

"The heat built up during rapid deceleration and the violent air movements around a falling meteorite may also produce thumbprint-like depressions called 'regmaglypts'. These two different views of the Allan Hills 81013 (Antarctica) meteorite illustrate the smooth appearance of the leading edge during flight [left] and regmaglypts on the trailing edge [right]." [From *Meteorites and Their Parent Planets*; photographs courtesy of the Smithsonian Institution]

packing crate filled with fruits and nuts and the crystal structure of the mineral olivine. Dodd's book is more an overview of the history of meteoritics and a summary of the currently most widely accepted interpretations of meteorite data. It is a smoother, more polished presentation, but it glosses over or ignores many controversies and has a disappointingly short reference list.

I have one quibble with McSween's book, and that concerns the discussion of cratering in the first chapter. First, the collision of a high-velocity meteoroid with a planet produces an impact crater, not an explosion crater. The difference is not simply one of semantics: although there are many similarities in the physics of how impact and explosion craters form, there are also significant differences. Second, the discussions here and in the book suggested for further reading are based on a fairly outdated model; unfortunately, I know of no nontechnical reviews of the more current models of crater formation.

The degree of simplification of complex issues required for a book of this type necessarily involves the omission of a certain amount of detail, and specialists might complain that in some cases the simplification verges on distortion. This is not, however, a book for specialists, as are R. T. Dodd's *Meteorites: A Petrologic-Chemical Synthesis* and J. T. Wasson's *Meteorites: Their Record of Early Solar System History*, the two most up-to-date technical monographs on the subject. It is valuable as an easy-to-read introduction to the science of meteoritics that cogently integrates the many disparate lines of evidence concerning these samples of our solar system and their origins. It can be read with profit by those who wish to expand

their general knowledge and may, it is to be hoped, tantalize some young people into pursuing careers in this intriguing field.

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## State-of-the-Art Materials

**Fine Ceramics.** SHINROKU SAITO, Ed. Elsevier, New York, and Ohmsha, Tokyo, 1987. xxii, 352 pp., illus. \$59.95.

"Fine ceramics" are those high-technology, inorganic, nonmetallic materials that are characterized by a uniform, fine grain structure. They are made from specially synthesized raw materials processed to have properties appropriate for demanding thermal, mechanical, biological, magnetic, electronic, optical, and nuclear applications. This book describes recent Japanese research and technical achievements in 39 chapters prepared by many different specialists. Coverage is equally divided among ceramic processing, characterization of materials, structural ceramics, and electronic ceramics. The topics are discussed in a concise, comprehensive way that will give the book lasting value. Ceramics is a field in which the Japanese have been leaders in new discoveries and in technological developments. For working materials scientists, technologists, and engineers, and for those designing devices incorporating state-of-the-art ceramics, this English-language compendium describing recent Japanese work will be very useful indeed.

On another level, the breadth and depth

of the new synthetic materials together with the Japanese leadership in the field give pause for thought about the nature of our technology and the ways in which we think about the material world. Shinroku Saito writes in his introduction, "Arguably the most important aspect of the Industrial Revolution is the drastic change in human thinking that it engendered, especially with regard to materials." With regard to electronic ceramics, Hiroaki Yanagida suggests three reasons for the remarkable development of these materials in Japan. "First, the rapid growth of the electronics industry has created an intense requirement for better electronic materials. Second, the Japanese have shown an impressive aptitude for technology and are skilled in the fine arts. Third, education and training have made it possible for people to respond quickly to rapidly changing requirements." These opinions are not explicitly argued, but they are supported by the book as a whole, the data in which suggest that there has been a drastic change in the way engineers and technologists can and do think about materials. We are leaving the era of off-the-shelf purchases and entering an era of materials custom-tailored to optimize device reliability and performance. The Japanese seem to be the leaders in this new way of thinking.

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## Books Received

**An Architectonic for Science.** The Structuralist Program. Wolfgang Balzer, C. Ulises Moulines, and Joseph D. Sneed. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xxxviii, 431 pp., illus. \$99. Sythese Library, vol. 186.

**Artifacts of the Spanish Colonies of Florida and the Caribbean, 1500-1800.** Vol. 1, Ceramics, Glassware, and Beads. Smithsonian Institution Press, Washington, DC, 1987. xxii, 222 pp., illus., + plates. \$35; paper, \$19.95.

**Bananas.** R. H. Stover and N. W. Simmonds. 3rd ed. Longman Scientific, Harlow, U.K., and Wiley, New York, 1987. xvi, 468 pp., illus. \$120. Tropical Agriculture Series.

**Basic Biotechnology.** A Student's Guide. Paul Präve et al., Eds. VCH, New York, 1987. xii, 344 pp., illus. Paper, \$29.95. Translated from the German edition (Wiesbaden, 1982).

**The Biomedical Investigator's Handbook.** For Researchers Using Animal Models. Foundation for Biomedical Research, Washington, DC, 1987. xii, 86 pp. Paper, \$10.

**Bones of Contention.** Controversies in the Search for Human Origins. Roger Lewin. Simon and Schuster, New York, 1987. 348 pp. + plates. \$19.95.

**The Classification of Stars.** Carlos Jaschek and Mercedes Jaschek. Cambridge University Press, New York, 1987. xvi, 413 pp., illus. \$79.50.

**Cogeneration and Decentralized Electricity Production.** Technology, Economics, and Policy. Michael D. Devine et al., Westview, Boulder, CO, 1987. xx, 303 pp., illus. Paper, \$28.50. Westview Special Studies in Natural Resources and Energy Management.

**Computational Techniques in Physics.** P. K. MacKeown and D. J. Newman. Hilger, Bristol, U.K., 1987 (U.S. distributor, Taylor and Francis, Philadelphia). xvi, 217 pp., illus. Paper, \$29.

**Computer Techniques for Electromagnetics.** R. Mittra, Ed. Hemisphere (Harper and Row), New York, 1987. xvi, 403 pp., illus. \$125. Reprint, 1973 edition.

**Containing the Soviet Union.** A Critique of US Policy. Terry L. Deibel and John Lewis Gaddis, Eds. Pergamon-Brassey's (Pergamon), McLean, VA, 1987. x, 251 pp. \$19.95. Based on a symposium, Washington, DC, Nov. 1985.

**Controversies and Clinical Variants of Migraine.** Joel R. Saper, Ed. Pergamon, Elmsford, NY, 1987. xiv, 127 pp. \$29.50. From a course, Toronto, Ontario, June 1983.

**A Diary on Information Theory.** Alfred Rényi. Wiley, New York, 1987. x, 125 pp., illus. \$34.95. Wiley Series on Probability and Mathematical Statistics. Reprint, 1984 ed.

**Dinosaurs Past and Present.** Vol. 1. Sylvia J. Czerkas and Everett C. Olson, Eds. Natural History Museum of Los Angeles County, Los Angeles, CA, and University of Washington Press, Seattle, WA, 1987. xvi, 161 pp., illus. \$35. Partly based on a symposium, Los Angeles, CA, Feb. 1986.

**Divided Staffs, Divided Selves.** A Case Approach to Mental Health Ethics. Stanley Joel Reiser et al. Cambridge University Press, New York, 1987. xiv, 150 pp. \$29.95; paper, \$8.95.

**Forest Soils and Nutrient Cycles.** P. M. Attwill and G. W. Leeper. Melbourne University Press, Carlton, Australia, 1987 (U.S. distributor, ISBS, Portland, OR). x, 202 pp., illus., + plates. \$29.95.

**Formulas, Facts and Constants for Students and Professionals in Engineering, Chemistry and Physics.** H. J. Fischbeck and K. H. Fischbeck. 2nd ed. Springer-Verlag, New York, 1987. xvi, 260 pp., illus. Paper, \$23.

**Fundamentals of Quantum Optics II.** F. Ehlotzky, Ed. Springer-Verlag, New York, 1987. x, 288 pp., illus. \$29.70. Lecture Notes in Physics, 282. From a meeting, Obergurgl, Austria, Feb. 1987.

**Gunnar Myrdal and Black-White Relations.** The Use and Abuse of *An American Dilemma*, 1944-1969. David W. Southern. Louisiana State Press, Baton Rouge, LA, 1987. xviii, 341 pp. + plates. \$35.

**Hazardous Waste.** Confronting the Challenge. Christopher Harris, William L. Want, and Morris A. Ward. Quorum (Greenwood), Westport, CT, 1987. xviii, 255 pp. \$37.95.

**Hidden Aspects of Women's Work.** Christine Bose, Roslyn Feldberg, and Natalie Sokoloff, Eds. Praeger, New York, 1987. x, 380 pp. \$39.95.

**The History of Invention.** Trevor I. Williams. Facts on File, New York, 1987. 352 pp., illus. \$35.

**History of Science and Technology in Ancient India.** The Beginnings. Debiprasad Chattopadhyaya. Firma KLM Private, Calcutta, 1986. xxiv, 556 pp., illus. Rs 325.

**Hydrothermal Experimental Techniques.** Gene Carleton Ulmer and Hubert Lloyd Barnes, Eds. Wiley-Interscience, New York, 1987. xviii, 523 pp., illus. \$41.95.

**Infrared Spectroscopy.** W. O. George and P. S. McIntyre. Published for Analytical Chemistry by Open Learning by Wiley, New York, 1987. xx, 537 pp., illus. Paper, \$36.95.

**Insects—Plants.** V. Labevrie, G. Fabres, and D. Lachaise, Eds. Junk, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xvi, 459 pp., illus. \$121.50. Series Entomologica, vol. 41. From a symposium, Pau, France, 1986.

**Instabilities and Chaos in Quantum Optics.** F. T. Arecchi and R. G. Harrison, Eds. Springer-Verlag, New York, 1987. xiv, 253 pp., illus. \$59.50. Springer Series in Synergetics, vol. 34.

**The Internal Solar Angular Velocity.** Theory, Observations and Relationship to Solar Magnetic Fields. Bernard R. Durney and Sabatino Sofia, Eds. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xii, 374 pp., illus. \$84. Astrophysics and Space Science Library, vol. 137. From a symposium, Sunspot, NM, Aug. 1986.

**Land, Water and Mineral Resources in Science Education.** Norman J. Graves, Ed. Published for ICSU Press by Pergamon, Elmsford, NY, 1987. xiv, 312 pp., illus. \$42; paper, \$21. Science and Technology Education and Future Human Needs, vol. 4. Based on a workshop, Bangalore, India, Aug. 1985.

**Language, Gender, and Sex in Comparative Perspective.** Susan U. Philips, Susan Steele, and Christine Tanz, Eds. Cambridge University Press, New York,

1987. xiv, 333 pp. \$49.50; paper, \$14.95. Studies in the Social and Cultural Foundations of Language 4.

**Lasers and Synergetics.** A Colloquium on Coherence and Self-Organization in Nature. R. Graham and A. Wunderlin, Eds. Springer-Verlag, New York, 1987. x, 271 pp., illus. \$61.70. Springer Proceedings in Physics, vol. 19. Based on a symposium, Stuttgart, F.R.G., 1987.

**Molten Salt Chemistry.** An Introduction and Selected Applications. Gleb Mamantov and Roberto Marassi, Eds. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xxvi, 525 pp., illus. \$99. NATO Advanced Science Institutes Series C, vol. 202. From an institute, Camerino, Italy, Aug. 1986.

**Nearby Galaxies Atlas.** R. Brent Tully and J. Richard Fisher. Cambridge University Press, New York, 1987. viii pp. + plates. Spiral bound, \$59.50.

**The Power of Public Ideas.** Robert B. Reich, Ed. Ballinger (Harper and Row), Cambridge, MA, 1987. 265 pp. \$19.95.

**Principles of Community Psychology.** Perspectives and Applications. Murray Levine and David V. Perkins. Oxford University Press, New York, 1987. 371 pp., illus. \$31.95.

**The Probabilistic Revolution.** Vol. 1, Ideas in History. Lorenz Krüger, Lorraine J. Daston, and Michael Heidelberger, Eds. Vol. 2, Ideas in the Sciences. Lorenz Krüger, Gerd Gigerenzer, and Mary S. Morgan, Eds. Bradford (MIT Press), Cambridge, MA, 1987. xviii, 449 pp., and xx, 459 pp. \$32.50 each; \$60 the set.

**Proceedings, Seminar 1983-1985.** Mathematical Structures in Field Theories, vol. 2. M. J. Bergvelt, G. M. Tuijnman, and A. P. E. ten Kroode. Centrum voor Wiskunde en Informatica, Amsterdam, the Netherlands, 1987. iv, 206 pp., illus. Paper, Dfl. 31.60. CWI Syllabus, 13. Based on lectures, Amsterdam.

**Process Development in Antibiotic Fermentations.** C. T. Calam. Cambridge University Press, New York, 1987. x, 217 pp., illus. \$54.50. Cambridge Studies in Biotechnology, vol. 4.

**Psychopharmacology.** The Third Generation of Progress. Herbert Y. Meltzer, Ed. Raven, New York, 1987. xlv, 1780 pp., illus. \$150.

**Quasars, Redshifts, and Controversies.** Halton Arp. Interstellar Media, Berkeley, CA, 1987. viii, 198 pp., illus. \$19.95.

**Research Fields in Physics at United Kingdom and Irish Universities and Polytechnics.** 8th ed. Institute of Physics, Bristol, U.K., 1987 (U.S. distributor, Taylor and Francis, Philadelphia). xx, 487 pp. Paper, \$110.

**Summing and Nuclear Norms in Banach Space Theory.** G. J. O. Jameson. Cambridge University Press, New York, 1987. xii, 174 pp. \$39.50; paper, \$13.95. London Mathematical Society Student Texts, 8.

**Superluminal Radio Sources.** J. Anton Zensus and Timothy J. Pearson, Eds. Cambridge University Press, New York, 1987. xvi, 361 pp., illus. \$49.50. From a workshop, Big Bear, CA, Oct. 1986.

**Superpower Arms Control.** Setting the Record Straight. Albert Carnesale and Richard N. Haass, Eds. Ballinger (Harper and Row), Cambridge, MA, 1987. x, 380 pp. \$34.95; paper, \$14.95.

**Surface Crystallographic Information Service.** A Handbook of Surface Structures. J. M. MacLaren et al. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). viii, 352 pp., illus. \$79.

**Surveys in Combinatorics 1987.** C. Whitehead, Ed. Cambridge University Press, New York, 1987. viii, 226 pp., illus. Paper, \$27.95. London Mathematical Society Lecture Note Series, 123. Based on a conference, London, July 1987.

**Techniques of Lipidology.** Isolation, Analysis and Identification of Lipids. Morris Kates. 2nd ed. Elsevier, New York, 1986. xx, 464 pp., illus. \$118; paper, \$37.50. Laboratory Techniques in Biochemistry and Molecular Biology, vol. 3, pt. 2.

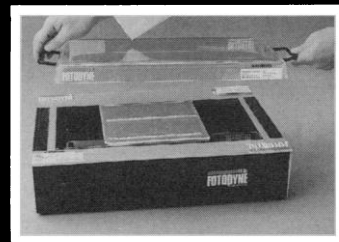
**Very Slow Flows of Solids.** Basics of Modeling in Geodynamics and Glaciology. Louis A. Lliboutry. Nijhoff, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xx, 510 pp., illus. \$145. Mechanics of Fluids and Transport Processes, 7.

**The Vestibular System.** Neurophysiologic and Clinical Research. Malcolm D. Graham and John L. Kemink, Eds. Raven, New York, 1987. xviii, 669 pp., illus. \$90. Based on a meeting, Ann Arbor, MI, May 1985.

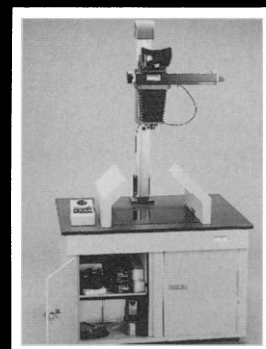
**Whittle.** The True Story. John Golley with Frank Whittle. Smithsonian Institution Press, Washington, DC, 1987. xvi, 272 pp., illus. + plates. \$24.95.

**World Aerospace.** A Statistical Handbook. Daniel Todd and Ronald D. Humble. Croom Helm. Beckenham, U.K. 1987 (U.S. distributor, Methuen, New York), xii, 226 pp., illus. \$85.

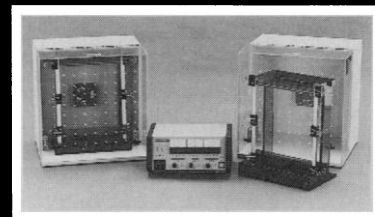
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### *Tachistoscope-Emulation Software*

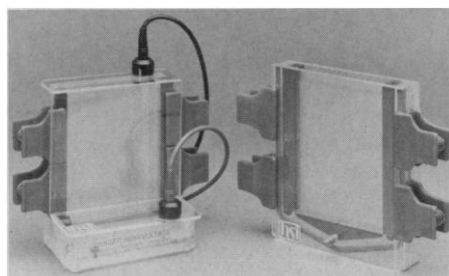
PC-HEMIP is a software program that enables a personal computer to act as a multifield tachistoscope to investigate left and right visual-field perception and information processing. The program can generate stimuli and experimental parameters as well as execute experiments. Stimuli can be either five-character strings of letters and numerals or graphic symbols 16 by 10 pixels. As many as 512 stimuli are possible per

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subject session. Stimulus exposure times may be set between 16.7 and 500 msec in increments of 16.7 msec. Keyboard response latencies are recorded to the millisecond. The researcher can control visual angle, reversed video, a warning tone, and trial pacing. PC-HEMIP operates on IBM PC and nearly compatible computers. \$300. J. Dlhopsky. Circle 594.

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*Products for Laboratory Filtration* is a catalog of filter devices as well as membrane filters made of nylon, nitrocellulose, and Teflon. Micron Separations. Circle 500.

*Solutions for Elemental Analysis* is a 4-page brochure that describes atomic absorption spectrophotometers, sequential and simultaneous plasma spectrometers, arc-spark direct-reading spectrometers, and solid-sampling plasma spectrometers. Thermo Jarrell Ash. Circle 633.

*Biochromatography* is a catalog of separation products for the life sciences, including chromatography columns and packings for high-performance liquid, reversed-phase, ion-exchange, size exclusion, affinity, and hydrophobic interaction chromatography. Alltech Associates. Circle 634.

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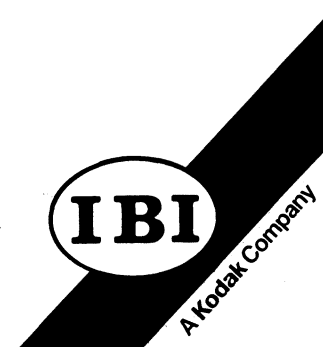
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Applicants should submit a letter of application, curriculum vitae, and three letters of recommendation accompanied by phone numbers, by 1 March 1988, to: **Secretary, Search Committee, Office of the Dean, Student Affairs, Box 446, School of Medicine, University of Virginia, Charlottesville, VA 22908. An Equal Opportunity/Affirmative Action Employer.**

**AEROMEDICAL ENGINEERING**—The newly organized Aeromedical Engineering Group at McDonnell Douglas has openings in the areas of advanced design in biocybernetics, crew station design, life support systems, pilot-vehicle interface, artificial intelligence, man-modeling, and crew threat analysis. Interested applicants must have U.S. citizenship and a degree in physiology or biomedical engineering or aircrew experience. Please send résumé in confidence to: **Manager, Professional Staffing, McDonnell Douglas Corporation, P.O. Box 4012, Department 62-R789, St. Louis, MO 63042. Equal Opportunity Employer, M/F.**

**ASSISTANT ENGINEER**—Ph.D. in chemical engineering. Six months of experience as a researcher in numerical analysis and simulation modeling of energy systems. Research should include the FLUFIX computer code, and fluidization, especially mechanisms of bubble formation and migration through the bed. Will perform hydrodynamic modeling and numerical simulation of multiphase flows. Development of multidimensional computational fluid dynamics computer codes. Salary: \$3250 per month; 40 hours per week: 8:30 a.m. to 5:00 p.m. Send résumé to: **Illinois Department of Employment Security, 401 South State Street—3 South, Chicago, IL 60605. Attention: L. Donegan, Reference #7683-L. An employer paid ad.**

## DEPARTMENT OF BIOLOGY ASSISTANT PROFESSOR POSITION

The Department of Biology, University of Wisconsin Center System, invites applications for a full-time, tenure-track position at the assistant professor level on the Rock County Campus, Janesville, beginning fall, 1988. A doctorate is required with strengths in genetics and bacteriology and ability to teach introductory microbiology, botany, and genetics. Send curriculum vitae and three letters of reference to: **Dr. Koby Crabtree, Chair, Department of Biology, University of Wisconsin Center—Marathon, 518 South 7 Avenue, Wausau, WI 54401** by 20 March 1988. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Institution.*

## POSITIONS OPEN

**ANIMAL PHYSIOLOGIST**—Two-year position at a liberal arts college noted for excellence in teaching. Courses: anatomy-physiology, comparative physiology, development, introductory team-taught courses. *An Affirmative Action/Equal Opportunity Employer, we particularly encourage applications from women, minorities, and Quakers.* Send résumé, statement of teaching philosophy, and three letters of recommendation. Consideration of applications begins 10 March 1988. Apply: **Dr. W. H. Buskirk, Earlham College, Biology, Richmond, IN 47374.**

## ANIMAL SCIENCE FACULTY POSITIONS RUTGERS—THE STATE UNIVERSITY OF NEW JERSEY

The Department of Animal Sciences at Cook College, Rutgers, the State University of New Jersey invites applications for highly qualified individuals for several tenure-track or tenured positions (available at rank of assistant, associate, and full professor). It is anticipated that three positions will be filled by the 1988 to 1989 academic year. Candidates should have a doctoral degree and postdoctoral experience, a strong record of research accomplishment, and demonstrable potential for the development of an independent research career. We are seeking individuals with research interests utilizing large farm animal species or poultry in the following areas: **REPRODUCTION** (including neuroendocrinology, ova manipulation); **IMMUNOLOGY** (including host-parasite relationships, immunogenetics); **DEVELOPMENTAL BIOLOGY** (including cell biology, control of gene expression, micro-anatomy) or **NUTRITIONAL AND STRESS PHYSIOLOGY** (using either in vivo or in vitro approaches). Salaries are competitive, and rank will be determined by experience and achievement. Applications, including curriculum vitae, with a complete list of publications, and the names of at least three individuals from whom letters of reference may be solicited, should be submitted to:

**Dr. A. L. Johnson, Search Committee**  
Department of Animal Sciences  
Cook Campus

Rutgers, The State University of New Jersey  
New Brunswick, NJ 08903

Applications should preferably be submitted by 23 March 1988, but will be considered until the positions are filled.

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

## STOCKTON STATE COLLEGE MARINE SCIENCE PROGRAM

Tenure-track position in coastal oceanography is available for September 1988 at the **ASSISTANT PROFESSOR OF INSTRUCTOR** level. Ph.D. in chemical or physical oceanography required for assistant professorship. A.B.D. in same areas required for instructorship. Teaching and applied management experience in estuarine and near-shore waters preferred. Duties include teaching undergraduate marine science and public policy, guiding student research, and helping to develop a new management track. Stockton has a four-vessel fleet located at its marine laboratory in Brigantine, NJ. Recently acquired computer-interfaced water chemistry sampling gear allows state-of-the-art research on ocean sediment and water parameters. Screening will begin on 26 February 1988. Send letter, résumé, and three letters of reference to: **Dr. Donald Plank, Chairman, Division of Natural Sciences and Mathematics, Stockton State College, Pomona, NJ 08240. Stockton is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply. R002082.**

## ASSISTANT PROFESSOR MEDICINE/ CARDIOLOGY/PHYSIOLOGY

A full-time position for individual capable of carrying out independent investigation in the area of molecular genetics as related to the cardiovascular system. Those with M.D., Ph.D., or M.D./Ph.D. degree will be considered. Dependent upon qualifications, a dual appointment in medicine/physiology is possible. Send curriculum vitae and statement of academic goals to: **Dr. G. A. Langer, Director Cardiovascular Research Laboratory, A3-381 CHS, UCLA Medical Center, 10833 LeConte Avenue, Los Angeles, CA 90024-1760. The University of California is an Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### AQUATIC/ANALYTICAL CHEMIST

Northrop Services, Inc., is seeking an individual with experience in dilute, natural water systems to work in a national research program on the effects of acidic deposition on aquatic resources. Candidates should have an M.S. (or comparable background), and several years of field and laboratory-related work experience. Database management skills or a background in aquatic biology are desirable but not required. Responsibilities include implementation and coordination of a quality assurance program for large, multidisciplinary, multilaboratory projects. Excellent communication skills (oral and written) are essential. Send résumé and names of three references to: Ms. Susan Carey, Northrop Services, Inc., 1600 SW Western Boulevard, Corvallis, OR 97333. Cite No. 4520-014-87 in all correspondence. Northrop is an Affirmative Action/Equal Opportunity Employer.

### DEPARTMENT OF ORAL BIOLOGY STATE UNIVERSITY OF NEW YORK AT BUFFALO

Applications are invited for an ASSISTANT PROFESSOR level position in x-ray diffractometry. The successful applicant will operate the departmental x-ray diffractometer, interacting with present faculty in ongoing projects and developing a successful independent research program. Minimal qualifications include a Ph.D. with 3 years of postdoctoral training in chemistry, physics, or biophysics, with specialization in x-ray crystallography. Experience in crystallization techniques, single crystal data analyses, cyclopeptide and native protein structure elucidation is also required. Salary: \$40,000 to \$45,000. Send résumé with names of three references by 31 March 1988 to: Dr. Michael J. Levine, Department of Oral Biology, SUNY/Bufalo, 3435 Main Street, 109 Foster Hall, Buffalo, NY 14214. SUNY/Bufalo is an Equal Opportunity/Affirmative Action Employer.

### AUBURN UNIVERSITY

**ASSISTANT PROFESSOR, BIOLOGY/PLANT ECOLOGY.** The Department of Botany and Microbiology, College of Sciences and Mathematics, Auburn University, invites applications for a tenure-track position. Applicants must have a Ph.D. and a strong background in plant ecology. Responsibilities include the teaching of general biology at the undergraduate level and plant ecology at the undergraduate-graduate level, and the development of a creative and vigorous research program. Applicants will be expected to actively seek extramural funding. Please submit curriculum vitae, transcripts, reprints of recent significant publications, a statement of research interests, and the names, addresses and telephone numbers of three references to: Dr. Bryan Truelove, Chairman, Search Committee, Department of Botany and Microbiology, Auburn University, AL 36849-5407. Telephone: 205-826-4830. Position effective 16 September 1988; applications will be accepted until 31 March 1988 or until a suitable candidate has been found. Auburn University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

### ASSISTANT PROFESSOR EUKARYOTIC GENETICS/ MOLECULAR GENETICS

The Division of Biology at Kansas State University has a tenure-track position available at the assistant professor level effective September, 1988. Applications are invited from investigators with postdoctoral experience in eukaryotic genetics and/or molecular genetics. The Division has a strong program in biological research, excellent facilities and a distinguished faculty with several millions of dollars in extramural grants. The successful candidate will be expected to establish a vigorous and creative research program and to participate in graduate and undergraduate instruction. Candidates should apply by 21 March 1988 by submitting curriculum vitae, a brief description of future research plans, and having three letters of reference sent to:

Dr. Terry C. Johnson, Director  
Division of Biology  
Ackert Hall  
Kansas State University  
Manhattan, KS 66506

KSU is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### STOCKTON STATE COLLEGE BIOLOGY PROGRAM

A 1-year position in biology is available for September, 1988 at the ASSISTANT PROFESSOR OR INSTRUCTOR level. Ph.D. required for assistant professorship. Master's degree with teaching experience required for instructorship, Ph.D. preferred. We seek an excellent teacher interested in undergraduate education to join a strong, seven-person Biology Program in a young, liberal-arts college in rural South Jersey. Expected teaching load includes the introductory cells and molecules course, a general education course in human nutrition, and a course of the candidate's choosing. Screening will begin on 27 February 1988. Send letter, résumé, and three letters of reference to: Dr. Donald Plank, Chairman, Faculty of Natural Sciences and Mathematics, Stockton State College, Pomona, NJ 08240. Stockton is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply. R001999

**ASSISTANT PROFESSOR, PSYCHOBIOLOGY.** The Department of Psychology, Clark University, is seeking a Ph.D. for a tenure-track assistant professor position to begin in September 1988 or 1989 (depending upon availability of outstanding candidate). Applicants must be capable of teaching basic undergraduate and graduate courses in biological bases of behavior. The ideal candidate will have research interest in the interaction between biological determinants on the one hand and psychological or sociocultural determinants on the other. Send a letter of application, including a description of research plans and goals, curriculum vitae, one copy of all publications, and arrange for three letters of recommendation to be sent to: Psychobiology Search Committee, Department of Psychology, Clark University, 950 Main Street, Worcester, MA 01610. Search will be continuous until a successful candidate is identified. Women and minorities are encouraged to apply. Clark University is an Equal Opportunity/Affirmative Action Employer.

### ASSISTANT PROFESSOR (TENURE-TRACK) CLINICAL MICROBIOLOGY LABORATORY DEPARTMENT OF LABORATORY MEDICINE AND PATHOLOGY UNIVERSITY OF MINNESOTA

A tenure-track faculty position is available for candidates with an M.D. degree with subspecialty training in laboratory medicine/pathology or infectious diseases with a minimum of 3 years of postdoctoral experience or research in clinical microbiology or microbial pathogenesis/genetics. Competence in current molecular technology is desirable. Demonstration of research productivity is necessary, including publications in peer-reviewed journals.

The individual will be expected to contribute to Clinical Microbiology Laboratory services, development of new diagnostic tools, and the teaching of postgraduate residents and postdoctoral fellows. The individual will be expected to develop an independent research program.

Applicants should send curriculum vitae and three letters of recommendation to:

Chairperson  
Clinical Microbiology Search Committee  
University of Minnesota  
Box 198 UMHC  
Department of Laboratory Medicine and Pathology  
420 Delaware Street S.E.  
Minneapolis, MN 55455

Deadline for receipt of applications is 15 April 1988. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

Medical college enlarging its faculty. Invites applications from qualified Ph.D.'s and Pharm.D.'s to serve at the ASSISTANT OR ASSOCIATE PROFESSOR level in the areas of pharmacology, microbiology, physiology and neuroanatomy. Title and salary commensurate with experience. Qualifications and experience must include strong graduate or medical school teaching skills and significant research experience. Send curriculum vitae, statement of proposed research, and references to: Gloria Semente, Director of Special Projects, New York College of Osteopathic Medicine, Old Westbury, NY 11568. Telephone: 516-626-6927.

## POSITIONS OPEN

### ASSISTANT PROFESSOR IMMUNOLOGY/MOLECULAR BIOLOGY

Applications are invited for the position of assistant professor (tenure-track) in the Division of Immunology and Cell Biology of the Department of Pathology, University of Utah. Candidates should have strong training records and interesting, original research plans. We offer a very collegial atmosphere within a group of young, active research scientists whose interests include molecular pathogenesis, growth factor action, cellular immunology and receptor dynamics. Our group is part of the campus-wide Combined Graduate Program in Molecular Biology, which offers integrated studies in biochemistry, genetics, immunology, cell biology, and molecular biology. Although we are interested in any excellent candidate that will complement our existing research programs, individuals with interests in molecular aspects of host-parasite interactions, lymphocyte differentiation, or somatic cell gene rearrangement are particularly desired. Interested persons should send their curriculum vitae, as well as have three reference letters sent to: Dr. Raymond Daynes, Department of Pathology, Center for the Health Sciences, University of Utah, Salt Lake City, UT 84132. An Equal Opportunity/Affirmative Action Employer. Closing date: 1 April 1988. Applications will be accepted after the deadline if no qualified candidate is identified.

### THE UNIVERSITY OF TEXAS SYSTEM CANCER CENTER AT HOUSTON M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE

Applications are invited for several tenure-track positions in the Department of Molecular Genetics both at the ASSISTANT AND ASSOCIATE PROFESSOR levels. Successful candidates will develop independent and innovative programs to investigate the molecular basis of cellular functions in normal and cancer cells. The following areas are of particular interest: (i) Isolation of human recessive cancer susceptibility genes and study of the mechanisms of action of their products. (ii) Intracellular mechanisms of action of growth factors, products of dominant oncogenes, and other hormonal effectors. (iii) Molecular mechanisms of transcriptional regulation. (iv) Use of mouse genetics to examine developmental processes and generation of transgenic mice as model systems for carcinogenesis, developmental abnormalities and other human diseases. Although these areas are of special concern, we are primarily interested in outstanding individuals working in the field of eukaryotic genetics who will develop vigorous and strongly interactive programs.

Please apply before 1 May 1988 by sending curriculum vitae, a concise description of research interests, and name of three references to:

Benoit de Crombrughe, M.D.  
Professor and Chairman  
Department of Molecular Genetics (Box 11)  
The University of Texas System Cancer Center  
(UTSCC)  
1515 Holcombe Boulevard  
Houston, TX 77030  
Telephone: 713-792-2590

UTSCC is an Equal Opportunity Employer

**ASSISTANT/ASSOCIATE PROFESSOR OF PHYSIOLOGY.** The Department of Physiology, Loyola University of Chicago at the Medical Center is seeking candidates for a tenure-track position at either the assistant or initial associate professor level. The department has strong research programs in cardiovascular physiology and pathophysiology. We are seeking an individual with a cellular and molecular emphasis which is complementary to our systemic and integrative cardiovascular interests. Candidates must have a Ph.D. or M.D., an independent research program, and postdoctoral or previous faculty status experience. A commitment to excellence in teaching medical and graduate students is required. Applicants should send curriculum vitae including a list of publications, teaching experience, a brief statement of research interests, and at least three names of references by 15 March 1988 to: James P. Filkins, Ph.D., Professor and Chairman, Department of Physiology, Loyola University of Chicago, Stritch School of Medicine, 2160 South First Avenue, Maywood, IL 60153.

Loyola University of Chicago is an Equal Opportunity/Affirmative Action Employer.

## DEPARTMENT OF PSYCHOBIOLOGY UNIVERSITY OF CALIFORNIA

We invite applications for two assistant professor tenure-track positions in the general areas of cognitive neurobiology and molecular neurobiology. The positions will be available as early as July 1, 1988. The Department of Psychobiology emphasizes interdisciplinary approaches to the study of the nervous system and behavior. The current major research themes of the Department are development, reorganization following injury and disease, and learning and memory.

- **Cognitive Neurobiology:** We are seeking candidates who have demonstrated expertise in the organization of neural systems underlying cognition, cognitive changes induced by disease and aging, and/or neural modelling of cognitive processes.
- **Molecular Neurobiology:** We are seeking candidates who have demonstrated expertise in applying molecular biology to research problems within the themes emphasized by our Department.

Applications should be sent to Dr. James L. McGaugh, Chair, Department of Psychobiology, University of California, Irvine, CA 92717. To insure consideration, applications should be submitted prior to March 15, 1988.

*UCI is an Affirmative Action/Equal Opportunity employer.*

## Postdoctoral Fellow

### Cardiovascular & Renal Pharmacology

Syntex, an international leader in the pharmaceutical and health care industry has an outstanding opportunity for a Postdoctoral Pharmacologist interested in cardiovascular and renal pharmacology.

You will perform basic research and study the effects of various new potential therapeutic agents on cardiac and renal function. The project will include studies in which cardiovascular hemodynamic and functional parameters will be assessed. This position requires a PhD in pharmacology or physiology with specialized coursework in cardiovascular and/or renal pharmacology.

Our laboratory offers the proper environment in which to study the effects of new therapeutic agents with state-of-the-art technology, and the opportunity to interact with a multidisciplinary group of scientists. Publication of results is highly encouraged.

Other positions currently available for BS/MS  
Biologists/Biochemists/Chemists.



For immediate consideration, interested candidates should send a resume to: Syntex, Professional Staffing, Dept. KH/S, 3401 Hillview Avenue, Palo Alto, CA 94304. We are an equal opportunity employer.

## Molecular Genetics

Pfizer, a U.S. based multinational pharmaceutical company, is seeking scientists for its Molecular Genetics research group in Groton, Connecticut. We are looking for individuals with a strong background in molecular biology who are interested in applying their skills to exploratory biomedical research.

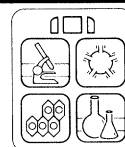
You should possess a MS or BS degree and have significant laboratory research experience. Applicants should be skilled in basic recombinant DNA techniques and have additional experience in one or all of the following:

- Mammalian (or insect) cell culture
- mRNA isolation, cDNA library construction/characterization
- Eucaryotic transcription regulation methodology

Pfizer offers a stimulating scientific research environment with the opportunity to interact with researchers from several other disciplines. In addition Pfizer has an extremely competitive compensation/benefit package along with relocation assistance to this southeastern Connecticut shoreline community. Please send a resume, 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



PATHOLOGY

State University of New York at Stony Brook

## Two Assistant Professorships

### Molecular Immunology

The Department of Pathology at SUNY Stony Brook invites applications for two state-supported, tenure track (calendar year) positions in the general area of Molecular Immunology. Candidates will be expected to carry out an independent research program utilizing molecular approaches to analyze immunological problems. Areas of interest include, but are not restricted to: T-cell receptors, immunoglobulin genes, cytokines, B-cell activation and MHC.

A PhD degree and at least 2 years of postdoctoral research experience are required. Candidates should be able to describe plans for future research activities. The candidates will participate in the training of graduate students and in departmental teaching.

Applicants should send curriculum vitae, a statement of research interests and goals, with names of 3 references to: Gail S Habicht, PhD, Immunological Search Committee, Department of Pathology, SUNY Stony Brook, Stony Brook, NY 11794-8691. SUNY Stony Brook is an affirmative action/equal opportunity educator and employer. AK# 19C.

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR MOLECULAR MICROBIOLOGISTS

The Department of Microbiology and Immunology, Louisiana State University Medical Center, Shreveport invites applications for two tenure-track positions. Microbiologists working at the molecular level in AIDS research, bacteriology, immunology, microbial genetics, bacterial pathogenesis, molecular virology or molecular parasitology will be considered. Competitive salary, modern laboratory, support personnel, and access to core facilities will be provided in an expanding department that emphasizes research and graduate education in molecular microbiology and immunology. Although preference will be given to applicants with an established and funded research program, young scientists with strong postdoctoral experience will also be considered. Minimal teaching responsibilities include the teaching of graduate students and sophomore medical students. Applicants should provide curriculum vitae and description of present and planned research activities and have three letters of reference sent to:

**Dr. Dennis J. O'Callaghan**  
Professor and Head

Department of Microbiology and Immunology  
Louisiana State University Medical Center  
1501 Kings Highway, P.O. Box 33932  
Shreveport, LA 71130-3932

*Affirmative Action/Equal Opportunity Employer*

### ASSISTANT/ASSOCIATE PROFESSOR AND ASSISTANT/ASSOCIATE NEMATOLOGIST:

Available 1 July 1988, an 11-month, tenure-track position as assistant/associate professor and assistant/associate nematologist in the Agricultural Experiment Station. Research, teaching, and student advising responsibilities in developing and testing management strategies for plant-parasitic nematodes in crop systems. Appointee should also have basic research skill at the cellular, tissue or whole-plant level to complement the applied activities. A Ph.D. and experience in host-parasite relations, plant pathology, entomology, and nematology, are required, with a record of research productivity. Application deadline: 1 May 1988. Send curriculum vitae, statement of research and teaching interests relative to applying expertise in nematology, official undergraduate and graduate transcripts, reprints of relevant publications and submitted manuscripts, names, and addresses of at least three references to: **Dr. Howard Ferris, Search Committee Chair, Department of Nematology, University of California, Davis, CA 95616. Telephone: 916-752-6905. The University of California, Davis is an Equal Opportunity/Affirmative Action Employer with a strong institutional commitment to the achievement of diversity among its faculty and staff. In that spirit, we are particularly interested in receiving applications from persons of under-represented groups including women, ethnic minorities, disabled veterans, Vietnam-era veterans, and handicapped persons.**

### CLEMSON UNIVERSITY ASSOCIATE DEAN/DIRECTOR AGRICULTURAL RESEARCH AND SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION

Seeking a person who works well with people, identifies problems, and offers solutions, has the initiative and know-how to identify funding sources, and assists department heads and faculty in the development of programs. Faculty appointment with tenure will be available in an appropriate academic department. Should have a record of research productivity shown by publication in refereed scientific journals; and success in securing grants and/or other outside funding and a doctorate in the natural sciences with at least 5 years of experience. Letters of nomination should include a brief statement of background and qualifications. Applications should include a cover letter and detailed résumé. References will be requested for final candidates. Deadline is 31 March 1988, or until suitable candidate is identified; position available 1 July 1988. Send résumés to: **Dr. Bruce Glick, Chairman, Search Committee, 104 Barre Hall, Clemson University, Clemson, SC 29634-0351. Telephone: 803-656-4018. Confidentiality will be honored upon request. An Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

**ASSISTANT PROFESSOR** University of Texas Southwestern Medical Center at Dallas. M.D. degree. Salary: approximately \$60,000 per year. Department of Clinical Nutrition (Research or tenure-track) Department of Internal Medicine (clinical-track). Must be eligible for Texas license to practice medicine. Minimum 2 years of postdoctoral experience in clinical investigation (lipoprotein metabolism or diabetes). Responsibilities will include direct patient care (Internal Medicine and Diabetes/Lipid Clinics).

Clinical investigation involving lipoprotein metabolism and/or diabetes mellitus. Teaching undergraduate nutrition students in the Department of Clinical Nutrition and organizing and developing postgraduate program in that department.

Please address inquiries and curriculum vitae to: **Dr. Scott M. Grundy, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9052.**

*The University of Texas Southwestern Medical Center at Dallas is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT/ASSOCIATE PROFESSOR, IMMUNOLOGY.** Physician/scientist with strong commitment to research in basic or clinical immunology needed for faculty position in the College of Medicine, where recruitment for several immunologists is continuing actively. Independent research ability essential. Pediatric training desirable, but will consider non-clinical Ph.D. applicants. For more information write: **Michael Schumacher, M.D., Department of Pediatrics, Arizona Health Sciences Center, Tucson, AZ 85724, or call 602-626-6055. The University of Arizona is an Equal Opportunity Employer.**

Closing date is 30 June 1988 or when position is filled.



Wayne State University

### ASSOCIATE/FULL PROFESSOR PHARMACEUTICS

#### COLLEGE OF PHARMACY AND ALLIED HEALTH PROFESSIONS WAYNE STATE UNIVERSITY

Applications are invited for a full-time, tenure-track, position in the Department of Pharmaceutical Sciences; rank and salary commensurate with qualifications. A Ph.D. in pharmacetics or a related discipline is required preferably with a professional degree in pharmacy. Postdoctoral experience is desirable. The candidate should have a strong background in physical pharmacy, biopharmaceutics, or pharmacokinetics and preferably have research interest in drug delivery and dosage form design. Responsibilities will include teaching undergraduate and graduate courses, the development of a strong research program, and aggressive pursuit of external grant and contract support. Eligibility is limited to U.S. citizens and permanent residents. Qualified candidates should send curriculum vitae and three references to:

**Hanley N. Abramson, Ph.D., Interim Dean**  
College of Pharmacy and Allied Health Professions  
Room 105, Shaper Hall  
Wayne State University  
Detroit, MI 48202

*An Affirmative Action/Equal Opportunity Employer*

**BIOLOGY.** Lecturer, 2 years, nontenure-track. Ph.D., microbiology or related field; major responsibility teaching, microbiology, introductory botany, and zoology, specialty courses. Research interests complementing desert biology and arid land plant productivity. Starting 1 September 1988. Salary \$18,459. Review begins 1 April 1988. Send curriculum vitae, transcripts, three letters to: **Chair, Department of Biology, Sul Ross State University, Alpine, TX 79832. Telephone: 915-837-8112. An Affirmative Action/Equal Opportunity Employer.**

**BOTANIST/GENETICIST.** Assistant professor for September 1988. Tenure-track. Ph.D. and appropriate faculty-level teaching experience required. Teach required sophomore-level genetics, introductory botany, develop upper-level botany, team-teach in first-year course for majors. Student advising and research are expected. Send curriculum vitae, statement of teaching experience, and three current letters of reference by 18 March 1988 to: **Dr. Bruce McLean, Chairperson, Biology Department, John Carroll University, Cleveland, OH 44118. Equal Opportunity Employer.**

## POSITIONS OPEN

**BEHAVIORAL NEUROSCIENTIST**—Ohio State University Psychology Department announces a tenure-track assistant or associate position for fall 1988. Individual will become an integral part of a psychobiology program and must interface with a multidisciplinary cognitive focus. Research could address electrophysiological, anatomical, or pharmacological bases of learning, memory, or information processing. Send curriculum vitae, a statement of research interests, reprints, and three reference letters to: **Chairman, Psychology Department, Ohio State University, Columbus, OH 43210. Deadline is 4 March 1988. The Ohio State University is an Equal Opportunity/Affirmative Action Employer.**

### BIOCHEMISTRY POSTDOCTORAL POSITION

The Blood-Brain Barrier Laboratory of the UCLA Brain Research Institute has postdoctoral positions available now or in the near future in the field of neuropeptide drug delivery or molecular mechanisms of Alzheimer's disease. Applicants should have training in biochemical techniques. Send curriculum vitae and letters of reference to:

**Dr. William M. Pardridge**  
Department of Medicine  
UCLA School of Medicine  
Los Angeles, CA 90024

### CANCER RESEARCH SCIENTIST

The Roswell Park Memorial Institute (RPMI) NMR Program has an immediate opening for a scientist in the area of Nuclear Magnetic Spectroscopy. The preferred candidate should have a master's degree in chemistry or a related area. The individual should have utilized high-field NMR spectroscopy and have experience in 1-D and 2-D high resolution NMR spectroscopy. The successful candidate will assist staff scientists in designing specific NMR experiments; execute NMR experiments on the spectrometers; process and interpret NMR data and perform minor spectrometer maintenance. Send résumés to:

**Roswell Park Memorial Institute**  
666 Elm Street  
Buffalo, NY 14263  
**Attention: Employment Office**  
*RPMI is an Equal Opportunity Employer*

### YALE UNIVERSITY SCHOOL OF MEDICINE

**CHAIR,** Department of Psychiatry, Yale Medical School invites applicants and nominations for the position of Chair of the School's distinguished Department of Psychiatry. Candidates must be qualified for faculty appointment at the rank of professor and must be a recognized leader in the field with proven abilities as a clinician, scholar, teacher, and administrator. Appointment is to be effective 1 July 1988 or as soon thereafter as possible. Applications should be submitted prior to 19 March 1988. *Qualified women and minority group members are encouraged to apply.* Curriculum vitae and bibliography should be sent to: **Stephen G. Waxman, M.D., Ph.D., Chairman, Psychiatry Search Committee, Department of Neurology, LCI 707 PSY, Yale Medical School, 333 Cedar Street, New Haven, CT 06510. Affirmative Action/Equal Opportunity Employer.**

**CHAIRMAN.** McMaster University invites applications or nominations for the Chair in the Department of Biomedical Sciences. The term of this appointment is 5 years, renewable once. This position, available after 1 July 1988, requires a successful scientist with administrative experience in a university setting and a strong commitment to academic goals. The inaugural Chairman of this department will have expertise encompassing the three divisions of neurosciences, anatomy, and experimental morphology, and physiology and pharmacology. The Chairman is responsible for ensuring that the academic disciplines in the undergraduate and graduate programs of the faculty, represented in biomedical sciences, are of the highest quality. *In accordance with Canadian immigration requirements, this advertisement is directed firstly to Canadian citizens and permanent residents of Canada.* Applications and/or nominations, accompanied by a detailed curriculum vitae and names of three referees, should be directed to: **Dr. S. M. MacLeod, Dean, Faculty of Health Sciences, McMaster University, 1200 Main Street West, Hamilton, Ontario, L8N 3Z5 Canada.**

## POSITIONS OPEN

### UNIVERSITY OF TORONTO CHAIR IN ANATOMY

The University of Toronto invites applications and nominations for the Chair in the Department of Anatomy. This department is one of the largest in North America, and has a major interest in morphological sciences, cell biology and developmental biology. The department has a tradition of excellence in teaching and research which it expects to maintain. Eligible candidates will qualify for the rank of professor and will hold an M.D. and/or Ph.D. degree. *The University of Toronto encourages both men and women to apply for positions.* Forward correspondence to: **Dr. A. Angel, Chairman of the Anatomy Search Committee, Office of the Dean, Faculty of Medicine, University of Toronto, Toronto, Ontario, M5S 1A8.** *In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.*

### CHAIRMAN, DEPARTMENT OF CELLULAR AND MOLECULAR PHYSIOLOGY

Yale University School of Medicine invites applications and nominations for the position of Chairman of the School's Department of Cellular and Molecular Physiology. Candidate must be qualified for faculty appointment at the rank of professor and must be a recognized leader in the field with proven ability as a scholar, teacher, and administrator. Appointment is to be effective September 1988, or as soon thereafter as possible. Applications should be submitted prior to 31 March 1988. *Qualified women and minority group members are encouraged to apply.* Curriculum vitae and bibliography should be sent to: **The Chairman of the Search Committee: Dr. John P. Perkins, Department of Pharmacology, Yale University School of Medicine, 333 Cedar Street, P.O. Box 333, New Haven, CT 06510.** *Affirmative Action/Equal Opportunity Employer.*

### CHAIRPERSON, DEPARTMENT OF MEDICINE UNIVERSITY OF CALIFORNIA, SAN DIEGO (UCSD)

Applications and nominations are invited for the position of Professor and Chairperson of the Department of Medicine, University of California, San Diego, School of Medicine. The School of Medicine is seeking an individual of international stature who will provide leadership to a department encompassing General Medicine and all medical subspecialties. The Department has responsibility for the teaching of certain components of basic science to medical students. Accredited residency programs, as well as substantial and widely varied research programs, have made this a unique academic department. The UCSD Medical Center and La Jolla VA Medical Center constitute the major sites of clinical programs and there are affiliations with other local hospitals. Qualifications include demonstrated clinical skills, academic accomplishments, and administrative abilities. Candidates should be Board-certified and eligible for licensure in California. To qualify for this senior tenure-track academic appointment, candidates should have recognized accomplishments in research together with publications in one of the disciplines in the Department. Salary is based on academic rank and step of appointment within the established salary schedule. Reply to: **Robert Resnik, M.D., Chairman, Search Committee for Medicine, Department of Reproductive Medicine, UCSD Medical Center, H-813, 225 Dickinson Street, San Diego, CA 92103.** *The University of California is an Equal Opportunity/Affirmative Action Employer.* Closing date: 18 March 1988.

**CHAIRPERSON, DEPARTMENT OF PATHOLOGY,** University of Texas Southwestern Medical School at Dallas, Dallas, TX. The University of Texas Southwestern Medical School at Dallas is seeking a Chairperson for the Department of Pathology. Candidates shall have demonstrated leadership in academic pathology, commitment to a clinical environment, and meritorious research as evidenced by publication in the peer-reviewed literature. Send curriculum vitae to: **William Fry, M.D., Professor and Chair of Surgery, Pathology Search Committee, University of Texas Southwestern Medical School, 5323 Harry Hines Boulevard, Dallas, TX 75235-9031.**

*An Affirmative Action/Equal Opportunity Employer.*

19 FEBRUARY 1988

## IMMUNOLOGY RESEARCH BS/MS

The Upjohn Company, a leader in the research and development of pharmaceuticals, is seeking candidates to fill a position in our Infectious Diseases Research Group. Candidates will have a BS or MS in biochemistry, immunology or related discipline. Solid academic achievement, several years of successful laboratory experience, and demonstrated ability to do independent research are necessary.

This position will participate in the development and application of systems to study agents that affect the synthesis/release and biological activity of monokines as well as systems to study the phagocytic killing of microorganisms. Experience and background with small animals, cell cultures, immunoassays and/or bacteriological techniques are highly desirable.

We are located in Kalamazoo in Southwestern Michigan, midway between Chicago and Detroit, offering varied cultural events, cosmopolitan shopping and entertainment, lakes and woodlands minutes away, abundant year-round sports and recreation. Upjohn offers advancement opportunities, a highly competitive salary, comprehensive benefits and relocation assistance. For confidential consideration, please 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 to you immediately. Please refer to position number 21707-A when calling. We are an Equal Opportunity Employer M/F.

**Our Commitment to Scientific  
Excellence Continues...**

**Upjohn**

## RESEARCH SCIENTIST

Bristol-Myers Company currently has two career opportunities for Research Scientists within Pharmaceutical Research and Development.

### Molecular Biologist

This scientist will design and conduct experiments to define important biochemical targets in skin cells, and to develop probes to measure such targets. These will be used to assay drug effects on skin function and to predict clinical effects of new dermatologicals.

The successful candidate will have strong interpersonal skills and the ability to manage multiple and diverse projects. A Ph.D. in Molecular Biology or related field is required with 1-3 years experience or more.

### Cell Biologist/Immunologist

The Research Scientist will conduct research on immune cells, cutaneous cells and their interaction in health and disease. The research goals of this position will lead to the discovery of new drugs, which will treat inflammation or alleviate cutaneous disorders.

The successful candidate will have a Ph.D. in Cell Biology, Immunology, or a related field, with 0-3 years experience, and strong written and verbal communication skills.

These positions offer high visibility within Bristol-Myers and a unique opportunity to work in scientifically exciting innovative programs. A very attractive package of salary and comprehensive benefits is offered.

For confidential consideration, please send resume and position requirements to:

**Manager, Human Resources**

**Bristol-Myers Company**

*Pharmaceutical R&D Division*

**100 Forest Avenue, Buffalo, N.Y. 14213**

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

## POSITIONS OPEN

### CHIEF OF DEPARTMENT OF BREAST SURGERY ROSWELL PARK MEMORIAL INSTITUTE BUFFALO, NEW YORK

The Roswell Park Memorial Institute is seeking a Chief of the Department of Breast Surgery who will have responsibilities for the administration of the department and the treatment of breast cancer.

The candidate must be Board-certified in general surgery, have strong qualifications as an established research investigator in oncology and substantial academic credentials in order to qualify for an appointment on the faculty of the SUNY at Buffalo School of Medicine and Biological Sciences. Apply by sending curriculum vitae to: **Andrew A. Gage, M.D., Deputy Institute Director, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263.**

*RPMI is an Equal Employment Opportunity Employer*

**CREW STATION DESIGN**—This entry-level position will be responsible for advanced crew station designs, subsystem integration including oxygen systems, environmental control systems, acceleration protection systems, and man-modeling. Interested applicants must have U.S. citizenship and a degree in engineering. Please send résumé in confidence to: **Manager, Professional Staffing, McDonnell Douglas Corporation, P.O. Box 4012, Department 62-R789, St. Louis, MO 63042.** *Equal Opportunity Employer, M/F.*

### CURATOR OF MAMMALOLOGY AMERICAN MUSEUM OF NATURAL HISTORY

The Department of Mammalogy invites applications for a tenure-track curatorial position to be available 1 September 1988. The successful applicant will be expected to pursue independent research in systematic mammalogy based on active fieldwork, use of the Museum's collection resources, and on such other laboratory and analytical approaches in which he or she may be competent (those approaches may include, but are not restricted to, cytological, biochemical or morphometric analyses). Applicants must demonstrate an ability to apply systematic data in testing hypotheses of phylogenetic relationships, biogeography, evolutionary theory, or other areas of general biological interest. Curation of the Department's collections, participation on Museum committees and in the Museum's exhibition program, and membership in appropriate professional societies are other important requisites of employment. The successful applicant must have the ability or potential to assume the chairmanship of the Department of Mammalogy at some point in his or her career. All requirements for the Ph.D. must be completed by the time of appointment. Applications should include (i) a statement of research interests and professional goals; (ii) curriculum vitae; (iii) complete bibliography; and (iv) the names, addresses, and telephone numbers of at least five persons familiar with the applicant's qualifications.

Applications should be submitted by 1 April 1988 to: **Dr. Guy G. Musser, Chairman of Search Committee, Department of Mammalogy, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.** *An Equal Opportunity Employer.*

### CYTOGENETICS TECHNOLOGIST

The Genetics and IVF Institute is a nationally recognized, integrated clinical and laboratory facility in the Washington, D.C. metropolitan area affiliated with a major teaching hospital and the Medical College of Virginia. The Institute is active in patient care, laboratory services, and research in genetics, reproductive medicine, and related areas. The Institute has immediate openings for individuals experienced in human cytogenetics. Applicants must have a B.S. or M.S. degree in biology, genetics or a related field, and at least 1 year of experience in human chromosome analysis. Practical knowledge of amniotic fluid cell culture and/or chorionic villus methodology is helpful. NCA certification is desirable. The Institute has established a stimulating environment which encourages professional growth. We offer a competitive salary and benefits package commensurate with experience. Please submit résumé to: **Andrew Dorfmann, Laboratory Director, Genetics and IVF Institute, 3020 Javier Road, Fairfax, VA 22031.**

## POSITIONS OPEN

### DEAN FACULTY OF AGRICULTURAL AND FOOD SCIENCES BEIRUT, LEBANON

The American University of Beirut invites applications for the position of Dean, Faculty of Agricultural and Food Sciences. The Faculty is one of five in the University; normal enrollment of 400 (one-quarter in graduate studies); normal complement of faculty is 26 FTE and an additional three FTE involved in outreach programs in Saudi Arabia; physical plant includes 250-acre experiment station in Bekaa Valley. Duration of appointment is open.

Please note that the United States Government currently restricts travel to, and residence in, Lebanon by United States citizens.

Applications (including curriculum vitae) should be sent not later than 31 March 1988 to:

**Dr. Frederic P. Herter, President  
American University of Beirut  
850 Third Avenue, 18th Floor  
New York, NY 10022**

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

### DIRECTOR, BIOMEDICAL AND HEALTH CARE ETHICS

The Director will report to the Provost, and will provide leadership in biomedical and health care ethics for the Health Sciences Center and to some extent, Statewide. He or she is to develop effective interactions among the faculty and students of the colleges of medicine, nursing, dentistry, pharmacy, allied health and public health, and in the clinical setting of the affiliated hospitals; is expected to be active in scholarly work and research concerned with biomedical and health care ethics, and to develop conferences and elective curricula in ethics for medical and other health professional students.

Qualifications include a Ph.D. or equivalent degree in philosophy or extensive relevant scholarly achievement, successful experience in the clinical setting, established scholarship and teaching effectiveness, and the seniority which would be desirable for one who is to develop a new program on a health sciences campus. The appointment will be as an associate professor with an adjunct or joint appointment in the Department of Philosophy. Salary is dependent upon qualifications. Preferred starting date will be fall of 1988.

Applicants should send a cover letter and curriculum vitae to: **Ethics Search Committee, Office of the Provost, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190,** on or preferably before 30 March 1988. *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.*

### ENVIRONMENTAL CHEMISTRY FACULTY POSITION

The Department of Preventive Medicine and Environmental Health of The University of Iowa College of Medicine invites applications for a tenure-track faculty position at the assistant professor level. Applicants holding the Ph.D. degree in one of two areas will be considered: (i) analytical chemistry of environmental pollutants and industrial toxicants or (ii) environmental engineering/science with specific environmental chemistry laboratory experience. Education and academic or professional experience in public health, toxicology, or industrial hygiene will be advantageous. The appointee will be expected to develop research programs in environmental chemistry and monitoring, and to participate in departmental research directed at health consequences of chemical environmental contamination. Teaching responsibilities will include course development in environmental chemistry, environmental monitoring and analysis, environmental toxicology, and other graduate level instruction offered by the department. Salary will depend on academic background, evidence of scholastic achievement, and experience. Please respond to: **Burton C. Kross, Ph.D., P.E., The University of Iowa College of Medicine, Department of Preventive Medicine, 124 AMRF—Oakdale Campus, Iowa City, IA 52242.** Attention: Recruiting assistant. *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**DIRECTOR, CLINICAL CHEMISTRY**—The Division of Laboratory Services at the Albany Medical Center, a 620-bed tertiary care facility and medical school, has a position for a Director of Clinical Chemistry. Candidates should hold a Ph.D. or M.D. degree and be Board certified or eligible in clinical chemistry (ABCC) or clinical pathology. Service responsibilities include directing a large computerized clinical chemistry laboratory with a full range of special chemistry, toxicology and immunodiagnostic services. A strong commitment to teaching and research is required and the successful candidate will hold appointments in the Departments of Biochemistry and Pathology, commensurate with experience. Please submit curriculum vitae and three letters of recommendation to: **Thomas G. Rosano, Ph.D., Laboratory Services, Albany Medical Center, 43 New Scotland Avenue, Albany, NY 12208.** *An Equal Opportunity/Affirmative Action Employer M/F/H.*

### DIRECTOR GERIATRIC RESEARCH, EDUCATION AND CLINICAL CENTER (GRECC) GAINESVILLE VA MEDICAL CENTER PROFESSOR OR ASSOCIATE PROFESSOR UNIVERSITY OF FLORIDA COLLEGE OF MEDICINE

We seek a distinguished academic physician with the background and potential to foster, as Director of the GRECC, the development of outstanding investigative, educational and clinical programs in gerontology. Although we welcome applications from any academic physician, ongoing programs would relate best to an internist, especially one with interest in geropharmacology. Salary negotiable; anticipated start date as early as 1 September 1988. Please send curriculum vitae and the names of three references by 22 April 1988 to:

**Dr. Allen H. Neims  
Box J-267, JHMC, University of Florida  
Gainesville, FL 32610**

*An Affirmative Action/Equal Opportunity Employer.*

The Climate and Meteorology Section, Illinois State Water Survey, invites applications for a full-time **DYNAMICAL METEOROLOGIST** position (professional scientist). The appointee will be expected to develop a program of dynamical research into the cloud and/or weather systems of the eastern portion of the interior of the United States. Applicants should possess numerical modeling expertise, and familiarity with the acquisition and analysis of observational data, and interests should include one of the following: individual clouds, cloud systems, mesoscale weather systems, and regional scale atmospheric circulations. Requires Ph.D. in meteorology, atmospheric sciences, or closely related discipline; postdoctoral experience advantageous. Apply to: **Dr. Peter J. Lamb, Head, Climate and Meteorology Section, Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL 61820.** Closing date: 31 March 1988. *The University is an Affirmative Action/Equal Opportunity Employer.*

### ENZYMOLGY AND NEUROPHYSIOLOGY POSTDOCTORAL AND DOCTORAL STUDENT POSITIONS

are now available on:

(i) Synthesis and Kinetic Analysis of Peptide-Containing Transition-State Analog Inhibitors of Human Serum Proteases. [M. Philipp, *Fed. Proc.* 46, 2223 (1987)] and

(ii) Physiology of the Sweet Taste Response: The mechanism of newly discovered sweet taste antagonists [W. Jakinovich, *J. Neurosci.* 6, 2604-2610, 2611-2615 (1986)].

Please send your curriculum vitae to: **Manfred Philipp, Ph.D., Davis Hall Room 101, Lehman College/City University of New York, Bronx, NY 10468.**

*Lehman College, an Affirmative Action/Equal Opportunity Employer, is a senior college of the City University of New York located in the northwest Bronx.*

**EUKARYOTIC MOLECULAR BIOLOGIST** with experience in growth factor/oncogene field or molecular mechanism of immune regulation. Must have capacity to develop independent program. Level of position depends upon experience. Assistant or associate professor. Apply to: **Office of the Institute Director, Roswell Park Memorial Institute, Buffalo, NY 14263.**

University of Tasmania



**CHAIR OF GEOGRAPHY AND  
ENVIRONMENTAL STUDIES  
(Ref. 111/87)**

Applications are invited from persons interested in assuming leadership of a new Department of Geography and Environmental Studies, created following the amalgamation of the previous Department of Geography and the Centre for Environmental Studies. The department, which specialises in applied and policy studies, has major undergraduate teaching responsibilities and a large postgraduate complement. Preference will be given to candidates with excellence in some aspect of physical geography and/or applied environmental studies with a commitment to promoting both Geography and Environmental Studies. Attention is drawn to the University's commitment to studies of Antarctica and the Southern Ocean. The present professorial salary is \$A58,870 p.a. Enquiries about academic aspects of the post should be directed to Dr. Leslie J. Wood, tel. (0)02.202489 / 202463.

Application forms, information and conditions brochures and selection criteria statements are available from the Staff Office Secretary, tel. (0)02.202013. Applications close with the Staff Officer, University of Tasmania, Box 252C, G.P.O., HOBART, TASMANIA, AUSTRALIA, 7001 on Monday 11 April 1988.

THE UNIVERSITY IS AN EQUAL  
OPPORTUNITY EMPLOYER

# Senior Scientist

## Analytical Development Laboratory

Schering-Plough, a \$2.4-billion Corporation, has established a worldwide reputation for leadership in research, manufacture and marketing of pharmaceutical and personal care products.

We offer you an opportunity to join our Analytical Laboratory research team to participate in the development of protein separation projects, including improving gel procedures. You will also provide technical support to department scientists and engineers.

This is a hands-on position, requiring in-depth knowledge of electrophoresis, isoelectric focusing and protein blotting techniques.

Credentials must include a PhD in Chemistry, Biochemistry, or equivalent, plus 1-5 years' laboratory experience in gel electrophoresis.

We offer an attractive salary and benefits package, and a stimulating high-support research environment. To explore this opportunity, forward your resume with salary history in confidence to: Mr. M. Urdanick, Schering-Plough Corporation, 1011 Morris Avenue, MD87-19, Union, NJ 07083. We are an equal opportunity employer.



# Schering-Plough

## Sr. Scientist/Section Leader Microbiology

SANDOZ CROP PROTECTION CORPORATION, a company widely recognized for excellence in agricultural research and manufacturing, has an opening for a Microbiologist as Sr. Scientist/Section Leader in Biological Development. The function of this position will be to direct fermentation development for Microbial Insecticides. Requirements include:

- \* Ph. D. in Microbiology with minor in Biochemistry and/or immunology
- \* At least 5 years experience in Microbial physiology research with bacterial cultures and 2 years fermentation process development.
- \* Skills in modern biotechnology techniques desired.

For consideration send resume to:

**SANDOZ CROP PROTECTION CORP.**  
Denise Willey  
P.O. Box 220  
Wasco, CA 93280



EEO/AA

## SENIOR SCIENTIST

### Toxicokinetics

The LILLY RESEARCH LABORATORIES, a Division of Eli Lilly and Company, is seeking candidates for a senior scientist position in the Department of Biochemical Toxicology.

Qualified applicants should have a doctoral degree in pharmacology, toxicology, or related areas with experience in pharmacokinetics, drug disposition, and a general background in toxicology; post-doctoral training is preferable, but not essential. The primary responsibilities will involve support of the preclinical toxicologic evaluation of new therapeutic agents through the design, conduct, and evaluation of toxicokinetic studies. These studies will be directed toward providing insights into mechanisms of toxicity, dose selection, and the effects of pathophysiologic changes on drug disposition.

Qualified candidates should send detailed curriculum vitae to:

Ms. Carol Zapapas  
Personnel Representative—GB992  
Eli Lilly and Company  
Greenfield Laboratories  
P.O. Box 708  
Greenfield, IN 46140



An Equal Opportunity Employer

## POSITIONS OPEN

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

**DIRECTOR**, National Animal Disease Center in Ames, Iowa.

ARS is seeking a person who will participate with the area director and other management officials in the planning, coordinating, and evaluating overall research programs. Candidates must have knowledge and experience in one or more of the following areas: (i) veterinary medicine, pathology, virology, physiology, cytology, molecular biology, and chemistry as related to animal disease research; and (ii) cooperative programs directed toward agricultural research, including federal and state agencies, and private industry. This is an SES position, therefore, in addition, this position also requires managerial experience in program/policy issues, development and administration.

Ph.D. is desirable, must be a U.S. citizen. Salary is commensurate with experience (\$65,994 to \$77,500). For information on the research program and/or position, contact: **Dr. Gerald Carlson on 309-685-4011 ext. 603**. For information, application procedures, and required forms, contact: **Janie Carr on 301-344-2756**. Applications in response to this advertisement should be marked 8N004. Applications must be received by 22 March 1988.

Mailing address:

**USDA, Agricultural Research Service  
Personnel Operations Branch  
Northern Section, Building 419, BARC-East  
Beltsville, MD 20705  
Attention: Janie E. Carr  
An Equal Opportunity Employer.**

### FACULTY POSITION IN BIOCHEMISTRY

Tenure-track position in the Department of Chemistry. Applicants will be considered at all ranks. Ph.D. and postdoctoral or equivalent experience required. Specialization may be in any area of biochemistry or molecular biology. The successful applicant will be expected to establish or continue a vigorous, externally funded research program and participate in undergraduate and graduate (M.S. and Ph.D.) programs. Opportunities available for collaboration with other departments, major area hospitals and biotechnology companies. Submit curriculum vitae, an outline of research plans and arrange for three letters of recommendation to be sent. All applications should be received by 21 March 1988. Send to: **Professor Denis Callewaert, Department of Chemistry, Oakland University, Rochester, MI 48309-4401. Oakland University is an Equal Opportunity/Affirmative Action Employer.**

### THE UNIVERSITY OF CALGARY FACULTY POSITION IN VISION RESEARCH

The University of Calgary Faculty of Medicine invites applications for a position as assistant or associate professor of medical physiology with specialization in physiology and biophysics of vertebrate photoreceptors.

Candidates should have Ph.D. or M.D. with equivalent research training, at least 2 years of postdoctoral experience, and an established record of productive and fundable research on photoreceptors. The successful candidate is expected to apply to Alberta Heritage Foundation for Medical Research for salary and establishment support. A Faculty appointment in the Department of Medical Physiology will also involve an affiliation with the Lions' Sight Centre. The applicant will be expected to develop a strong research program in an interdisciplinary setting and will be expected to devote 75% of time to research.

*In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.* Please send curriculum vitae, summary of research interests, and names of three referees prior to 15 April 1988 to:

**Dr. William K. Stell  
Director, Lions' Sight Centre  
The University of Calgary  
Faculty of Medicine  
3330 Hospital Drive N.W.  
Calgary, Alberta T2N 4N1  
Canada**

## POSITIONS OPEN

**EUKARYOTIC GENETICIST**—A tenure-track position is to be filled at the assistant professor level. Duties include teaching an undergraduate course in genetics, one advanced course per year, and maintaining a vigorous extramurally funded research program that includes graduate students. All areas of eukaryotic genetics in plants or animals will be considered, including molecular, developmental and evolutionary genetics. Applicants with postdoctoral experience should send curriculum vitae and list of at least three referees to:

**Dr. A. W. Rourke  
Department of Biological Sciences  
University of Idaho  
Moscow, ID 83843**

*The University of Idaho is an Equal Opportunity/Affirmative Action Employer; women and members of minority groups are particularly encouraged to apply.*

The Scientists Center for Animal Welfare (SCAW), a well-established nonprofit educational organization, seeks an **EXECUTIVE DIRECTOR**. Requirements include a Life Science Doctorate, organizational and program management skills, knowledge of animal-use and experimentation issues, and ability to initiate and manage fund-raising programs. Submit letter, curriculum vitae, and names/addresses of three references to: **S. Bloom, M.D., President, SCAW, 4805 St. Elmo, Bethesda, MD 20814.**

### FACULTY POSITION IN NEUROBIOLOGY COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

The Department of Biological Sciences of Columbia University invites applications for a faculty position in neurobiology at either the junior or senior level. Outstanding applicants working in any area of neuroscience will be considered, although candidates working in cellular and/or developmental neurobiology are particularly encouraged to apply. Additional research programs in the department include molecular and cellular biology, molecular genetics, and developmental biology. Applicants should have a Ph.D. and have completed postdoctoral training. The successful candidate must have a strong commitment to undergraduate and graduate teaching. The level of appointment made will be commensurate with experience. Curriculum vitae, list of publications, a description of current and future research, and three letters of recommendation should be sent to:

**Dr. Darcy Kelley  
Neurobiology Search  
Department of Biological Sciences  
600 Fairchild Center  
Columbia University  
New York, NY 10027**

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

### FACULTY POSITIONS IN CELLULAR AND MOLECULAR PHYSIOLOGY

The Department of Physiology of The Pennsylvania State University College of Medicine is seeking applications for two full-time, tenure-track positions at the assistant/associate professor rank to begin in summer or fall 1988. The Department presently has eight full-time, well-funded faculty who are working in the general area of cellular and molecular physiology. We are seeking candidates with substantial postdoctoral experience in one or more of the following areas: metabolic regulation, mechanisms of hormone action, membrane receptors, cytoskeletal-membrane interactions, intracellular membrane trafficking, signal transduction, ion channels, control of growth and differentiation, and gene regulation. Special attention will be given to candidates who are able to relate molecular concepts and information to the cell and tissue levels of the organism. Significant research accomplishment and ability to obtain independent funding are essential. Excellent opportunities exist for research collaboration, teaching in a medical school curriculum, and participation in one or more graduate programs. Competitive salaries and start-up funding are available.

Applicants should submit, prior to 1 May 1988, curriculum vitae, reprints, statement of current and planned research interests and letters from at least three references to: **Dr. Leonard S. Jefferson, Chairman, Department of Physiology, College of Medicine, The Pennsylvania State University, P.O. Box 850, Hershey, PA 17033. The Pennsylvania State University is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### FACULTY POSITION MOLECULAR BIOLOGIST

Applications are invited for a tenure-track (assistant professor) position in molecular biology at the University of Houston—Clear Lake beginning in August 1988. The successful candidate will teach at the advanced undergraduate and graduate (M.S.) level, including laboratories, and will be expected to establish an independent research program. The Ph.D. in molecular biology or a related field is required; postdoctoral experience is desirable. The University of Houston—Clear Lake, one of four institutions in the University of Houston system, is a growing, upper-level University located near NASA's Johnson Space Center. Candidates should send curriculum vitae, a brief description of research interests, and arrange to have three letters of recommendation sent by 15 March 1988 to: **Dr. Margaret R. Kasschau, Chair, Division of Biological and Allied Health Sciences, University of Houston—Clear Lake, Houston, TX 77058. The University of Houston—Clear Lake is an Equal Opportunity/Affirmative Action Employer.**

Ohio State University's Laboratory for Artificial Intelligence (LAIR) invites people with strong backgrounds in cognitive science, a Ph.D., and advanced training in computer science to apply for **FACULTY POSITIONS** in the Department of Computer and Information Science. Areas of emphasis will be computational theory issues surrounding AI models including connectionist schemes, computational approaches to vision and speech understanding, and knowledge-based problem solving. Cognitive science studies, with participation by computer and information science, linguistics and cognitive psychology programs, among others, are to be supported; a senior appointment as Director of Cognitive Science is possible.

Candidates should send curriculum vitae, reprints, a description of backgrounds and interests, and names of at least three references to:

**Dr. B. Chandrasekaran  
Director of LAIR  
Department of Computer and Information Sciences  
2036 Neil Avenue Mall  
Columbus, OH 43210-1277**

*Women and minorities are especially encouraged to apply. The Ohio State University is an Affirmative Action/Equal Opportunity Employer.*

### INDUSTRIAL HYGIENE FACULTY POSITION

The Department of Preventive Medicine and Environmental Health of The University of Iowa invites applications for a tenure-track faculty position at the assistant professor level. Applicants holding a Ph.D. degree in industrial hygiene or an equivalent closely related field will be considered. It is desirable that the applicant possess focused experience or research interest in a specialized aspect of industrial hygiene compatible with the research and programmatic interests of the Division of Occupational and Environmental Health.

Salary will depend upon academic background, evidence of scholastic achievement, and experience. Please respond with curriculum vitae and the names of three references to: **William Pependorf, Ph.D., CIH. The University of Iowa—AMRF, Iowa City, IA 52242. Attention: Recruiting Assistant. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.**

### LIMNOLOGIST/AQUATIC BIOLOGIST CENTER FOR LIMNOLOGY AND DEPARTMENT OF ZOOLOGY UNIVERSITY OF WISCONSIN-MADISON

Assistant or associate professor. One-half of the position derives from funds contributed to the Center for Limnology by the Norman Bassett Foundation and emphasizes a major commitment to research on the Madison lakes. The other 50% is a teaching and research appointment in the Department of Zoology. Teaching opportunities are negotiable. Send curriculum vitae, statement of research interests, reprints, and names of five references to search committee chair: **James F. Kitchell, Center for Limnology, University of Wisconsin-Madison, Madison, WI 53706**. Applications due 31 March 1988. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

**MOLECULAR PARASITOLOGISTS AND  
MOLECULAR VIROLOGISTS  
FOR  
INTERNATIONAL CENTRE FOR GENETIC  
ENGINEERING AND BIOTECHNOLOGY,  
NEW DELHI, INDIA**

The International Centre for Genetic Engineering and Biotechnology (ICGEB) is an intergovernmental organization being established by 40 countries as a centre of excellence devoted to the application of genetic engineering and biotechnology to accelerate economic development. The United Nations Industrial Development Organization (UNIDO) assists the member countries of the ICGEB in establishing the Centre and is currently implementing an interim programme for a period of three years by which the Centre is expected to function as an autonomous intergovernmental organization.

At New Delhi, India, the initial focus is on the molecular aspects of hepatitis virus and parasitology, with special emphasis on protozoan infections.

The Centre is under the directorship of Prof. Irvin C. Gunsalus. The New Delhi component is under the directorship of Prof. K. K. Tewari. Positions are now available as follows:

*Research scientists*

Research scientists are being recruited at levels from Assistant to Senior Scientist with equivalence to academic attainment of Assistant to full Professor at major internationally recognized universities. Fluency in English is essential. The levels of appointment and the salary will be commensurate with academic excellence, experience and demonstrable leadership.

Please send resume with three letters of recommendation to:

**Prof. I. C. Gunsalus  
c/o Mr. H. Creydt, Head  
Project Personnel Recruitment Branch  
UNIDO  
P.O. Box 300  
Vienna A-1400, Austria**

**POSTDOCTORAL SCIENTIST  
EXPLORATORY RESEARCH**

**Amgen** is a dynamic and growing organization that is a recognized leader in recombinant DNA technology. Our leadership in developing erythropoietin and other products for human therapeutics, human diagnostics, animal health care and specialty chemicals has placed us firmly in the forefront of the industry. We currently have an opportunity for a Postdoctoral Scientist to contribute to our Exploratory Research Group.

Qualified candidates will have a Ph.D. in the avian molecular biology of growth physiology or disease resistance or a Ph.D. in the mammalian molecular biology of lipid metabolism, hematology, endocrinology or immunomodulators.

**Amgen** offers a stimulating and challenging research environment as well as an attractive location (about an hour northwest of Los Angeles). **Amgen** also offers a competitive compensation and benefits package. Qualified applicants should send a resume, in confidence, to:

**Recruitment, Dept. #113  
AMGEN  
1900 Oak Terrace Lane  
Thousand Oaks  
CA 91320**



Equal Opportunity Employer

**DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH  
NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES**

**OPENING DATE: January 18, 1988**

**CLOSING DATE: March 4, 1988**

**(All applications must be postmarked before closing date)**

**Position: Director, Division of Digestive Diseases and Nutrition**

The National Institute of Diabetes and Digestive and Kidney Diseases invites nominations and applications for the position of Director, Division of Digestive Diseases and Nutrition (DDN). The candidate must be internationally recognized within the scientific community as an authority in digestive diseases. In addition, the candidate should demonstrate an interest and a commitment to nutrition research. This Institute conducts, fosters, and supports research and research training in the prevention, management, and cure of diabetes and related endocrine and metabolic diseases; kidney, urologic and hematologic diseases, and digestive diseases and nutrition. Programs encompass intramural laboratory research and extramural (grants and contracts) activities in fundamental diabetes digestive and kidney disorders.

The incumbent serves as the primary official with responsibility for planning and executing the Institute's digestive diseases and nutrition extramural programs. This includes basic and applied research, training fellowships, institutional training awards, multipurpose research centers, clinical trials, and data collection. Advises and participates with the outside voluntary health organizations and the National Advisory Council in identifying and accessing the needs and requirements for research and manpower development in the digestive diseases and nutrition disorders. Additionally, the incumbent serves as principal advisor to the Institute Director on matters and policies pertaining to these areas. Also, the incumbent will conduct intramural research projects in the areas of digestive related diseases and nutrition.

This is a Civil Service position in the Senior Executive Service (SES), with a salary range from \$64,760 to \$73,400 per annum, depending on qualifications. Currently the payable salary is limited to \$73,400. Physicians may be eligible for an additional comparability allowance up to \$10,000 per year. (Alternatively, candidates may be eligible for appointment in the Commissioned

Corps of the U.S. Public Health Service). Mandatory professional/technical qualifications are a medical degree and research program administration and/or clinical experience in digestive diseases and nutrition. Further information on these qualifications are available by contacting Mr. Syd Carter, Personnel Management Specialist, National Institute of Diabetes and Digestive and Kidney Diseases, 9000 Rockville Pike, Building 31, Room 9A30, Bethesda, Maryland 20892, (301) 496-4231.

Mandatory managerial/executive qualifications include evidence of management of a basic or clinical research program, demonstrating ability to assume leadership responsibilities in developing program goals; representing the program to outside groups; directing program planning, execution, and evaluation; and conducting a fair and equitable employment program, including the attainment of EEO objectives.

Candidates who meet the mandatory qualifications will be further evaluated by the Search Committee on the degree to which they exceed the mandatory managerial/executive qualifications, and on the following desirable qualifications: scientific reputation/peer recognition, training and education, leadership of a basic or clinical research or research administration program, and honors and awards.

APPLICATIONS (APPLICATION FOR FEDERAL EMPLOYMENT SF-171) should be sent to Mr. Clifford Moss, Executive Secretary, Search Committee for Director, DDN, Building 31, Room 9A30, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland 20892, telephone (301) 496-4231.

A current curriculum vitae and bibliography must accompany all applications. Applications from women and/or minority group members are especially solicited.

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## POSITIONS OPEN

### THE UNIVERSITY OF CALGARY GRADUATE AND POSTDOCTORAL RESEARCH IN BIOCHEMISTRY

The University Biochemistry Group is comprised of members of the Faculties of Medicine and Science and offers an interdisciplinary environment for graduate and postdoctoral research in biochemistry, molecular biology and biotechnology. Highly qualified students with training in biochemistry, chemistry, biology, or related disciplines may be admitted to programs leading to the M.Sc. and Ph.D. degrees. Research/teaching assistantships (\$9,700 to \$12,500 per year) are available from the University. Studentships (\$12,450 per year plus \$2,500 research allowance and postdoctoral fellowships (\$22,900 per year plus \$5,000 research allowance) are available upon competitive application to the Alberta Heritage Foundation for Medical Research and other granting agencies. Interested individuals should send curriculum vitae that includes courses taken and grades obtained, plus a statement of research interests to: **Dr. Kenneth J. Stevenson, Chairman, Graduate Studies Committee, University Biochemistry Group, Department of Biological Sciences, The University of Calgary, 2500 University Drive NW, Calgary, Alberta, Canada T2N 1N4.**

### HEAD, DEPARTMENT OF BIOCHEMISTRY AND DIRECTOR CENTER FOR BIOLOGICAL CHEMISTRY UNIVERSITY OF NEBRASKA- LINCOLN (UNL)

Applications, nominations, and inquiries are invited for the dual-position of Head of the Department of Biochemistry and Director of the University-wide Center for Biological Chemistry. The Department is part of the Institute of Agriculture and Natural Resources and has a state- and federally funded research mission in the Nebraska Agricultural Research Division. The undergraduate and graduate teaching programs in biochemistry are administered by the newly created Center and are offered in the College of Arts & Sciences and the College of Agriculture.

Responsibilities include the dynamic and innovative leadership of biochemistry programs at UNL by administering and participating in the research mission of the Department of Biochemistry and directing the undergraduate and graduate teaching programs of the Center for Biological Chemistry. Appointment will be at the full professor level; salary is competitive and based on qualifications and experience. A Ph.D. or the equivalent is required, as are an outstanding biochemical research record, proven interest and experience in teaching biochemistry, and strong leadership ability and administrative potential.

Applications, nominations, and inquiries should be directed as shown below. Applicants should provide curriculum vitae and names, addresses, and telephone numbers of at least three references by 15 March 1988 to:

**Dr. Raymond Chollet**  
Chair, Biochemistry Search Committee  
210 Biochemistry Hall  
University of Nebraska-Lincoln  
Lincoln, NE 68583-0718  
Telephone: 402-472-2936 or 472-2932  
*Affirmative Action/Equal Opportunity Employer*

### MICROBIOLOGIST

Microbiologist (Ph.D. preferred) to direct Section of Clinical Laboratories, Minnesota Department of Health, on University of Minnesota Minneapolis Campus. Develop programs to support epidemiologic investigations. Expertise in virology, particularly retrovirology an asset; 2 to 3 years of supervisory experience required. Salary: \$39,000 to \$52,000. Résumé to: **Ms. Terry Chism, Personnel Director, Minnesota Department of Health, 717 Delaware Street, SE, Minneapolis, MN 55440.**

## POSITIONS OPEN

### ISOTOPE GEOCHEMISTRY/ RICE UNIVERSITY, GEOLOGY AND GEOPHYSICS

We are seeking a person with a promising research record in either K-Ar and <sup>39</sup>Ar and <sup>40</sup>Ar geochronology with applications to modeling tectonic processes, or in other radiogenic isotope studies including but not limited to geochronology. In filling this position we plan to build on our active programs in petrology/volcanology, regional tectonics/structural geology, marine geochemistry, and global evolution. Teaching in geochemistry, geochronology, and complementary fields, both graduate and undergraduate, will be an important task. This tenure-track appointment at the rank of assistant professor will begin with the fall semester 1988. Partial funding for establishing laboratory and instrumental facilities will be made available.

Applications, including curriculum vitae, transcripts, and names and addresses of three references should be sent by 15 March 1988 to:

**Chairman**  
Department of Geology and Geophysics  
Rice University, P.O. Box 1892,  
Houston, TX 77251

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

### MOLECULAR BIOLOGIST

**POSTDOCTORAL OR RESEARCH ASSOCIATE** position available at Tufts University to study the regulation of gene expression during spermatogenesis. Research projects include analysis of trans-acting factors that regulate transcription and translation of temporally regulated genes in male germ cells and an effort to understand how stem cells are induced to differentiate. Salary will be commensurate with applicant's experience. Training and experience in molecular biology or protein biochemistry is desirable.

Please send curriculum vitae and names and addresses of three references to: **Norman B. Hecht, Ph.D., Department of Biology, Tufts University, Medford, MA 02155.**

### MOLECULAR BIOLOGIST

New research program on the role of gene expression in the induction and modulation of toxic responses in mammals has an opening for a molecular biologist with experience in the regulation of gene expression. The objective of this program in the Division of Comparative Toxicology, National Center for Toxicological Research (NCTR), is to understand the modulation of in vivo toxic responses in terms of molecular mechanisms. Therefore in vivo and in vitro approaches are combined. Academic affiliation, if desired, is possible. *The Food and Drug Administration (FDA) is an Equal Opportunity Employer.* Send curriculum vitae and list of publications to: **Personnel Office, FDA-NCTR, Public Health Service, Jefferson, AR 72079.** For additional information please call **Mr. King at 501-541-4475.**

### UNIVERSITY OF VERMONT MOLECULAR BIOLOGIST/BIOPHYSICIST

The Department of Physiology and Biophysics is seeking applicants for a tenure-track position at the level of assistant professor in the area of molecular genetics or molecular biophysics applied to basic physiological problems. The Department of Physiology and Biophysics is located on the campus of the University of Vermont in the College of Medicine. The department emphasizes basic research in an intellectual atmosphere conducive to creativity and collaboration. Research facilities are exceptional and include extensive animal care, modern molecular biology and instrumentation facilities. Qualified applicants would be expected to develop an independent research program and participate in department teaching at both graduate and undergraduate levels. *The University of Vermont is an Equal Opportunity/Affirmative Action Employer.*

Applicants should send curriculum vitae along with a description of career goals, research objectives, and names of three references to:

**Norman R. Alpert, Ph.D.**  
Professor and Chairman  
Department of Physiology and Biophysics  
University of Vermont College of Medicine  
Burlington, VT 05405

## POSITIONS OPEN

### MOLECULAR BIOLOGIST

The Division of Rheumatology, Department of Medicine, at the University of Colorado Health Sciences Center, invites applications for a position at the beginning faculty level. Applicants should have completed at least 2 years of postdoctoral work with experience in the regulation of gene expression. The position is full-time research in a laboratory interested in regulation of synthesis of interleukin 1 in human monocytes. The position is available in 1988 with applications considered through the end of April. Salary and start-up funds will be provided but the appointee will be expected to participate in applying for research support. Please submit curriculum vitae, summary of research experiences, and a list of four references to: **William P. Arend, M.D., Professor and Head, Division of Rheumatology, University of Colorado Health Sciences Center, Box B115, 4200 East Ninth Avenue, Denver, CO 80262.** *The University of Colorado is an Affirmative Action/Equal Opportunity Employer.*

### MOLECULAR GENETICIST

We are looking for a self-motivated individual to assume a leadership role in a multidisciplinary research program. The successful candidate should have a Ph.D. or equivalent and at least 3 years of research experience in molecular genetics. This person will be responsible for developing and implementing programs related to human genome mapping and mechanisms of mutagenesis. The former requires skills in vector and library construction using plasmid, lambda, and cosmid vectors as well as DNA sequencing. Additional skills specific to the mutagenesis effort include somatic cell genetics, site-directed mutagenesis, and retroviral shuttle vectors. Ability to work in a team research environment with physicists and engineers is essential.

Send curriculum vitae to: **Earl G. Morrell, Personnel Operations Division, Department KSC2J803B, Lawrence Livermore National Laboratory, P.O. Box 808, L-725, Livermore, CA 94550.** *An Equal Opportunity Employer.*

**MOLECULAR GENETICIST** (M.D. or M.D.—Ph.D.) wanted as Chief of new Genetics Division in the Department of Pediatrics of Case Western Reserve University School of Medicine at Rainbow Babies and Childrens Hospital. Incumbent will be expected to develop and recruit additional faculty for independent research program to complement present strength in epithelial cell biology, cystic fibrosis, immunology and neonatal metabolism and to interface with science department. Preference will be given to a clinically trained physician-scientist who will develop research training opportunities in molecular genetics within the Department of Pediatrics. Faculty rank/salary commensurate with experience. *Qualified women and minority group members are encouraged to apply.* Contact: **M. Berger, M.D., Ph.D., Department of Pediatrics, Case Western Reserve University School of Medicine, 2074 Abington Road, Cleveland, OH 44106.** Telephone: 216-844-3237. *CWRU is an Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR GENETICS

**FACULTY POSITION** at the University of Michigan—The Department of Ophthalmology, W. K. Kellogg Eye Center, is seeking an assistant, associate, or full professor for an immediate opening in molecular genetics to work in linkage and mapping studies of human and animal inherited ocular dystrophies. This position will complement a group having basic and clinical expertise in inherited retinal degenerations. In addition to his/her own work the successful candidate will help to direct existing linkage studies of X-linked human retinal dystrophies. A joint appointment in a related graduate department at the University of Michigan is possible. Curriculum vitae and a letter of interest, including a statement of research goals, should be forwarded to: **Paul A. Sieving, M.D., Ph.D., Department of Ophthalmology, W. K. Kellogg Eye Center, University of Michigan, 1000 Wall Street, Ann Arbor, MI 48105.** *The University of Michigan is an Affirmative Action Employer.*

## PRINCETON UNIVERSITY

Department of Mechanical and  
Aerospace Engineering  
Program in Applied and Computational  
Mathematics

### Postdoctoral Research Position

Individuals are sought with expertise for the following postdoctoral positions:

1. Molecular dynamics/cellular automata simulations of hydrodynamics.
2. Spectral numerical methods for turbulence.
3. Renormalization group analysis of field problems in classical continuum dynamics.

A Ph.D. is required for all positions. Please send resume with three references to:

**Beverly B. Norris**  
Departmental Administrator  
Department of Mechanical and  
Aerospace Engineering  
D-212 Engineering Quadrangle  
Princeton University  
Princeton, New Jersey 08544

PRINCETON UNIVERSITY IS AN EQUAL  
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DIONEX Corporation, the leader in the development of specialized HPLC systems, is seeking Biochemists to work on a major new product line.

## RESEARCH BIOCHEMIST

This individual will be a part of the Life Science Group and contribute to the development of new products for analytical biochemistry.

Requirements: PhD or MS/BS in Biochemistry or related science and 2-4 yrs industrial research experience. Strong interest in Chromatography and Electrophoresis essential.

## TECHNICAL SPECIALIST BIOCHEMICAL LIQUID CHROMATOGRAPHY

Responsibilities: Develop new applications for Dionex columns and instrumentation; assist users of BioLC systems; provide technical support to sales, customer service and marketing personnel, and demonstrate the ability to solve separation problems using BioLC Series systems.

Requirements: PhD or MS in Biochemistry, Chemistry or related science plus 1-4 yrs experience in chromatographic separation of biochemical substances using HPLC and/or low pressure techniques.

Dionex offers a complete benefits package and the chance to participate in a new venture of a growing company! Please send resume to: Dionex Corporation c/o Human Resources; 501 Mercury Dr.; Sunnyvale, CA 94088. Principals only please. We are an equal opportunity employer m/f/v/h.

# DIONEX

## DIRECTOR OF PHARMACOLOGY

Nelson Research & Development Company headquartered on the University of California campus in Irvine — adjacent to the medical school — is a small, highly creative research company committed to the discovery and development of new drugs.

Our recent acquisition by the Ethyl Corporation affords us the opportunity to expand our research activities. As part of this expansion, we have the need for a dynamic individual to head our Pharmacology Department.

Reporting to the Vice President of Research, you will be responsible for the pharmacological analysis of our new molecular entities. You will have a broad background in practical pharmacology and a critical understanding of the quantitative aspects of the drug-receptor interaction. You will initiate, coordinate and implement the activities of a small Pharmacology Department, responsible for both *in vitro* and *in vivo* studies.

The ideal candidate will hold a Ph.D. degree with extensive postdoctoral experience in pharmacology. Preference will be given to those candidates with a successful record in the pharmaceutical industry. Excellent oral and written communication skills are obviously essential.

The position offers a rare challenge and unique opportunity for professional growth, along with the chance to make a real contribution to the overall success of a growing Company.

Nelson Research offers a professional environment and competitive salary and benefits. Interested candidates may send their resume with salary history to:

**Personnel Manager**  
Nelson Research & Development  
1001 Health Sciences Road West  
Irvine, CA 92715

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## POSTDOCTORAL MOLECULAR BIOLOGIST

We are seeking a highly motivated postdoctoral scientist to participate in the molecular biological efforts of our Alzheimer's Disease Program. This project interfaces the efforts of laboratories throughout our biotechnology program with those in our CNS Diseases Research unit. Some aspects of this work include genetic analyses, cDNA/gene cloning, expression of recombinants in a variety of cellular and transgenic systems, studies of post-translational modifications and metabolism of expressed proteins, *in situ* hybridization and immunohistochemical analyses. Interactions with experts in all these areas are available, providing strong opportunities for career growth and expansion of skills. Research publications and presentations at meetings will be encouraged.

The Upjohn Company is located in Kalamazoo, a mid-sized community in southwestern Michigan, midway between Detroit and Chicago. The region is surrounded by rolling hills, numerous lakes and woodlands. Kalamazoo provides immediate access to a wide variety of cultural and recreational pursuits, ranging from concerts and live theatre to a full range of summer and winter sports. Educational opportunities are available at several local universities and community colleges. Upjohn offers an outstanding package of salary and benefits in a community with an exceedingly reasonable cost of living.

If you are interested in a demanding position with significant growth opportunities in a rapidly moving field of research, please call toll free 1/800/253-8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent to you. Please refer to Ad Number 1787-F when calling.

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Our commitment to scientific excellence continues...

# Upjohn

## Postdoctoral Fellow

Seeking a Postdoctoral Fellow to participate in the mutagenesis and mammalian cell expression of the envelope glycoprotein of the HIV-1 retrovirus within an ongoing collaborative project between Dr. Phillip Berman of Genentech, Inc. and Dr. Don Wiley of Harvard University.

Competence in recombinant DNA technology and an interest in protein structure are essential. Experience in protein chemistry and/or immunology is desirable. This grant funded position will be available in early 1988. It is anticipated that the great majority of time will be spent at Genentech, Inc. in South San Francisco with an opportunity to also spend time at Harvard University in Cambridge.

Please send a resume of educational background, experience and publications, with the names of three references to: Dr. Phillip Berman, Department of Molecular Biology and Immunology, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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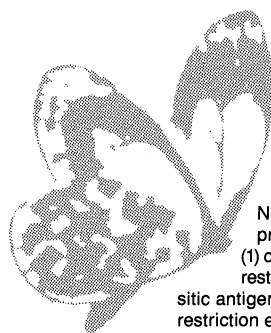
## ASSOCIATE PROFESSOR OF TOXICOLOGY

The Department of Environmental and Community Medicine of the University of Medicine and Dentistry of New Jersey (UMDNJ)-Robert Wood Johnson Medical School is continuing to expand its Division of Toxicology. The Division has identified the need for research into the mechanisms of transplacental metabolism and bioavailability to enhance the breadth of the department.

The successful candidate should be recognized as a leader in the field of Toxicology with a record of substantial research; an ongoing NIH funded program; and an interest in training students in Public Health. The candidate will participate in the team teaching efforts of the Division, as well as have the opportunity to interact with established researchers in clinical toxicology, epidemiology, and exposure assessment. Preference will be given to candidates who have trained students in areas of toxicology of concern to the division. UMDNJ and Rutgers University have received funding to develop the Environmental and Occupational Health Sciences Institute. This Institute will be the focus for much of the Toxicology and Environmental Health research in New Jersey with research funded by federal, state, and private agencies.

Candidates can send curriculum vitae and the names of three references to: **Dr. Michael A. Gallo, Department of Environmental and Community Medicine, UMDNJ-Robert Wood Johnson Medical School, (S), 675 Hoes Lane, Piscataway, NJ 08854-5635.**

An equal opportunity/affirmative action employer M/F/H/V.



## Molecular Biologist/ Biochemist

New England Biolabs is seeking qualified professionals to join these active groups: (1) cloning, sequencing and overexpressing restriction and modification genes and parasitic antigens; and (2) purifying and characterizing restriction endonucleases.

You should have a BS or equivalent degree, and familiarity with recombinant DNA procedures or protein purification techniques. We encourage attendance at meetings, publication of research results and open communication with others.

## Microbiologist/ Fermentation Specialist

We are also in need of an experienced individual to work with 25-100 litre fermentations in a variety of microorganisms. Cell disruption and protein purification experience are helpful; a BS in Microbiology or a related field and good mechanical skills are essential.

New England Biolabs offers a generous salary and benefits package, as well as the opportunity to learn and grow in an exciting and growing professional environment. Please submit your curriculum vitae and three references to:

New England Biolabs, Inc.  
Human Resources  
32 Tozer Road  
Beverly, MA 01915-5510



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## THE INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI) SEEKS A DEPUTY DIRECTOR GENERAL FOR RESEARCH

### RESPONSIBILITIES:

- Provide leadership in multidisciplinary research among scientists in various agricultural disciplines from both developed and developing countries.
- Develop, budget, monitor, and evaluate research conducted within a decentralized management structure
- Establish and maintain collaborative research programs that complement those of national agricultural research systems in rice-growing countries

### QUALIFICATIONS:

- PhD in agricultural or biological sciences with excellent scientific record and recognition
- Demonstrated vision and experience in the planning and accomplishment of interdisciplinary research
- Ability to motivate an internationally recruited staff from different cultural, social, and scientific backgrounds
- Extensive experience in administrative and financial management
- Experience in international collaborative research, both with national agricultural research systems in rice-growing countries and advanced institutes

The Deputy Director General For Research will live at IRRI headquarters on the campus of The University of the Philippines, Los Baños—60 km south of Manila. Substantial international travel will be required. The salary and benefits will be commensurate with salaries and benefits of similar international institutes and programs in agriculture.

IRRI is an international, non-profit, agricultural research institute funded by about 30 donor nations and organizations. IRRI conducts research on the rice plant and on all phases of rice production, management, distribution, and utilization. Its goal is to enhance rice production and sustainability to benefit the more than one billion people in the world who are dependent on rice for their livelihood and as their basic food.

Applications due: 30 March 1988

Submit curriculum vitae and the names of three references to:

Dr. Klaus J. Lampe, Director General-Designate  
IRRI  
P.O. Box 933  
Manila, Philippines

## HEAD OF CARDIOVASCULAR RESEARCH

The Hospital for Sick Children Research Institute, one of the largest and most active of its kind in the world, is seeking a researcher with a Ph.D. or M.D. to lead a group in areas related to cardiovascular physiology, development, function or structure. Currently, the group consists of 2 full time researchers and 3 clinician/researchers, and is associated with leading pediatric cardiology, cardiology and cardiac surgery divisions. There is an opportunity for modest growth of the research group in the near-term and further expansion in the future. Currently, approximately 4,000 square feet of space is available.

The successful applicant will be expected to conduct his/her own research as well as encourage and develop the research of other members of the group.

Salary and level of appointment negotiable.

Please send replies to: **Dr. James D. Friesen, Director, Research Institute.**



555 University Avenue, Toronto, Ontario M5G 1X8

THE HOSPITAL FOR SICK CHILDREN

## Merck Sharp & Dohme Research Laboratories

...a world-wide leader in the development of pharmaceutical and biological products, is currently offering several excellent career opportunities for Biologists, Biochemists and Microbiologists.

### BIOLOGIST / BIOCHEMIST

Responsibilities will include biodistribution of label compounds, histology and animal physiology for projects relating to in vivo imaging. Broad biochemical/physiological laboratory background as well as ability to interact effectively in a scientific environment is necessary. A diverse background in animal models, biochemistry, and histological skills is desirable. Candidates should possess a B.S./M.S. biology/biochemistry degree, or the equivalent. **(Respond to Job #50)**

### BIOCHEMIST

Duties will involve using recombinant DNA techniques including DNA isolation, manipulation and restriction analysis, construction and screening of cDNA libraries by oligonucleotide and antibody methodology, DNA sequencing, site directed mutagenesis, gene expression in bacterial and mammalian systems, as well as protein isolation techniques. B.S./M.S. degree or the equivalent is required, preferably with experience in some or all of the above techniques. **(Respond to Job #51)**

### MOLECULAR BIOLOGIST

Responsibilities will include the utilization of a broad spectrum of techniques, including construction of cDNA and genomic DNA libraries, DNA/RNA preparation, blot analyses, DNA sequencing, plasma vector construction, and transfection and culturing of microbial and mammalian cells. B.S./M.S. degree in biochemistry, molecular biology, or the equivalent, with at least 2 years of broad and significant experience in molecular biology is required. **(Respond to Job #52)**

### MICROBIOLOGIST / BIOENGINEER

Duties for this position will involve fermentation biology, including setting up and operating small and large-scale fermenters and harvesting equipment, analyzing fermentation samples using a variety of techniques such as copy number, Northern, Southern, and Western blots and also maintenance of the culture collection. A B.S. or M.S. degree in microbiology, chemical engineering, or the equivalent, and 3-5 years experience in a biochemical, bioengineering, or microbiological environment is required. **(Respond to Job #53)**

Excellent salary and benefits programs accompany these positions at our modern research laboratories located in Montgomery County.

When responding, please indicate on the envelope Job # for which you are applying, and send resume with salary requirements to:

Michele A. Dauber, Bldg. 42-2

**Merck Sharp & Dohme  
Research Laboratories**

**West Point, PA 19486**

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**Merck & Co., Inc.**

## POSITIONS OPEN

### OB/GYN FACULTY POSITION

The Department of Obstetrics and Gynecology, University of Oklahoma Health Sciences Center in Oklahoma City is seeking an individual with research interests in reproductive biology. The candidate must have academic training in reproductive biology, early gamete physiology, and andrology. Ph.D. required. Preference will be given to (i) individuals familiar with in vitro fertilization techniques, especially in nonhuman primates, and (ii) individuals with at least a peripheral interest in reproductive immunology. The individual should be prepared to participate in student and resident teaching and assisting in research projects of students and residents. Candidates should be capable of interdigitating research efforts with clinical faculty as well as working independently on more basic projects.

Send curriculum vitae and bibliography:

**John I. Fishburne, Jr., M.D.**  
Professor and Chairman  
Department of Obstetrics and Gynecology  
University of Oklahoma College of Medicine  
P.O. Box 26901, 4SP 700  
Oklahoma City, OK 73190  
*An Equal Opportunity Employer*

University of Florida. The Department of Chemistry seeks a **PHYSICAL CHEMIST** with research interests in the experimental and/or theoretical polymer chemistry of synthetic or biological macromolecules. Teaching at all levels is expected. Rank is open, including the assistant professor level. Send a detailed curriculum vitae, a list of publications, and a clear statement of research plans (less than six pages), and arrange to have three letters of recommendation sent to: **K. B. Wagener, Department of Chemistry, University of Florida, Gainesville, FL 32611**. Closing date is 1 April 1988. *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

**PLANT PHYSIOLOGICAL ECOLOGY—POSTDOCTORAL POSITION** (1-year minimum); field research on plant canopy structure, competition, photosynthesis, or ecological aspects of secondary chemistry in a project evaluating the ecological consequences of enhanced solar ultraviolet radiation. Knowledge of plant gas exchange, solar spectral irradiance assessment, microclimate, plant secondary chemistry, computer skills, and modeling experience desirable. Send résumé, selected reprints and names of three references to: **Martyn M. Caldwell, Ecology Center, Utah State University, Logan, UT 84322-5205**. Closing 15 March 1988 or until suitable applicant found.

### POPULATION GENETICS

The Department of Zoology at the University of Vermont seeks a tenure-track **ASSISTANT PROFESSOR** to complement existing strengths in ecology, evolutionary biology, and genetics. The successful applicant should use modern techniques to integrate field, laboratory, and theoretical approaches to study the genetics of populations. The appointee will be expected to pursue a vigorous, externally funded research program, to participate in graduate and undergraduate teaching, and to supervise graduate students in M.S. and Ph.D. programs. Ph.D. required, postdoctoral experience preferred; *women, minorities, and handicapped applicants are especially welcome*. Send curriculum vitae, statements of research and teaching interests, copies of significant publications, and arrange to have three letters of reference sent by 31 March 1988 to: **J. Herbers/J. Schall, Chairs, Search Committee, Department of Zoology, University of Vermont, Burlington, VT 05405**. Telephone: 802-656-2922.

*An Affirmative Action/Equal Opportunity Employer*

**POSTDOCTORAL POSITION** available immediately to study x-ray absorption spectroscopy at the National Synchrotron Light Source. Initial term 2 years with possible extension. Projects available to study either biologically related or materials science related applications. Prior experience with synchrotron radiation highly desirable. Salary commensurate with experience. Send curriculum vitae and letters of recommendation to: **Professor James Penner-Hahn, Department of Chemistry, University of Michigan, Ann Arbor, MI 48109-1055**. *The University of Michigan is an Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE** position available to study lipid interactions in liposomal structures. Ph.D., biophysical expertise, and previous NMR and liposome experience are required. Background in phospholipid and sterol interactions, liposome characterization, drug encapsulation, or fluorescence spectroscopy is desirable. Salary (\$20,500 to \$26,500) and position dependent on training and experience. For information or to apply, contact: **Dr. Wolfgang J. Baumann, The Hormel Institute, University of Minnesota, 801 16th Avenue N.E., Austin, MN 55912**. Telephone: 507-437-9630. Applications should be received by 7 March 1988, and should include curriculum vitae, publication list and the names of three references. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

**POSTDOCTORAL NIH TRAINEESHIP** available for new Ph.D.'s interested in communication (ontogeny, genetics, physiology). Possible research areas include chemoreception, ESS, parental care, sociality in spiders, reptiles, mammals, people. For information and application write: **Dr. Richard Saudargas, Ethology Graduate Program, Department of Psychology, University of Tennessee (UTK), Knoxville, TN 37996-0900**. *UTK is an Equal Opportunity/Affirmative Action Title IX/Section 504 Employer.*

### PENN STATE POSTDOCTORAL POSITION

Available immediately to develop novel selection and culture techniques for microorganisms. Opportunity to isolate microbes having unusual metabolites and to study cell interactions, growth and pathway regulation. A Ph.D. and a strong background in microbial diversity and physiology required. Additional experience in chemistry and molecular genetics helpful. Excellent research laboratories located in new Biotechnology Institute headquarters building. Submit résumé and three letters of evaluation to: **Dr. Jean E. Brechley, Director, Penn State Biotechnology Institute, 519B Biotechnology Headquarters Building, University Park, PA 16802**. Applications will be accepted until 15 April 1988, or until the position is filled. *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION**—Available immediately for investigations of the mechanism of cell growth control, including growth factors, growth inhibitors and ion fluxes. Experience in mammalian cell culture, use of radioisotopes, and/or protein purification are desirable. Salary and benefits at nationally competitive levels. Interested candidates should send curriculum vitae and two letters of recommendation to:

**Dr. Terry C. Johnson**  
Professor and Director  
Division of Biology  
Ackert Hall  
Kansas State University  
Manhattan, KS 66506

*Kansas State University is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available immediately to study molecular mechanisms of hormone action using a pituitary cell culture model system. Projects include purification and functional characterization of peptide hormone receptors and growth factor isolation. Experience in molecular biology or biochemical purification desirable. Send curriculum vitae, reprints and references to: **Dr. Patricia M. Hinkle, Department of Pharmacology, University of Rochester Medical School, Rochester, NY 14642**. *Equal Opportunity Employer M/F.*

**POSTDOCTORAL POSITION**—Position available immediately to study organelle and asymmetric gene transfers in tomato systems using cell fusion and molecular analyses. The initial appointment is for 2 years. Preference given to recent Ph.D.'s with experience in plant genetics, cell, and tissue culture and experience in molecular biology. Salary is commensurate with experience and qualifications. Send curriculum vitae and names of three references to: **Dr. K. C. Sink, Department of Horticulture, Michigan State University, East Lansing, MI 48824-1325**.

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

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available for research in early mouse development. Projects involve the study of cell lineages using retroviral mosaics, and the generation of insertional mutations in transgenic mice using retroviruses or embryonic stem cells. Applications are encouraged from highly motivated individuals with background in related areas. Please send curriculum vitae and names of three references to: **Dr. Philippe Soriano, Howard Hughes Medical Institute, Institute for Molecular Genetics, Baylor College of Medicine, 1 Baylor Plaza, Houston, TX 77030**.

**POSTDOCTORAL POSITION** available in the spring of 1988 to study the differentiation of cultured murine embryonic teratocarcinoma stem cells. The laboratory focuses on the control of gene expression during differentiation, and understanding the molecular mechanism by which the vitamin A derivative, retinoic acid, causes the differentiation of certain cell types. A background in molecular biology and/or biochemistry is desirable, and applicants should be highly motivated, creative scientists. This position is a joint appointment between the Dana-Farber and the Department of Biological Chemistry and Molecular Pharmacology at Harvard Medical School. Please send curriculum vitae with the names and addresses of three references to: **Dr. Lorraine J. Gudas, Associate Professor, 830D, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115**. *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** available to characterize the somatostatin receptor coupled to adenylate cyclase in the brain, interactions between acetylcholine and somatostatin in regulating this enzyme and correlations between adenylate cyclase and presynaptic functions. Experience with adenylate cyclase is required. Send curriculum vitae, names of three references and possible starting date to: **Dr. Linda Dokas, Department of Biochemistry, Medical College of Ohio, C.S. 10008, Toledo, OH 43699**. *An Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** available immediately to study the mechanisms of oncogenesis in gynecological tumors. Prior background in molecular biological techniques preferred. Please send curriculum vitae and three letters of recommendation by 15 March 1988 to: **Teresa L. Yang-Feng, Ph.D., P.O. Box 3333, Department of Human Genetics, Yale University School of Medicine, New Haven, CT 06510**. *Yale University is an Equal Opportunity/Affirmative Action Employer.*

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

**POSTDOCTORAL POSITION** is available for a plant physiologist or biochemist to investigate sucrose transport in sugar beets. The candidate will participate in an ongoing project aimed at the identification and purification of the sucrose transport protein in vacuolar membranes. Knowledge of biochemistry is required and experience in subcellular fractionation, in vitro transport and protein chemistry desired. Starting annual salary commensurate with experience (\$22,907 or \$27,716). Deadline is 15 March 1988. Interested candidates should send a résumé including names of three references to: **Dr. Thomas J. Buckhout, Plant Photobiology Laboratory, BARC-West, USDA-Agricultural Research Service, Beltsville, MD 20705**. Applications in response to this advertisement should be marked 8E005. *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITIONS** available 1 July 1988 to study lung lipoprotein (surfactants) metabolism in several collaborating laboratories. The program will focus on (i) Regulation of phospholipid secretion by intracellular mediators including purification and characterization of membrane-fusion promoting proteins; (ii) Recycling of surfactant including characterization of cell surface receptors; (iii) Regulation of surfactant protein gene expression. Candidates with backgrounds in cell biology, biochemistry or molecular biology should send curriculum vitae, names of three references and a summary of research interests to:

**Institute For Environmental Medicine**  
Attention: Maureen Doran, Executive Assistant  
University of Pennsylvania  
14 John Morgan Building  
36 Street and Hamilton Walk  
Philadelphia, PA 19104-6068

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

## POSITIONS OPEN

### POSTDOCTORAL POSITION

For studies of cell and molecular biology of T lymphocyte activation. Ongoing projects involve  $\text{Ca}^{2+}$  ion flux, oncogene and lymphokine gene expression, and second messenger function in T cells from normal and aging mice. Send curriculum vitae with names of three references to: **Rich Miller, Department of Pathology, Boston University, 80 East Concord Street, Boston, MA 02118.**

*An Equal Opportunity Employer.*

### POSTDOCTORAL POSITION

A postdoctoral position is available in the Department of Botany, Washington State University, Pullman, WA 99164-4230, for a Ph.D.-level scientist with training in biochemistry, plant biochemistry, or plant physiology to investigate the molecular basis of malic acid transport in CAM species. Applicants should have training and experience in plant membrane transport research and/or membrane protein labeling, identification, and isolation. Appointment effective date 1 April 1988; starting salary \$18,000. This is a 2-year position with review at the end of the first year. Send curriculum vitae and the names of three references to: **Dr. Ernest G. Uribe, Department of Botany, Washington State University, Pullman, WA, 99164-4230 before 4 March 1988.** *WSU is an Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL POSITION PLANT CELL AND TISSUE CULTURE AT THE INSTITUTE OF PAPER CHEMISTRY APPLETON, WISCONSIN

The Institute of Paper Chemistry (IPC) is seeking a postdoctoral scientist to participate in its multidisciplinary research program on regeneration of commercially important forest tree species via somatic embryogenesis.

Candidates must possess a Ph.D. in plant physiology, or related field with emphasis on embryo and seedling development/maturation. Experience with cell and tissue culture systems is highly desirable, but need not be with woody plants.

The Institute of Paper Chemistry is an accredited independent graduate school and research center in the natural sciences and engineering supported by the pulp and paper industry for over 55 years. We conduct our research in an open, academic-like environment which strongly encourages publication and interaction with other scientists throughout the world.

Send résumé, transcripts, and three references with contact information to:

**Associate Director of Personnel  
The Institute of Paper Chemistry  
P.O. Box 1039  
Appleton, WI 54912-1039**

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

### POSTDOCTORAL POSITION

Available to study genetic recombination; genetic and molecular approaches to analyze recombination initiation and mismatch repair using prokaryotic systems.

Send curriculum vitae including references to: **Dr. Brooks Low, Radiobiology Laboratories, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.** *Yale University is an Equal Opportunity/Affirmative Action University.*

**POSTDOCTORAL POSITION IN MOLECULAR GENETICS**—Howard Hughes Medical Institute at the University of Michigan Medical School. Our laboratory is interested in the molecular genetics of human cancer [(*Nature* 309, 176-178 (1984); *Nature* 318, 377-380 (1985); *Science* 328, 187-190 (1985); *Science* 227, 642-645 (1985)]. Current projects include i) studies of the earliest steps in carcinogenesis; ii) recessive oncogenes in solid tumors; and iii) methods in nucleic acid hybridization [(*Anal. Biochem.* 132, 6-13 (1983) and 137, 266-267 (1984)]. Please send a description of research interests, curriculum vitae, and names and telephone numbers of three references to: **Dr. Andrew P. Feinberg, 1150 West Medical Center Drive, 4520 MSRB I, University of Michigan, Ann Arbor, MI 48109-0650.** *Equal Opportunity Employer.*

19 FEBRUARY 1988

# DRUG DELIVERY SCIENTISTS

**Amgen** is a dynamic and fast-paced organization that has established itself as an innovative leader in the development of human pharmaceuticals through applied biotechnology. Our leadership in the development of Erythropoietin and other products has placed us firmly at the forefront of the industry. Our on-going commitment to the development of human pharmaceutical products has created several opportunities for Ph.D. and BS/MS scientists in our Pharmaceuticals and Drug Delivery Group. These positions are part of a multi-disciplinary team conducting basic research on drug absorption and distribution and development of novel drug delivery systems.

## DRUG DELIVERY SCIENTIST

The responsibilities for this position include basic research studies of protein and peptide transport across biological barriers and *in vivo* evaluation of regiospecific drug absorption from the gastrointestinal tract, including the physiological and pharmaceutical factors influencing drug absorption. Additional responsibilities include developing new concepts for enhanced delivery of proteins and peptides and the design of pharmaceutical formulations to improve sustained release and drug bioavailability.

The successful candidate will have a Ph.D. in Biochemistry, Physiology, Pharmaceutical Science, or a related discipline, and extensive experience in the *in vivo* evaluation of pharmaceutical formulations, including a strong understanding of drug metabolism. **Dept. #31.**

## POLYMER SCIENTIST

Responsibilities for this position include the initiation of a program to identify new polymeric materials and methods for the development of controlled drug delivery systems for peptide and protein pharmaceuticals.

Qualified candidates should have a Ph.D. with extensive experience in polymer synthesis, biomaterials or membrane transport phenomena. **Dept. #32.**

## PHARMACEUTICAL SCIENTIST

The responsibilities for this position include the development of new formulations of protein and peptide drugs now under development at **Amgen** for Phase I and II clinical trials.

Qualified applicants for this position must have an MS or Ph.D. in Pharmaceutics or physical Chemistry and a minimum of 5 years' industrial experience in the formulation of drugs, preferably protein and peptide pharmaceuticals. **Dept. #33.**

## RESEARCH ASSOCIATES

Responsibilities of these positions include the development and implementation of analytical methods for stability studies for injectable dosage forms and sustained release formulations of new peptide and protein drugs. Additional responsibilities will include *in vitro* and *in vivo* evaluations of novel drug delivery systems.

Qualified applicants must have a BS or MS in Chemistry, Biochemistry, Pharmacology or Biology as well as research experience in pharmaceutical analysis or polymer chemistry. Experience with HPLC, UV, TLC and other spectrophotometric methods is desirable, as is familiarity with GLP regulations and FDA guidelines for filing IND and NDA stability data. **Dept. #34.**

**Amgen** provides a stimulating and challenging research environment as well as a highly competitive compensation and benefits package, including equity participation, and is located in an attractive community northwest of Los Angeles.

Qualified candidates are encouraged to submit a resume, including references to:

**Recruitment - Specify Dept. #**

**AMGEN**

**1900 Oak Terrace Lane  
Thousand Oaks, CA 91320**

**Equal Opportunity Employer**



## POSITIONS OPEN

**POSTDOCTORAL POSITIONS** at the National Heart, Lung, and Blood Institute, National Institutes of Health, Public Health Service are available starting 1 July 1988 to study the biochemistry and physiology of the 70-kD class of heat-shock proteins in yeast. The focus of the laboratory is on the function of these proteins in the heat shock phenomenon, in translocating newly synthesized proteins through the endoplasmic reticulum, and in the uncoating of clathrin from coated vesicles during endocytosis. These positions have a salary range of \$20,000 to \$37,997 per annum depending on experience, and are located on the National Institutes of Health (NIH) campus in Bethesda, Maryland. Please send curriculum vitae and three letters of recommendation to: **Dr. Lois Greene, Laboratory of Cell Biology, National Heart, Lung, and Blood Institute, 9000 Rockville Pike, Building 3, Room 81-22, Bethesda, MD 20892.** *An Equal Opportunity Employer.*

**POSTDOCTORAL POSITIONS** in alcohol and drug research on NIAAA training grant. Interdisciplinary approach emphasizing behavioral, genetic, pharmacological and physiological processes. Prefer background in biopsychology, pharmacology, and other neuroscience areas. Curriculum vitae and three letters of reference to: **Dr. C. L. Cunningham, Department of Medical Psychology L470, Oregon Health Sciences University, Portland, OR 97201.** Telephone: 503-279-8464.

### TWO POSTDOCTORAL POSITIONS AVAILABLE IMMEDIATELY:

- (i) To study gene expression mechanism of human cytomegalovirus in human teratocarcinoma cell line.
  - (ii) To study growth factor function in *Drosophila* neuronal development.
- Seeking self-motivated individuals with good training in molecular biology or genetics.

Send curriculum vitae and references to:

**Nancy Dock, Business Manager  
Department of Molecular Genetics  
Beckman Research Institute  
of the City of Hope  
1450 East Duarte Road  
Duarte, CA 91010**

**POSTDOCTORAL AND/OR RESEARCH ASSOCIATE** positions are available for persons interested in projects involving structural and molecular aspects of the cytoskeletal system of neurons and epithelial cells. Emphasis is being placed on the function of intermediate filaments in normal cells with regard to their interactions with the nucleus and the cell surface. In addition, the alterations in neural intermediate filaments (neurofilaments) which accompany various human diseases such as ALS, Alzheimer's disease, Parkinson's disease, etc. are being studied. Applicants should possess a Ph.D. or should be in the final stages of a Ph.D. program.

Please send a recent curriculum vitae to: **Dr. Robert D. Goldman, Department of Cell Biology and Anatomy, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.** *Northwestern University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately to participate in NIH-funded project on respiratory, acid-base and cardiovascular effects of exercise in a rat model of simulated high altitude; M.D., Ph.D., or D.V.M. required. Send curriculum vitae and names of three references to: **Norberto C. Gonzalez, M.D., Department of Physiology, University of Kansas Medical Center, Kansas City, KS 66103.** Telephone: 913-588-7400.

### POSTDOCTORAL RESEARCH POSITION

Participate with the goal of developing an independent research program in the projects devoted to the molecular and cellular biology of the neuronal cytoskeleton. Position is within the Center for Neurologic Diseases, Brigham and Women's Hospital, Harvard Medical School. Opportunities are available for gaining experience with a wide range of laboratory techniques. Send curriculum vitae and names of at least two references to: **Dr. K. S. Kosik, Center for Neurologic Diseases, Brigham and Women's Hospital, Harvard Medical School, 75 Francis Street, Boston, MA 02115.** *An Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE**—Position available immediately to study the molecular biology of the brain angiotensin system. Previous experience in molecular biology or neurophysiology desirable. Send curriculum vitae with names of three references to: **Kevin R. Lynch, Department of Pharmacology, University of Virginia Medicine Center, Charlottesville, VA 22908.** *An Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATE AND TENURE-TRACK FACULTY POSITIONS IN NEUROBIOLOGY

Positions are available for persons interested in studying the mechanisms of action of toxins that affect the nervous system. Successful applicants will join a multidisciplinary team composed of investigators from medicine, microbiology, pharmacology, physiology, and neurology. Preference will be given to applicants who are skilled in the areas of: (i) electrophysiology, patch clamp analysis and the intracellular injection of drugs, (ii) neurochemistry and cytochemistry, with emphasis on the effects of toxins on transmitter release and/or signal transductions and (iii) molecular biology, and particularly the sequencing of protein toxins that act on the nervous system. Interested persons should submit curriculum vitae, list of publications, synopsis of research goals, and names of three references to: **Dr. Lance L. Simpson, Jefferson Medical College, 1025 Walnut Street, Philadelphia, PA 19107.** *Equal Opportunity Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATE

A postdoctoral research position is available immediately. Strategically located in northern New Jersey near New York City. Applicants should have a Ph.D. and experience in: mammalian tissue culture, cell biology, assay development and monoclonal antibody development and production. Positions are available for 1 or 2 years. Applicants should forward curriculum vitae along with three letters of reference to: **Box 22, SCIENCE.** Salary is commensurate with experience. Closing date for all applications is 31 March 1988.

**POSTDOCTORAL SCIENTIST.** Conduct research on cardiovascular diseases using animal and tissue culture models. Implement research utilizing phosphoprotein analysis. Identify therapeutic agents for use as anti-cancer drugs. Ph.D. in biochemistry and/or biophysics required. Must have knowledge of phosphoprotein analysis techniques. One year of experience in biochemistry research involving tissue culture required. Salary \$2,446 per month; hours 8:30 a.m. to 5:00 p.m.; 40 hours per week. Send résumé to: **Mr. Jacques P. Kueny, Merck Sharp and Dohme Research Laboratories, Division Merck and Co., Inc., Research Personnel (W42-2), West Point, PA 19486.** *Equal Opportunity Employer/Affirmative Action/VII.*

**RESEARCH ASSOCIATE**—Penn State: Position immediately available to perform research in eicosanoids metabolism. Applicants must have a doctoral degree in biochemistry and have strong background in the prostanoid, leukotriene researches with a proven record of relevant research publications. Familiarity with gene cloning and analysis or immunological methods is a plus. Salary: \$20,000 to \$25,000 per annum commensurate with experience. Send résumé, two representative refereed publications and three letters of reference, by 7 March 1988, to: **Dr. C. C. Reddy, Box SM, 226 Fenske Laboratory, The Pennsylvania State University, University Park, PA 16802.** *An Equal Opportunity/Affirmative Action Employer.*

**RESEARCH ASSOCIATE POSITION** available immediately to study role of mammary somatosensory signaling in neuroendocrine control of suckling-induced postpartum anestrus in cattle. Ph.D. in physiology, endocrinology or related area with interest and/or experience in reproductive endocrinology. Predoctoral scientists with M.S. degree and experience considered. Curriculum vitae and names of three references to: **Dr. Gary L. Williams, Beef Cattle Reproduction Laboratory, Texas A&M University Agricultural Research Station, HCR-2, Box 43-C, Beeville, TX 78102.**

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH SCIENTIST**—Columbia University, the New York Orthopaedic Hospital Research Laboratory. A 3-year postdoctoral position is available within the biochemistry section of an active multidisciplinary research team in a newly equipped laboratory. Areas of interest include the composition, turnover and degradation of articular cartilage and intervertebral disk. Candidates should be knowledgeable in protein/carbohydrate biochemistry, immunochromatography, tissue culture and/or molecular biology. Competitive salary range of \$26,000 to \$32,000 per annum. Interested candidates should send their curriculum vitae to: **A. Ratcliffe, Ph.D., Orthopaedic Research Laboratory, Columbia-Presbyterian Medical Center, 630 West 168th Street, New York, NY 10032.** *Columbia University is an Equal Opportunity Employer.*

### HUNTINGTON MEDICAL RESEARCH INSTITUTES

**PROTEIN BIOCHEMIST**—Applications invited from postdoctoral candidates to purify and characterize natural anti-tumor factors. Experience with HPLC essential. A knowledge of either mono/polyclonal antibody production, development of RIAs or membrane receptor assays would be desirable. Send curriculum vitae and the names of three references to: **Dr. David Kirk, Huntington Medical Research Institutes, 99 North El Molino Avenue, Pasadena, CA 91101.** Telephone: 818-795-4343.

### PROTEIN CHEMIST

Junior faculty level position for experienced protein chemist to conduct an independent research program within the Center for Neurologic Diseases, Brigham and Women's Hospital and Harvard Medical School. Successful applicant will participate in a research program directed at the protein chemistry and molecular biology of neuronal aging, particularly in Alzheimer's disease, and will develop independent experiments in tandem with ongoing research at the Center. Candidate will also direct a protein microsequencing facility. Prefer 3+ years of productive postdoctoral research, including experience in protein purification and sequencing. Pending or secured grant support is desirable. Send curriculum vitae and letter detailing experience to: **Dr. Dennis J. Selkoe, Center for Neurologic Diseases, Brigham and Women's Hospital, Harvard Medical School, 75 Francis Street, Boston, MA 02115.** *An Equal Opportunity Employer.*

The Department of Neurology at the University of Alabama at Birmingham has an opening for a **RESEARCH ASSISTANT PROFESSOR** in a nontenure-earning track. Qualified candidates should hold a Ph.D. with two or more years of postdoctoral training in an area relevant to Alzheimer's disease. Individuals who have interests in cholinergic mechanisms or cytoskeletal elements are especially sought. Those interested in this position should submit curriculum vitae and the names of three references by 31 March 1988, to **John N. Whitaker, M.D., Chairman, Department of Neurology, University of Alabama at Birmingham, University Station, Birmingham, AL 35294.** Telephone: 205-934-2402. *The University of Alabama at Birmingham is an Equal Opportunity/Affirmative Action Employer.*

### IMREG, INC. RESEARCH OPPORTUNITIES BIOCHEMISTRY AND IMMUNOLOGY

IMREG, INC., a leader in the development of immunosuppressive drugs, is expanding its research and development and production facility in Cambridge and is currently recruiting scientists (Ph.D.) with all levels of experience and training in isolation and structural elucidation of proteins/peptides and/or regulation of the cellular immune response.

Responsibilities will be commensurate with experience. Candidates should have expertise in one or more of the following areas: HPLC, gel electrophoresis, peptide mapping, microsequencing, lymphokine assays, cell subset preparation and characterization, flow cytometry, and EIA application and development.

IMREG, INC., offers a competitive salary and comprehensive benefits package. Please send cover letter, curriculum vitae, and list of publications to: **Personnel, IMREG, INC., Building 400, One Kendall Square, Cambridge, MA 02139.**

# SENIOR BIOMEDICAL WRITER

**WALLACE LABORATORIES**, the ethical pharmaceutical division of Carter-Wallace, Inc., has an immediate opportunity for a Senior Biomedical Writer within their Research & Development Division. This individual will play a major role in providing and coordinating writing support for preparation of technical reports, publications and regulatory submissions.

The ideal candidate will possess a Ph.D. in a scientific discipline with at least 3-5 years of biomedical writing experience gained in a pharmaceutical environment. Must possess excellent administrative and interpersonal skills as this person will manage a group of technical writers and interface with key personnel throughout the research organization. This opportunity will appeal to a person who wants to make a significant contribution & be recognized for their varied scientific writing experience.

We offer competitive compensation & fully paid benefits package. Interested candidates should submit a resume to:

**Keith I. Jones**  
Employment Manager  
**CARTER-WALLACE, Inc.**  
P.O. Box #1001  
Half Acre Road  
Cranbury, NJ 08512-0181

Equal Opportunity Employer M/F/H/V



The University of Maryland Medical Biotechnology Center, located on the professional schools campus in Baltimore, Maryland, is one of four centers of the Maryland Biotechnology Institute. The Center's primary mission is to conduct research in the development and application of biotechnology for the benefit of medical and related sciences. The Center will provide an environment for basic and applied research in medical biotechnology with thematic emphasis on bio-imaging, vaccine development/immunology/AIDS, nucleic acid metabolism and neurosciences. This Center is an exciting venture combining the resources and perspectives of a major university with state and city governments in continuing collaboration with industrial partners.

The Director of the Medical Biotechnology Center will have a unique opportunity to develop and implement a new research facility in an area of significant intellectual and commercial interest. The Director is expected to develop the Center, including staffing, establish extramural support and coordinate site development. The Director administers the resources of the Center, maintains liaison with other Centers of the Institute, coordinates Center activities with University of Maryland academic departments, provides direction for Center-sponsored research, and maintains working relationships with both private and public partners.

The Director will combine strong scientific credentials as a tenured professor, administrative experience, and entrepreneurial spirit necessary to bring the Medical Biotechnology Center into a national leadership position with demonstrated ability to secure private and public funds for support of the Center.

Letters of nomination or application should be submitted to:

**Dr. Nicholas R. Bachur, Chairman**  
Medical Biotechnology Center Search Committee  
University of Maryland Medical Biotechnology Center  
618 West Lombard Street, 2nd Floor  
University of Maryland at Baltimore  
Baltimore, MD 21201

All nominations or applications should be accompanied by a resume and the names of at least three persons who may be contacted. Nominations or applications received by March 15, 1988 will receive full consideration, but will be accepted until a suitable candidate is selected.

The University of Maryland is an equal opportunity employer.

# GIBCO/BRL...

A DIVISION OF LIFE TECHNOLOGIES, INC., the leading supplier of research products to the Molecular Biology and Cell Biology industries, currently has openings for the following positions:

## Workshop Instructor/Supervisor

**Ph.D. in Molecular Biology with excellent written and verbal communications skills.**

- Direct, develop and present workshops and seminars.

## Senior Scientist Positions

**Ph.D. in Microbial Genetics or Physiology with post-doctoral experience in bacterial strain construction.**

- Provide scientific leadership for a Molecular Biology Research and Development group.

**Ph.D. with 2 years post-doctoral experience and publications in Molecular Biology and Immunochemistry. Experience with immunoassays and/or nucleic acid detection technologies.**

- Develop rapid and simple non-radioactive nucleic acid detection methods.

**Ph.D. with at least 2 years post-doctoral training and publications using recombinant DNA methods.**

- Apply novel hybridization methods to detection of HPV and other human pathogens. Construct DNA and RNA probes and apply these to non-radioactive detection methods.

**Ph.D. in Molecular Biology or related field. Hands on experience with *in situ* hybridization essential. Clinical and/or industrial experience and familiarity with product development process helpful.**

- Product development using *in situ* hybridization techniques.

## Scientist Positions

**Ph.D. in Molecular Biology with demonstrated above-average scientific competence.**

- Perform product development, improvement on exploratory studies in the area of Molecular Biology. Prepare research plans, design and perform experiments, evaluate and report results.

**Ph.D. in Molecular Biology or related field with experience in HPV.**

- Provide technical oversight for HPV clinical studies. Prepare manuscripts. Analyze in-house clinical data.

## Lab Technician Positions

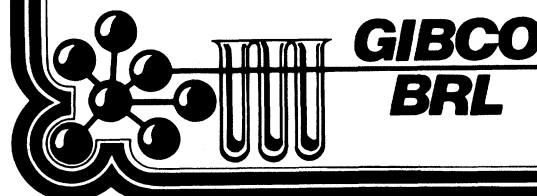
**B.S. or B.A. in Biochemistry, Biology, Chemistry or the Health Sciences; M.S. in some positions helpful.**

- Independently evaluate, select and apply standard scientific techniques, procedure and criteria, using judgment in adaptations.

We also have numerous technician positions available.

Please send resume or C.V. to:

**Richard L. Hotaling, Jr., Personnel Manager**  
**GIBCO/BRL**, a Division of Life Technologies, Inc.  
8717 Grovemont Circle, Gaithersburg, MD 20877  
An equal opportunity employer, M/F/H/V



## RESEARCH SCIENTIST EXPLORATORY RESEARCH

**Amgen** is a dynamic and growing organization that is a recognized leader in recombinant DNA technology. Our leadership in developing erythropoietin and other products for human therapeutics, human diagnostics, animal health care and specialty chemicals has placed us firmly in the forefront of the industry. We currently have an opportunity for a Research Scientist to contribute to our Exploratory Research Group.

Qualified candidates will have a Ph.D. and at least 2-4 years of postdoctoral experience in the molecular and cellular biology of any of the following disciplines: neurobiology, lipid metabolism, bone formation, soft tissue regeneration, hematology, endocrinology or immunomodulators. Experience in cDNA cloning and gene expression as it relates to these disciplines is highly desirable.

**Amgen** offers a stimulating and challenging research environment as well as an attractive location (about an hour northwest of Los Angeles). **Amgen** also offers a competitive compensation and benefits package. Qualified applicants should send a resume, in confidence, to:

Recruitment, Dept. #112B  
**AMGEN**  
1900 Oak Terrace Lane  
Thousand Oaks  
CA 91320

Equal Opportunity Employer



## Admissions Director

The California Institute of Technology is seeking an energetic and imaginative Director of Admissions. The Director will be responsible for designing and implementing an innovative recruitment plan that promotes Caltech's position as a premier undergraduate program in the sciences and engineering with a dual emphasis on teaching fundamentals and providing unusual research opportunities. Our recruitment goal is to increase the geographic, gender, and racial diversity of Caltech's exceptional undergraduate population. The Director will also serve as a member of the faculty Admissions Committee responsible for the selection process.

Caltech is an independent, privately supported university offering education at both undergraduate and graduate levels. It is one of the world's major research centers in science and engineering. The undergraduate program emphasizes a core curriculum in the basic sciences, education for all students in humanities and social sciences, and advanced curricula in science and engineering. The freshmen class averages 215 students and the undergraduate enrollment is 850.

Candidates must have an established professional background in college admissions. Experience in designing a recruiting plan and leading a recruiting effort is essential. Other qualifications include outstanding managerial and leadership skills, and the personal warmth that reflects the serious but congenial atmosphere of undergraduate life to prospective students, parents, and secondary school contacts. The candidate selected must be available to travel, as appropriate to accomplish recruiting goals.

Direct inquiries, nominations and letters of application to: **Dr. James J. Morgan, Vice President for Student Affairs, Caltech, Pasadena, CA 91125.** Applications should be accompanied by a resume and names and addresses of three references. **The closing date for applications is March 18, 1988. A starting date of approximately July 1, 1988 is planned.** We are an affirmative action/equal opportunity employer. Women and minorities are encouraged to apply.



Caltech

## MOLECULAR BIOLOGISTS

Merck Sharp & Dohme Research Laboratories is currently offering excellent career opportunities for Molecular Biologists to join the expanding department of Cellular and Molecular Biology. Research will include the application of a broad spectrum of techniques in recombinant DNA, such as DNA/RNA preparation, construction and screening of genomic and cDNA libraries, blot analysis, DNA sequence analysis, DNA vector constructions, and site-directed mutagenesis. These techniques will be applied to the isolation, analysis and expression of genes of potential pharmaceutical interest.

A B.S. or M.S. in Biochemistry or the equivalent with at least three years of broad and significant experience in molecular biology are required.

Excellent salary and benefits programs accompany these positions at our modern research facilities in Rahway, New Jersey and West Point, Pennsylvania.

Please send your resume, three professional references whom we may contact, salary requirements as well as geographic preference in complete confidence to:

Manager Personnel Relations, W42-2

**MERCK SHARP & DOHME  
RESEARCH LABORATORIES**

West Point, PA 19486  
EEO / AA / VH / EMPLOYER



Merck & Co., Inc.

## Leadership Excellence Innovation

The Solar Energy Research Institute (SERI) is the nation's primary federal laboratory for the development of solar energy as a viable energy supply. Based in Golden, Colorado, the Institute houses leading scientists, engineers and other technical personnel involved in state-of-the-art research, development, and testing of renewable technologies. We invite you to consider the following opportunity:

### PROJECT COORDINATOR—AQUATIC PROGRAM

The successful candidate will provide leadership for SERI's Aquatic Species Program which supports research in aquatic biomass production for conversion to fuels. He/she will be responsible for the management of this activity through technical planning, reporting, and assessment and through oversight of subcontracted research activities.

This position requires an advanced degree in the biological sciences, or equivalent experience, and strong written and verbal communication skills. Experience in the coordination of technical research programs for content and mix is highly desirable. Interested candidates should submit a letter of introduction and a detailed cv to: Mr. G. M. Serenyi, E2310-315, Solar Energy Research Institute, 1617 Cole Boulevard, Golden, CO 80401. We are an equal opportunity employer.



Solar Energy Research Institute

## RESEARCH ASSOCIATES MOLECULAR BIOLOGY

**Amgen**, an industry leader in advanced biotechnology, develops products for a wide variety of applications. Recent progress has created opportunities for Research Associates in our Specialty Chemicals and Enzymes Group.

Qualified applicants should have a BS or MS in Molecular Biology, Biochemistry or a related discipline and 2-4 years of experience in Prokaryotic Molecular Biology or Molecular Genetics. Experience with basic molecular biological techniques such as library construction, vector construction, immunoblot analysis and enzyme assays is essential. Familiarity with Gram positive organisms is highly desirable.

**Amgen** offers a stimulating and challenging research environment as well as an attractive location one hour northwest of Los Angeles. **Amgen** also offers an excellent compensation and benefits package. Qualified applicants should send a resume and a list of 3 references, in confidence, to:

Recruitment, Dept. #23  
**AMGEN**  
1900 Oak Terrace Lane  
Thousand Oaks  
CA 91320



Equal Opportunity Employer

## DIRECTOR OF MICROBIAL GENETICS

Cetus Corporation, a frontrunner in the field of biotechnology, invites applications for a Senior Scientist to serve as a Department Director and to direct research in his/her own lab.

As Department Director, responsibilities include scientific oversight of approximately 30 personnel on multiple projects, interaction with R&D Management, and administrative responsibility for Department personnel and budgeting issues.

Candidates should have at least 6-10 years' post-doctoral experience and an extensive publication record in molecular approaches to gene regulation and microbial genetics. A demonstrated ability to manage a research team is essential. Personal qualities should include strong analytical and communication skills combined with an outgoing and positive management style.

We offer an excellent career opportunity and compensation package. For immediate consideration, please send C.V. to:

Cetus Corporation  
Box JMCR  
1400 Fifty-Third Street  
Emeryville, CA 94608



## Director of Physics Department Laboratories

Harvard University invites applications for the position of Director of Physics Department Laboratories. The Director will be responsible for the operation and maintenance of the entire physical plant, and for all technical staff and personnel supporting the teaching and research efforts of the department. The Director will supervise and coordinate internal and external funding for research and teaching and will participate in efforts to secure funding from governmental, industrial and philanthropic sources. The Director will be the primary budgetary officer of the Physics Department, will work closely with the Chairman and faculty committees on policy and planning matters that affect the academic and scientific mission of the department, and will be responsible for planning and programming renovations, alterations, improvements and maintenance of the physical plant.

Requirements include Ph.D. or equivalent experience in physics, chemistry, or other scientific field; familiarity with modern techniques used in research; an understanding of the complex problems of management in a research and teaching environment; and an awareness of management problems from the viewpoint of the independent, working scientist. **Qualified candidates should send a curriculum vitae to: Professor Francis Pipkin, Harvard University, Department of Physics, 364 Jefferson Laboratory, Cambridge, MA 02138.**

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**HARVARD UNIVERSITY**

## Research Opportunities in PROCESS DEVELOPMENT

The Dow Chemical Company, in Midland, Michigan is a recognized world leader in the chemical industry. Expanded research efforts in the area of biochemical process development and biotransformations have created an immediate need within the Organic Specialties Laboratory in the Central Research Department for a

## MICROBIAL ENZYMOLOGIST

We have an immediate opening in biocatalytic process development for a candidate with a strong background in enzymology, microbiology and bioorganic chemistry. The ideal candidate will have a Ph.D. in biochemistry or microbial enzymology with a solid, working knowledge of organic chemistry.

The successful candidate will have significant experience in application of microbial enzyme systems to organic process development.

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

Send resume/  
Technical Recruiting  
Department ME-1  
P.O. Box 1655  
Midland, MI 48641-1655



The Dow Chemical Company is an Equal Opportunity Employer

## POSITIONS OPEN

### RESEARCH ASSOCIATE—BIOCHEMISTRY

A research associate position is available in x-ray and neutron diffraction studies of cyclodextrins. Analysis of hydrogen bonding networks will be emphasized. Extension of these studies into proteins and nucleic acids is anticipated. Experience in crystallography/biochemistry desirable. Send résumé to:

**Dr. Brian E. Hingerty**  
Oak Ridge National Laboratory  
Health and Safety Research Division  
Building 9207, MS 002  
Oak Ridge, TN 37831

*An Equal Opportunity/Affirmative Action Employer*

**RESEARCH CHEMICAL ENGINEER**—Research effects of interfacial and electrostatic phenomena in minerals and coal beneficiation. Construction and testing of a bench-scale electrostatic coalescence particle separation. Coal beneficiation by particle agglomeration, micronization, emulsification and magnetic desulfurization of chemically treated coal. Develop mathematical and computer models for clean coal technologies. Responsible for all aspects of hazardous waste management. Ph.D. in chemical engineering required. Knowledge required of surface and interfacial phenomena of solid-liquid separation, coal petrography, surface chemistry and system construction. Expertise required in computer mathematical modeling and data analysis. Salary: \$40,000 per year. Send résumé or apply in person at: **Job Service, 219 West Otterman Street, Greensburg, PA 15601.** Refer to Job Order #3971976.

### RETINAL CELL BIOLOGY

**FACULTY POSITION** at the University of Michigan—The Department of Ophthalmology, W. K. Kellogg Eye Center is seeking an assistant, associate, or full professor for an immediate opening in retinal cell biology with an interest in retinal degeneration. This position will complement a group having basic and clinical expertise in the inherited retinal dystrophies. Research experience should include cell biology, physiology, or biochemistry. A joint appointment in a related graduate department at the University of Michigan is possible. Curriculum vitae and a letter of interest with a statement of research should be forwarded to: **Paul A. Sieving, M.D., Ph.D., Department of Ophthalmology, W. K. Kellogg Eye Center, University of Michigan, 1000 Wall Street, Ann Arbor, MI 48105.** *The University of Michigan is an Affirmative Action Employer.*

Brown University Department of Chemistry invites applications for a **SENIOR FACULTY POSITION** centered in the areas of physical, inorganic, or solid-state chemistry. Exceptionally well qualified candidates at the junior level will also be considered. We would particularly favor a candidate whose research involves surfaces, clusters, or the chemistry and physics of materials (in the broadest sense). Regardless of specific field, it is expected that the new faculty member will not only be able to make a major contribution to the educational and scholarly activities of our department, but also be able to interact with both the inorganic chemists and the chemical physicists in the department. Applicants should send a letter of application, curriculum vitae, detailed description of research plans and requirements, and the names of three references whom we may contact to: **Professor Richard M. Stratt, Department of Chemistry, Brown University, Providence, RI 02912.** To ensure full consideration, applications must be complete by 30 September 1988. *Brown University is an Equal Opportunity/Affirmative Action Employer.*

**TEACHING POSITION—EVOLUTIONARY BIOLOGIST.** The Department of Biology, Emory University, invites applications for a teaching position at the assistant professor rank for a nontenure-track, 1-year term, renewable for up to 3 years. Responsibilities include teaching courses in introductory biology and courses at an advanced level, which may include: evolution, plant population biology, and plant physiology. The successful candidate may become involved in supervising students in project laboratories and independent research and is expected to help in efforts to strengthen the undergraduate curriculum. Send curriculum vitae, a statement on your experience and interests in teaching, and have three letters of recommendation sent to: **Dr. Gray F. Crouse, Chairman, Department of Biology, Emory University, Atlanta, GA 30322.** Closing date for receipt of applications is 15 March 1988. *Emory is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW/RESEARCH ASSISTANT.** Several positions in research and clinical programs have now opened related to reproductive biology and in vitro fertilization. We are looking for candidates, Ph.D./M.D./M.S./B.S., with experience/strong research interest in sperm immunology/biochemistry as related to mammalian fertilization and embryonic development [*Science* 225, 342 (1984); *Proc. Natl. Acad. Sci. U.S.A.* 83, 5713 (1986)]. Send your résumé and names of three references to: **Dr. Rajesh K. Naz, Director of Research, Department of Obstetrics and Gynecology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.**

### TENURE-TRACK FACULTY POSITION IN MARINE SCIENCE

The University of Alaska Fairbanks, Institute of Marine Science is seeking applicants for a tenure-track faculty position in the general area of marine mammalogy. The appointment will involve research and graduate level instruction and supervision. The Institute of Marine Science has a dynamic group of 22 faculty from various disciplines and about 35 graduate students. It is involved in a variety of research activities in arctic and subarctic areas.

We are seeking a person who will develop a program addressing the physiological or behavioral ecology of pinnipeds and/or cetaceans in the Arctic and Subarctic. Enthusiastic participation in the graduate instructional program will be expected. Polar and subpolar experience, awareness of Soviet, Canadian, and Scandinavian research, and interest in developing collaborative research on an international scale are highly desirable. Many activities will be multidisciplinary.

Candidates must possess a Ph.D. in an appropriate discipline. We expect to fill this position at the assistant professor level, but a more senior appointment may be possible, depending on the applicant's credentials.

Applications must be received by 15 March 1988. Applicants should send a statement of interest, curriculum vitae, and the names and addresses of three references to:

**Dr. Francis H. Fay, Chairman**  
Search Committee  
c/o Director's Office  
Institute of Marine Science  
University of Alaska Fairbanks  
Fairbanks, AK 99775-1080

*The University of Alaska is an Equal Opportunity/Affirmative Action Employer and Educational Institution. Your application for employment with the University of Alaska may be subject to public disclosure if you are selected as a finalist.*

The Department of Biology and Health Sciences at the University of Detroit seeks applicants for a 9-month, **TENURE-TRACK POSITION** in mammalian physiology, appointment to become effective 15 August 1988. Responsibilities include undergraduate and graduate teaching, as well as the development of an active research program. A Ph.D. is required. Rank and salary are dependent upon qualifications. Interested candidates should contact: **Pauline J. Wood, Ph.D., Chairman, Department of Biology and Health Sciences, University of Detroit, 4001 West McNichols, Detroit, MI 48221.** Telephone: 313-927-1181. *The University of Detroit is an Equal Opportunity/Affirmative Action Employer.*

### VIROLOGIST

The Department of Microbiology and Immunology, School of Medicine, University of North Carolina at Chapel Hill invites applications from outstanding individuals for a tenure-track position in the area of virology. Rank is open, depending on qualifications. Our department consists of twenty primary faculty members with strong research programs in prokaryotic and eukaryotic gene expression, molecular immunogenetics, molecular pathogenesis and molecular virology. We seek an individual of demonstrated research productivity and teaching ability with a research program in molecular and biochemical aspects of virology, preferably related to pathogenesis. Position available July 1988. *The University of North Carolina at Chapel Hill is an Equal Opportunity/Affirmative Action Employer. We encourage applications from and nominations of minority and female candidates; such persons may identify themselves voluntarily.* Reply by 1 April 1988 with curriculum vitae and names and addresses of three references to: **P. Frederick Sparling, M.D., CB#7290, 804 FLOB, UNC, Chapel Hill, NC 27599.**

## POSITIONS OPEN

### SENIOR PLANT CELL AND TISSUE CULTURE SCIENTIST AT THE INSTITUTE OF PAPER CHEMISTRY APPLETON, WISCONSIN

The Institute of Paper Chemistry (IPC) is seeking applications for a full-time position in its multidisciplinary research program on regeneration of commercially important forest tree species via somatic embryogenesis.

The successful candidate must possess a Ph.D. in plant physiology, botany, horticulture, or related plant science, and demonstrated expertise in higher plant cell and tissue culture. Applications are specifically sought from established scientists with the potential to attract extramural support for a vigorous research program, the ability to supervise associated laboratory personnel, and a strong interest in professional and graduate education.

The IPC announced recently that it will establish an alliance with The Georgia Institute of Technology and other Georgia organizations and Institutions of higher education, while retaining its independent research and academic programs. This exciting development will involve relocation of the Institute from its present site in Appleton, Wisconsin to a new, well-equipped building on the Georgia Tech campus in Atlanta in 1991. Successful candidates will be offered extraordinary flexibility in relocation arrangements.

Positions provide competitive salaries commensurate with qualifications and excellent benefit packages. Prospective candidates should provide a résumé and references to:

**Associate Director of Personnel**  
The Institute of Paper Chemistry  
P.O. Box 1039  
Appleton, WI 54912-1039

*The Institute of Paper Chemistry is an Equal Opportunity/Affirmative Action Employer.*

**UROLOGY FACULTY POSITION.** Requires formal post-resident training in pediatric urology with demonstrated research productivity. *Equal Opportunity Employer.* Box 27, SCIENCE.

### THE UNIVERSITY OF CALGARY VERTEBRATE PHYSIOLOGIST

The University of Calgary Department of Biological Sciences invites applicants for a tenure-track assistant professorship. The successful candidate will teach at undergraduate and graduate levels and develop an active research program. The primary teaching responsibility will be an undergraduate course in mammalian physiology. Some preference will be given to candidates who could teach more advanced courses in biophysics or endocrinology, but all well qualified candidates may apply, irrespective of research fields.

The appointment will be open as of 1 July 1988. (current minimum salary \$31,247 per annum)

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

Applicants are requested to submit a complete curriculum vitae and to arrange for three letters of academic reference to be forwarded by 1 May 1988 to:

**Dr. R. W. Davies, Head**  
Department of Biological Sciences  
The University of Calgary  
2500 University Drive N.W.  
Calgary, Alberta T2N 1N4

### VICE PRESIDENT FOR SCIENCE

The New York Botanical Garden in the Bronx, New York, is soliciting applications for the position of Vice President for Science. The Garden seeks a scientist with an active research program, who is a recognized leader in systematic botany, with strong interests in tropical botany and in economic botany, to head a science department on the Bronx campus of about sixty, including twenty Ph.D. scientists.

Interested candidates should submit a letter of application to: **The Office of the President, The New York Botanical Garden, Bronx, NY 10458-5126,** including names of three references, by 21 March 1988.

*The New York Botanical Garden is an Equal Opportunity/Affirmative Action Employer.*

## RESEARCH

# POSTDOCTORAL FELLOW

Postdoctoral position available immediately in 1 of 2 areas: 1) Sugar transport and metabolism in cultured cells; 2) Protein kinase-C regulation of epithelial cell junctions. Previous experience in cell culture, membrane transport, or protein kinase biochemistry is desirable, but not required.

We offer a competitive salary with no city wage tax deducted and free parking. Send resume, statement of research interests and names of 3 references to: **James M. Mullin, PhD,**

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## PREDOCTORAL FELLOWSHIPS

# INTEGRATED PROGRAM IN CELLULAR, MOLECULAR AND BIOPHYSICAL STUDIES

## COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS

The objective of the integrated Program is to train outstanding students who have strong commitment to biological research and recognize the heuristic value of the interdisciplinary exploitation of new technologies, but have not yet chosen a specific area of concentration. The Program provides full financial support that includes tuition, fees and a living allowance, which is currently \$11,000 per year. Housing is available in the area of the Medical Center and convenient, inexpensive public transportation makes it possible for students to commute from other areas and to enjoy the vast cultural resources of New York City.

**PARTICIPATING DEPARTMENTS:** Anatomy and Cell Biology, Genetics and Development, Microbiology, Biochemistry and Molecular Biophysics, Physiology and Cellular Biophysics, Pharmacology

### Research Interests of the Faculty

• Prokaryotic and eukaryotic gene structure • Regulation of gene expression • RNA processing • Microbial, yeast and viral molecular genetics • Gene transfer • Molecular genetics and immunology of parasites • Biochemistry and genetics of recombination • Developmental biology • Human genetic disorders • Animal virology • Cellular regulation of the immune response • Molecular biophysics including: Theoretical studies of macromolecules, X-ray diffraction and NMR studies of proteins and nucleic acids • Membranes proteins, membrane biogenesis and transport, receptors • Post-translational modification of proteins • Cellular and molecular neurobiology, neurophysiology and neuroendocrinology • Chemical and viral carcinogenesis • Cardiovascular physiology and pharmacology

### For further information

**Integrated Program Director**  
c/o Department of Microbiology  
Columbia University  
701 West 168th Street, Room 1208  
New York, NY 10032

# Faculty Position Department of Urology Mayo Clinic

Tenure Track Position in Urologic Cancer Research, Cell Biology/ Cancer Immunology/Molecular Biology. Ph.D. or M.D. to establish and direct a research laboratory.

Please submit resume to:  
P. P., Kelalis, M.D.  
Chairman,  
Department of Urology,  
Mayo Clinic,  
Rochester, MN 55905



**Mayo Foundation**  
Rochester, Minnesota 55905

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## PULMONARY

• **ENZYMOLOGIST/BIOCHEMIST** - Ph.D. with 2-3 years postdoctoral expertise with sound understanding of enzyme kinetics. Will interact with team of biologists and chemists to design and analyze mechanism of action inhibitors of human neutrophil elastase. Mechanistic studies on other enzymes anticipated. Broad background in biochemistry advantageous.

## CNS

• **POSTDOCTORAL FELLOW** - Ph.D. in biochemistry or neurochemistry with hands-on experience with second messengers and mechanism of signal transduction. Experience in measuring calcium fluxes, receptor function, and tissue culture techniques are highly desirable. One to two year appointment renewable by mutual consent. Presentation at national and international meetings and publication of findings will be encouraged.

• **JUNIOR PHARMACOLOGISTS** - Several B.S. or M.S. positions in biology or biochemistry with experience in neurobiology or cell biology to work on receptor binding techniques, catecholamine metabolism, and mechanism of cellular function. Familiarity with HPLC, tissue culture techniques is desirable.

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## POSITIONS OPEN

**VISION SCIENCE.** Tenured or tenure-track position, rank and salary commensurate with qualifications. Vigorous research program in visual psychophysics, willingness to participate in teaching vision science to optometry students. Send letter of application, curriculum vitae, names of three references to: **Dr. Jerry L. Christensen, School of Optometry, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121.** Application deadline: 24 March 1988. *An Equal Opportunity Institution.*

### JPL/NASA VISITING SENIOR SCIENTIST ASTROPHYSICS BRANCH VISIBLE AND ULTRAVIOLET ASTRONOMY

The Jet Propulsion Laboratory is seeking a senior scientist to develop and coordinate NASA visible and ultraviolet astronomical and technology efforts including theoretical astrophysics, laboratory astrophysics, development of advanced instruments, and ground-based rocket and spacecraft observations. Duties include scientist assistance in planning and administering the supporting research and technology, data analysis, and sounding rockets programs. This activity includes evaluation of proposals, arrangement of reviews by peers of the proposer outside NASA Headquarters, recommendation of funding and monitoring of grants. Additional duties include providing assistance to the Program Scientist in his scientific management role on the Hubble Space Telescope Program and new Explorer candidates. Tenured-faculty members are the preferred choice with a desired start date in the early summer of 1988. Appointees must be U.S. citizens or permanent residents and are expected to return to their home institution following their NASA assignment. Please provide curriculum vitae, bibliography, and the names of four references to:

**Dr. Harry Ashkenas 180-900  
Department U39  
Jet Propulsion Laboratory  
4800 Oak Grove Drive  
Pasadena, CA 91109  
818-354-8251**

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## WATER RESOURCES

The School of Forestry and Environmental Studies at Duke University seeks applicants at the **ASSISTANT OR ASSOCIATE PROFESSOR** level for a tenure-track or tenured faculty position in water resources. Applicants should have training and/or experience in fields related to the analysis of water resources for water supply and water quality. Interest and experience in modeling and/or experimental approaches to solving water resource problems is especially desirable. The successful applicant is expected to develop an externally funded research program and to teach and advise graduate-level professional and research students. Applicants should send a résumé and three letters of recommendation to: **Dr. Kenneth R. Knoerr, Chairman, Water Resources Search Committee, School of Forestry and Environmental Studies, Duke University, Durham, NC 27706.** Applications will be accepted through 11 March 1988 or until a suitable candidate is identified. *Duke University is an Equal Opportunity/Affirmative Action Employer.*

## TRAINING PROGRAM

### NEUROSCIENCE TRAINING PROGRAM EMORY UNIVERSITY

Applications are invited for graduate fellowships in neuronal cell biology and biophysics, neural systems and psychobiology. The program combines intensive interdepartmental training in neuroscience with the opportunity to specialize in one of the traditional disciplines. Interested candidates with a strong background in biological and physical science may obtain further information from: **Director, Neuroscience Program, Department of Anatomy and Cell Biology, Emory University, Atlanta, GA 30322.** Telephone: 404-727-4315.

## GRADUATE TRAINING PROGRAM

**GRADUATE ASSISTANTSHIPS IN MOLECULAR BIOLOGY AND BIOCHEMISTRY.** Several positions are available in the Department of Molecular Biology and Biochemistry, Wesleyan University (Middletown, Connecticut). Research interests of the faculty emphasize regulation of gene expression in embryogenesis and development; protein structure, function and design; DNA replication; yeast genes homologous to protein kinase oncogenes; structure and function of chromosomal proteins; protein-nucleic acid interactions; chemistry of reactions at phosphorus; nuclear magnetic resonance spectroscopy and computer modeling. All students receive tuition remission, good fringe benefits, and dependency allowance if applicable. Opportunities to teach. Write to: **Dr. Norma Allowell, Director, Graduate Admissions, Department of Molecular Biology and Biochemistry, Wesleyan University, Middletown, CT 06457** or call: 203-347-9411 x2524.

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIP THE JOHNS HOPKINS UNIVERSITY SCHOOL OF HYGIENE AND PUBLIC HEALTH

Postdoctoral position in molecular virology available immediately. Applicants should have experience in molecular biology or virology to participate in research on molecular pathogenesis of human immunodeficiency virus infections.

Salary: Salary commensurate with NIH positions; excellent benefits.

Contact: Send curriculum vitae, summary of research experience, and names of three references to:

**Dr. B. Frank Polk  
Infectious Disease Program  
Department of Epidemiology  
Johns Hopkins School of Hygiene  
and Public Health  
550 North Broadway, Suite 710  
Baltimore, MD 21205**

### THE JOHNS HOPKINS UNIVERSITY POSTDOCTORAL POSITION IN THEORETICAL PHYSICS

The Theoretical Interdisciplinary Physics and Astrophysics Center (TIPAC) invites applications for a TIPAC postdoctoral fellowship in the Department of Physics and Astronomy for a 1-year period, starting 1 September 1988. The fellowship is renewable yearly for a total of 3 years. The successful candidate is expected to have a Ph.D. in physics. Experience in theoretical condensed matter, high-energy particle physics, or astrophysics is preferred. Demonstrated ability to work in more than one of the areas listed above is an advantage. Applications should be sent to:

**Professor J. C. Walker, Chairman  
Department of Physics and Astronomy  
The Johns Hopkins University  
Baltimore, MD 21218**

Deadline for applications is 4 March 1988. *The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer.*

The Division of Meteorology and Physical Oceanography (MPO) at the University of Miami Rosenstiel School of Marine and Atmospheric Science (RSMAS) wishes to announce the availability of **THREE POSTDOCTORAL FELLOWSHIPS** supported by NASA, NSF and the Rosenstiel School. Candidates should possess a recent (less than 2 years) Ph.D. and have credentials in modeling or analysis of geophysical fluid systems. Applicants with interests in mesoscale ocean dynamics, satellite remote sensing, numerical ocean or atmospheric modeling, and coupled physical-biological processes, are particularly urged to apply.

Fellowships will start in fall 1988. The current fellowship stipend is \$30,000, for 1 year, with a second year extension available. The deadline for receipt of all materials is 15 May 1988. Requirements are: A letter requesting consideration and outlining your research interests, curriculum vitae, three letters of reference, and official transcript of graduate records. Proof of degree award is required prior to appointment.

Materials should be sent to: **Chairman, RSMAS/MPO, University of Miami, 4600 Rickenbacker Causeway, Miami, FL 33149.**

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIP TRANSGENIC MODELING OF HUMAN DISEASE

Postdoctoral position available immediately to study the immune response to hepatitis B virus gene products expressed in transgenic mice. A strong background in cellular immunology is required; experience in molecular biology is desirable. Applicants must be U.S. citizens or permanent residents. Send curriculum vitae, statement of research interests, and names of three references to:

**F. V. Chisari, M.D.  
Department of Basic and Clinical Research  
Research Institute of Scripps Clinic  
10666 North Torrey Pines Road  
La Jolla, CA 92037  
*Equal Opportunity Employer.***

**POSTDOCTORAL FELLOWSHIP** in orthopaedic biomaterials available at the McKay Laboratory of Orthopaedic Surgery Research, University of Pennsylvania, from 1 April 1988. The Fellow will join an NIH-funded program on the role of proteins in corrosion and wear of surgical implant alloys. Ph.D. or equivalent in metallurgy, materials science, or bioengineering (biomaterials) and U.S. citizenship are required. Experience in SEM/EDAX and/or SIMS is desired. Applicants should send curriculum vitae, an abstract of Ph.D. thesis, copies of papers, and the names of two references (letters of reference sent directly) to:

**Jonathan Black  
424 Medical Education Building  
36th and Hamilton Walk  
University of Pennsylvania  
Philadelphia, PA 19104-6081**

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

**GRADUATE FELLOWSHIPS IN MOLECULAR MICROBIOLOGY.** The Department of Microbiology at the University of Vermont invites applications from persons interested in a career in molecular microbiology. Biochemical, immunological and molecular genetic techniques used to study: DNA repair, cytoplasmic factors affecting maintenance and control of the carcinogenic state; sexual development in higher fungi (Basidiomycetes)—including isolation and functional analysis of genes controlling self-incompatibility and sexual development; determinants of bacterial virulence; mechanisms of bacterial adhesion to host tissue and biological implants; response of eukaryotic cells to toxins, hormones and viruses; regulation of protein synthesis in eukaryotes; studies on increasing bioavailability of fiber by manipulating adhesion of ruminal bacteria. Full tuition remission, plus a stipend of \$9300 to \$10,081 per year. Write: **Dr. Thomas J. Mochring, Department of Microbiology, The University of Vermont, Given Building, Burlington, VT 05405.**

## PROGRAM

### CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain a doctor of optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **Ph.D.-O.D. Program Director, Admissions Office, The New England College of Optometry, Room 14, 424 Beacon Street, Boston, MA 02115.**

## MARKETPLACE

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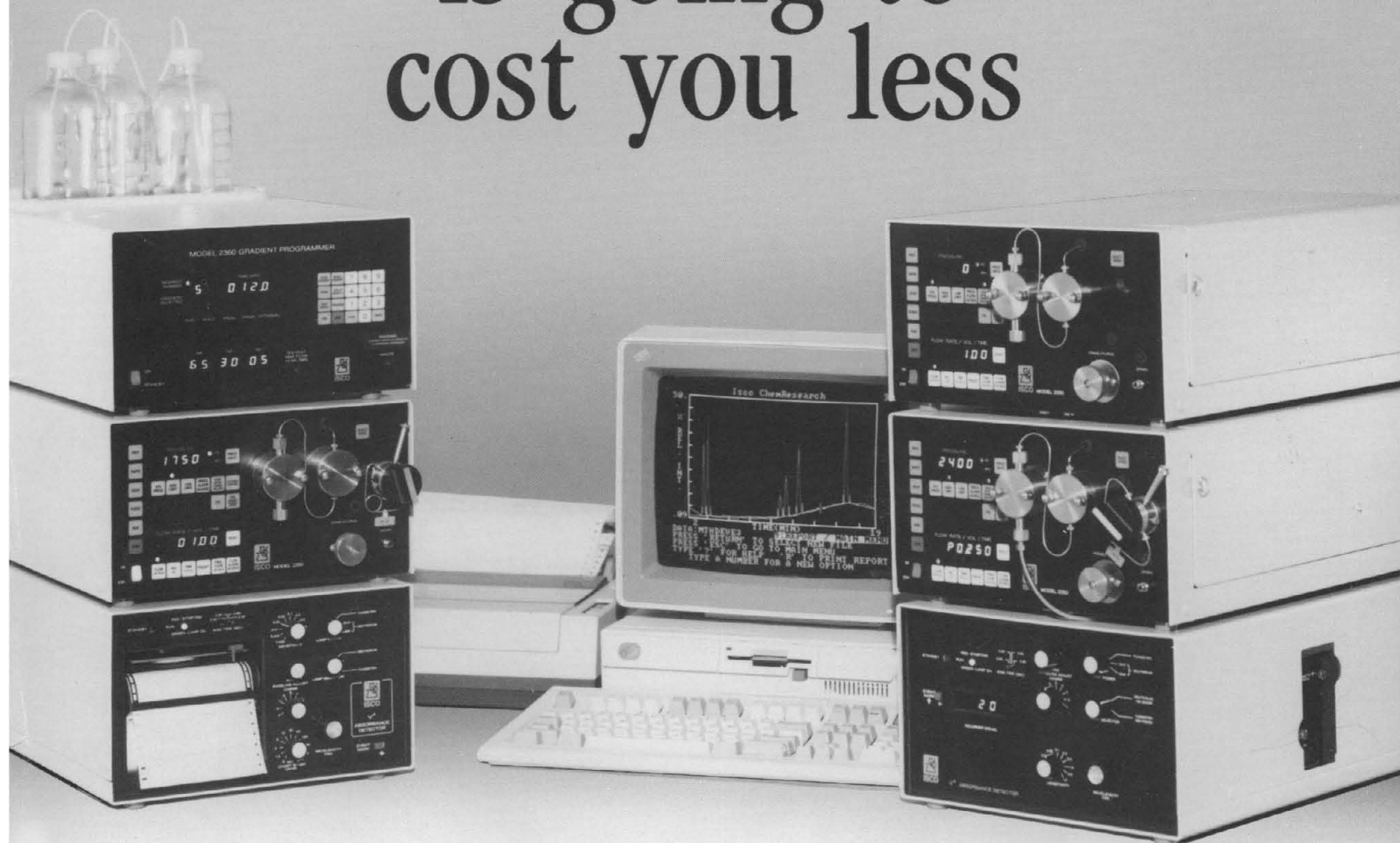
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sensitive, stable 190-to-750 nm detector has flow cells down to 0.12  $\mu$ l. And the powerful data management system is actually easier to use than many simple integrators found in other chromatographs.

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# How To Choose The Right Low Pressure LC System Even If It Isn't Ours

To simplify choosing the right peristaltic pump, detector and fraction collector for your LC System, review these guidelines and send for our free Low Pressure System Selection Worksheet:

## 1 Identify your separation goals.

Know the characteristics of your sample. What mass will you load on your column? What flow rate will you need to achieve optimal speed and resolution? At which wavelengths does your sample exhibit maximum absorbance? What size fractions will you collect? Are you interested in collecting peaks?

## 2 Examine the components' specs.

After you've identified the key operating parameters, take a look at the pump, detector and fraction collector specifications to be sure they meet your needs. To illustrate, let's look at specifications for components in the Gilson Low Pressure System.

The most important criteria used to select a peristaltic pump are smooth, stable flow and usable flow rate range. The Gilson system uses the new Minipuls 3 Pump. Stepper-motor drive and proven pump head design ensure smooth flow from 1  $\mu$ l to 50 ml/min. A high flow head allows flow rates from 50 ml to 220 ml/min. Interchangeable pump heads with 1-, 2-, 4-, or 8 channels are available.

Wavelength specificity and ease-of-use are key considerations when choosing a detector. The Gilson 112 UV/VIS fixed-wavelength detector allows selection of wavelengths from 214 nm to 640 nm. A choice of five flow cells accommodates a wide range of flow rates and sample concentrations. A large digital readout and convenient autozero and event mark functions keep detector operation easy.

Select a fraction collector according to your collection mode, fraction volume, and multiple column collection needs.

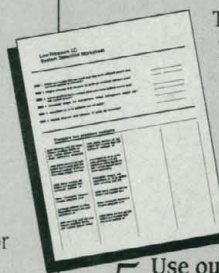
Gilson's FC 203 fraction collector allows drop, time, or peak collection modes with up to ten collection windows in each mode. The widest range of racks available—capable of handling as many as 128 fractions—makes the FC 203 suitable for almost any application.

## 3 Check for compatibility of components with each other and with your future needs.

At this point, you've identified components to meet basic needs, but also look at the components as a system. Were they designed to work together? Or will you need to buy complicated adapters and special plumbing? Working with a single

supplier avoids the service and support problems often associated with a system assembled piece-by-piece.

You should also assess your future needs. An LC system may work fine for your current application. But will you need to change detection wavelengths or collection volumes later? Is an upgrade to HPLC a possibility? If so, consider modular equipment that adapts to your changing needs easily and inexpensively.



## 4 Look at each supplier's record of reliability, service and support.

After identifying suitable components, you narrow your choice by looking at each supplier's track record for reliable equipment and efficient service.

To evaluate the Gilson Low Pressure System, consider our reputation for fraction collectors and detectors. Gilson has a proven track record that began more than 35 years ago. More than 1000 FC 203s—introduced just 16 months ago—continue to display dependable, trouble-free operation.

The Minipuls 2, the reliable predecessor to our new Minipuls 3, has earned spaces on more than 24,000 lab benches worldwide, making it the best-selling peristaltic pump.

## 5 Use our free Low Pressure LC System Selection Worksheet to gather and compare your options.

For the final step in choosing your system, compare the information you've gathered. To help, we've put together a selection worksheet to simplify the process.

This free worksheet lists major criteria to use in your comparisons. We've filled in information about the Gilson Low Pressure System and have left space for you to fill in specs from other suppliers.

Why do we encourage this comparison? Because it's the best way to buy a system matched to your needs. Plus, we're confident that in most cases your low pressure system will be a Gilson Low Pressure System.

So, for your free Low Pressure System Selection Worksheet, simply circle the magazine's reader service number or call us toll free at 800-445-7667. We'll see that you get your worksheet fast.



**GILSON**

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