like to teach—and three letters of recommendation should be sent by 31 March 1989 to: **Dr. James S. Ashe, Snow Entomological Museum, Snow Hall, University of Kansas, Lawrence, KS 66045; telephone: 913-864-3065.**

Equal Opportunity Employer/Affirmative Action.

University of California, Los Angeles (UCLA) Urology Division seeks Board-certified **UROLOGIST** with expertise in renal transplantation for faculty position. Requirements: proven ability to organize clinical training; ability to collaborate in immunology research; experience in reconstructive and pediatric urology; excellent surgical skills. Applicants should contact: **The UCLA Division of Urology, Los Angeles, CA 90024-1738.** UCLA is an Equal Opportunity/Affirmative Action Employer.

### VICE PRESIDENT FOR ACADEMIC AFFAIRS WESLEYAN UNIVERSITY

Applications and nominations are invited for the position of Vice President for Academic Affairs at Wesleyan University. Wesleyan University is best known for liberal arts undergraduate education and graduate divisions emphasizing the Arts and Humanities, and the Social and Natural Sciences. There are 2800 students and 353 faculty. Wesleyan also has a respected Graduate Liberal Studies Program. Wesleyan prides itself on aid-blind admissions and its faculty and student body reflect a diversity of ethnic, cultural, and geographical backgrounds.

In creative partnership with the President, the Vice President for Academic Affairs will be the principal administrative officer concerned with shaping educational priorities. Responsibilities will include reviewing and guiding curricular development and educational budgets; presiding over faculty organization and development, including recruitment, promotion, and retention; and attracting, allocating, and monitoring external funding. The successful candidate will have a record of accomplishment in teaching, research, and leadership.

Applicants should send a personal statement of interest and qualifications along with a complete résumé and the names of three references to:

**Professor Jill Morawski, Chair  
Search Committee—Vice President for  
Academic Affairs  
Provost's Office, North College  
Wesleyan University  
Middletown, CT 06457**

Applications received by 31 March 1989 will be assured full consideration.

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## PROGRAM

### CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain the Doctor of Optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education and research. Contact: **Dr. D. Chauncey, Program Director, Accelerated Program, The New England College of Optometry, Room S, 424 Beacon Street, Boston, MA 02115.**



### International Conference on Metals in Soils, Waters, Plants and Animals

April 30 - May 3, 1990  
Orlando, Florida

Organized by the University of Georgia's Savannah River Ecology Laboratory, the conference will provide a forum for the dissemination of current knowledge concerning the sources, pathways, behavior, fate, and effects of metals and metalloids in the environment. Oral presentations, posters, keynote speakers, and panel discussions will focus on the following themes:

- Contamination of soils, plants, surface water, and groundwater
- Behavior and interchange at soil-plant, plant-atmosphere, and sediment-water interfaces
- Pathway/transport phenomena
- Bioavailability as affected by chemical speciation, soil amendments, mitigation, and other factors
- Biotransformation
- Accumulation, acclimation, and toxicity in organisms
- Food chain transfer
- Effects of acid precipitation on metals in the environment
- Speciation and modeling applications
- Modern measurement techniques
- Metal-waste management
- Regulatory criteria and guidelines
- Risk/health assessment

Field trips and workshops related to the above themes are also planned. The proceedings of the conference will be published.

For further information and the Call for Papers, contact:

Dr. Domy C. Adriano, Conference Director  
International Conference on Metals  
Savannah River Ecology Laboratory  
Drawer E  
Aiken, South Carolina 29802 USA  
(803) 725-2472

### AIDS RESEARCH AT THE NATIONAL INSTITUTES OF HEALTH

#### DIRECTOR OF PROTEIN EXPRESSION LABORATORY

The Office of the Director of the National Institutes of Health seeks a senior scientist to direct the Protein Expression Laboratory at the campus in Bethesda, Maryland. The principal function of this new laboratory will be to express and purify HIV proteins in large quantities for structural, biochemical, and pharmacological studies. This Laboratory will be part of the existing effort at the NIH to develop therapeutic agents, based on structural and mechanistic considerations, that will interfere with the HIV life cycle. The Director of the Protein Expression Laboratory will be expected to recruit additional senior scientists, post-doctoral fellows, and technicians.

Requirements include a Ph.D. in Molecular Biology or Biochemistry, at least three years of post-doctoral experience, expertise in the use of recombinant DNA techniques for the expression of proteins, as well as expertise in the purification of proteins. Salary is negotiable, dependent upon experience.

Interested candidates should send a *curriculum vitae* and names and telephone numbers of at least 3 references to:



**Dr. Joseph E. Rall**  
Deputy Director for Intramural Research  
Building 1, Room 126  
National Institutes of Health  
9000 Rockville Pike  
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Successful candidates will have:

- a Ph.D. in Pharmacology, Physiology, Biophysical or Neuroscience with at least 3 years postdoctoral experience in cardiovascular/cerebrovascular related research
- experience in neurochemical methods, including neurotransmitter assays (RIA, HPLC), is desired. Experience in culture of neuronal/glial cells is most advantageous
- a strong publication record
- good oral and written communication skills
- demonstrated ability to interact with a multidisciplinary research team

We offer excellent compensation and benefits as well as an attractive relocation policy. For confidential consideration, send your C.V. and names of three references to Barbara J. Schwartz, S0092, Employment Administrator, Smith Kline & French Laboratories, Research and Development Division, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

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## FELLOWSHIPS

**DOCTORAL PROGRAM IN MOLECULAR, CELLULAR, AND SYSTEMS PHYSIOLOGY.** Our graduate program offers coursework and research training leading to the Ph.D. in physiology. The Department is well-known for its research activities in a number of areas, including muscle and cardiovascular physiology. Investigators in the Department employ physiological, biochemical, biophysical, and molecular biological techniques to elucidate the function of biological systems from the level of organ systems to the level of individual biological molecules. Financial support is available to qualified applicants with appropriate undergraduate training. For further information, contact: **Dr. Howard Kutchai, Box 449, University of Virginia Health Sciences Center, Charlottesville, VA 22908** or telephone him at **804-924-2195**. *We are an Equal Opportunity Employer.*

**GRADUATE FELLOWSHIPS IN BIOCHEMISTRY, ANATOMY OR PHYSIOLOGY** are available for research studies in the **Regulatory Peptide Center of the Department of Biomedical Sciences, Creighton University, Omaha, NE 68178**, starting in the fall of 1989. The applicant should state the discipline of interest when requesting further information from the Department Chairman. *CU is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWSHIPS IN CARDIOVASCULAR SCIENCES.** Positions are available for advanced studies in cardiovascular physiology, pharmacology, and pathology at the University of Virginia. A strong multidisciplinary program with eleven investigators provides a wide-range of experimental techniques and conceptual models ranging from studies on control of ANF in the intact animal to the molecular biology of the renin-angiotensin system. Applicants should apply to: **Dr. Brian R. Duling, Department of Physiology, Health Sciences Center, University of Virginia, Charlottesville, VA 22908**. *We are an Equal Opportunity Employer.*

## POSTDOCTORAL RESEARCH TRAINING FELLOWSHIPS

Fellowships available to residents of North America with Ph.D., M.D., or comparable degree and less than 1 year of postdoctoral laboratory experience by application date for beginning training in basic biomedical research. The 3-year award consists of a stipend of \$20,000 for the first year, with increments of \$1,000 for each of the next 2 years; \$1,000 per annum research allowance; travel to fellowship location; annual meeting. Application deadline 15 August 1989; fellowships activate following July. For application forms, write or telephone: **The Helen Hay Whitney Foundation, 450 East 63rd Street, New York, NY 10021**; telephone: 212-751-8228.

## RESEARCH DEVELOPMENT AWARDS AT THE NATIONAL ZOOLOGICAL PARK

The National Zoological Park (NZP) is offering Research Fellowships for scientists to complete a major piece of work in their specialty, and to gain experience in research opportunities specific to zoological parks particularly in the areas of evolutionary biology, animal behavior, physiological zoology, ecology, sociobiology, reproductive physiology, conservation biology, and veterinary sciences. Applicants with a distinguished record of research contributions and those whose interests complement the NZP's current professional research staff are preferred.

Each award is for a maximum of 3 years; stipends to be commensurate with professional level and experience. Applicants must be at least 3 years postdoctorate. Timing and duration of the Fellowships are flexible, but the appointment must be activated within a year of the award and may not exceed a total of 36 months in duration (awards may be divided into several intervals, not less than 6 months each).

Field research is appropriate; however, Fellows are to be primarily based at the NZP to maximize interactions and collaborations with NZP staff. Individuals who have received support from or through the NZP for a significant period during the preceding 5 years are ineligible to apply.

For information contact: **Dr. Devra G. Kleiman, Assistant Director for Research, National Zoological Park, Washington, DC 20008**. Application deadline is 1 July 1989.

## FELLOWSHIPS

### WASHINGTON UNIVERSITY CENTER FOR CELLULAR AND MOLECULAR NEUROBIOLOGY

The Washington University Center for Cellular and Molecular Neurobiology is pleased to announce the availability of a limited number of **FELLOWSHIPS** for advanced postdoctoral work in neurobiology. The object of these special awards is to enable outstanding young scientists to perform collaborative research in one or more laboratories associated with the Center. Fellows will be paid an annual salary based on years of experience. A list of faculty associated with the Center and their current research interests is available on request. Once a research sponsor is identified a formal application will be reviewed. Requests should be addressed to:

**Center for Cellular and Molecular Neurobiology  
Department of Anatomy and Neurobiology,  
Box 8108**

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

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## CONFERENCE

### ANNOUNCING AN NIH CONFERENCE Modeling in Biomedical Research: An Assessment of Current and Potential Approaches Applications to Studies in Cardiovascular/Pulmonary Functions and Diabetes

To be held 1 to 3 May 1989, in Masur Auditorium, The Warren Grant Magnuson Clinical Center, National Institutes of Health, Bethesda, Maryland.

Sponsored by the Division of Research Resources, the Division of Research Services, and the Office of Medical Applications of Research of NIH.

Continued innovation and refinement of model systems is crucial to rapid progress in biomedical research. This conference continues NIH's evaluation of modeling, from the use of non-human primates and invertebrate species to cell cultures and mathematical and physical approaches. To emphasize the use of many types of models to solve basic biomedical questions, the conference will focus on two areas of great importance to the nation's health: cardiovascular/pulmonary function (1 May 1989) and diabetes (2 May 1989).

Scheduled presenters on 1 May include: **J. I. E. Hoffman, M. Gimbrone and F. Dewey, N. Staub, S. Factor and R. S. Chadwick, C. Peskin, S. Wickline, R. Ruffolo, and K. Brown and R. Robertson**. Those on 2 May include: **J. Roth, G. Grodsky, O. M. Rosen, D. Greene, A. Rossini, P. Lacy, R. Bergman, and J. Fain**.

A panel of scientists chaired by **Dr. Gordon H. Sato**, Director of W. Alton Jones Cell Science Center, will question the presenters, prepare a summary statement of the material presented, and evaluate the strengths and limitations of the various model systems. On 3 May 1989, the panel will present its draft statement and invite comments from the audience.

To register for the conference or obtain further details, contact: **Susan Wallace, Prospect Associates, Suite 500, 1801 Rockville Pike, Rockville, MD 20852**; telephone: 301-468-6555.

## SYMPOSIUM

### 60TH ANNIVERSARY SYMPOSIUM OF THE JACKSON LABORATORY IN HONOR OF DR. ELIZABETH S. RUSSELL GERM CELLS, PIGMENTATION AND ERYTHROPOIESIS 14 to 16 June 1989

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<b>Verne Chapman</b>	<b>Nancy Jenkins</b>
<b>Neal Copeland</b>	<b>Harvey Lodish</b>
<b>Eva Eicher</b>	<b>Peter Rigby</b>
<b>John Eppig</b>	<b>Lianne Russell</b>
<b>Eugene Goldwasser</b>	<b>Oliver Smithies</b>

And others

Registration forms may be obtained from:

**Ruth Mealey, Symposium Coordinator  
The Jackson Laboratory  
Bar Harbor, ME 04609**

## CALL FOR PROPOSALS

U.S. Environmental Protection Agency: HHAG/OHEA and HERL/OHR invite **PROPOSALS FOR COOPERATIVE AGREEMENTS** on biologically-based dose-response modeling for developmental toxicity. Project is part of Office of Research and Development's efforts to support development of improved health risk assessment procedures. Proposals should attempt to incorporate basic mechanistic/site of action information and pertinent information on processes that influence chemical action. Integration of this information with pharmacokinetic/pharmacodynamic interactions at target site may provide more accurate estimates of human risk. Consideration of other factors also important in development of dose-response models such as threshold concept, the number, size and spread of dose groups, and effect of timing and duration of exposure on the outcome. Approaches should include some means of verifying the model at doses below observable dose range in standard Segment II studies. Preference will be given proposals including integrated approach to problem. First year effort expected to involve development of background information and strategy(ies) for approaching problem, with subsequent years devoted to developing models, collection of additional animal data, and validation procedures. Possibility of interaction with ongoing research efforts at EPA or other federal labs may be considered. Preproposals (seven to ten pages) to outline approach, provide cost estimates, staff qualifications/capabilities of organization(s) involved. Following review of preproposals, selected applicants will be asked to submit final proposals. EPA anticipates making one or two awards for project periods of 3 to 5 years; \$160,000 total this year. 14 April 1989 deadline for submission of preproposals to: **Dr. Carole A. Kimmel, U.S. Environmental Protection Agency, 401 M Street, S.W. (RD-689), Washington, DC 20460**. Telephone: 202-382-7331. More information on research goals and scope available from **Dr. Kimmel or Dr. Kavlock 919-541-2326**. This solicitation is subject to Parts 30 and 40 of EPA Grant Regulations, therefore profit-making organizations are prohibited from applying. EPA reserves the right not to make any awards from this solicitation.

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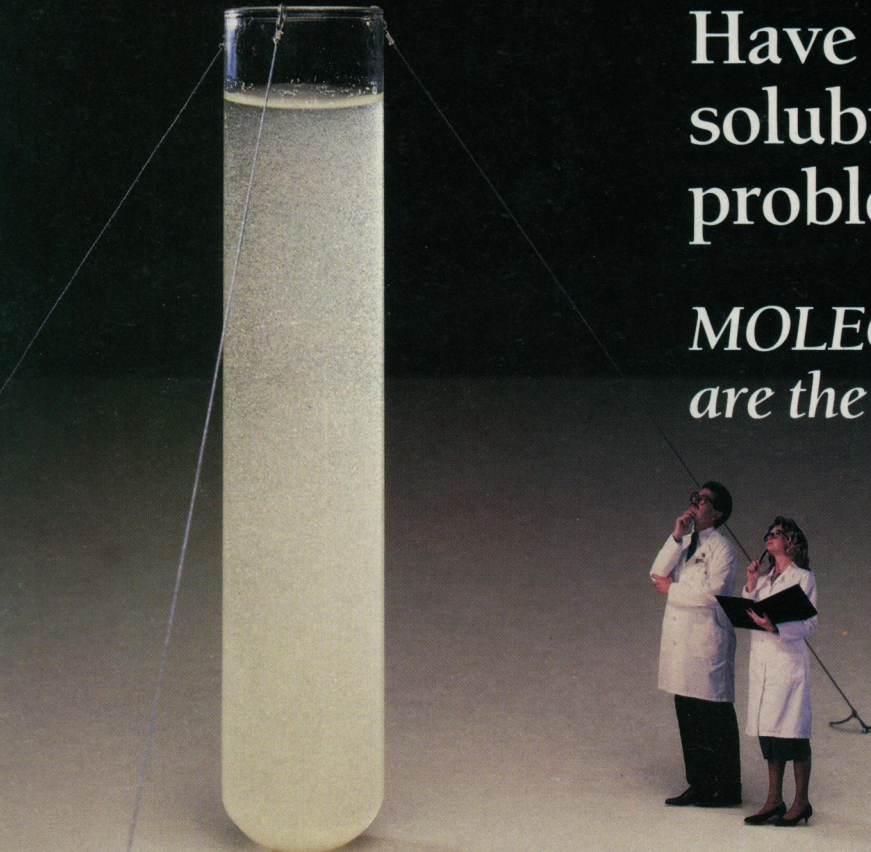
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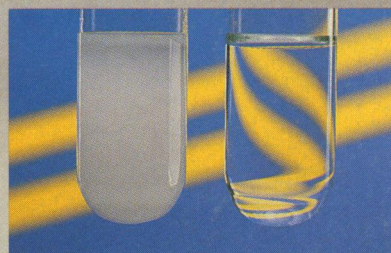




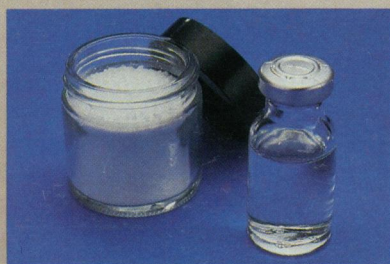
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