

anniversary of the start of the career that has earned him international recognition as "Mr. Badger," and also appears just 40 years after the completion of the classic field studies in Gloucestershire that resulted in his exemplary 1948 monograph *The Badger* (fourth edition, with German and Japanese editions, 1975). The new book is essentially an update of Neal's now out-of-print 1977 *Badgers* and provides an authoritative, wide-ranging survey of the ecology of the Eurasian badger, particularly its breeding biology, social organization, and diet, subjects our knowledge of which has changed most radically since 1948. Comparative data are also provided on the North American and Southeast Asian badger species, admirably covered in the meantime in Long and Killingley's *The Badgers of the World* (Thomas, 1983).

The chapter on reproduction incorporates major new Swedish and Swiss studies and explains how a spring cubbing and main rut are compatible, thanks to delayed implantation, with matings also now known from every other month of the year and even involving subyearling sows, a phenomenon more usual in the American badger. It is worth emphasizing this postpartum rut, since many authors still cite the 1948 edition of *The Badger*, which erroneously favored late summer as the rutting season for European badgers, comparable to that well documented for the American badger.

The section on social life reviews scent-marking, home range, and territoriality. Little evidence of movement between clans in high-density areas has been found; population density and stability thus may ultimately result from density-dependent constraints on recruitment (particularly cub mortality), with clear implications for rabies or tuberculosis control strategies. More recent work has, however, shown much less rigid territoriality in discontinuous urban conditions and at low densities, a situation approximating more that of the American badger.

The chapter on diet emphasizes the importance of earthworms and the overall correlation of their availability with badger density (as an aside, an equivalent major mammalian predator capitalizing on superabundant worm prey remains to be discovered for North America). More might have been said about recent studies of specialist "worm patch foraging" in relation to the evolution of sociality. These elegant studies may tend to oversimplification, however, since "predation" (human) is the ultimate controlling factor throughout much of the badger's Eurasian range, and secure den sites, indispensable for successful breeding, may be critical for both cub and adult survival, particularly in northern areas in a

possibly formerly hibernating species. Choice of habitat, with a further 3000 setts in the British National Survey, is covered in the remaining chapters, together with such topics as badgers in relation to the law and the current status of the controversy over the role of English badgers in bovine tuberculosis, with emphasis on the minimization of badger-cattle contacts through manipulation of grazing regimes rather than on the still somewhat theoretical possibility of an oral vaccine.

Perhaps the most intriguing aspect of the book is the challenging array of questions still to be answered. Particularly revealing is the dearth of knowledge of the basic ecology of ferret, hog, honey, and stink badgers. Their diet is known only in general terms. Is there acute ecological competition between the Eurasian and hog or honey badgers where their ranges overlap sympatrically? Fragmentary evidence suggests delayed implantation in hog and Russian honey badgers, but rats may breed aseasonally in the tropics. Many exciting issues are waiting to be resolved.

M. HANCOX

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Oxford OX1 3PS, U.K.*

## Books Received

**Acoustical Imaging.** Vol. 15. Hugh W. Jones, Ed. Plenum, New York, 1987. xii, 692 pp., illus. \$110. From a symposium, Halifax, Nova Scotia, July 1986.

**The Acute Leukemias.** Biologic, Diagnostic, and Therapeutic Determinants. Sanford A. Stass, Ed. Dekker, New York, 1987. xiv, 478 pp., illus. \$115. Hematology, vol. 6.

**Acute Renal Failure.** Clinical and Experimental. Alberto Amerio *et al.*, Eds. Plenum, New York, 1987. xii, 324 pp., illus. \$55. Advances in Experimental Medicine and Biology, vol. 212. From a seminar, Bari, Italy, April 1986.

**The Analysis of Psychological Theory.** Metapsychological Perspectives. Henderikus J. Stam, Timothy B. Rogers, and Kenneth J. Gergen, Eds. Hemisphere (Harper and Row), New York, 1987. xvi, 318 pp. \$49.95. Based on a symposium, Calgary, Alberta.

**The Body Victorious.** The Illustrated Story of Our Immune System and Other Defenses of the Human Body. Lennart Nilsson with Jan Lindberg. Text by Kjell Lindqvist and Stig Nordfeldt. Delacorte, New York, 1987. 196 pp. \$25. Translated from the Swedish edition (Stockholm, 1985) by Clare James.

**Brain Edema.** A Pathogenetic Analysis. G. Mchedlishvili *et al.*, Eds. Akadémiai Kiadó, Budapest, 1986. xiv, 366 pp., illus. \$38.

**Calculated Molecular Properties of Polycyclic Aromatic Hydrocarbons.** Ronald A. Hites and William J. Simonsick, Jr. Elsevier, New York, 1987. xviii, 272 pp., illus. \$127. Physical Sciences Data, 29.

**Carbon Substrates in Biotechnology.** J. D. Stowell *et al.*, Eds. IRL Press, McLean, VA, 1987. xii, 206 pp., illus. Paper, \$45. Special Publications of the Society for General Microbiology, vol. 21. Based on a symposium, Durham, U.K., July 1986.

**The Causes of Crime.** New Biological Approaches. Sarnoff A. Mednick, Terrie E. Moffitt, and Susan A. Stack, Eds. Cambridge University Press, New York, 1987. xii, 376 pp., illus. \$42.50. From a conference, Skiathos, Greece, Sept. 1982.

**Drinking Water and Health.** Disinfectants and Disinfectant By-Products. Vol. 7. National Research Council. National Academy Press, Washington, DC, 1987. xii, 207 pp. Paper, \$19.95.

**Eating Characteristics and Temperament.** General Measures and Interrelationships. Albert Mehrabian. Springer-Verlag, New York, 1987. xiv, 145 pp. \$38.

**Ecology of Forest Insects.** Andrzej Szujewski. Junk, Dordrecht, and PWN, Warsaw, 1987 (U.S. distributor, Kluwer, Norwell, MA). xiv, 601 pp., illus. \$185. Series Entomologica, vol. 26. Translated from the Polish edition (Warsaw, 1980) by Albert Radziwiłł.

**e<sup>+</sup>e<sup>-</sup> Physics at High Energies.** E. Fernandez and A. Mendez, Eds. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). x, 556 pp., illus. \$74. From a meeting, Sant Feliu de Guixols, Spain, March 1986.

**From Children to Citizens.** Vol. 2, The Role of the Juvenile Court. Francis X. Hartmann, Ed. Springer-Verlag, New York, 1987. xx, 413 pp. \$55.

**A Functional Biology of Crop Plants.** Vincent P. Gutschick. Timber Press, Portland, OR, 1987. x, 230 pp., illus. \$39.95.

**Gangliosides and Modulation of Neuronal Functions.** Hinrich Rahmann, Ed. Springer-Verlag, New York, 1987. xviii, 647 pp., illus. \$138. NATO Advanced Science Institutes Series H, vol. 7. From a workshop, Stuttgart, F.R.G., Oct. 1986.

**Geomorphic Systems of North America.** William L. Graf, Ed. Geological Society of America, Boulder, CO, 1987. viii, 643 pp., illus. \$48.50. Centennial Special Volume, 2.

**Hormones and Depression.** Uriel Halbreich, Ed. Raven, New York, 1987. xx, 412 pp., illus. \$55. Based on a symposium, Dec. 1984.

**Hydra and the Birth of Experimental Biology, 1744.** Abraham Trembley's *Mémoires* Concerning the Polyps. Sylvia G. Lenhoff and Howard M. Lenhoff. Boxwood, Pacific Grove, CA, 1986. Various pages + plates. \$28.50.

**Hypoglycemia.** D. Andreani, V. Marks, and P. J. Lefebvre, Eds. Raven, New York, 1987. xvi, 312 pp., illus. \$48. Sero Symposium Publications from Raven Press, vol. 38. From a symposium, Rome, Italy.

**The Identification, Classification and Analysis of University Research Support Personnel.** Oliver D. Hensley, Ed. Society of Research Administrators, Santa Monica, CA, and Texas Tech Press, Lubbock, TX, 1986. xiv, 303 pp., illus. \$24. Based on symposium, Coronado, CA, Sept. 1984.

**An Introduction to Ore Geology.** Anthony M. Evans. 2nd ed. Blackwell Scientific, Palo Alto, CA, 1987. x, 358 pp., illus. \$48; paper, \$23.95. Geoscience Texts, vol. 2.

**Introduction to the Principles and Practice of Soil Science.** R. E. White. 2nd ed. Blackwell Scientific, Palo Alto, CA, 1987. x, 244 pp., illus. \$45; paper, \$25.

**The Johnson Years, Volume Two.** Vietnam, the Environment, and Science. Robert A. Divine, Ed. University Press of Kansas, Lawrence, KS, 1987. xii, 267 pp. \$25.

**Judgment Studies.** Design, Analysis, and Meta-Analysis. Robert Rosenthal. Cambridge University Press, New York, and Editions de la Maison de Sciences de l'Homme, Paris, 1987. xii, 255 pp. \$39.50. Studies in Emotion and Social Interaction.

**Kinetics of Interface Reactions.** M. Grunze and H. J. Kreuzer, Eds. Springer-Verlag, New York, 1987. xii, 299 pp., illus. \$55. Springer Series in Surface Sciences, vol. 8. From a workshop, Campobello Island, New Brunswick, Sept. 1986.

**Lewis Henry Morgan and the Invention of Kinship.** Thomas R. Trautmann. University of California Press, Berkeley, CA, 1987. xvi, 290 pp., illus. \$30.

**Life Table Techniques and Their Applications.** Krishnan Nambodiri and C. M. Suchindran. Academic Press, Orlando, FL, 1987. xii, 275 pp. \$39.95. Studies in Population.

**Light-Activated Pesticides.** James R. Heitz and Kelsey R. Downum, Eds. American Chemical Society, Washington, DC, 1987. x, 339 pp., illus. \$69.95. ACS Symposium Series, 339. Based on symposium, Anaheim, CA, Sept. 1986.

**Lipids in Modern Nutrition.** Marc Horisberger and Umberto Bracco, Eds. Raven, New York, 1987. xviii, 248 pp., illus. \$29.50. Nestlé Nutrition Workshop Series, vol. 13. From a symposium, Vevey, Switzerland, Sept. 1985.

**Made in America.** Science, Technology, and American Modernist Poets. Lisa M. Steinman. Yale University Press, New Haven, 1987. xiv, 219 pp. \$20.

(continued on page 986)



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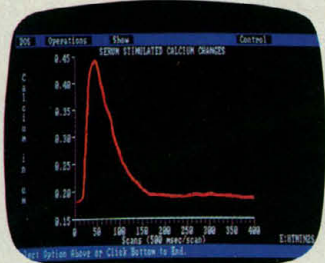
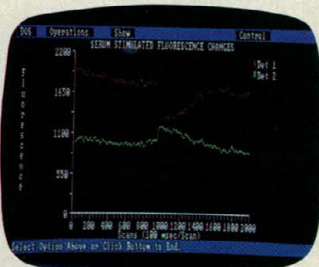
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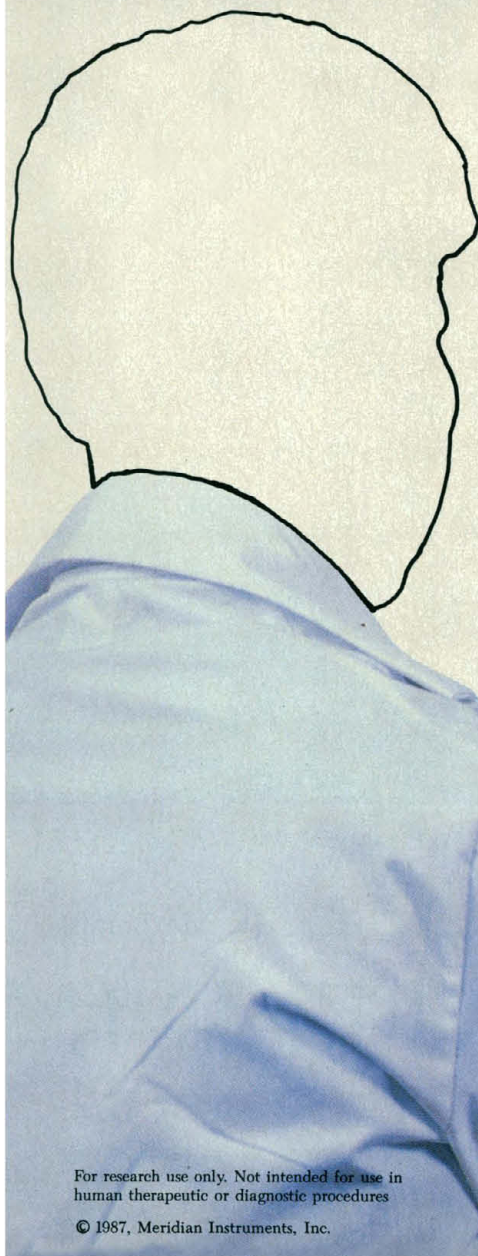
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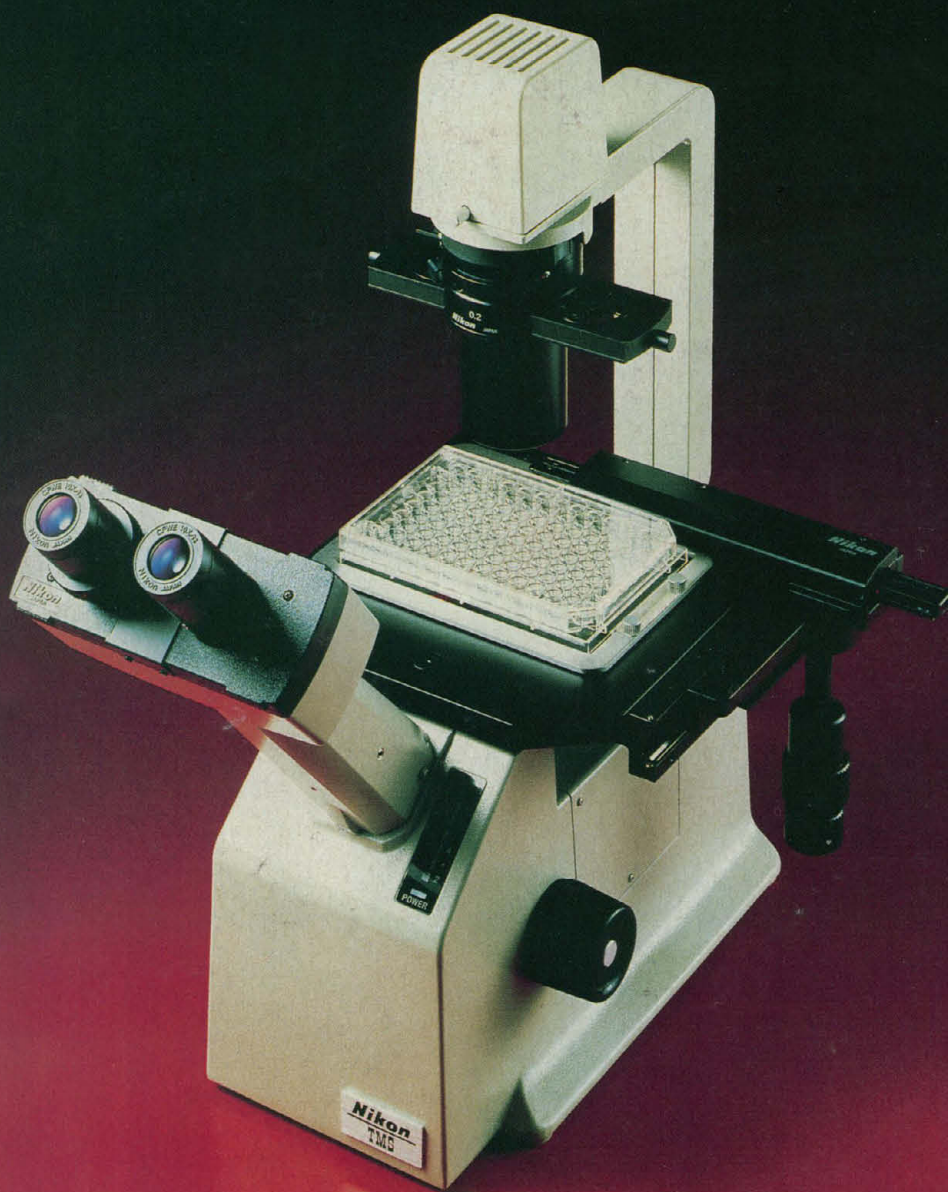
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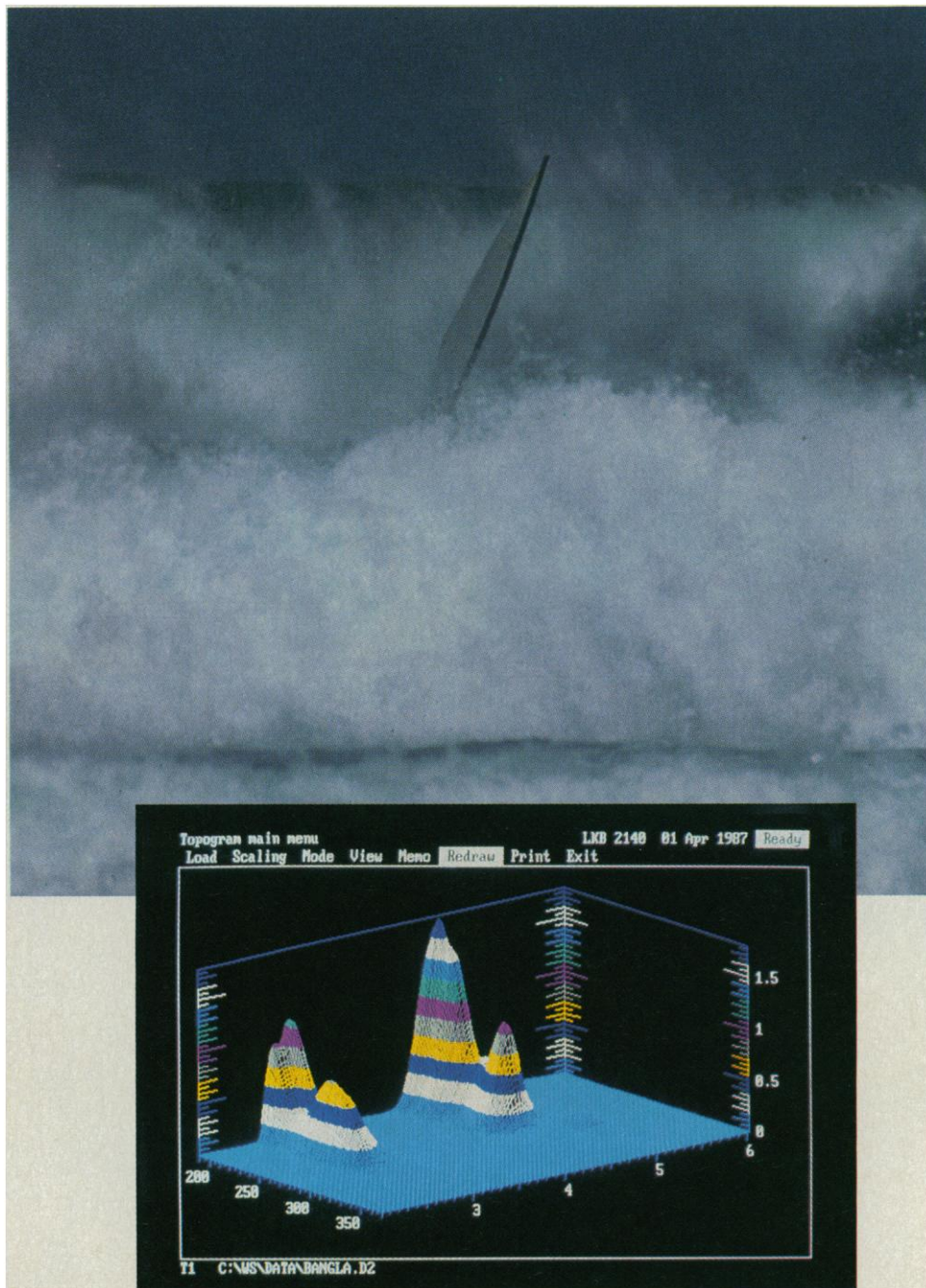
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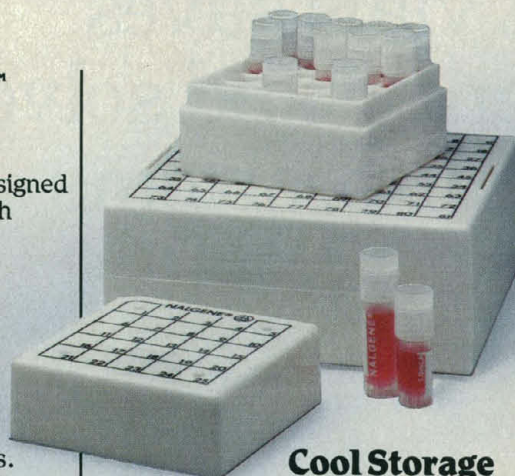
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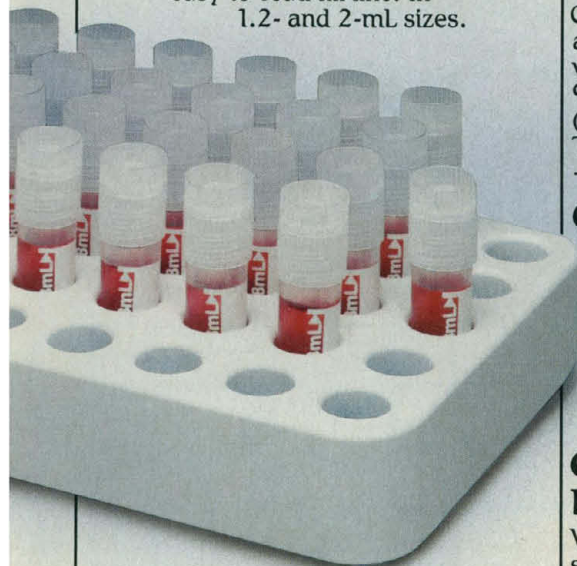
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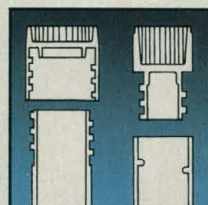
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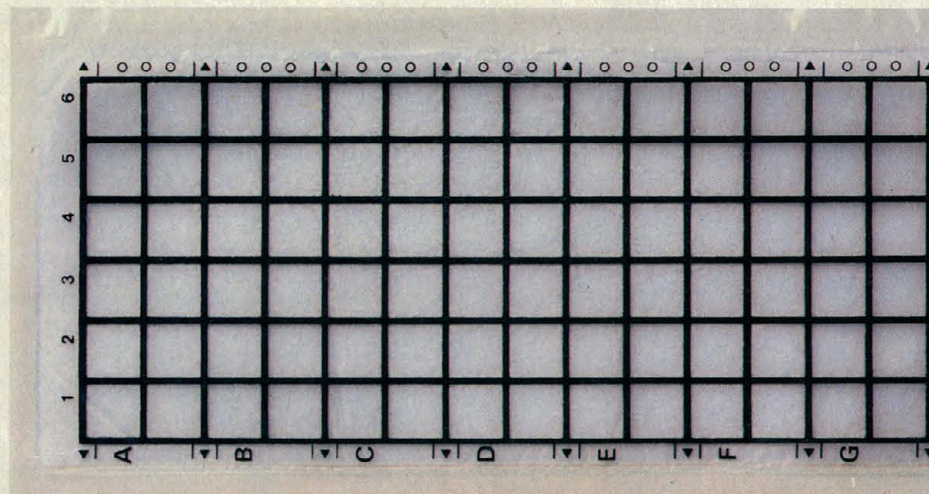
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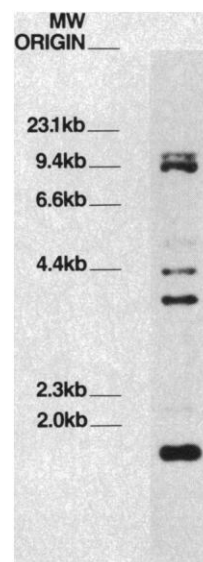
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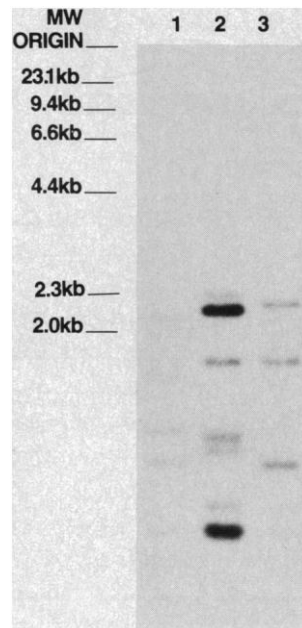
DNA was prepared from normal peripheral blood leukocytes, digested to completion with *Pvu* II (Genomic Grade) and transferred from a 1.5% agarose gel to a nylon filter membrane. A 1.2 Kb DR $\beta$  cDNA clone contained in the *Pst* I site of pBR322 was used as the probe. Densitometry values are presented as ratios in the following format: filter background/lane background/band signal or, in this example, an average signal-to-noise ratio of 30:1.

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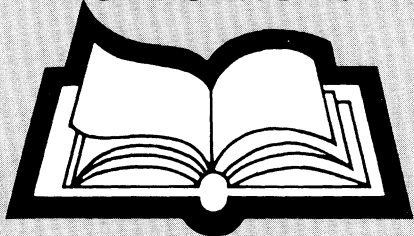
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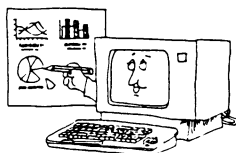
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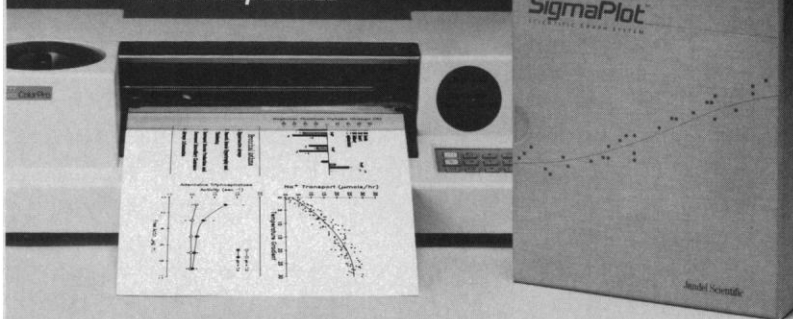
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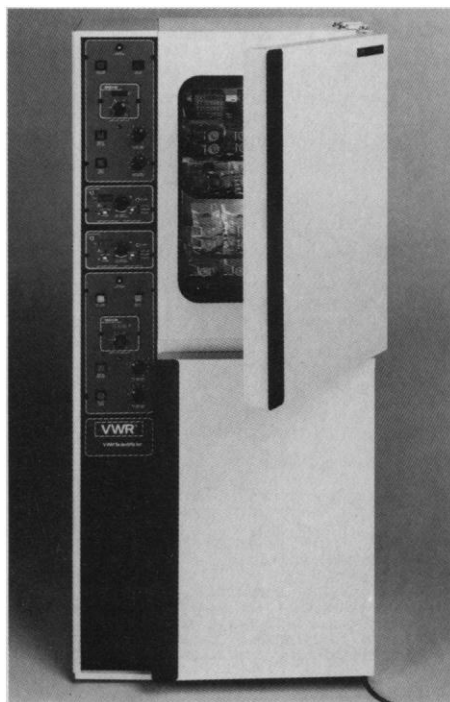
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### *Chemical Kinetics Software*

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### *Literature*

*Latex Product Guide* describes 90 sulfate, carboxyl, and mixed-function ultraclean latex microspheres with diameters 0.03 to 4  $\mu$ m. Interfacial Dynamics. Circle 610.

*Minimum Time, Maximum Results* is a brochure describing products and kits for sequence analysis of DNA. Pharmacia, Molecular Biology Division. Circle 611.

*Restriction Nucleases* is a price list for 60 enzymes, including 3 enzymes with rare recognition sequences: Not I, Nhe I, and Sfi I. Pharmacia, Molecular Biology Division. Circle 629.

*Correlation of Hydrophobic Parameters of Organic Compounds Determined by Centrifugal Partition Chromatography With Partition Coefficients Between Octanol and Water* is a reprint of a paper comparing results obtained by centrifugal partition chromatography with those from the shaking flask extraction method. Sanki Laboratories. Circle 630.

*The Infrared Spectra Handbook of Intermediates* presents the chemical name, molecular formula, molecular weight, molecular structure, and method of analysis for each of 491 infrared absorption spectra. Sadtler Research Laboratories. Circle 631.

*Crystals for Optical Spectroscopy* is a catalog featuring internal reflection elements, prisms, rods, hemispheres, hemicylinders, and windows. Harrick Scientific. Circle 632.

**Magnetic and Electromagnetic Shielding.** T. Rikitate, Terra, Tokyo, and Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). x, 224 pp., illus. \$84.

**Magnetotail Physics.** Anthony T. Y. Lui, Ed. Johns Hopkins University Press, Baltimore, MD, 1987. xiv, 433 pp., illus. \$40. From a conference, Laurel, MD, Oct. 1985.

**The Mammalian Preimplantation Embryo.** Regulation of Growth and Differentiation *in Vitro*. Barry D. Bavister, Ed. Plenum, New York, 1987. xviii, 379 pp., illus. \$65.

**Management of Pests and Pesticides.** Farmers' Perceptions and Practices. Joyce Tait and Banpot Nampomph, Eds. Westview, Boulder, CO, 1987. xii, 244 pp., illus. Paper, \$33. Westview Studies in Insect Biology.

**Marvels of the Molecule.** Lionel Salem. VCH, New York, 1987. xii, 91 pp., illus. \$16.95. Translated from the French edition by James D. Wuest.

**The Mathematical Theory of Huygens' Principle.** Bevan B. Baker and E. T. Copson. 3rd ed. Chelsea, New York, 1987. viii, 193 pp., illus. \$16.95.

**Mathematics and Its Applications to Science and Natural Philosophy in the Middle Ages.** Essays in Honor of Marshall Clagett. Edward Grant and John E. Murdoch, Eds. Cambridge University Press, New York, 1987. xii, 337 pp., illus. \$59.50.

**Mechanical Hands Illustrated.** Ichiro Kato and Kuni Sadamoto, Eds. 2nd ed. Hemisphere (Harper and Row), New York, 1987. xviii, 216 pp., illus. \$46.75. Translated from the Japanese edition (1977).

**Mechanisms of Lymphocytes Activation and Immune Regulation.** Sudhir Gupta, William E. Paul, and Anthony S. Fauci, Ed. Plenum, New York, 1987. x, 337 pp., illus. \$55. Advances in Experimental Medicine and Biology, vol. 213. From a conference, Newport Beach, CA, Feb.-March 1986.

**Medical and Experimental Mammalian Genetics.** A Perspective. Victor A. McKusick *et al.*, Eds. Liss, New York, 1987. xii, 346 pp., illus. \$69.50. Birth Defects, vol. 23, no. 3.

**Medical Language Processing.** Computer Management of Narrative Data. Naomi Sager, Carol Friedman, Margaret S. Lyman, and ten others. Addison-Wesley, Reading, MA, 1987. xiv, 348 pp., illus. \$41.95.

**Meditations at Sunset.** A Scientist Look at the Sky. James Trefil. Scribner's, New York, 1987. xii, 208 pp., illus. \$16.95.

**Mega Molecules.** Tales of Adhesives, Bread, Diamonds, Eggs, Fibers, Foams, Gelatin, Leather, Meat, Plastics, Resists, Rubber, . . . and Cabbages and Kings. Hans-Georg Elias. Springer-Verlag, New York, 1987. xiv, 202 pp., illus. Paper, \$16.95. Translated from the German edition (Berlin, 1985).

**Memory and Context for Language Interpretation.** Hiyan Alshawi. Cambridge University Press, New York, 1987. x, 188 pp. \$29.95. Studies in Natural Language Processing.

**Metacognition, Motivation, and Understanding.** Franz E. Weinert and Rainer H. Kluwe, Eds. Erlbaum, Hillsdale, NJ, 1987. 327 pp., illus. \$39.95. The Psychology of Education and Instruction. Based on a symposium, Heidelberg, F.R.G.

**The Nonlinear Optics of Semiconductor Lasers.** N. G. Basov, Ed. Nova, Commack, NY, 1987. iv, 281 pp., illus. \$85. Proceedings of the Lebedev Physics Institute of the Academy of Science of the USSR, vol. 166. Translated from the Russian edition by Kevin S. Hendzel.

**Physico-Chemical Behaviour of Atmospheric Pollutants.** G. Angeletti and G. Restelli, Eds. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xiv, 809 pp., illus. \$149. From a symposium, Stresa, Italy, Sept. 1986.

**Physics of Complex and Supermolecular Fluids.** Samuel A. Safran and Noel A. Clark, Eds. Wiley-Interscience, New York, 1987. xvi, 720 pp., illus. \$49.95. Exxon Monographs. From a symposium, Annandale, NJ, June 1985.

**Plant Hormones and Their Role in Plant Growth and Development.** Peter J. Davies, Ed. Nijhoff, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). viii, 681 pp., illus. \$170.

**Plant Pathogenic Bacteria.** E. L. Civerolo *et al.*, Eds. Nijhoff, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xxiv, 1050 pp., illus. \$175. Current Plant Science and Biotechnology in Agriculture. From a conference, College Park, MD, June 1985.

**Theories of Human Sexuality.** James H. Geer and William T. O'Donohue, Eds. Plenum, New York, 1987. xvi, 428 pp. \$50. Perspectives in Sexuality.

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**ASSISTANT PROFESSOR—MEDICINAL CHEMISTRY.** The Division of Medicinal and Natural Products Chemistry of the College of Pharmacy at the University of Texas at Austin invites applications for a tenure-track position at the assistant professor level, to be filled by September 1988. While a candidate with a background in bioorganic and/or natural products chemistry is sought, all areas of research interest will be considered. The selected candidate will be expected to show potential for developing a rigorous research program. Participation in undergraduate medicinal chemistry courses and development of graduate courses in the area(s) of research expertise is expected. A Ph.D. with postdoctoral experience is required, and a background in pharmacy is desirable. Send résumé and the names of three references by 1 December 1987 to: **Professor Patrick J. Davis, Head, Division of Medicinal and Natural Products Chemistry, College of Pharmacy, The University of Texas at Austin, Austin, TX 78712-1074. The University of Texas is an Equal Opportunity/Affirmative Action Employer.**

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**ASSISTANT PROFESSOR OF PHYSIOLOGY.** The Department of Physiology and Biophysics of the University of Louisville School of Medicine invites applicants for a tenure-track assistant professor position. An applicant should have a Ph.D. or M.D. degree, 2 to 3 years of postdoctoral research training, and research expertise in cardiovascular interaction with the gastrointestinal, systemic endocrine, and/or central nervous systems. This position will require development of an active, independent research program, some collaboration with ongoing Departmental research programs, and participation in team teaching to meet Departmental responsibilities. The salary is from state-funded sources and is nationally competitive. It is anticipated that the successful candidate will be identified for a starting date by July 1988. Send curriculum vitae and the names of three references by 30 January 1988 to: **Patrick D. Harris, Ph.D., Professor and Chairman, Department of Physiology and Biophysics, Health Sciences Center, University of Louisville, Louisville, KY 40292.** *The University of Louisville is an Affirmative Action/Equal Opportunity Employer.*

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**Gunter Oberdoerster, Ph.D.  
University of Rochester  
School of Medicine and Dentistry  
Box BPHYS  
575 Elmwood Avenue  
Rochester, NY 14642**

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Anticipated starting date is 15 December 1987.

Forward applications and nominations by the 1 December 1987 deadline to:

**George W. Syper, M.D.  
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### ASSISTANT PROFESSOR IN THE DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR PATHOLOGY

Search is extended to fill a tenure-track position, available on the Basic Medical Sciences campus of the Northeastern Ohio Universities College of Medicine (NEUCOM). We are seeking a candidate with postdoctoral experience in biochemistry and molecular biology, especially as applied to endocrinology, metabolism, biotransformation (cytochrome P-450), membranes or enzymology. The candidate is expected to engage in research, independently or in cooperation with basic and clinical scientists and to participate in the teaching and training of medical and graduate students. NEUCOM is a state-supported medical school with excellent research facilities on its expanding Basic Medical Sciences campus. The school is committed to the support of faculty research and graduate programs, including start-up funds for incoming faculty and stipends for graduate students. The Basic Sciences campus is located on an attractive 55-acre site in close proximity to the academic, cultural and educational facilities of Kent, Akron, and Cleveland. NEUCOM offers a 6-year combined B.S./M.D. degree program in consortium with The University of Akron, Kent State University, and Youngstown State University. Applicants should send curriculum vitae, names of three references, and three representative reprints by 1 January 1988 to: **The Office of Human Resources, Attention: Ferenc Hutterer, M.D., Northeastern Ohio Universities College of Medicine, P.O. Box 95, Rootstown, OH 44272.** *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR, ENVIRONMENTAL SCIENCE IN PLANNING.** One area of interest that will be considered in filling the position is a natural scientist in aquatic or terrestrial ecology, or engineer in hydrology, water quality, and waste management. Beginning August 1988. For full consideration send curriculum vitae and names of three references by 22 January 1988 to: **Leonard Heumann, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign, 1003 West Nevada, Urbana, IL 61801.** *The University is an Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR, MEDICAL ONCOLOGY**—University of Colorado—Tenure-track in Medicine. Candidate expected to establish independently funded basic research in cancer biology. Completion of Medical Oncology Boards, U.S. Medical License, 2 years of postdoctoral basic research required. Start-up funds available. Salary \$40,000 to \$60,000. Send curriculum vitae and three reference letters to: **Dr. L. Michael Glode, University of Colorado Health Sciences Center, 4200 East 9th Avenue, Denver, CO 80262; telephone: 303-270-8801.** *An Equal Opportunity Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR, PLANT CELLULAR/MOLECULAR GENETICS**—Department of Biological Sciences, Barnard College, Columbia University, seeks a plant geneticist working at the cellular or molecular level starting September 1988 to participate in undergraduate teaching and conduct an active research program. Teaching responsibilities include lecture/laboratory courses in general genetics and plant biology. Requires ability to function in undergraduate college with affiliation to large research institution. Ph.D. required. Postdoctoral/teaching experience desirable. Submit curriculum vitae, statement of research and teaching interest, three representative publications by 15 December 1987 and three letters of recommendation by 15 January 1988 to: **Mrs. Lorin Johnson, Departmental Administrator, Department of Biological Sciences, Barnard College, 3009 Broadway, New York, NY 10027.** *An Equal Opportunity Employer.*

### ASSISTANT PROFESSOR OF BIOLOGICAL CHEMISTRY AND MOLECULAR PHARMACOLOGY HARVARD MEDICAL SCHOOL

The Departments of Biological Chemistry and Pharmacology at Harvard Medical School have recently been fused to create a new and expanding department with research interests in biochemistry and molecular pharmacology, and molecular and cellular biology. Applicants are now being sought for two tenure-track assistant professor positions in any of these areas. The candidates should also expect to participate in the education of graduate and/or medical students. Candidates should send curriculum vitae and a one-page statement of anticipated research directions, and arrange to have at least three letters of recommendation submitted to: **Chairperson, Search Committee, Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, 250 Longwood Avenue, Boston, MA 02115.** *Harvard Medical School is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSORSHIPS

The Department of Biological Sciences, Northern Arizona University, invites applications and nominations for two tenure-track positions, one in population/molecular genetics and the other in environmental physiology, to be filled at the assistant professor level 1 July 1988. Applicants should have postdoctoral research experience and proven research productivity, and should be prepared to develop an independent research program which complements the Department's strengths in ecology and environmental biology. Successful candidates will teach in the undergraduate curriculum, and develop an upper division/graduate specialty course. We seek a population geneticist who uses molecular methodology in studies of population dynamics or other ecological processes, and an environmental physiologist who examines physiological mechanisms that underlie responses to environmental variations. *Women and minorities are encouraged to apply.*

Curriculum vitae, a statement of research plans, reprints and the names and addresses of four references should be submitted by 5 January 1988 to: **Chairman, Department of Biological Sciences, Box 5640, Northern Arizona University, Flagstaff, AZ 86011.** *Northern Arizona University is an Affirmative Action/Equal Opportunity Employer.*

The Department of Psychology at Harvard University anticipates an opening in psychobiology at the non-tenured level (i.e., **ASSISTANT or ASSOCIATE PROFESSOR**, depending upon qualifications). Candidates should be prepared to teach at the undergraduate and graduate levels, and to have a record of research in relevant areas. The specific research area is open. Acceptable areas include, but are not limited to, the search for physiological mechanisms of learning, perception, cognition, motivation, or psychopathology. Applications should include a current curriculum vitae, and applicants should ask at least three individuals familiar with their work to write directly to: **Brendan Maher, Chairman, Department of Psychology, Harvard University, 33 Kirkland Street, Cambridge, MA 02138.** *Applications from women and members of minority groups are especially welcome.* The closing date for receipt of applications is 4 January 1988.

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR CLINICAL CHEMIST

The Department of Pathology, University of Louisville School of Medicine, Louisville, Kentucky, is seeking a Ph.D. clinical chemist certified by the American Board of Clinical Chemistry to lead the centralized Section of Clinical Chemistry at Humana Hospital-University, serving hospitals with a combined bed capacity of 1,300. This is a tenure-track position; however, depending on qualifications, immediate tenure may be awarded. The successful candidate must possess solid academic credentials, a record of successful grant acquisitions, be experienced in a leadership position in clinical chemistry, and have demonstrated an ability to teach medical students and residents in pathology. Graduate school teaching experience desirable. *Women and members of minority groups are strongly encouraged to apply.* Applications must be accompanied by curriculum vitae, names of four references, be postmarked on or before 31 December 1987, and addressed to: **Bogdan Nedelkoff, M.D., Chairman, Search Committee, University of Louisville, Louisville, KY 40292.**

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

The Department of Psychiatry at the Uniformed Services University of the Health Sciences is seeking to hire an **ASSISTANT/ASSOCIATE PROFESSOR**. This is a tenure-track position with an emphasis on research and teaching. The Department is composed of twelve full-time faculty with research interests and activities in the following primary areas: neurobiological and psychosocial consequences of stress, behavioral pharmacology, neurochemical correlates of drugs and behavior, and the neuropsychiatric consequences of HIV infection. Individuals with active research interests that complement or expand upon these areas are invited to apply. Send curriculum vitae, a description of current and anticipated research interests, and the names of three references to: **Civilian Personnel, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799.**

The Department of Chemistry, Yale University invites applications for a tenured faculty position at the level of either **ASSOCIATE PROFESSOR OR PROFESSOR**, as appropriate, in the area of biophysical chemistry. An outstanding, established teacher-scholar is sought whose research interests will complement those of the current staff. The position is to be occupied in the academic year 1988 to 1989.

Applicants should submit curriculum vitae, and a list of publications to: **Professor Peter B. Moore, Chairman, Senior Search Committee, Department of Chemistry, Yale University, 225 Prospect Street, P.O. Box 6666, New Haven, CT 06511-8118** before 15 December, 1987. *Yale University is an Equal Opportunity/Affirmative Action Employer.*

**BIOCHEMIST:** The Chemistry Department of Colby College invites applications for a tenure-track assistant professorship in biochemistry commencing 1 September 1988. The candidate should have a Ph.D. in chemistry or biochemistry, with expertise in molecular biology techniques, an interest in teaching, and research interests amenable to collaboration with undergraduates. The successful applicant will teach a course with laboratory at the biochemistry/molecular biology interface, participate in two other courses in the regular chemistry sequence, and direct undergraduate research projects. Colby is recognized for excellence in undergraduate education and close student-faculty interaction. Curriculum vitae, transcripts, statement of teaching and research interests, and three letters of recommendation should be sent to: **Professor Wayne L. Smith, Chair, Department of Chemistry, Colby College, Waterville, ME 04901.** The closing date for completed applications is 30 December 1987. *Colby is an Affirmative Action/Equal Opportunity Employer and specifically encourages applications from minorities and women.*

Positions for **TWO BIOCHEMISTS** Ph.D.'s (assistant/associate professor) with background in molecular biology and cell biology to work on tumor cell growth and differentiation. Send curriculum vitae to: **Box 1178, Mount Sinai Medical Center, One Gustave L. Levy Place, New York, NY 10029-6574.** *An Equal Opportunity Employer.*

## POSITIONS OPEN

### BIOCHEMIST/BIOORGANIC CHEMIST

Postdoctoral fellow or senior postdoctoral fellow, with opportunity for development into a permanent research appointment. Research on the mechanisms of tumor induction by nitrosamines with emphasis on their metabolism and DNA- or protein-binding properties. Research institute located in the northern suburbs of New York City offering an excellent research environment and sophisticated instrumentation. Send résumé to: **Dr. Stephen S. Hech, Director of Research, American Health Foundation, 1 Dana Road, Valhalla, NY 10595.** *An Equal Opportunity Employer M/F/H/V.*

### BIOCHEMISTRY FACULTY POSITION UNIVERSITY OF WISCONSIN-MADISON

The Biochemistry Department, University of Wisconsin-Madison invites applications for a tenure-track position at the assistant professor level. We are particularly interested in applications from individuals whose research emphasizes chemical approaches to fundamental problems in biochemistry or molecular biology. Potential areas include enzymology, bioorganic chemistry, the chemistry of proteins, nucleic acids, complex carbohydrates, or of low molecular weight compounds. The successful candidate is expected to develop a vigorous independent research program and participate in the undergraduate and graduate teaching programs of the department. Applications, including curriculum vitae, list of publications, summary of past work and accomplishments, and a statement of plans for future research, should be sent to: **Professor William S. Reznikoff, Chairman, Department of Biochemistry, University of Wisconsin-Madison, 420 Henry Mall, Madison, WI 53706.** In addition, applicants should arrange for three letters of reference to be mailed to the same address. To assure consideration, all application materials should be received by 15 January 1988. *The University is an Affirmative Action/Equal Opportunity Employer, and encourages applications from women and minorities.*

**BIOLOGIST** to head Research Section Loyola-Hines Department of Radiotherapy. Background in cellular and molecular biology preferred, along with interest in radiation and thermal effects. Tenure-track position, at Loyola University of Chicago Stritch School of Medicine. Simultaneous appointment on the Research Service at Edward Hines Jr. VA Hospital. Salary, space, and equipment—negotiable. To apply, send letter, curriculum vitae, and three letters of recommendation to:

**James E. Marks, M.D.,  
Chairman, Loyola-Hines  
Department of Radiotherapy  
Loyola University Medical Center  
2160 South First Avenue  
Maywood, IL 60153  
Telephone: 312-531-2177**

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

### DARTMOUTH COLLEGE BIOTECHNOLOGY AND BIOCHEMICAL ENGINEERING

Nominations and applications for a junior or senior tenure-track **FACULTY POSITION** are invited. Applicants should have a doctorate in engineering or closely related discipline. Special consideration will be given to candidates specializing in production and/or separation of biologically-produced high-value compounds, and to those who show promise of research interactions with other groups at Dartmouth such as the Molecular Genetics Center, Medical School, Biochemistry Program, and the Biomedical Engineering Center. Candidates will be expected to develop a major research program in their area and teach graduate and undergraduate courses. The School is undergoing a significant expansion in facilities and faculty. In the area of biotechnology and biochemical engineering, several new laboratories will be constructed in 1988.

Applicants should submit a résumé and concise description of research interests, and should arrange for three letters of reference to be sent to: **Professor A. O. Converse, Thayer School of Engineering, Dartmouth College, Hanover, NH 03755.** Review of applications will begin in January 1988. *Dartmouth College is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority candidates.*

## POSITIONS OPEN

### BIOLOGICAL SCIENCES

Northern Illinois University anticipates three tenure-track assistant professor positions for fall 1988. A Ph.D. and postdoctoral experience are required. Each candidate will be expected to develop a vigorous externally funded research program, direct graduate (M.S. and Ph.D.) students, teach the equivalent of one course per semester, and will periodically be involved in introductory courses for majors and nonmajors.

**MOLECULAR EVOLUTION:** The successful candidate will be expected to use modern molecular techniques to address important questions, preferably in macroevolutionary biology. Teaching obligations will include undergraduate and graduate courses in evolutionary biology.

**VERTEBRATE EVOLUTION:** The successful candidate will be expected to conduct research in a significant area of vertebrate evolution. Teaching obligations will be a course in vertebrate biology and other courses such as evolution, comparative anatomy, and physiological adaptations.

**PROKARYOTIC MUTAGENESIS:** The successful candidate will be expected to have experience in cloning, to conduct research using physical and chemical mutagens, and to contribute to our programs in radiation biology and microbiology. Teaching obligations will include courses in radiation biology and microbiology.

Send curriculum vitae, statement of research goals, three most significant publications, and three letters of reference by 15 December 1987 to: **Dr. Marvin J. Starzyk, Chairman, Department of Biological Sciences, Northern Illinois University, DeKalb, IL 60115-2861; telephone 815-753-1753.** *The University is an Affirmative Action/Equal Opportunity Employer.*

**BIOLOGIST.** The Department of Natural Science at Loyola University of Chicago invites applications for a tenure-track position at the level of assistant professor. The applicant must have a well defined interest and experience in teaching non-science majors. Biology courses offered in the department include human biology, cell and molecular biology; genetics and evolution; botany; and environmental science. The successful applicant will be expected to conduct an active research program which complements others within the department. The Ph.D. is required. Please send curriculum vitae statement of research interests, recent reprints, three letters of reference by 29 January 1988 to: **Dr. Sonia Ringstrom, Department of Natural Science, Loyola University of Chicago, 6525 North Sheridan Road, Chicago, IL 60626.** *Loyola University is an Equal Opportunity Employer.*

**BIOLOGY FACULTY POSITION:** Penn State Erie, The Behrend College. Applications are invited for a 1-year faculty position (sabbatical leave replacement) to teach baccalaureate level biology courses starting fall 1988. Ph.D. degree in biology or completion of course work for the Ph.D. required. Individual will teach second of two introductory courses (botany, genetics and evolution) and several junior/senior level courses. Applicants should have a strong interest in undergraduate teaching. Penn State-Behrend is a 4-year, primarily undergraduate institution within the 22-campus Penn State system. Application deadline is 1 February 1988 or until position is filled. Send complete résumé, official transcripts, and the names of three references to: **Dr. A. H. Pulsifer, Head, Division of Science, Engineering and Technology, Department K-1, The Pennsylvania State University, Erie, PA 16563-0203.**

*An Equal Opportunity/Affirmative Action Employer.*

### CELLULAR/MOLECULAR NEUROENDOCRINOLOGIST

Seeking applicants for a tenure-track position to begin fall 1988. Candidates must have demonstrated a strong potential for independent research productivity and be capable of attracting external research support. We are particularly interested in individuals whose research focus is hormonal influences on the nervous system at cellular/subcellular level. Teaching responsibility will involve participation in undergraduate and graduate curricula, especially neuroendocrinology. Send curriculum vitae and names of three references to: **Dr. J. Rabii, Chair, Neuroendocrine Search, Department of Biological Sciences, Rutgers University, New Brunswick, NJ 08903,** before 2 January 1988. *Women and minority applicants are encouraged to apply. Rutgers University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### CELL BIOLOGIST YALE UNIVERSITY SCHOOL OF MEDICINE

The Department of Cell Biology, Yale University School of Medicine, is accepting applications for tenure-track positions at the assistant or associate professorial levels with a starting date no later than 1 July 1988. Candidates with an interest in regulation of cell growth and differentiation; interactions between the extracellular matrix membranes and the cytoskeleton; application of video microscopy to living cells; and cell biologic aspects of glycoprotein metabolism are encouraged to apply. However, applications from investigators in all areas of cell biology will be welcomed. It is anticipated that successful candidates will establish independent, externally funded research programs and be willing to collaborate with other members of the Department whose research interests focus on membrane structure and function. Involvement in teaching of cell biology to medical and graduate students and supervision of graduate students is required. Candidates must hold the degree of M.D. and/or Ph.D. and have at least 2 years of postdoctoral experience.

Applicants should submit their curriculum vitae, statement of research and teaching interests, and names of three references before 1 January 1988 to:

Dr. James D. Jamieson, Chairman  
Department of Cell Biology  
Yale University School of Medicine  
333 Cedar Street  
New Haven, CT 06510

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

### CYTOGENETICIST

The Department of Botany and Plant Sciences, University of California, Riverside, announces a position of cytogeneticist, available 1 July 1988. The position is a tenure-track, 11-month appointment in the College of Natural and Agricultural Sciences and in the Agricultural Experiment Station. Appointment will be at the assistant, associate, or full professor level, depending on the experience of the successful candidate. A Ph.D. is required and postdoctoral experience is preferred. The appointee will be expected to develop a vigorous, innovative independent research program in basic cytogenetics with applications to plant breeding. Research goals and objectives must be consistent with those of the Agricultural Experiment Station. Potential research areas may include, but are not limited to, molecular biology of plant transposable elements, molecular structure of plant chromosomes, or molecular mechanisms of recombination. One goal might be the application of new molecular technologies to tree crops. The successful candidate will be expected to contribute to the departmental undergraduate teaching program and to offer an upper division/graduate course in plant cytogenetics. He/she must be willing to serve as major professor to graduate students and to participate in the graduate program.

Send relevant information including curriculum vitae, and arrange to have at least three confidential letters of recommendation sent to: Dr. J. G. Waynes, Chairman, Search Committee, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521. Application deadline is 10 December 1987, or later if a suitable candidate has not been selected.

*The University of California, Riverside is an Affirmative Action/Equal Opportunity Employer. Minorities and women are encouraged to apply.*

### CIRCADIAN BIOLOGY UNIVERSITY OF VIRGINIA

The Department of Biology at the University of Virginia is forming a research group to investigate basic mechanisms of biological rhythmicity. **FACULTY POSITIONS** at the junior or senior level are now available. We seek applicants with research interests in circadian rhythmicity as well as expertise in a contemporary biological field such as neurobiology, molecular genetics, biochemistry, cell biology, or physiology. Successful applicants will combine outstanding research accomplishments or potential with ability to contribute to the intellectual life of a department dedicated to the highest level of undergraduate and graduate education. Please send curriculum vitae, including a description of research plans and three letters of reference by 1 February 1988, to: Michael Menaker, Chairman, Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, VA 22901. *Equal Opportunity/Affirmative Action Employer.*

## Research Opportunity in Biochemical Pharmacology



An equal opportunity employer

Pfizer Central Research is seeking an innovative scientist to direct and expand our *in vitro* radioligand binding assay group. This individual will be responsible for maintaining a peptide receptor binding laboratory, developing novel assays to a high throughput level, and doing appropriate biochemical and pharmacologic follow-up of lead compounds. Candidate will work closely with synthetic organic chemists to optimize new leads, as well as computer experts in the development of methods to manage both assay automation and a growing database.

A PhD in biochemistry or biochemical pharmacology, appropriate postdoctoral training, and a record of research accomplishments are required. Expertise in the characterization of receptor-mediated biochemical events and/or laboratory automation are especially desirable. Previous industrial experience is welcome but not essential.

This position offers an excellent opportunity for professional recognition. We also offer a competitive compensation and benefit package, and the opportunity to live in an attractive Connecticut shore community. Please send resume and description of accomplishments to: Mr. Don Nelson, Manager of Employee Resources, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.

## METABOLISM and PHARMACOKINETICS

Our client, a major U.S. corporation engaged in frontier pharmaceutical research and development for the treatment of cancer, cardiovascular and infectious diseases, seeks senior scientists to join multi-disciplinary drug development teams.

### PHARMACOKINETIST

**Responsibilities:** Design and initiate clinical and non-clinical studies for pharmacokinetics, bioavailability and drug metabolism assessments. Evaluate and summarize pharmacokinetic/pharmacodynamic data and prepare reports for regulatory submissions.

**Required:** Ph.D. in Pharmaceutical Sciences or related disciplines with 2 or more years experience in pharmacokinetics.

### BIOCHEMICAL PHARMACOLOGIST

**Responsibilities:** Develop bioanalytical methods to quantitate drugs and their metabolites in biological fluids and tissues; design/implement studies for pharmacokinetics and metabolic behavior of drug candidate molecules.

**Required:** Ph.D. biochemistry, pharmacology or related discipline. Experience in *in vivo* and *in vitro* metabolism studies, and analytical chemistry, i.e., HPLC, GC, and radio isotope methodology.

### RESEARCH SCIENTISTS

**Responsibilities:** Develop analytical methods for drugs in biological fluids and tissues; perform *in vivo* and *in vitro* studies for pharmacokinetics and metabolic properties.

**Required:** B.S. chemistry, pharmacology or related discipline; 2-5 years research experience with HPLC, GC, and radio isotope methodology.

Located near Philadelphia, our client offers a superior quality of living, and generously acknowledges professional expectations.



Respond in confidence, with assurance of discretion to:

Robert R. Columbus

**WETERRINGS & AGNEW**

Professional Placement Consultants

1200 Midtown Tower, Rochester, NY 14604 716/454-3888

## POSITIONS OPEN

### CHAIRMAN DEPARTMENT OF MICROBIOLOGY

Louisiana State University invites applications and nominations for the position of Chairman of the Department of Microbiology. The department currently consists of ten tenure-track faculty members, with plans for expansion. Approximately 230 undergraduates and 35 graduate students presently major in microbiology. Candidates for this position must hold a doctorate in microbiology, or a related discipline, must have demonstrated a distinguished record of scholarship and professional achievement as evidenced by publications and grant awards, and must have leadership and administrative ability consistent with building a nationally recognized department. The salary will be commensurate with qualifications. The appointment is available as of August 1988. Candidates should submit application materials, including curriculum vitae, references, and a statement of research interests, before 1 February 1988 to:

**Chairman Search Committee  
Department of Microbiology  
Louisiana State University  
Baton Rouge, LA 70803-1715**

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

### DEAN SCHOOL OF PUBLIC AND ENVIRONMENTAL AFFAIRS INDIANA UNIVERSITY

The School of Public and Environmental Affairs at Indiana University is seeking applications and nominations for an outstanding individual for the position of Dean on or after 1 July 1988. The Dean is responsible for the leadership of the statewide school which has a multidisciplinary faculty and students on seven campuses. Candidates should have proven administrative experience and possess the qualifications and achievements consistent with a tenured appointment at the full professor level. Applications and nominations should be sent to: **Chair, Dean's Search and Screen Committee, School of Public and Environmental Affairs, Indiana University, Bloomington, IN 47405**. Applications received by 15 December 1987 will be assured of full consideration. *Indiana University is an Equal Opportunity/Affirmative Action Educator, Employer and Contractor, M/F.*

**DEPARTMENT CHAIR:** The Department of Biological Sciences at the University of Maryland Baltimore County (UMBC). The UMBC Department of Biological Sciences is seeking a distinguished scientist to serve as Professor and Chair. The Department includes 28 faculty members with 400 undergraduate majors, and 90 graduate students. The research interests of the faculty range from molecular and cellular biology to organismic and population biology. The Department offers the B.A., M.S. and Ph.D. degrees in biological sciences and applied molecular biology. The University of Maryland Baltimore County campus is located in suburban Baltimore and has a current enrollment of 10,000 students. Please send curriculum vitae, and names and addresses of at least three references to: **Dr. Catherine Fenselau, Chairman, Search Committee, UMBC, Baltimore, MD 21228**. *UMBC is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.* Applications will be received until a suitable candidate is found.

### CORNELL UNIVERSITY GENEVA CAMPUS DEPARTMENT CHAIR OF FOOD SCIENCE AND TECHNOLOGY

Chair is sought for world-recognized department, total staff of 60, current faculty of 16. A number of vacancies await the filling of this position. Applicants must possess Ph.D. in an area of food science, and a record of scholarly accomplishments sufficient to be appointed at Cornell with tenure at the rank of professor or associate professor. Position will be available 1 July 1988, and applications will be accepted until 1 February 1988. Send letter of application, résumé, names, and addresses of three references to: **Dr. Terry Acree, Department of Food Science and Technology, New York State Agricultural Experiment Station, P.O. Box 462, Geneva, NY 14456; telephone: 315-787-2240**. *Cornell University is an Equal Opportunity Affirmative Action Employer.*

## POSITIONS OPEN

**DEAN OF BIOLOGICAL SCIENCES, SUNY,** Stony Brook: Three research-oriented departments (biochemistry, ecology and evolution, and neurobiology and behavior) and five interdisciplinary graduate programs in the life sciences seek an imaginative new leader. Opportunities exist for strengthening ties with basic and clinical programs in a large on-campus Health Sciences Center. The ideal candidate would have a distinguished research reputation, and would possess administrative skills and experience. Please send curriculum vitae and the names of three references to: **Chair, Biological Sciences Dean Search Committee, Room 130, Life Sciences Building, SUNY Stony Brook, Stony Brook, NY 11794 by 15 December 1987**. *SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK #255-C.*

### DEVELOPMENTAL OR CELL BIOLOGIST UNIVERSITY OF CINCINNATI

The Department of Anatomy and Cell Biology invites applications for a tenure-track position at the assistant or associate professor level. Candidates for professor may be considered. Individuals at the assistant professor level should have postdoctoral experience, and will be expected to develop a strong independent research program with external funding from national sources. At the associate professor level, candidates must be principal investigator of a nationally funded program. While the direction and focus of the prospective candidate's research is open, we are seeking individuals who are asking important questions in developmental and/or cell biology and who are using modern research tools, preferably molecular genetics, to address these questions.

The successful candidate must be committed to participating in an active graduate program, and will be expected to teach medical students in a team-taught histology course. The successful candidate need not have prior histology experience, but must be willing to learn and help teach the subject during his/her first year. Please send curriculum vitae with names, addresses, and telephone numbers of three referees to:

**Dr. Peter Stambrook  
Department of Anatomy and Cell Biology  
University of Cincinnati College of Medicine  
231 Bethesda Avenue-ML #521  
Cincinnati, OH 45267-0521.**

**DIRECTOR OF LABORATORIES.** Immediate requirement for qualified Ph.D. to direct two histocompatibility labs. Highly attractive salary and competitive benefits. Must qualify under Sections 405.1313 and 405.1314 of the Medicare Regulations for independent laboratories. Résumé and cover letter to: **Gordon L. Bilbrey, M.D., 7540 Louis Pasteur, Suite 100, San Antonio, TX 78229**.

### IOWA STATE UNIVERSITY DIRECTOR WORLD FOOD INSTITUTE

Iowa State University invites applications for the position of Director, World Food Institute. Administrative and international program experience are essential qualifications as well as experience with funding agencies and with development, implementation and coordination of food-related programs, preferably in international fields. Applicants should possess knowledge and understanding of people and cultures, especially those of developing countries. Academic and research experience and knowledge of university operations would be desirable. The position is responsible to the Executive Director for International Affairs, and will provide administrative initiative and leadership for development, coordination and evaluation of World Food Institute programs; encourage multi-disciplinary programs and studies on world issues related to food production, processing, distribution and utilization; and maintain liaison with Iowa State University administrators, faculty, staff, and students. The position will generate and facilitate conferences, seminars, symposia, workshops, and other activities of interest to the university community and the general public, and develop and maintain contacts with funding agencies and other institutions involved in international activities. Doctorate degree preferred. Eligibility for academic rank and tenure desired.

Application deadline is 1 December 1987 or until position is filled. Send nominations and applications to: **Dr. Keith Whigham, Chair, Search Committee, 206 Curtiss Hall, Iowa State University, Ames, IA 50011**. *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### UNIVERSITY OF IDAHO DEPARTMENTAL CHAIR—CHEMISTRY

The Department of Chemistry is seeking a dynamic leader for the position of Departmental Chair. The person selected will be expected to lead the Department in developing internationally recognized research programs, exert a strong leadership role in faculty development, maintain overall responsibility for departmental budgets, communicate effectively with the University administration, and encourage interdisciplinary research programs with other departments. The successful candidate will be responsible for the continuing development of a Department of 17 faculty. The Department has an expanding research program and a strong commitment to undergraduate and graduate teaching, and has recently obtained a wide range of modern research instrumentation including high resolution GC/MS, high field NMR, and three FT-IR's.

The appointment will carry rank of professor and salary commensurate with qualifications. Letters of nomination or application should be sent to: **Roger A. Korus, Chair of Search Committee, Department of Chemistry, University of Idaho, Moscow, ID 83843**. Applicants should submit curriculum vitae and the names of at least three references by 31 January 1988. However, applications will be accepted until a suitable candidate is found. The Department would prefer to fill the position by fall 1988, but the starting date will be negotiable. *The University of Idaho is an Equal Opportunity/Affirmative Action Employer.*

### DIRECTOR OF OCCUPATIONAL MEDICINE THE JOHNS HOPKINS UNIVERSITY SCHOOL OF HYGIENE AND PUBLIC HEALTH

Leading national research and training programs in occupational medicine, occupational health nursing, and related occupational health disciplines awarding master's and doctoral degrees and with rich experiential opportunities for postdoctoral fellows and medical residents. Integrated with environmental, public health and medical science departments and with area hospitals, clinics, and industrial and governmental agencies with active patient care and consultative programs in the workplace and community settings. A talented multidisciplinary faculty and a full complement of graduate students, medical residents, and research fellows engaged in laboratory, clinical, and field investigations offer a challenge to academic and professional leadership and a central role in a first rank institution of health professions. Inquiries including curriculum vitae should be directed to: **Dr. Gareth M. Green, Chairman, Department of Environmental Health Sciences, School of Hygiene and Public Health, The Johns Hopkins University, 615 North Wolfe Street, Baltimore, MD 21205**. *Equal Opportunity/Affirmative Action Employer.*

**ECOLOGICAL MICROBIOLOGIST**—Applications are invited from individuals with a Ph.D. in microbiology, or the equivalent, for a tenure-track, assistant professor position to begin fall 1988. The successful candidate is expected to teach undergraduate and graduate courses in addition to establishing a fundable research program. Submit curriculum vitae, a brief statement of research, teaching interests, and names, addresses, and telephone numbers of at least three references before 11 December 1987 to: **Dr. Cecilio R. Barrera, Search Committee, Department of Biology, New Mexico State University, Las Cruces, NM 88003; telephone: 505-646-3733**. *New Mexico State University is an Affirmative Action/Equal Opportunity Institution.*

**EVOLUTIONARY ZOOLOGIST.** Tenure-track, assistant professor, to begin fall 1988. Candidates should have interests centered on the evolutionary biology of arthropods. The successful candidate will be expected to curate the entomological collection, teach entomology, general undergraduate and specialized graduate courses, and develop a fundable research program. Send curriculum vitae, relevant reprints, names, addresses and telephone numbers of at least three references before 10 December 1987 to: **Dr. Ralph Raitt, Search Committee, Department of Biology, New Mexico State University, Las Cruces, NM 88003; telephone: 505-646-4430**. *New Mexico State University is an Affirmative Action/Equal Opportunity Institution.*

## Cell Biology Research

The Upjohn Company, a world leader in the research and development of pharmaceuticals, has an Associate position available in the Metabolic Diseases Research Group to study cell growth regulation, growth factors and growth factor receptors. Applicants should have an M.S. degree or B.S. degree with minimum of 2 years of relevant laboratory experience in the area of cell culture, study of cell growth factors, lymphokines, protein purification and ligand-receptor binding and/or DNA/RNA hybridization techniques.

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 22079-A when calling. We are an Equal Opportunity Employer M/F.

**Upjohn**

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

## Experimental Pathologist

The Department of Cell Biology at Smith Kline & French Laboratories, located in suburban Philadelphia, PA, has an immediate opening for a Ph.D. to join a research team investigating novel differentiating agents in the treatment of colorectal cancer.

The successful candidate will have broad responsibility for designing studies analyzing the differentiation of colorectal carcinoma cells *in vitro*, in animal models and in biopsy material from human neoplasms. Experience in tumor pathology and demonstrated expertise in immunohistochemistry are essential.

Candidates are required to have a Ph.D. in Cell Biology or Experimental Pathology with a minimum of 2 years relevant experience in differentiation or tumor cell biology. A good publication record and communication skills are also required.

We offer an excellent compensation and benefits package as well as an attractive relocation policy. Publication of results is encouraged and supported. For confidential consideration, send your curriculum vitae and the names of three references to Robert F. Obst, Manager, Personnel Relations, R0107, Smith Kline & French Laboratories, Research and Development Division, P. O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

**SK&F**  
A SmithKline Beckman Company

## SALES OPPORTUNITIES

IBI, a leading supplier of Molecular Biology Products has immediate openings in the Sales Department both in-house and field. As an in-house Telephone Sales Representative, you will provide technical support for the outside sales force as well as maintain your own accounts. The successful candidate should be well versed in recombinant DNA techniques with a minimum one year lab experience, no sales experience is necessary. Field positions require at least 2 years of sales experience in the biotechnology area. If you are ready for a change and want a career with an industry leader, send your resume to:

Telephone Sales Director  
IBI  
25 Science Park  
P.O. Box 9558  
New Haven, CT 06535

**IBI**

A Kodak Company

## Regulatory Toxicologist

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

Requires a Ph.D. in Toxicology or related medical field and at least 3 years of experience in toxicology in industry, government or contract laboratory dealing with pesticides or drugs.

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

 **CYANAMID**

**American Cyanamid Company**  
Agricultural Research Division  
P.O. Box 400  
Princeton, NJ 08540  
An Equal Opportunity Employer M/F/H

## POSITIONS OPEN

### UNIVERSITY OF KENTUCKY ENDOWED CHAIR IN THE CENTER ON AGING

The University of Kentucky in Lexington is the principal degree granting and research institution of the Commonwealth of Kentucky. The Sanders-Brown Center on Aging is that component of the University which is responsible for a University-wide program in research, teaching and service in aging. The Sanders-Brown Center is one of the ten national Alzheimer Disease Research Centers, a national Geriatric Education Center, and a participant in the Systolic Hypertension in the Elderly Program. In recognition of these achievements and others the Council on Higher Education of the Commonwealth has awarded an endowed chair to the Center.

The University is pleased to announce a national search to identify a qualified applicant for the chair. This is a senior faculty level position. Applicants should have a Ph.D. and/or M.D. The individual must have demonstrated excellence in research related to diseases affecting the nervous system of the older person. This individual shall be the leader of a program of research, teaching and service in the area of stroke, or of molecular neurobiology, particularly as it applies to Alzheimer disease.

A letter of application, together with curriculum vitae, and names and addresses of three referees should be sent to:

**Michael P. McQuillen, M.D.**  
Chairman, Search Committee  
Commonwealth Chair on Aging  
MS 129, University of Kentucky  
Medical Center  
800 Rose Street  
Lexington, KY 40536-0084

**ENVIRONMENTAL POLICY:** The School of Public Affairs at the University of Maryland seeks to fill two positions: a tenure-track **ASSISTANT PROFESSOR** and a **RESEARCH ASSOCIATE**, both related to Chesapeake Bay policy. Experience in policy formulation desirable; Ph.D. in environmental studies or another relevant discipline required for teaching position. For assured consideration, apply by 10 December to: **Allen Schick, Search Committee, School of Public Affairs, Morrill Hall, University of Maryland, College Park, MD 20742. Equal Opportunity/Affirmative Action Employer.**

### EVOLUTIONARY GENETICIST

Tenure-track assistant professor position for evolutionary geneticist with demonstrated excellence in experimental (field or laboratory) research to join faculty in ecology and evolutionary biology program. Candidates must have a doctorate, potential for excellence in undergraduate teaching, ability to develop an independently funded research program, and potential to interact productively with faculty in the Graduate Program in Ecology and Evolutionary Biology. We are especially interested in individuals who will bring modern ideas and techniques from areas such as molecular biology, developmental biology, or physiology to bear on problems in evolutionary biology. There are many opportunities for interactions with faculty in other programs at Brown who are working in these fields and in applied mathematics. We encourage applicants working on plant, animal, or microbial systems. Responsibilities include a course in evolutionary genetics or evolutionary mechanisms, contributions to courses in basic genetics, and academic advising. Applicants should submit a résumé including research and teaching experience, future research plans, and a list of publications; enclose representative reprints; and have three letters of reference sent; all to be received by 4 January 1988 to: **Dr. D. H. Morse, Division of Biology and Medicine, Brown University, Providence, RI 02912. An Equal Opportunity/Affirmative Action Employer.**

### FACULTY POSITION REPRODUCTIVE BIOLOGY

Opening available at **ASSISTANT/ASSOCIATE PROFESSOR** level for Ph.D. in reproductive biology or related discipline. Seeking motivated individual with demonstrated excellence and productivity in research. Should have strong background in gamete micromanipulation and embryo culture, IVF and cryopreservation. Responsibilities 50% clinical/50% research. Send detailed résumé, references, and statement of research background and interests to: **Dr. A. G. Sacco, Wayne State University, Department OB/GYN, C. S. Mott Center, 275 East Hancock, Detroit, MI 48201. Wayne State is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### FACULTY POSITION MAMMALIAN CELL CULTURE CHEMICAL ENGINEERING PROGRAM UNIVERSITY OF MARYLAND BALTIMORE COUNTY MEDICAL BIOTECHNOLOGY CENTER MARYLAND BIOTECHNOLOGY INSTITUTE

Applications for a faculty position in biotechnology with a particular expertise in the area of mammalian cell culture are invited. The appointment will be joint between Chemical Engineering and the Medical Biotechnology Center of the Maryland Biotechnology Institute. Candidates should have a strong research background in the designated area of biotechnology and have an interest in developing funded interdisciplinary and independent research activities. Applicants should send a complete curriculum vitae, summary of proposed research plans, and three letters of recommendation to: **Dr. T. Cadman, Search Committee, Chemical Engineering Program, University of Maryland, Baltimore County, Baltimore, MD 21228. The University of Maryland is an Equal Opportunity Employer.**

Jefferson Institute of Molecular Medicine—**FACULTY POSITIONS IN MOLECULAR BIOLOGY AND RELATED AREAS**—The Jefferson Institute of Molecular Medicine of Thomas Jefferson University is seeking an additional 6 scientists to complete its complement of 18 new faculty members. All positions are tenure-track. Candidates will be selected primarily on the basis of their potential to establish outstanding research programs in molecular biology, molecular genetics, biochemistry, and related areas. Successful candidates will be provided with competitive salaries, membership in a graduate program, newly renovated laboratory space, start-up equipment grants and some continuing support for their research programs. Send curriculum vitae and three letters of recommendation to: **Dr. Darwin J. Prockop, Director, Jefferson Institute of Molecular Medicine, Thomas Jefferson University, 11th and Walnut Streets, Philadelphia, PA 19107. Equal Opportunity Employer.**

### FACULTY POSITIONS MOLECULAR BIOPHYSICS AND BIOCHEMISTRY YALE UNIVERSITY

The Department of Molecular Biophysics and Biochemistry seeks applicants for two tenure-track positions at the level of assistant professor in the general area of molecular genetics. Qualified applicants would be expected to develop an independent research program and to participate in departmental teaching at both the graduate and undergraduate levels.

Candidates should submit curriculum vitae with a summary of present and future research interests, and request that three letters of recommendation be sent no later than 15 February 1988 to: **Dr. Alan M. Weiner, Molecular Genetics Search Committee, Department of Molecular Biophysics and Biochemistry, P.O. Box 3333, 333 Cedar Street, New Haven, CT 06510. An Equal Opportunity/Affirmative Action Employer.**

### FACULTY POSITIONS

1) **CELL BIOLOGIST**—The Division of Rheumatology and Immunology at the Medical University of South Carolina is accepting applications from cell biologists for a full-time tenured/tenure-track academic position within the Division. The individual must have either a Ph.D. or M.D. degree and experience in cell biology and cellular function and interactions in vitro. The successful candidate will be expected to establish an independent research program and to be open to interactions with other Division researchers.

2) **MOLECULAR BIOLOGIST**—The Division of Rheumatology and Immunology at the Medical University of South Carolina is accepting applications from molecular biologists for a full-time tenured/tenure-track academic position within the Division. The individual must have either a Ph.D. or M.D. degree and experience in molecular biology and gene regulation of cell functions. The successful candidate will be expected to establish an independent research program and to be open to interactions with other Division researchers.

Candidates should submit a letter of application, a curriculum vitae, a description of research interests, and names of three references to: **E. Carwile LeRoy, M.D., Division of Rheumatology and Immunology, Department of Medicine, MUSC, 171 Ashley Avenue, Charleston, SC 29425.**

## POSITIONS OPEN

### FACULTY POSITION IN CELL/DEVELOPMENTAL BIOLOGY

Applications are invited for a tenure-track position in the Department of Biological Sciences at Carnegie Mellon University. Applicants must be strongly motivated toward carrying out research in cell and/or developmental biology. Candidates who are just completing their postdoctoral research training will be considered for a position of starting assistant professor; exceptionally well-qualified individuals may be considered for appointment at a higher level. To apply, send curriculum vitae and a concise description of research interests (no more than three pages) and, in addition, have three letters of recommendation sent to: **Dr. Susan Henry, Head, Department of Biological Sciences, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213. Carnegie Mellon University is an Equal Opportunity/Affirmative Action Employer.**

### SETON HALL UNIVERSITY FACULTY (TENURE-TRACK) POSITION ORGANIC CHEMISTRY

Seton Hall University, Chemistry Department anticipates a tenure-track position beginning September 1988. This position is for organic chemistry, at the assistant professor level (but higher rank will be considered). The individual should complement the research areas of our faculty, and would participate in our B.D., M.S., and Ph.D. programs. Demonstrated research excellence and a commitment to teaching at the graduate and undergraduate levels are required.

Send résumé, three letters of reference, and a brief description of future research plans on or before 1 December 1987 to:

**Faculty Search Committee  
Department of Chemistry  
Seton Hall University  
400 South Orange Avenue  
South Orange, NJ 07079**

*Equal Opportunity/Affirmative Action Employer*

### FACULTY POSITIONS IN MOLECULAR NEUROBIOLOGY

Applications and nominations of individuals with active research programs in molecular neurobiology are requested for faculty positions at the **FULL, ASSOCIATE, or ASSISTANT PROFESSOR** level. Rank and salary will be based on academic and research record. Substantial start-up funds and modern laboratory space are available. Excellent opportunities exist for interaction with neuroscience and molecular biology faculty associated with formal neuroscience and genetics programs as well as from basic science and clinical departments. Minimum requirements include the Ph.D. and/or M.D. degree, and 2 years of postdoctoral training. Candidates should send curriculum vitae, a description of research activities, representative reprints, and the names of three or more references to:

**Dr. Peter Getting  
Department of Physiology and Biophysics  
The University of Iowa  
Iowa City, IA 52242.**

### FLORIDA INTERNATIONAL UNIVERSITY THE STATE UNIVERSITY OF FLORIDA AT MIAMI HYDROGEOLOGIST AQUEOUS GEOCHEMIST

The Department of Geology at Florida International University invites applications for a full-time tenure-earning position at the assistant professor level in hydrogeology/aqueous geochemistry. The successful applicant will be expected to teach at the undergraduate and graduate levels, and must demonstrate an ability to conduct high quality teaching, and the potential to establish a vigorous research program. A completed Ph.D. is required. The department is well-equipped, and includes an ARL Microprobe, ICPS, x-ray diffraction, etc. Deadline for applications: 8 December 1987. Appointment will begin in January 1988. Send a brief résumé, brief description of teaching and research interests, transcripts, and three letters of recommendation to: **Dr. Florentin Maurrasse, Department of Geology, Florida International University, University Park, Miami, FL 33199. Florida International University is a member of the State University System of Florida, and is an Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

**GENETICS AND DEVELOPMENTAL BIOLOGY:** The Biology Department seeks candidates for 1-year, nonrenewable appointment September 1988, to teach core courses in genetics and development, as well as participate in a team-taught introductory biology course. Send curriculum vitae, statement of research activity, and three letters of recommendation to: **Professor John L. Howland, Department of Biology, Bowdoin College, Brunswick, ME 04011** by 14 December 1987. *Bowdoin College is committed to Equal Opportunity through Affirmative Action.*

### IMMUNOLOGIST

Ph.D. with at least 2 years of research experience and demonstrated research capability. Position with research team pursuing work in lymphokines and monoclonal antibodies. Competitive salary. Send curriculum vitae to: **Amanullah Khan, M.D., Ph.D., Chairman, Department of Immunotherapy, Wadley Institutes of Molecular Medicine, 9000 Harry Hines, Dallas, TX 75235.** Chance for clinical interaction.

**IMMUNOLOGIST, PROTEIN CHEMIST, MOLECULAR BIOLOGIST:** The Michigan Department of Public Health Laboratory (MDPH) has openings for each of the above in the Division of Biologic Products. The positions require a Ph.D. or equivalent degree. The salary range for these positions is from \$31,921 to \$43,639. The entry salary level depends on training and experience. *The MDPH is an Equal Opportunity Employer.*

Interested individuals should contact: **Mr. John Trotter, Michigan Department of Public Health, BLES, 3500 North Logan Street, P.O. Box 30035, Lansing, MI 48909.**

### MAGNETIC RESONANCE IMAGING (MRI) SPECIALIST

The Fox Chase Cancer Center, a nationally known comprehensive cancer center, is seeking a highly qualified MRI Specialist to work in the department of Truman Brown, Ph.D. Candidates for this position should possess a Ph.D. in physics, chemistry, electrical engineering, or related field, and have an understanding of MRI and NMR theory, as well as experience with hardware, software and programming. The individual selected for this position will be responsible for developing and extending the imaging methodology on the Department's 2T Magnetom Clinical Imager, the initiation and implementation of experimental imaging sequences on the department's 2.3T Biospec and 9.3T AE400, and in a broader sense, they will have responsibility for developing and expanding the imaging research program both in terms of technique and application within the overall goals of the NMR Department. For consideration, please send curriculum vitae along with list of references and publications to:

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

### MANAGER, VIROLOGY

Leading animal vaccine manufacturer has an excellent opportunity for an individual with a Ph.D. in veterinary virology plus 5 years of experience or M.S. in virology with 8 to 10 years of experience as well as demonstrated managerial ability. Duties include designing, scheduling, coordinating, supervising, and participating in development of new animal virus vaccines. The candidate should be experienced in animal virology, immunology, cell-culture techniques, and have knowledge of molecular virology. To apply, send résumé, including salary requirements to:

**Director of Human Resources  
Boehringer Ingelheim  
Animal Health, Inc.  
P.O. Box 999  
St. Joseph, MO 64501  
*Equal Opportunity Employer***

### MATHEMATICAL STATISTICIAN

Laboratory in medical school seeks mathematical statistician to develop mathematical techniques for analysis of brain electrical activity. Candidate should have background in statistical analysis of time series. Please send curriculum vitae to: **Box 153, SCIENCE.**

# Postdoctoral Associate

## Explore a Position Today With The Industry Of The Future.

The Agricultural Division of CIBA-GEIGY Corporation, one of the world's foremost agricultural and specialty chemicals companies, is respected for both the quality of its research and the highly accomplished scientists it attracts. To maintain our leadership position in plant biotechnology, we currently seek one Postdoctoral Associate to join us at our Biotechnology Research Unit located in Research Triangle Park, North Carolina.

This position is within the Microbiology Department and is directed toward expanding our research efforts in Arabidopsis molecular biology and genetics. Candidates will have an opportunity to propose their own research projects. Topics of particular interest include the studies of genes involved in stress and pathogen response, nitrogen metabolism, and phytochrome response. Individuals with plant molecular biology training or experience in Arabidopsis genetics, cell biology, or tissue culture are encouraged to apply.

For prompt and confidential consideration, forward curriculum vitae and a statement of research interests to: **Dr. Mary-Dell Chilton, CIBA-GEIGY Biotechnology Research, P.O. Box 12257, Research Triangle Park, North Carolina 27709.** An equal opportunity employer m/f/h/v.

Science Serving Mankind

# CIBA-GEIGY

## Postdoctoral and Research Assistant/ Associate Positions Department of Molecular Biology Genentech, Inc.

Positions are available for work in three areas: 1) Development of new cDNA cloning and expression technologies; 2) Identification and characterization of genes and cDNAs for polypeptides with potential therapeutic importance; and 3) Molecular Biology of receptors for medically important polypeptides. Applications are invited from highly motivated individuals with backgrounds in related areas of Molecular and Cellular Biology.

### Postdoctoral Research Fellow

Duration of postdoctoral appointments will be two years with the possibility of extension. Please send curriculum vitae, names of three references and a short summary of research interests.

### Research Assistant/Associate

Needs B.S. or M.S. and at least two years' experience in the above areas.

Genentech, Inc., offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send your resume to: **Sherrie D. Wilkins, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080.** An equal opportunity employer.

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## POSITIONS OPEN

### MARINE RESEARCH ASSOCIATE I

Position beginning 1 December 1987 to join a research team using a combination of laboratory, large-scale mesocosm, modeling, and oceanographic techniques to study physical, chemical, and biotic interactions controlling marine plankton patch dynamics. The successful applicant must have at least an M.S. in marine sciences, and sufficient experience in laboratory and field oceanographic research to operate and supervise others in the use of equipment (including CTD's, microscopes, image analyzers, spectrophotometers), organize field efforts, develop particle-specific analytical techniques, mass culture phytoplankton and zooplankton, and assist in the development of scientific papers and proposals. Submit application, résumé, and three letters of reference to: **Percy L. Donaghay, Search Committee Chair, Research Associate I (090416) Position, The University of Rhode Island, P.O. Box G, Kingston, RI. The University of Rhode Island is an Affirmative Action and Equal Opportunity Employer.**

The U.S. Department of Agriculture, Agricultural Research Service, is seeking applications for two postdoctoral positions, **MICROBIOLOGIST/MOLECULAR BIOLOGIST**, for the National Animal Disease Center, Brucellosis Research Unit, in Ames, Iowa. The positions are temporary, full-time, not to exceed 1 year. Responsibilities include the application of recombinant DNA technology and isolation and characterization of *Brucella* proteins and lipopolysaccharides for use in the development of improved subunit vaccines and diagnostic tests for bovine brucellosis.

Salary is commensurate with experience (\$27,172 to \$42,341). For program and position information, contact: **Dr. George Lambert on 515-239-8204**. For information on application procedures/forms, contact: **Janie Carr on 301-344-2756**. Applications in response to this ad should be marked 8N001. Applications must be received no later than 31 December 1987.

Mail applications to:

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

*An Equal Opportunity Employer*

**MOLECULAR BIOLOGY/GENETICS**—Tenure-track assistant professor position anticipated in an expanding life science program. Applications are sought from individuals working on eukaryotic systems at the molecular level; the specific research area is flexible. Successful candidates must have demonstrated research potential through postdoctoral experience and recent publications, and are expected to maintain a vigorous research program through extramural funding and to participate in teaching of graduate students and health science professionals. Applicants should send curriculum vitae and a statement of research goals, and arrange to have three letters of recommendation sent to: **Dr. Ronald MacQuarrie, Head, Division of Molecular Biology and Biochemistry, School of Basic Life Sciences, University of Missouri—Kansas City (UMKC), Kansas City, MO 64110**. Screening of applicants will begin 15 December 1987 and continue until the position is filled. *UMKC is an Equal Opportunity/Affirmative Action Employer.*

**MOLECULAR GENETICS—ASSOCIATE/FULL PROFESSOR**. The Department of Biological Sciences at Florida Institute of Technology invites applications for the O. A. Holzer Chair of Molecular Genetics. The candidate should be a recognized scholar with an established record of external funding and significant achievements in molecular genetics research. Expertise should include the application of recombinant DNA, techniques to problems in viral, microbial, animal, or plant molecular genetics. The appointee is expected to establish an extramurally funded research program and to participate in the education and training of undergraduates, graduates and postdoctoral associates. A fully equipped laboratory is available. Interested candidates should send curriculum vitae, statement of research interests, and the names of three references to: **Dr. G. N. Wells, Molecular Genetics Search Committee, Department of Biological Science, Florida Institute of Technology, 150 West University Boulevard, Melbourne, FL 32901. Telephone: 305-768-8034.**

## POSITIONS OPEN

### MATRIX MOLECULAR BIOLOGY

The Department of Biochemistry in conjunction with the Comprehensive Cancer Center at the University of Alabama at Birmingham has available a **TENURE-TRACK FACULTY POSITION** for a candidate interested in the molecular biology of the extracellular matrix. UAB has a large number of established investigators interested in cell-matrix interactions and the synthesis and assembly of extracellular matrix. Excellent facilities are available. Salary commensurate with experience. Send curriculum vitae, a brief statement of present and future research interests, and three letters of recommendation to: **Dr. Magnus Hook, Chairman of the Matrix Search Committee, Department of Biochemistry, Schools of Medicine and Dentistry, University of Alabama at Birmingham, Birmingham, AL 35294. An Equal Opportunity/Affirmative Action Employer.**

**MOLECULAR BIOLOGIST, POSTDOCTORAL RESEARCH ASSOCIATE** to pursue NIH-supported studies to map and identify the gene product of the X-linked lymphoproliferative syndrome and to evaluate molecular mechanisms of EBV-induced lymphoproliferative diseases. Ph.D. with experience in gene mapping and cloning, Southern and Northern blot hybridization. Salary \$25,000 per year, plus fringe benefits. Applications accepted until 15 February 1988. Curriculum vitae to: **David T. Purtilo, M.D., Professor and Chairman, Pathology and Microbiology, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105-1065; telephone: 402-559-4244. An Affirmative Action/Equal Opportunity Employer.**

**MOLECULAR IMMUNOLOGIST** with demonstrated excellence in genetic analysis, cloning, and expression of genes coding for factors involved in immune system function and/or development. The successful candidate must also possess a strong background in microbiology and interest in the application of current molecular techniques to the study of animal diseases or immunopathology. Postdoctoral experience required. Undergraduate and graduate teaching consistent with other science faculty. Available 1 July 1988. Assistant professor, 12 months, tenure track in Colleges of Science and Agricultural Sciences (Agricultural Experiment Station). Application closing date: 1 April 1988. Send curriculum vitae, transcripts, and three letters of recommendation to: **J. L. Fryer, Chairman, Department of Microbiology, Oregon State University, Corvallis, OR 97331-3804. OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.**

### NATURAL SCIENCES WRITER

The Public Affairs Department of the American Museum of Natural History is seeking an experienced writer/editor in the natural sciences. Position involves the writing of original material, serving as editorial adviser to staff scientists and other public affairs personnel, and preparation of materials for media distribution. Qualified candidates should have some knowledge of zoological systematics and at least a bachelor's degree relevant to the position. Excellent benefits. For consideration, résumés must be submitted along with salary requirements to: **Mr. Lee Vilensky, American Museum of Natural History (S), Central Park West at 79th Street, New York, NY 10024. An Equal Opportunity Employer.**

### RUTGERS UNIVERSITY

Seeks **NEUROSCIENTISTS** in the areas of electrophysiology, neurochemistry, neuroendocrinology, or pharmacology. These are tenured senior research positions at the highest level. Candidates must have a distinguished record of accomplishment in basic research and scholarly achievement. The candidates must be willing to pursue an active basic research program in alcohol- and drug-related areas.

Rutgers offers competitive salaries, start-up funds, new laboratory space and an opportunity for active collaborative research. Light graduate teaching load. Qualified candidates should send curriculum vitae, and letter expressing their interest to:

**Dr. John A. Carpenter, Chairman  
Center of Alcohol Studies Search Committee  
Smithers Hall—Busch  
Rutgers, The State University of New Jersey  
Piscataway, NJ 08854**

*An Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

The Centers for Disease Control (CDC) is seeking a Ph.D. **MOLECULAR VIROLOGIST** to conduct basic and applied research on the hepatitis delta virus (HDV). Experience in cloning, sequencing, and developing various expression systems for RNA viruses is required. Experience in protein chemistry including synthetic peptides is desirable. The candidate is expected to develop procedures to detect viral genome in sera and in infected tissues as well as to elucidate the various biochemical events involved in the replicative process. Position is in the Hepatitis Branch, Division of Viral Diseases, CDC, which consists of 37 professional and technical people conducting investigations in various aspects of viral hepatitis including hepatitis A, B, and non-A, non-B. Opportunities exist to establish collaboration with scientist outside of CDC. Salary: \$32,567 to \$42,341. Send inquiries to: **Sharyn Wilkinson, Personnel Generalist, CDC, Building 1, Room 1058, Atlanta, GA 30333. CDC is an Equal Opportunity Employer and has a smoke-free work environment.**

### NATURAL RESOURCES TECHNICIAN

Master's degree in ecology or related field and 1 year of experience, or bachelor's degree, and 3 years of experience or equivalent. Knowledge of IBM microcomputers required. Excellent fringe benefits.

**Collier County Government  
Human Resources Department—NRT  
3301 East Tamiami Trail  
Naples, FL 33962  
Equal Opportunity Employer**

### NMR SCIENTIST

The Pittsburgh NMR Center for Biomedical Research [under the auspices of Carnegie Mellon University (CMU) and the University of Pittsburgh (Pitt)] has an opening for an NMR scientist. The center has a Bruker BIOSPEC II 4.7-tesla NMR system with a 40-cm bore superconducting magnet for multinuclear NMR imaging and in vivo spectroscopic studies using animal models. The position requires a Ph.D. or equivalent, and extensive experience in NMR techniques. The appointee will participate in a multidisciplinary research program involving departments of biology, chemistry, computer science, medicine, surgery, and physics, and will have opportunities to carry out collaborative research. This is a staff appointment and salary depends on experience and qualifications. Interested persons should send curriculum vitae, and names of three references to: **Dr. Chien Ho, Pittsburgh NMR Center for Biomedical Research, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213. CMU and Pitt are Affirmative Action/Equal Opportunity Employers.**

**ONCOLOGY—BASIC RESEARCH, PRINCIPAL SCIENTIST POSITION** in a new non-profit basic research institute in suburban Phoenix. Experience as assistant professor or higher and expertise in molecular genetic approaches (e.g., blotting, cloning) required. The position carries with it an additional junior faculty or postdoctoral slot, technician, and generous set-up, equipment, supply, and salary funding. Adjunct faculty appointments at nearby universities are available. This is an opportunity to develop a significant, independent research program in a rapidly expanding new institute. Send curriculum vitae and statement of research goals to: **Dr. Joseph Rogers, Director, Institute for Biogerontology Research, 13220 North 105th Avenue, P.O. Box 1278, Sun City, AZ 85372.**

Rapidly expanding New Jersey Pharmaceutical Company has two challenging positions in pharmaceuticals and regulatory affairs. Seeking:

### PHARMACEUTICS/MANUFACTURING DIRECTOR

Take charge seasoned individual to oversee development and manufacture of oral and parenteral NCE's. Experience with GLP's and GMP's a must. High visibility. Administrative experience essential.

### DRUG REGULATORY AFFAIRS DIRECTOR

A senior scientist with "hands on" technical and administrative experience in drug regulatory affairs to head our product registration group. IND/NDA, and foreign equivalents, ANDA, FDA negotiation experience necessary.

These are exciting growth positions with enormous upside potential excellent fringe benefits. Send curriculum vitae and salary history in confidence to: **Box 154, SCIENCE.**

## 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 fisheries oceanography. The appointment will be with the Institute of Marine Science in the School of Fisheries and Ocean Sciences and 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 sub-arctic seas. Many of these are multi-disciplinary and we wish to fill the position with a person committed to collaborative work with ongoing and future programs.

We are seeking a person who will develop a program addressing the effects of oceanographic processes and variability on ecosystems and fish and shellfish stocks. Some specific areas of interest may include high latitude research, larval fish or shellfish ecology as related to oceanography, numerical modeling, fish and shellfish population dynamics, and biometry. Experience in the application of remote sensing to fisheries oceanography is desirable. However, outstanding applicants in other related areas will also be considered.

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

Applications must be received by January 15, 1988.

Applicants should send a statement of interest, a curriculum vitae and the names and addresses of three references to:

Dr. Howard M. Feder, 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 EO/AA Employer and Educational Institution. Your application for employment with the U of A may be subject to public disclosure if you are selected as a finalist.*

## Principal Investigator

### Molecular Biology/Microbial Genetics/ Protein Secretion

A **PhD level** position is available for a creative research scientist within Du Pont's Central Research and Development Department. You will investigate molecular mechanisms of protein secretion in gram positive bacteria and develop improved systems for production of foreign proteins. To qualify you should have postdoctoral training and research experience in molecular biology, microbial genetics and recombinant DNA technology, as well as demonstrated capability for innovative independent research.

**You'll find** a highly stimulating scientific environment in a modern research facility located near Wilmington, DE. We provide excellent compensation and benefits including relocation. Our Mid-Atlantic location offers an attractive lifestyle with easy access to a wide range of academic, cultural and recreational activities. Interested candidates should send their resumes with salary requirements and references to: Dr. Ethel N. Jackson, c/o Employee Relations Department, Room X50937, Du Pont Company, Wilmington, DE 19898.



U.S. Citizenship or Permanent Visa Required  
An Equal Opportunity Employer M/F/H/V



Agricultural  
Research  
Service

United States  
Department of  
Agriculture

The USDA, Agricultural Research Service has a two-year postdoctoral position available for a **RESEARCH MICROBIOLOGIST/RESEARCH CHEMIST**, at the Eastern Regional Research Center, Philadelphia, PA, to conduct biochemical and genetic research on cholesterol metabolism in microorganisms leading to the expression of cholesterol degrading enzymes in food fermenting bacteria and other host systems. Knowledge and skills in recombinant DNA technology, biochemistry and physical chemistry of biopolymers, biochemical analytical techniques and techniques of general microbiology are required. Salary is commensurate with experience: GS-11/12 (\$27,172-\$32,567). Recent Ph.D. is required. For information on application/forms, contact **Lee Triplett, 301-344-1863**. Submit applications to **Dr. George A. Somkuti, USDA, ARS, Eastern Regional Research Center, 600 East Mermaid Lane, Philadelphia, PA 19118. Phone: 215-233-6474.**

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

## PULMONARY BIOLOGY - TOXICOLOGY PROGRAM

The Life Sciences Division of the Los Alamos National Laboratory is seeking postdoctoral researchers in the **Pulmonary Biology - Toxicology Program**. Ongoing research conducted in this program include: isolation and characterization of pulmonary interstitial cell subpopulations; the development of advanced multiparameter flow cytometric techniques for analyzing cell structure and function; elucidation of cell-cell dialogues involved in cell recruitments and other interactions during the development and progression of pulmonary diseases; delineation of lung defense mechanisms; investigation of the potentiation of expression of lung injury by exercise following the inhalation of toxic agents. Individuals with a strong background in pulmonary cell biology and/or exercise physiology are encouraged to apply.

Applicants should have received their doctoral degree within the past three years. Postdoctoral appointments are for one year, renewable for a second year. The salary range is \$32,820 - \$34,580 per year.

Interested candidates should send a curriculum vitae to Dr. Bruce E. Lehnert, Life Sciences Division, Los Alamos National Laboratory, Mail Stop M882, Los Alamos, New Mexico 87545; (505) 667-2753.

**To formally apply**, send resume, employment application, three letters of reference, and graduate and undergraduate transcripts to Carol M. Rich, Human Resources Development Division, POSTDOC-AJ, Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Affirmative Action/Equal Opportunity Employer  
University of California



## POSITIONS OPEN

### **PATHOLOGY**

**VETERINARIAN RESEARCH—PATHOLOGIST** with special interest in resuscitation medicine and demonstrated experience and productivity in laboratory research. Full-time position at the International Resuscitation Research Center of the University of Pittsburgh with faculty appointment in the Department of Pathology or other department of the School of Medicine, to work as coinvestigator and independent investigator. Academic career opportunity. Send curriculum vitae to: **Peter Safar, M.D., Director, Resuscitation Research Center, University of Pittsburgh, 3434 Fifth Avenue, Pittsburgh, PA 15260; telephone 412-624-6735.**

The Department of Pediatrics of the University of Michigan is seeking Board-eligible/certified **PEDIATRICIAN** in general pediatrics. Duties include patient care, teaching and/or research activities. *The University of Michigan is an Equal Opportunity/Affirmative Action Employer.* If interested please send curriculum vitae to: **Robert P. Kelch, M.D., Professor and Chairman, Department of Pediatrics, D3202 MPB, Box 0718, 1500 East Medical Center Drive, Ann Arbor, MI 48109-0718.**

### **PHARMACOLOGY FACULTY POSITION**

The Department of Pharmacology and the Cancer Center of the University of Rochester invite applications for a tenure-track faculty position at the rank of assistant or associate professor. The successful applicant may hold a primary appointment in the Department of Pharmacology or joint primary appointments in the Department of Pharmacology and in the Cancer Center. Applicants should have a Ph.D. degree in pharmacology, biochemistry, physiology, chemistry, or a related field, or an M.D., and postdoctoral research training, the potential to attract research support for an independent research program, and an interest in professional and graduate education. Applications are specifically sought from individuals who can apply modern techniques of analytical chemistry, molecular and cell biology, or physiology to investigations in drug-chemical biotransformation, bioactivation, and mechanisms including chemical carcinogenesis. The deadline for applications is 1 February 1988. Applicants should forward curriculum vitae, a list of publications, three letters of recommendation or the names of three referees, and a summary of current and future research interests to: **Pharmacology Search Committee, Department of Pharmacology, Box Pharmacology, School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, NY 14642.** *The University of Rochester is an Equal Opportunity Employer, and applications from women and from minority groups are encouraged.*

**PHYSIOLOGIST:** The Cerebrovascular Research Center Department of Neurology, is seeking applications for a full-time research position at the level of assistant or associate research professor. The applicant must have had extensive laboratory experience in research on the cerebral circulation with a proven record of research accomplishments. Candidates should have a strong interest in cerebrovascular disease. Applicants should send curriculum vitae, a description of research interests, and three letters of reference to: **Dr. Martin Reivich, Cerebrovascular Research Center, 429 Johnson Pavilion, University of Pennsylvania, Philadelphia, PA 19104-6063.**

**PHYSIOLOGIST**—The Department of Biology of the University of North Carolina at Greensboro (UNCG) has a 9-month, tenure-track position for an assistant professor of biology to be filled by 1 August 1988. We seek an individual with an earned doctorate to teach mammalian physiology and advanced courses at the undergraduate and graduate level and to develop a research program. We invite applications from those with expertise in any area of animal physiology, including neurophysiology. Applications including a statement of research and teaching interests, curriculum vitae, representative reprints, a list of science courses completed, and three letters of reference should be sent by 10 January 1988 to: **Dr. William K. Bates, Head, Department of Biology, UNCG, Greensboro, NC 27412.** *An Equal Opportunity/Affirmative Action, Title IX, 504 Employer.*

## POSITIONS OPEN

**PLANT BIOLOGY:** Furman University's Department of Biology is accepting applications for a tenure-track position at the assistant professor level beginning in September 1988. The successful candidate will have had training in either plant systematics or ecology, and be able to curate the University's Ives Herbarium. Teaching responsibilities include introductory botany and upper-level courses matching the candidate's expertise and interests. A background in biostatistics or computer modeling is very desirable. Candidates must have the Ph.D. degree, a strong interest and ability in teaching undergraduates, and a commitment to involving students in an active research program. Furman is a very selective liberal arts school of 2500 students, located near the Blue Ridge Mountains. Submit curriculum vitae, transcripts, statement of teaching interests, and three letters of reference by 1 January 1988 to: **Dr. John A. Snyder, Search Committee, Department of Biology, Furman University, Greenville, SC 29613.** *An Equal Opportunity/Affirmative Action Employer.*

### **PLANT ECOLOGIST ASSISTANT PROFESSOR**

The Division of Biology at Kansas State University (KSU) has a tenure-earning position available at the assistant professor level effective September 1988. Although broadly defined, we are especially interested in plant ecologists with postdoctoral experience and expertise in one or more of the following: plant/consumer interactions, modeling, plant communities, plant physiology, and soil/microbial interactions. The successful applicant will be expected to establish a vigorous research program on the 3,487-hectare Konza Prairie Research Natural Area and/or similar sites, and to participate in undergraduate and graduate teaching. Candidates should apply by 7 December 1987 by submitting curriculum vitae, a brief description of future research plans, and having three letters of reference sent to:

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

*KSU is an Equal Opportunity/Affirmative Action Employer*

**PLANT MOLECULAR BIOLOGIST:** The State University of New York College of Environmental Science and Forestry (SUNY-CESF) is seeking applications for a tenure-track position as part of a major college-wide thrust in Biotechnology in Forestry. The successful candidate must have demonstrated expertise in higher plant recombinant-DNA techniques and research interests in such areas as plant growth and development, plant-microbe interactions, or the bioconversion of lignocellulose. He or she will be expected to develop a strong research program and teach courses in molecular biology and recombinant techniques. Minimal qualifications include a Ph.D. and postdoctoral experience. Rank and salary will be commensurate with experience and qualifications. Send: curriculum vitae, a statement of research interests, and names, addresses and telephone numbers of three references by 1 January 1988 to: **Dr. Fredrick Valentine, Chairman, Biotechnology Search Committee, Faculty of Environmental and Forest Biology, SUNY-CESF, Syracuse, NY 13210; telephone: 315-470-6790.**

*SUNY-CESF is an Affirmative Action/Equal Opportunity Employer.*

### **POSITION IN COMPUTATIONAL COGNITIVE SCIENCE**

The Brown University Department of Cognitive and Linguistic Sciences seeks to fill a tenure-track **ASSISTANT PROFESSOR** faculty position in computational cognitive science starting 1 July 1988. Applicants whose specialty area is in computational approaches to cognition including vision, motor control, speech and language production and comprehension, or other areas where there is a strong computational and theoretical orientation to the problems of cognition will be considered. Ph.D. is required. Applicants should send curriculum vitae, recent reprints, statement of research interests, and three letters of reference to: **Professor James Anderson, Chair, Search Committee, Department of Cognitive and Linguistic Sciences, Box 1978, Providence, RI 02912** before 1 December 1987.

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

## POSITIONS OPEN

**PLANT EVOLUTIONARY BIOLOGIST.** The Department of Biology at the University of Missouri-St. Louis invites applications for a tenure-track assistant professor position available fall 1988. The research emphasis should be in plant community ecology or plant systematics. This individual must have a Ph.D., and will be expected to teach both undergraduate and graduate courses. The Department of Biology has a cooperative graduate program with the Missouri Botanical Garden; candidates who are willing to interact in this program and have an interest in tropical biology are encouraged to apply. Send curriculum vitae, statement of research interests, reprints, and three letters of reference by 31 December 1987 to: **Dr. Victoria Sork, Search Committee Chairperson, Department of Biology, University of Missouri-St. Louis, St. Louis, MO 63121.**

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

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

**PLANT MOLECULAR BIOLOGIST GS-11/12.** Career position in the Tissue Culture and Molecular Biology Lab to develop research program on genetic modification of sugar beet for increased sugar transport and storage, and novel forms of pest resistance. Experience in gene cloning, modification and transfer is desirable. Must be U.S. citizen. Salary range (\$27,172 to \$32,567). For information call: **Dr. Lowell Owens: 301-344-2103.** To apply, send Standard Forms 171 to: **Mrs. Rose Cunningham 301-344-3954, Personnel Operations Branch, Beltsville, MD 20705.** Applications must be marked 8E001. *An Equal Opportunity Employer.*

**PLANT PHYSIOLOGIST/MOLECULAR BIOLOGIST.** The Department of Botany, University of Wisconsin, invites applications for a tenure-track faculty position at the assistant professor level. The department is seeking an individual employing contemporary methods of biochemistry and molecular biology to study the regulation of plant growth and development by hormones or environmental factors. Applicants should have postdoctoral experience and a commitment to both research and teaching. Submit curriculum vitae, three letters of reference, and a statement of research goals by 1 January 1988 to: **Dr. Kenneth Keegstra, Chair, Search Committee, Department of Botany, University of Wisconsin, Madison, WI 53706.**

*Equal Opportunity/Affirmative Action Employer.*

### **POPULATION GENETICIST**

The Division of Medical Genetics, Emory University School of Medicine, is seeking applications for a tenure-track assistant professor position. The successful candidate should have previous experience and publications in the general area of human genetics, and quantitative approaches to RFLP analysis in human populations. To apply, send curriculum vitae and a synopsis of current and future research interests to:

**Dr. Louis J. Elsas, II, Director  
Emory University  
Division of Medical Genetics  
2040 Ridgewood Drive  
Atlanta, GA 30322**

Deadline for receipt of applications is 1 January 1988. *Emory University School of Medicine is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL ASSOCIATE:** Position available in biochemistry/cell biology to study the proteins that mediate or control cell-to-cell communication via gap junctions in the mammalian lens. Experience in membrane protein chemistry, and immunochemical techniques desirable. Send curriculum vitae to: **Charles F. Louis, Department of Veterinary Biology, University of Minnesota, 1988 Fitch Avenue, St. Paul, MN 55108.** *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

**POSTDOCTORAL FELLOW,** Bio-organic chemist or biochemist. To study the metabolism and DNA interactions of structurally unique carcinogenic non-alternant polynuclear aromatic hydrocarbons. Opportunity exists for promotion to permanent staff position. Send résumé to: **Dr. Shantil Amin, American Health Foundation, 1 Dana Road, Valhalla, NY 10595.** *An Equal Opportunity Employer M/F/H/V.*

**Space Station Project Scientist  
and  
Advanced Science Planner (e.g., Lunar Base or Mars Missions)  
(Two Positions)**

Major responsibilities include planning, coordinating, and directing the development of science objectives and requirements in medicine, biology, and chemistry for advanced manned and unmanned space missions and projects. Represents mission science activities in all interactions with engineering and flight management personnel. Coordinates the generation of strawman science payloads and the specification of space requirements for major hardware items. Acts as liaison with scientific investigators for all stages from mission planning and advocacy to experiment development and flight. Two positions are available, one focusing on Space Station (Announcement 28-87) and the other on advanced space missions, such as lunar and Mars missions (Announcement 27-87). Applicants must have an advanced degree in a life sciences discipline, research experience, and experience in program management and mission planning. Salary: \$45,763-\$69,976.

For further information phone Jack Cormode at (415) 694-5605 or Sharon Scharmen at (415) 694-6768, or write to the address below. Technical inquiries should be directed to Dr. John Billingham, Chief, Life Science Division, at (415) 694-5181. Applications should be filed by November 30, 1987. Positions located at Ames Research Center near the Silicon Valley.



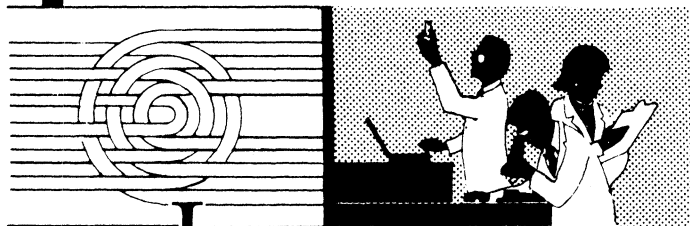
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**Ames Research Center**  
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Moffett Field, CA 94035

## SENIOR TOXICOLOGIST



Impact products,  
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Hoechst Celanese, Inc., a Fortune 100 company, has an exceptional opportunity for a Senior Toxicologist in its Corporate Department of Environmental, Health and Safety Affairs.

The position will provide Toxicological consultation and guidance to the business units and advise senior management on toxicology issues. The incumbent will participate in risk assessment on environmental and product safety issues. The position will also assist in developing and publishing toxicology information in support of marketing strategies and serve as a resource for the business units' safety, industrial hygiene and environmental functions.

This position requires 5 or more years experience in industrial toxicology and a PhD degree (DVM, Pharmacology, Biochemistry).

We offer a competitive salary with a comprehensive fully paid benefits package. Please send your resume with salary history, to: Manager, Staffing, Human Resources Department, Hoechst Celanese Corporation, Routes 202-206 North, Somerville, NJ 08876.

**Hoechst Celanese**

**Hoechst** 

## POSITIONS OPEN

**POSTDOCTORAL ASSOCIATE:** NIH-funded project to examine morphological correlates of the crossed components of dorsal horn cell receptive fields. Experiments involve HRP injection of identified afferents and cells, mapping dorsal horn somatotopy, averaging of extracellular and intracellular evoked potentials, and interval analysis. Appointment from 1 January 1988 to 31 August 1989 at a minimum, salary compatible with experience and NIH fellowship salaries. Send curriculum vitae and the names and addresses of three references to: **Dr. P. B. Brown, Physiology Department, West Virginia University Medical Center, Morgantown, WV 26506.** *West Virginia University is an Equal Opportunity Employer.*

**POSTDOCTORAL FELLOW**—Biophysical chemist wanted to join research team studying structure/function relationships in prokaryotic and eukaryotic single-stranded nucleic acid-binding proteins. Techniques employed include fluorescence spectroscopy, differential scanning calorimetry, CD, chemical modification, HPLC peptide mapping on mutant proteins constructed by in vitro mutagenesis as well as on synthetic peptide analogs that span nucleic acid-binding domains. Experience in any or all of the above techniques plus NMR and computer programming experience would be extremely helpful. Send curriculum vitae, representative publications and names of three references by 1 January 1988 to: **Kenneth R. Williams, Ph.D., Department of Molecular Biophysics and Biochemistry, Yale University School of Medicine, P.O. Box 3333, 333 Cedar Street, New Haven, CT 06510.**

**POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE:** To work on neurotransmitter receptor purification, characterization and cloning. Should be well versed in receptor pharmacology and membrane protein isolation and purification. Experience in molecular biology and immunology desirable. Please send curriculum vitae and three letters of reference to: **Dr. Roland D. Ciaranello, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA 94305.**

**POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE POSITION AVAILABLE.** The Cardiology Section is seeking a candidate with biochemical interests featuring lipid analysis in large animal ischemic/reperfusion protocols. Experience in subcellular preparations or enzymes is desired. Contact: **A. James Liedtke, M.D., Head, Cardiology Section, University of Wisconsin Hospital and Clinics, Madison, WI 53792.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

### THE UNIVERSITY OF CHICAGO POSTDOCTORAL LECTURESHIPS VERTEBRATE BIOLOGISTS

Two 12-month positions for 1988 to 1989; renewable for one additional year. (1) **Human morphology.** The successful candidate will share responsibility with departmental faculty for laboratory instruction and assistance in the department's human morphology course. This commitment requires about 150 contact hours (average 2.5 afternoons per week) over the fall and winter quarters. The appointee will also pursue his/her research interests with a departmental faculty member at other times. Completion of a course in human gross anatomy required. (2) **Vertebrate physiology.** Responsibilities for undergraduate instruction in physiology and morphology, and postdoctoral research in comparative physiology with **M. E. Feder.**

Ph.D. required. Send curriculum vitae, statement of research interests and three letters of reference to: **Dr. Philip S. Ulinski, Department of Anatomy, The University of Chicago, 1025 East 57th Street, Chicago, IL 60637,** by 15 January 1988.

*The University of Chicago is an Equal Opportunity Employer; women and members of minority groups are specifically encouraged to apply.*

**POSTDOCTORAL POSITION** available to study DNA rearrangements in phage and bacteria. Experience in molecular genetics and/or biochemistry desirable. Correspondence to: **Dr. R. M. Harshey, Research Institute of Scripps Clinic, Molecular Biology-3, La Jolla, CA 92037.**

## POSITIONS OPEN

### POSTDOCTORAL— MOLECULAR EVOLUTION

Learn a variety of techniques applicable to evolutionary studies, including isozyme electrophoresis, DNA fingerprinting, molecular cloning and DNA sequencing. Projects range from paternity exclusion to higher category systematics. Send curriculum vitae, publications, and telephone numbers of three references to: **Dr. Michael J. Braun, Department of Biological Sciences, University of Cincinnati, OH 45221.** Telephone 513-475-6119. *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available for Ph.D. or M.D. to study biophysical properties of vascular smooth muscle. Position is for 3 years of support on an NIH-funded project, and the research will involve measuring mechanical properties of small arteries and arterial muscle strips from pulmonary vessels. Background in biophysics, physiology, pharmacology, muscle mechanics, and instrumentation is highly desirable. Send curriculum vitae and three letters of recommendation to: **Dr. Richard A. Meiss, Department of Physiology and Biophysics, Indiana University School of Medicine, Indianapolis, IN 46223.**

**POSTDOCTORAL POSITION** for recent Ph.D. with experience in molecular immunology and/or molecular biology. The candidate is expected to participate in ongoing research on the cloning and expression of human and murine growth factors controlling entry into S-phase in the cell cycle of proliferating B lymphocytes. This position provides excellent training in B lymphocyte biology and up-to-date techniques in molecular biology. Send curriculum vitae to: **Dr. Waldemar Lernhardt, Cancer Research Center, La Jolla Cancer Research Foundation, 10901 North Torrey Pines Road, La Jolla, CA 92037.** Telephone: 619-455-6480. *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** to study protein refolding. Studies involve development of monoclonal antibodies to protein folding intermediates and analysis of the effect of antibody on folding. Experience in monoclonal antibody production and protein chemistry necessary. Research program is sponsored by the MIT Biotechnology Center and under the supervision of **Dr. Martin Yarmush** (Chemical Engineering) and **Dr. Peter Kim** (Whitehead Institute). Send curriculum vitae and three letters of reference to: **Dr. Martin Yarmush, Massachusetts Institute of Technology, Department of Chemical Engineering, Room 66-501, Cambridge, MA 02139.**

**POSTDOCTORAL POSITION,** available 1 January 1988 for individual interested in the neurobiology of identified peptidergic neurons in insects. Our laboratory utilizes a multidisciplinary approach to investigate neuropeptides and their actions at a variety of different levels. Current projects range from biochemical and electrophysiological studies of peptide action, to the molecular biology, development and neurophysiology of individually identified peptide-containing neurons in a simple invertebrate model system. Applicants must have a Ph.D. and a strong background in either electrophysiology/voltage/patch clamping or molecular biology. Rank and salary commensurate with experience. Interested candidates should submit curriculum vitae, a brief summary of past research experience and current research interests, and three letters of reference to: **Dr. N. Tublitz, Institute of Neuroscience, University of Oregon, Eugene, OR 97403.** *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** for research on transgenic animals. Areas under study include oncogenesis, immunology, germ cell development, and neurobiology. Apply with curriculum vitae to: **Dr. R. L. Brinster, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA 19104.**

**POSTDOCTORAL POSITION** available in the study of mechanisms of toxic injury to cardiovascular tissue. Individual will be encouraged to examine cardiovascular enzyme systems which have been previously understudied. Biochemical and molecular approach is to be utilized in this basic pathobiology study. Send curriculum vitae and references to: **Dr. P. J. Boor, Chemical Pathology Division, University of Texas Medical Branch, Galveston, TX 77550.** Telephone: 409-761-3656. *Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION** in neurobiology is available immediately for NIH-funded investigation of interneuron control of motor activity in lobsters. Experience with intracellular microelectrode recording techniques required. Send curriculum vitae and names of three references to: **Dr. C. H. Page, Department of Biological Sciences, Rutgers University, Piscataway, NJ 08854.**

### POSTDOCTORAL POSITION

A postdoctoral position to study control of expression of ion channels and ion transport mechanisms in skeletal muscle fibers. Studies will utilize patch clamp techniques and use of ion-selective microelectrodes and fluorescent dyes for measuring changes in intracellular ion activities. Isolated muscle fibers will be maintained in culture under different conditions to investigate mechanisms which regulate expression of transport processes. Differences between end plate and extrajunctional regions will be of particular interest. Salary will be commensurate with previous experience. For further information, contact: **Dr. William Betz, Department of Physiology, Box C240, University of Colorado School of Medicine, Denver, CO 80262.**

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

**POSTDOCTORAL POSITION.** Research on enzyme mechanisms and mechanisms of organic reactions related to enzyme action. Experience in organic chemistry or biochemistry preferred. Applicants should submit curriculum vitae and two letters of reference to: **Dr. R. M. Pollack, Department of Chemistry, University of Maryland Baltimore County, 5401 Wilkens Avenue, Baltimore, MD 21228.** *UMBC is an Affirmative Action/Equal Opportunity Employer, and applications from qualified women and minority candidates are especially encouraged.* Applications will be received until a suitable candidate is found.

**POSTDOCTORAL POSITION** available for recent Ph.D. in biochemistry or closely allied field to participate in studies of calmodulin and protein methylation [*JBC* 261, 1491; *JBC* 261, 7060; *ABB* 237, 347]. Experience in protein purification, enzymology, or immunology desirable. Send curriculum vitae and three letters of recommendation to: **Dr. Frank L. Siegel, Neurochemistry Laboratory, Waisman Center, University of Wisconsin, Madison, WI 53706.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION IN AUTONOMIC PHYSIOLOGY** available January 1988 for Ph.D. or M.D. to engage in studies of role of autonomic systems in pathogenesis of obesity and hypertension based upon dietary effects on amine systems of small animals. Two-year Harvard appointment includes training in vivo assessment of amine systems and in HPLC analytical methods. Send résumé and three references to: **Dr. James B. Young, Department of Medicine, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.**

*An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION IN BIOORGANIC CHEMISTRY/MOLECULAR BIOLOGY.** Synthesis of artificial nucleases for the analysis of the structure of DNA, RNA and chromatin. Isolation of transcription factors and analysis of their mechanisms of action. Ph.D. in either discipline for this interdisciplinary research. Please send curriculum vitae and names of three references to:

**Dr. David S. Sigman  
Molecular Biology Institute  
University of California, Los Angeles  
Los Angeles, CA 90024**

### POSTDOCTORAL POSITION IN IMMUNODERMATOLOGY

To study mechanisms by which ultraviolet radiation modulates the antigen-presenting function of monocytes and epidermal cells. Experience in immunochemistry and/or molecular biology preferred but not essential. Send curriculum vitae and names of three references to: **Craig A. Elms, M.D., Department of Dermatology, University Hospitals of Cleveland, 2074 Abington Road, Cleveland, OH 44106.**

## VANDERBILT UNIVERSITY

### Director, Free Electron Laser Center for Biomedical and Materials Research

Vanderbilt University invites applications for the position of Director, Free Electron Laser Center for Biomedical and Materials Research. The Center is a broadly based interdisciplinary collaboration including researchers from physics, molecular biology, the clinical and biomedical sciences, and materials science. The Center is funded for the construction of a broadly tunable, ultra-short-pulse FEL, and for research on thermal and non-thermal interactions of laser light with matter. The Director will be expected to lead the construction, operation and future development of the free-electron laser; to carry on a vigorous program of research either in FEL physics/engineering or in the scientific fields represented in the Center's program; to develop long-range external funding for the operation of the FEL Center; and to fulfill appropriate academic duties of teaching, supervision of graduate students and university service. The appointment is a regular faculty position with rank, salary and home department all to be determined by the experience and interest of the successful candidate. The selection criteria to be applied in evaluating candidates include: overall scientific excellence; experience in the construction, operation and development of free-electron lasers, storage ring radiation sources, large laser systems, or accelerators; demonstrated ability to attract significant funding for research; and demonstrated ability to manage major experimental research projects. The deadline for applications is January 15, 1988; the University desires to fill the position no later than the fall semester, 1988. Interested persons should send a *curriculum vitae*, including the names of at least four references, to:

Professor Norman H. Tokk, Chair  
FEL Director Search Committee  
Department of Physics and Astronomy  
Vanderbilt University, Nashville, TN 37235  
(615) 322-6438

VANDERBILT UNIVERSITY IS AN EQUAL OPPORTUNITY,  
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## DIRECTOR

### Physical Science Laboratory of New Mexico State University

Physical Science Laboratory (PSL) of New Mexico State University (NMSU) is an R&D organization contracting to Government and industry through its strong engineering, service, and science programs, several of which are world class. Located at the base of the Rio Grande Research Corridor, PSL is strongly positioned with excellent capabilities and a substantial contract base in: Atmospheric Sciences, Electronic Defense, Engineering Services, Scientific Balloon Research and Telemetry.

We invite applications and nominations for the position of Director for a laboratory of about 700 people and \$34 million annual contracting funding. We seek an energetic, innovative leader who desires new challenges and can demonstrate the following qualifications:

- PhD in engineering or a physical science
- Ten years of directly relevant experience, including five years in senior management
- Broad general knowledge of science and technology relevant to Laboratory operations
- Strong abilities for developing programs and attaining contracts to sustain Laboratory growth
- Excellent leadership abilities and communication skills

The ideal candidate will have demonstrated technical and management leadership and initiative in successful performance under relevant Government contract requirements.

Offer of employment is contingent upon verification of the candidate's eligibility for employment in the United States.

**DEADLINE: 15 December 1987**

For more information on qualifications and responsibilities, contact:



Dr. Harold A. Daw  
Chairman, Search Committee  
Attn: Dept. 70  
Box 3004

New Mexico State University  
Las Cruces, NM 88003-3004 / (505) 646-2022

NMSU is an EEO / AA employer

## DNA Probe Diagnostics

ImClone Systems, an innovative, rapidly growing biotechnology company located in New York City, is seeking highly motivated individuals for the development of its proprietary DNA probe technology.

Minimum requirements are a doctorate degree and demonstrated productivity in either cloning or nucleic acid chemistry and detection. Relevant industrial experience would be an advantage.

ImClone offers a challenging, multi-disciplinary environment for scientists who can assume both individual and team responsibility, as well as excellent salary and benefits.

Send CV to: **John Landes, ImClone Systems, 180 Varick St., New York, New York 10014.**



**ImClone Systems Incorporated**

## SENIOR TOXICOLOGISTS

Diversity, expertise, technology and an environment for professional success. These are the hallmarks of the MITRE Corporation. For over 25 years MITRE has specialized in the design, development, and delivery of superior systems engineering solutions to meet the most technically demanding requirements of our U.S. Government clients.

We are seeking senior toxicologists in our McLean, VA office who wish to apply their knowledge and expertise, in a non-laboratory environment, to address technical problems and issues related to the regulation and control of exposure to toxic substances. The work will include a variety of assignments such as:

- Critical review and evaluation of toxicology studies.
- Analysis and interpretation of data and findings.
- Utilization of structure activity relationships and structural analogs to predict toxicity.
- Development and application of models for extrapolating toxic doses across species and routes of exposure.

Successful candidates will hold a Ph.D. degree in toxicology or a basic medical science, and will have a minimum of five years of academic or industrial experience in studying the toxic effects of chemicals. Broad expertise in general toxicology is essential and specialization in a subdiscipline of toxicology (such as carcinogenesis, neurotoxicology, metabolism, or inhalation toxicology) is highly desirable. Successful candidates will enjoy preparing technical reports and will have outstanding written communications skills.

**For consideration, please submit your resume to J.M. Goudarzi, the MITRE Corporation, 7525 Colshire Drive, McLean, Virginia 22102. U.S. citizenship required. An Equal Opportunity/Affirmative Action Employer.**

# MITRE

MICROGENICS, a leader in homogeneous immunoassay technology, has immediate openings in our Research and Development department.

#### GROUP LEADER — IMMUNOCHEMISTRY RESEARCH

Supervise the research of new homogeneous immunoassay methods. The position requires a Ph.D. and 2-5 years of experience in immunoassay R&D and immunochemical methods. Supervisory experience is required.

#### GROUP LEADER — HYBRIDOMA LAB

Ability to organize and supervise a hybridoma/monoclonal antibody research lab. Prior experience is needed in hybridoma preparation and monoclonal antibody purification and characterization. A Ph.D. and prior supervisory experience is required.

#### GROUP LEADER — PROTEIN BIOCHEMISTRY

Analyze the structure-function relationships of peptides and proteins. Familiarity with immunochemistry and protein purification techniques is essential. Protein engineering experience is preferred. A Ph.D. in Biochemistry or related field and prior supervisory experience is required.

#### RESEARCH CHEMISTS II/III

Contribute to the research and development of new immunoassay methods. BS/MS Biological Sciences. Prior assay development experience desired.

#### GROUP LEADER — PRODUCT DEVELOPMENT

Supervise the development of new homogeneous immunoassays. A Ph.D. with 2-5 years of prior development and supervisory experience is required.

#### BIO-ORGANIC/SYNTHETIC CHEMIST

Develop methods for the synthesis, purification and analysis of homogeneous enzyme immunoassay reagents. MS/PhD with 2-5 years experience in protein modification, organic synthesis, conjugate preparation, and HPLC purification.

Our employees enjoy the benefits of scientific challenge, equity participation, and a convenient location thirty miles east of San Francisco. To apply, please send resume to Personnel Dept., Microgenics Corporation, 2380A Bisso Lane, Concord, CA 94520. We are an equal opportunity employer.



# MICROGENICS

## SENIOR RESEARCH IMMUNOLOGIST

A vacancy exists for an individual with a Ph.D. in immunology, physiology, pharmacology, or a related discipline, plus 1 or more years of postdoctoral experience. This individual would be involved in the investigation of novel therapeutic approaches to inflammation, arthritis, and connective tissue destruction. A variety of *in vitro* and *in vivo* techniques will be used, and expertise in immunohistology and immunochemistry would be advantageous.

Merrell Dow Research Institute, located in suburban Cincinnati, is headquarters of a rapidly expanding pharmaceutical research and development organization. We offer excellent compensation, comprehensive benefits, and relocation assistance. Please send your CV, salary expectations, and name of three references in confidence to:

**Merrell Dow**

Job Code NSD  
Personnel Services Manager

**MERRELL DOW  
RESEARCH INSTITUTE**

2110 East Galbraith Road  
Cincinnati, OH 45215

U.S. Citizenship or  
Permanent Visa Required  
Equal Opportunity Employer M/F/H/V

## Molecular Biologists

Baxter Healthcare Corporation, MicroScan Division, develops and manufactures computer controlled electronic instrumentation and disposables used in the clinical laboratory. Research involves systems dealing with rapid identification and susceptibility testing.

Our growth requires the addition of several individuals knowledgeable in gene probe technology. Qualified individuals will be familiar with one or more of a variety of techniques including probe preparation, cloning, nucleic acid chemistry and infection assay development.

We are seeking individuals with a Ph.D., MS or BS degree. Educational background should be in Microbiology, Molecular Biology, Chemistry or a related field with required exposure to probe technology.

Baxter Healthcare Corporation, MicroScan Division, is a leader in the healthcare industry and we offer excellent salaries and benefits to the individuals who qualify for our positions. If you feel that you have the skills we need, send your resume, stating current salary, to: **Vice President of Human Resources, Baxter Healthcare Corporation, MicroScan Division, 1584 Enterprise Blvd., West Sacramento, California 95691.** We are an equal opportunity employer m/f/h/v.

MicroScan Division

# Baxter

In the current Biotechnology field, a strong commitment to research and development is essential. At Pitman-Moore, a wholly-owned subsidiary of the International Minerals and Chemicals Corporation (IMC), we're dedicated to becoming the leading animal health and nutrition company in the world and are directing our resources toward the R & D that we feel is so essential. Currently, we are seeking the following people to further these efforts:

### RESEARCH SCIENTIST

As part of a multidisciplinary team, this position is involved in the discovery and development of animal products. Candidates must have a PhD in Biochemistry, Physiology, or a closely related field with a strong interest and experience in Endocrinology. A minimum of 3-5 years post-doctoral experience is required, although an established professional is preferred. Experience in animal research is desirable. Strong leadership and communication skills are essential.

### RESEARCH ASSISTANTS

The successful candidates will be the major research assistants involved in assessing the structure and mechanism of action in protein/peptide hormones and their derivatives. A BS in Biochemistry or Biological Sciences plus a minimum of 3-5 years post-graduate experience required. Candidates with a BS in Chemistry with appropriate experience and interests may also be acceptable. Candidates must be versatile and resourceful, with good communication and mathematical skills.

Be a part of the growth of a major research effort. Send your resume, including references and salary history to **George Hyland, Pitman Moore, Inc., 421 E. Hawley St., Mundelein, IL 60060.**



# PITMAN-MOORE

Equal Opportunity Employer m/f/h/v  
Evidence of work authorization required

## U.S. ENVIRONMENTAL PROTECTION AGENCY'S 1988 VISITING SCIENTISTS PROGRAM

The Environmental Protection Agency's (EPA) Office of Research and Development is seeking scientists and engineers to participate in the Agency's 1988 Visiting Scientists Program in the following areas:

### Air and Energy Engineering Environmental Research

- Control technology for volatile organic compounds and hazardous air pollutants
- Synthesis, property determination and application testing of possible chemical substitutes for CFCs-11, 12 and 113
- X-ray crystallographic studies of solid-gas sorbent materials

### Hazardous Waste Engineering Research

- Enhanced indigenous microbial degradation for biological treatment of hazardous waste leachates
- Stabilization/solidification processes for reduction of toxicity and leachability of hazardous wastes

### Environmental Research

- Marine aquatic toxicology and ecology, including physiological effects at the cellular and subcellular levels
- Application of molecular genetic techniques to assess the ecological risk of releasing genetically engineered microorganisms into the environment
- Ecological effects of acidic deposition, airborne pollutants, global climate change, and reduction of stratospheric ozone
- Ecological effects of genetically engineered organisms
- Effects of toxic chemicals on local wildlife populations

### Atmospheric Sciences Research

- Transport and transformation of air pollutants with particular emphasis on global climate modeling, photochemical modeling, or heterogeneous atmospheric processes

### Water Engineering Research

- Toxics biodegradation in wastewater
- Drinking water microbiology and treatment processes
- Risk management for toxics and asbestos

### Environmental Monitoring

- Biomarkers and bioanalytical methods for human and environmental exposure assessment
- Advanced instrumentation for analysis of environmental and biological samples
- Remote sensing/geographic information systems (GIS) for wetlands and ecosystems monitoring

### Environmental Criteria and Assessment

- Pharmacokinetic models for placental transfer of and fetal biodistribution of environmental toxicants
- Neuroendocrine mechanisms affected by environmental toxicants and their role in the mediation of toxic effects on fetal neonatal, and later development
- Dose-response relationships or mechanisms by which lead, cadmium and other metals interact with and affect cardiovascular and renal systems function
- Biological monitoring of external exposures or biokinetics of internal distribution or metabolism of nickel, arsenic, chromium or other metals
- Species-dependent effects of metals or metalloids with regard to differential induction
- Effects of ozone, sulfur oxides, nitrogen oxides, or aerosols on human or animal respiratory systems
- Comparative risk assessment of alternate technologies for waste disposal
- Immunotoxic endpoints as the critical effect for estimating reference doses of environmental pollutants

Assignments, which will be at an EPA laboratory, may be on a full or part-time basis and from one to three years in duration. The deadline for application receipt is *February 26, 1988*.

For submission requirements and other information, write to:

**Roger Cortesi, Director**  
**Office of Exploratory Research, RD-675**  
**ATTN: 1988 Visiting Scientists Program**  
**U.S. Environmental Protection Agency**  
**401 M Street, S.W. Room NE312**  
**Washington, D.C. 20460**

*EPA is an equal opportunity employer*

## Research Assistants/Associates Molecular Biology

Genentech, Inc., a leader in the field of biotechnology, has several openings in molecular biology.

**Biochemistry/Protein Purification** — Successful candidate will be responsible for the development of RIA's and ELISA's in support of ongoing research products. Candidate will also have extensive experience in radioiodination, gel chromatography, affinity chromatography, enzyme conjugation and antibody production and characterization. A BS or MS in Biochemistry or related field with 3-5 years' direct experience in developing, maintaining, and troubleshooting immunoassays is required. Comfortable with using computer interface equipment an added plus.

**Molecular Biology** — Creative and productive individual to work as part of a protein design team on projects relating to cardiovascular disease. Primary tasks would involve site-directed mutagenesis, random mutagenesis, and vector construction. Prior molecular biology experience a necessity. Familiarity with and interest in protein chemistry and structure highly desirable.

**Molecular Biology** — Responsibilities include performing various experiments related to DNA sequence determination and technology improvement. Successful candidate will possess a BS (6-8 years' experience) or MS (4 years' experience) in Biochemistry, Molecular Biology or equivalent. Basic skills in nucleic acid isolation, gel electrophoresis, are required and direct experience in nucleic acid sequencing is preferred.

**Molecular Biology** — You will be involved in research and development studies related to atherosclerosis. Responsibilities include molecular biology and tissue culture expression of gene products involved with cardiovascular disease. Experience in molecular biology required.

**Molecular Biology** — Responsibilities will be in the areas of molecular biology of growth factors, growth factor receptors, and related oncogene products, and will include site directed and random mutagenesis of receptor and oncogene cDNA's, construction of expression vectors and expression of cDNA's in mammalian and procaryotic cells. BS/MS in Molecular Biology or related field with 3-5 years' related experience required.

Genentech, Inc. offers an excellent salary and benefits packet coupled with the opportunity to make a significant contribution to our organization. Please send your resume to Sherrie Wilkins, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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## POSITIONS OPEN

### POSTDOCTORAL POSITION— BIOCHEMISTRY

The research is aimed at identifying, isolating, and characterizing enzymes and regulators for insect hormones. Work in well-equipped laboratories at the Forestry Sciences Laboratory in Delaware, Ohio. Available immediately for 2 years. Salary \$25,000 per year. U.S. citizens only. *An Equal Opportunity Employer.* Reply: Dr. M. Chang, Forestry Sciences Laboratory, 359 Main Road, Delaware, OH 43015. Telephone: 614-369-4476 or 4471.

**POSTDOCTORAL POSITIONS** in developmental biology to study the role of cell-cell interactions and gap junctional communication in segmentation in the *Drosophila* and mouse embryo. These studies will be accompanied by the analysis of homeo-box transcript distribution by in situ hybridization analysis. Experience in microinjection, fluorescence microscopy, and/or in situ hybridization helpful. Please submit résumé and reference letters to: Dr. C. Lo, Biology Department/G5, University of Pennsylvania, Philadelphia, PA 19104.

**A POSTDOCTORAL POSITION IN PLANT MOLECULAR BIOLOGY** is available immediately to study alterations in gene expression mediated by maize transposable elements. Projects include the splicing of transposable elements from RNA and the effect of promoter insertions on tissue-specific gene expression. Experience in the isolation and characterization of genes is desirable. Send curriculum vitae and three letters of reference to: Dr. Susan Wessler, Botany Department, University of Georgia, Athens, GA 30602.

**POSTDOCTORAL POSITIONS** available approximately 1 January 1988. Participate in research on the subcellular regulation of cardiac muscle contraction including the modulation of calcium ion transport across subcellular membranes by protein kinases and membrane phospholipids and the abnormal regulation of phosphoinositide turnover. These problems are approached from a number of directions, including immunological procedures. Send curriculum vitae and names of three references to: Dr. M. Kirchberger, Department of Physiology/Biophysics, Box 1218, Mount Sinai Medical Center, One Gustave L. Levy Place, New York, NY 10029-6574. *An Equal Opportunity Employer.*

### POSTDOCTORAL POSITIONS HIPPLE CANCER RESEARCH CENTER

Postdoctoral positions are immediately available for Ph.D. biochemists, molecular biologists, or immunologists interested in pursuing:

- 1) interferon receptors and interferon-mediated regulation of cellular gene expression in the laboratory of Dr. Sohan L. Gupta, or
- 2) the biochemistry of tumor antigens, human tumor immunity, and the relationship of glycoprotein structure to oncogene expression in the laboratory of Dr. J. Peter Fuhrer.

Send letter describing research experience/interest, including curriculum vitae and names of three referees to: Human Resources Manager, Hipple Cancer Research Center, 4100 South Kettering Boulevard, Dayton, OH 45439-2092.

**POSTDOCTORAL POSITIONS** available to work on the molecular biology of lysosomal and heme biosynthetic enzymes: cloning, expression, gene structure, site-specific mutagenesis. Applicants should have a strong background in recombinant DNA technology. Send curriculum vitae and two letters of references to: Dr. R. J. Desnick, Division of Medical Genetics, Mount Sinai School of Medicine, 5th Avenue and 100th Street, New York, NY 10029. *The Mount Sinai School of Medicine is an Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITIONS** available in early 1988 for recent Ph.D.'s to participate in an active research program on the regulation of DNA repair in human cells. Current research efforts focus on the expression of DNA repair genes in the cell cycle and mutant DNA repair enzymes from cells from cancer-prone individuals. Submit curriculum vitae and the names of two references to: Dr. Michael A. Sirover, Fels Research Institute, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140. *Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITIONS** are available to undertake biochemical, biophysical, enzymological and genetic studies of protein-DNA interactions. Current projects include the interaction and unwinding of DNA by helicases and helix destabilizing proteins, as well as model studies of the binding of oligopeptides to DNA. Send curriculum vitae and the names of three references to: Dr. T. M. Lohman, Department of Biochemistry and Biophysics, Texas A&M University, College Station, TX 77843.

**POSTDOCTORAL POSITIONS** available immediately to study peptide hormone receptor structure/function in epithelial and neuronal cells. Experience in binding assays, protein/peptide purification, HPLC, poly/monoclonal antibody preparation, cell culture, or recombinant DNA techniques is desirable. Send curriculum vitae and names of three references to: Dr. Steven A. Rosenzweig, Departments of Ophthalmology and Cell Biology, Yale University School of Medicine, 333 Cedar Street, P.O.B. 3333, New Haven, CT 06510.



Agricultural  
Research  
Service

United States  
Department of  
Agriculture

### DEPARTMENT OF AGRICULTURE (USDA) AGRICULTURAL RESEARCH SERVICE (ARS)

### POSTDOCTORAL RESEARCH ASSOCIATE RESEARCH CHEMIST/BIOCHEMIST (GS- 1320/1301-11/12)

### EASTERN REGIONAL RESEARCH CENTER PHILADELPHIA, PA

ARS is seeking a postdoctoral research associate in physical biochemistry to conduct physical chemical research on enzymatically modified agriculturally relevant proteins undergoing phase transitions.

Candidate must have expertise in multinuclear high-field NMR spectroscopy and relaxation with application to proteins and a background in other physical chemical techniques such as small-angle scattering.

Ph.D. is required. Salary is commensurate with experience (\$27,172 to \$32,567). For information on the research program and/or position, contact: Dr. Thomas F. Kumosinski at 215-233-6475. For information on application procedures/forms contact: Lee Triplett, Personnel Specialist at 301-344-1863. Applications in response to this advertisement should be marked RA-87-18.

Applications must be received by 1 December 1987. Mailing address:

Dr. Thomas F. Kumosinski  
USDA, ARS, Eastern Regional Research Center  
Macromolecular and Cell Structure  
600 East Mermaid Lane  
Philadelphia, PA 19118

**POSTDOCTORAL RESEARCH ASSOCIATE POSITION:** Available immediately, investigate the genetics of virulence of *Bordetella pertussis*. Extensive experience in recombinant DNA methodology and an interest in microbial pathogenesis desired. Appointment for up to 3 years. Send curriculum vitae, names, and telephone numbers of three references to: Dr. Richard Friedman, Department of Microbiology and Immunology, Arizona Health Sciences Center, Tucson, AZ 85724. *Equal Opportunity Employment/Affirmative Action Employer.*

**POSTDOCTORAL RESEARCH ASSOCIATE** position located in Clemson, South Carolina (temporary: not to exceed 2 years) available to study habitat selection of southeastern fox squirrels and southern flying squirrels. Applicants should have a recent Ph.D. in wildlife biology, ecology, or mammalogy. Must have a strong quantitative background to assess squirrel abundance in relation to habitat and ability to develop a comprehensive program of field studies and interact with land managers. Starting salary is \$27,172 per annum. *Forest Service is an Equal Opportunity Employer, women and minorities are encouraged to apply.* Send letter of application, complete résumé, and names of three references to: Dr. Michael R. Lennartz, USDA Forest Service, Southeastern Forest Experiment Station, Department of Forestry, Clemson University, Clemson, SC 29634-1003.

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE.** Positions available immediately to study: (i) the biosynthesis and genetic regulation of polysialic acid; and (ii) the dynamics and topology of glycosyl carrier lipids in membranes by <sup>2</sup>H-NMR. Experience in molecular biology, biochemistry, biophysics, or chemistry desirable. Please send curriculum vitae and the names of three references to: Dr. Frederic A. Troy, Department of Biological Chemistry, University of California, School of Medicine, Davis, CA 95616.

### POSTDOCTORAL POSITION

**RESEARCH ASSOCIATE** (postdoctoral) with background in physical oceanography, large-scale atmosphere/ocean interaction, and/or atmospheric sciences with emphasis on climate variability. Term of appointment: 1 year, renewable for a second year subject to the approval of the Council. Send curriculum vitae and a list of four references to: Director, Joint Institute for the Study of the Atmosphere and Ocean, AK-40, University of Washington, Seattle, WA 98195. Closing date: 15 January 1988.

*An Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL/RESEARCH ASSOCIATE

Available immediately to construct, isolate and analyze cDNA and genomic clones for eukaryotic and viral genes. Applicants must have Ph.D. in biochemistry, molecular biology, or a related field, and experience with recombinant DNA techniques. Salary: \$25,000 per year, or other depending on experience. Send curriculum vitae, statement of research experience and names of three references to Box 155, SCIENCE.

### POSTDOCTORAL RESEARCH ASSOCIATE:

Position open immediately for research on molecular basis of gene regulation in mammalian cells, involving cloning, DNA sequencing, etc. Candidates should have a Ph.D. in biochemistry, genetics, molecular or cellular biology, and research experience with recombinant DNA technology. Send curriculum vitae and names of three references to: Dr. H. Philip Koeffler, Jonsson Cancer Center, UCLA School of Medicine, 11-240 Factor Building, Los Angeles, CA 90024-1678. *The University is an Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL/RESEARCH ASSOCIATE

Position available to study the subcellular mechanisms of the renal acidification response to respiratory acid-base disorders utilizing microvesicle methodologies. Experience in such areas as ion transport in cultured renal epithelia and membrane vesicles, measurement of intracellular pH, and the cellular organization of proton transport highly desirable. Opening available immediately or by special arrangement. Academic appointment at Tufts University School of Medicine, and salary depending on qualifications. Send curriculum vitae and names of three references to: Nicolaos E. Madias, M.D., Chief, Division of Nephrology, New England Medical Center Hospitals, Box 172, 750 Washington Street, Boston, MA 02111; telephone: 617-956-5895.

### ADDICTION RESEARCH CENTER NATIONAL INSTITUTE ON DRUG ABUSE POSTDOCTORAL STAFF FELLOW

The Addiction Research Center in Baltimore, Maryland has a postdoctoral staff fellow position available in early 1988 to study expression of genes encoding and neuropeptide transmitters and receptors in its Gene Neuroscience Unit.

ARC staff fellows are generally appointed for an initial 2-year period, which can be extended. Salaries are commensurate with experience, and generally range from \$27,172 to \$38,727 per annum; higher salaries may be approved for experience researchers. Fellows will be eligible for other federal employee benefits, and relocation expenses may also be paid. Applicants must be U.S. citizens or possess a permanent residence visa.

Interested applicants should submit curriculum vitae and two references to the following address, or contact the persons named for additional information. Personnel Office, NIDA Addiction Research Center, P.O. Box 5170, Baltimore, MD 21224. Attention: Mr. Merle Grant, telephone: 301-955-7531. Or telephone: Dr. Michael Kuhar, Chief, Neuroscience Branch, 301-955-3093.

*An Equal Opportunity Employer*

## SMITHSONIAN TROPICAL RESEARCH INSTITUTE DEPUTY DIRECTOR

The Smithsonian Tropical Research Institute (STRI) invites applications and nominations for the position of Deputy Director which falls vacant due to the appointment of Dr. James R. Karr as the Bailey Professor of Biology at Virginia Polytechnic Institute. STRI, located on the Isthmus of Panama, is a bureau of the Smithsonian Institution. The Institute is devoted to basic research throughout the world's tropics and is responsible for custodianship of a biological reserve, the Barro Colorado Nature Monument, and for the operation of a number of other facilities on the Isthmus for the support of terrestrial and marine tropical research.

The Deputy Director reports to the Institute's Director and is responsible for assisting the Director with the development of policies and the management of the Institute. The Institute's principal responsibilities are to promote research and education in the fields of ecology, evolution, behavior, anthropology and paleontology.

Candidates should possess a Ph.D., be engaged in independent research in a field related to STRI's broad interests, and should have experience appropriate to the effective management of an international research mission in a complex administrative environment. Knowledge of the Spanish language would be useful.

Applications should consist of a letter of interest, curriculum vitae, and names and telephone numbers of three references. Nominations with supporting statements are also welcomed. Replies should be submitted before *January 1* to:

**SEARCH COMMITTEE (DEPUTY DIRECTOR)  
SMITHSONIAN TROPICAL RESEARCH INSTITUTE  
APO MIAMI 34002-0011.**

The salary range for this position is \$53,830-\$72,500. In addition, allowances for housing and overseas living are paid. The starting date for this appointment is no later than 1 September 1988. STRI is an Equal Opportunity Employer and appointments can be made without regard for nationality.

## Dean School of Medicine

Nominations and applications are invited for the position of dean of the School of Medicine at Wright State University. The School of Medicine is community based and is committed to excellence and innovation in medical education that emphasizes primary care, quality basic science and clinical research, and effective community service. The school enrolls 360 students and operates 21 integrated and affiliated residency programs that involve 372 residents. The school is accredited by LCME and also offers (jointly with the College of Science and Mathematics) a Ph.D. program in biomedical sciences.

As the chief academic and administrative officer of the school, the dean must make a philosophical commitment to a community-based, primary-care oriented medical education program, and be willing to participate in, and work closely with, the practicing medical community. Candidates must have an M.D. degree; prior academic experience on a medical school faculty; national recognition as a medical educator, scholar and administrator; proficiency in management, planning, and budgetary/fiscal matters; and must be able to provide leadership for and work effectively with a dedicated and active full-time basic and clinical sciences faculty of slightly over 200 and a voluntary clinical faculty of slightly over 1000.

All nominations and applications should be received by December 15, on which date formal considerations will begin. Submit applications, including a current curriculum vita and names of three references, to:

Dr. Glenn Hamilton, Chair  
Dean Search and Screening Committee—  
School of Medicine  
Office of the Vice-President for Academic Affairs  
Wright State University  
Dayton, Ohio 45435

Wright State University is an equal opportunity/affirmative action employer.

**WRIGHT  
STATE**

Wright State University  
Dayton, Ohio 45435

## 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 pelagic primary production/nutrient dynamics. The appointment will be with the Institute of Marine Science in the School of Fisheries and Ocean Sciences and 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 sub-arctic seas. Many of these are multi-disciplinary and we wish to fill the position with a person committed to collaborative work with ongoing and future programs.

We seek a person who will bring modern experimental and process-oriented approaches to problems in any of the following or related areas:

Phytoplankton physiology, adaptation to low light levels, role of trace organics as photosynthetic cofactors, and modern approaches to measuring primary production.

The role of planktonic organisms in pelagic carbon fixation and remineralization using recombinant DNA techniques, immunochemical probes and biochemical rate measurements.

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

Applications must be received by January 15, 1988.

Applicants should send a statement of interest, a curriculum vitae and the names and addresses of three references to:

**Dr. William Reeber, 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 EO/AA Employer and Educational Institution. Your application for employment with the U of A may be subject to public disclosure if you are selected as a finalist.

## RESEARCH IMMUNOCHEMIST/ IMMUNOLOGIST

**A PhD level position** is available within our Medical Products Department. This is an excellent opportunity for scientific and career development with a leader in diagnostic R&D. You will be a member of a group of scientists carrying out both research and product development in immunological areas related to clinical diagnostics. To qualify, you should hold a Ph.D., be well experienced in the preparation of monoclonal antibodies, and have expertise in immunochemical characterization techniques, such as affinity and crossreactivity determinations. One to two years of industrial or postdoctoral experience is a plus.

**You'll find** a highly stimulating scientific environment in a modern research facility located near Wilmington, DE. We provide excellent compensation and benefits including relocation. Wilmington's Mid-Atlantic location offers an attractive lifestyle with easy access to affordable housing and a wide range of academic, cultural and recreational activities. Interested candidates should send their resumes and references to: Professional Staffing, Employee Relations Department, Room X50935, Du Pont Company, Wilmington, DE 19898.



U.S. Citizenship or Permanent Visa Required  
An Equal Opportunity Employer M/F/H/V

**WOODS HOLE OCEANOGRAPHIC  
INSTITUTION  
POSTDOCTORAL FELLOWSHIPS**

**Ocean Science and Engineering**

Applications are invited from new or recent doctorates in science or engineering with interests in physical oceanography, marine chemistry, marine geology and geophysics, biological oceanography, or oceanographic engineering. Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

**Marine Policy and Ocean Management**

Research fellowships are offered to individuals in the social sciences, law, the humanities, or natural sciences to apply their training to problems or issues that involve the use of the oceans. Presently research follows thematic areas such as Marine Science and Public Policy; Ocean Jurisdictions, Law of the Sea, and International Relations; Development and Management of Ocean Resources; and Areawide Planning and Management. Emphasis is placed on the economics of ocean space and on the role of science in governmental and industrial decision making. Topics of special current interest include marine biological diversity, the quality of marine habitats and marine reserves, and the impacts of sea-level change. Other research interests are also appropriate.

Fellowships are awarded for one year with a stipend of \$26,000 plus group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by January 15, 1988 for 1988-89 awards. Awards will be announced in March. Write for application forms to: Dean of Graduate Studies, P.O. Box S, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543

Equal Opportunity/Affirmative Action Institution

**Laboratory  
Assistant  
Fermentation R&D  
Department**

Pfizer Central Research has an immediate opening for a laboratory assistant in its Fermentation R&D Department. You will contribute to the elucidation of biochemical pathways for a wide variety of fermentation products, including antibiotics. Typical duties will include mutation/selection of organisms, enzyme isolation and manipulation of biochemical pathways to improve production.

Applicants should possess a BS or MS in Biochemistry, Microbiology or related field.

In addition to a stimulating scientific environment, we also offer competitive compensation, benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and description of research accomplishments to: Lorraine C. Corr, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, Connecticut 06340.



An equal opportunity employer

When it comes to diagnostics research and product development, Abbott Laboratories is consistently at the forefront. We've led the way in developing tests for the detection of Rubella, Hepatitis B, German Measles, and most recently, AIDS. Now, backed by the strength of a \$4 billion corporation recognized for superior management, our Diagnostics Division offers the following opportunities:

**MS/PH.D. CELL BIOLOGIST**

Qualified candidates will have experience in retrovirology, and a familiarity with cell-typing, human lymphocytes culture, and in handling human pathogens such as HIV, HTLV, EBV, HPV and HBV. Interest in molecular biological aspects desirable but not essential.

**MS/PH.D. BIOCHEMIST**

Candidates must have experience in protein purification/characterization with knowledge either in peptide synthesis or protein sequencing. Experience in purification of proteins from natural sources and recombinant DNA derived protein is desirable.

Abbott is headquartered in an attractive suburban area just 30 miles north of Chicago. We offer excellent salaries and a benefits package that includes profit sharing and retirement plan. Send your resume with salary history in confidence to: **Peggy Taylor/Corporate Placement, Dept. SCI/11-13**. Abbott is an Affirmative Action Employer.



ABBOTT PARK IL. 60064  
"HEALTH CARE WORLDWIDE"

**FACULTY POSITION  
IN PHARMACOLOGY  
ST. JOHN'S UNIVERSITY  
COLLEGE OF PHARMACY AND  
ALLIED HEALTH PROFESSIONS**

Applications are invited for a tenure-track position at the assistant or associate professor level in the area of pharmacology. Rank and salary are commensurate with the applicant's qualifications and experience. This position is for the academic year with the opportunity for summer employment.

Persons applying should possess a Ph.D. in pharmacology or a related field. An undergraduate degree from an accredited college of pharmacy is desirable. Primary responsibilities include teaching undergraduate and graduate courses in pharmacology and directing an active research program in an area of specialization.

Applicants should provide an updated curriculum vitae including teaching and research interests and a list of three references. Applications should be sent to Dr. Amrit L. Kapoor, Chairman, Department of Pharmaceutical Sciences, College of Pharmacy and Allied Health Professions, St. John's University, Jamaica, NY 11439.

St. John's University is an Equal Opportunity/  
Affirmative Action Employer (M/F)

## RESEARCH POSITIONS

### Exercise Physiologist

Studies the effects of exercise on human physiology in space flight. Examines the way in which different patterns and intensities of exercise can protect against the deconditioning seen in cardiovascular, musculoskeletal, and other body systems in space flight. Carries out extensive human studies in simulated weightlessness (e.g., in bedrest) and proposes flight experiments for future manned missions. Develops and tests concepts for new exercise devices for flight use. Applicants must have an advanced degree in physiology or medicine with a minimum of three years of independent research experience in human physiology, with emphasis on exercise physiology.

Salary: \$45,763-\$69,976. (Announcement 22-87).

### Developmental Biologist

Investigator to assume leadership role in space developmental biology program. Conducts basic research on the effects of gravity on developmental processes in animals, and focuses on the effects of exposure to microgravity environments in space. Particular attention is paid to systems known to be sensitive to gravity, such as the musculoskeletal and vestibular. Applicants are expected to propose and carry out developmental biology experiments in space flight. Applicants must have an advanced degree in biology and at least three years of independent research experience in developmental biology.

Salary: \$38,727-\$59,488. (Announcement 25-87).

### Muscle Biochemist

Conducts basic and applied research into the changes taking place in human and/or animal skeletal muscle in space flight. Focuses on metabolism, energetics, and pharmacology of muscle atrophy in weightlessness and on the effects of different types and intensities of exercise and other countermeasures in preventing such changes. Is expected to propose and act as principal investigator for experiments on muscle biochemistry in space flight. Applicants must have an advanced degree in the life sciences with a minimum of one year of research experience in muscle biochemistry.

Salary: \$32,567-\$59,488. (Announcement 24-87).

### Neuroscientist

Conducts research to identify neurochemical, anatomical, physiological, or behavioral mechanisms involved in the adaptation of the nervous system to space, particularly to microgravity and rotating environments. Applicants will be expected to propose and carry out ground-based research and flight experiments. Experience with both animal models and human subjects is desirable. Applicants must have an advanced degree in the life sciences or medicine, with a background in anatomy, physiology, neurochemistry, or behavioral science, and at least three years of independent research experience.

Salary: \$38,727-\$59,488. (Announcement 26-87).



### Controlled Environment Plant Physiologist

Investigator to conduct a research program directed toward increasing the productivity of higher plants grown in controlled environment life support systems intended for use in the space environment. Conducts basic research on efficiency in food production and defining the genetic, physiological, and environmental conditions appropriate for the growth of plants in space. Interacts collaboratively

with members of the scientific community and is involved in the development of plant growth systems for use in space flight experiments. Applicants must have an advanced degree in plant physiology or allied sciences, a minimum of three years independent research experience, and a record of contributions to the field.

Salary: \$38,727-\$59,488. (Announcement 23-87).

For further information phone Jack Cormode at (415) 694-5605 or Sharon Scharmen at (415) 694-6768, or write to the address below. Technical inquiries should be directed to Dr. John Billingham, Chief, Life Science Division, at (415) 694-5181. Applications should be filed by November 30, 1987. Positions located at Ames Research Center near the Silicon Valley.



National Aeronautics and  
Space Administration

**Ames Research Center**  
Moffett Field, California 94035

An equal employment opportunity/affirmative action employer.

NASA-Ames Research Center  
Attn: AHM 241-32  
Moffett Field, CA 94035

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE MOLECULAR BIOLOGY

A position is available immediately for an individual with experience in all aspects of molecular biology and recombinant DNA technology to work in the area of tissue-specific regulation of apolipoprotein gene expression. Experience in tissue culture would be desirable. Please send résumé and names of three references to:

Nicholas O. Davidson, M.D.

Box 400

Section of Gastroenterology

University of Chicago

5841 South Maryland Avenue

Chicago, IL 60637

*Equal Opportunity Employer/Affirmative Action*

**POSTDOCTORAL RESEARCH ASSOCIATE POSITION** for the study of motile systems in muscles and cells. Projects include regulation of actomyosin ATPase, mechanism of kinesin-microtubule ATPase, functions of motile systems in cell division. Experience in protein biochemistry or cell and molecular biology preferred. Send curriculum vitae and names of references to: **Dr. E. W. Taylor, Department of Molecular Genetics and Cell Biology, The University of Chicago, 920 East 58th Street, Chicago, IL 60637. An Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately to study the role of abnormal cortisol metabolism in primary open angle glaucoma. Research will involve the cloning and expression of human genes for several cortisol-metabolizing enzymes. Preference will be given to applicants with prior experience in recombinant DNA technology, especially eukaryotic gene cloning. Send curriculum vitae, including names of references to: **Dr. Ira Schwartz, Department of Biochemistry, New York Medical College, Valhalla, NY 10595.**

**POSTDOCTORAL TRAINING IN CLINICAL CHEMISTRY.** Position available 1 July 1988, for basic scientist or physician interested in a career as laboratory director in academic Laboratory Medicine. Our 2-year program provides practical experience in clinical chemistry laboratories and extends relevant basic scientific knowledge.

Deadline: 1 December 1987. Write to:

Margaret Kenny, Ph.D.

Program Director

Department of Laboratory Medicine

University of Washington

SB-10

Seattle, WA 98195

*An Equal Opportunity/Affirmative Action Employer*

### PRIMATE VIROLOGISTS

The Oregon Regional Primate Research Center has openings for two Ph.D. virologists. The core-funded appointees will interact with two pathologists, two immunologists, and a clinical veterinarian studying immunocompromising retrovirus infections endemic in several primate species and will be expected to develop active research programs. Joint academic opportunities are available in the Basic Sciences Departments, and the Vollum Institute for Advanced Biomedical Research at the nearby Oregon Health Sciences University, Portland, Oregon. The appointment levels will be contingent on the applicants' qualifications, with advanced levels requiring a strong record of publication and grant support. Applicants should submit curriculum vitae and four professional references by 15 December 1987 to: **Wilbur P. McNulty, M.D., Chair, Search Committee, Oregon Regional Primate Research Center, 505 NW, 185th Avenue, Beaverton, OR 97006; telephone: 503-645-1141. The Oregon Regional Primate Research Center is an Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSOCIATE** position available to study structure/function of neuropeptide receptors [JBC 262, 158 (1987)]. Ph.D. with training in protein biochemistry and/or molecular biology preferred. Send résumé and three references to: **Dr. Sudhir Paul, Department of Pharmacology, University of Nebraska Medical Center, 42nd and Dewey, Omaha, NE 68105. Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### REPRODUCTIVE BIOLOGY POSTDOCTORAL POSITION

A postdoctoral research position is available in the area of cellular and molecular biology of fertilization. Studies include molecular biology, biochemical and immunological analyses of sperm and testis autoantigens and their role in fertilization. Applicants should have a recent Ph.D. with a strong background in biochemistry, and molecular biology or reproductive biology. Send curriculum vitae, a description of your research interests and the names of three references to: **Dr. Michael G. O'Rand, Laboratories for Cell Biology, Department of Anatomy, CB 7090, 108 Swing Building, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, by 1 December 1987. An Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSOCIATE:** Ph.D. in molecular biology or biochemistry with minimum of 5 years of postdoctoral training required for established laboratory in genetic control of protein structure and synthesis. Supervise and execute research program in DNA cloning and sequencing. Train undergraduates, graduates and postdocs. Publications demonstrating proficiency in recombinant DNA techniques, protein chemistry and protein sequencing. Ability to obtain own research funding. Long-term position. Salary commensurate. *Women and minorities encouraged to apply.* Deadline 15 December 1987. Send curriculum vitae and three letters of reference to: **M. O. Gulley, Department of Pathology, CB#7525 University of North Carolina, Chapel Hill (UNC-CH), Chapel Hill, NC 27599. UNC-CH is an Affirmative Action/Equal Employment Opportunity Employer.**

### RESEARCH ASSOCIATE

Position open for **POSTDOCTORAL FELLOW** to study systemic and renal hemodynamics and changes in vasoactive humoral substances before and after altered divalent ion nutrition. This position is for 2 years of support. Salary is negotiable. Closing date 27 November 1987. Submit curriculum vitae to: **Edward T. Zawada, Jr., M.D., Professor and Chairman, Department of Medicine, University of South Dakota, School of Medicine, 2501 West 22nd Street, Sioux Falls, SD 57105.**

CIIT, an innovative leader in toxicology research, seeks to fill the following position in its Research Triangle Park, North Carolina, facility:

### RESEARCH ASSOCIATE INHALATION TOXICOLOGY SECTION

Selected individual will be responsible for generation and analysis of gas, vapor, and aerosol test atmospheres using gas chromatography, IR-UV-VIS spectrophotometry, and wet chemical assays in conjunction with airborne sampling techniques. Experience in statistics and computer-based data management systems would be beneficial. Requires good mechanical ability and M.S. or B.S. in chemistry or biology with 3 to 8 years of relevant experience.

Reply in confidence to:

Employment Office

Chemical Industry Institute of Toxicology

P.O. Box 12137

Research Triangle Park, NC 27709

*An Equal Opportunity/Affirmative Action Employer.*

**RESEARCHER ENVIRONMENTAL SCIENTIST** for central Ohio research and development firm to conduct research studies to solve environmental problems for chemical companies and hazardous waste-generating industries. Involves field sampling and lab measurement, microcomputer interfacing, and computer analysis and modeling. Includes air and water quality studies and assessment of economic impact and application of regulatory policies. Requires B.S. degree in chemical engineering or environmental science, plus 3 years of experience in the job described. In lieu of the 3 years of experience the employer will accept college level coursework in Programming (FORTRAN, BASIC, and SAS), Microcomputer Interfacing and Thermodynamics; and one college-level course each in Operations Research, Environmental Statistics and Environmental Analysis and Modeling. Forty hours per week; 8:00 a.m. to 5:00 p.m. \$2100 per month. Qualified applicants only reply immediately with résumé to: **M. Rush, JO #3042221, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216. Equal Opportunity Employer.**

## POSITIONS OPEN

**RESEARCH ASSOCIATE IN PATHOLOGY** at teaching hospital affiliated with leading medical school. Duties will include conducting research on the basic mechanisms of blood coagulation and thrombosis with emphasis on the physiology of the last phases of fibrin formation and degradation, particularly fibrin cross-linking and plasminogen activation.

Applicant must have an M.D. or Ph.D. degree in biochemistry, and two additional years of research in techniques applicable to the above research. Must have detailed experience with techniques for protein purification and analysis, and tissue culture and monoclonal antibody production and characterization.

Salary: \$26,000. Send résumés to: **Division of Employment Security, Hurley Building, Boston, MA 02114 and refer to job reference #8003. An Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSOCIATE, VISION.** To elucidate the visual factor on reading performance, independent research projects, and develop a psychophysics laboratory. Minimum requirements: Ph.D., research experience, and ability to work as a team with visually impaired individuals. Interested candidates please submit applications/résumé to: **Director of Personnel, Pennsylvania College of Optometry, 1200 West Godfrey Avenue, Philadelphia, PA 19141. Application deadline 5 December 1987. Affirmative Action Employer/Equal Opportunity Employer.**

**RESEARCH INSTRUCTOR** with recent Ph.D. in biochemistry and research experience in the design and synthesis of radioactive affinity reagents for labeling ATPase and kinases, and in the elucidation of structure-function relationships of enzymes. Starting date: 1 April 1988. Send curriculum vitae by 1 December 1987 to: **Karen Connolly, State University of New York, Buffalo, Einstein Chair, 170 Acheson Hall, Buffalo, NY 14214-3094. An Equal Opportunity/Affirmative Action Employer.**

### RESEARCH PHYSIOLOGIST

The Department of Physiology at University of California, Los Angeles (UCLA) has an opening for an assistant research physiologist to join a group working on epithelial membrane biology. The successful applicant will be required to study the structure and function of brush border cotransport proteins. A Ph.D. in biochemistry with a minimum of 3 years of postdoctoral experience in protein chemistry is required. The project requires experience in amino acid sequencing and protein engineering, and in the design, building and application of preparative electrophoresis equipment. Salary, \$34,600 per year.

Send applications, including curriculum vitae and names of references to:

Ernest M. Wright, D.Sc.

Department of Physiology

UCLA School of Medicine

10833 Le Conte Avenue

Los Angeles, CA 90024-1751

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### RESEARCH POSITION

The Department of Neurology at the Massachusetts General Hospital invites application for a research position in Developmental Neurobiology. Applicants will be considered who have demonstrated experience in research related to development of the forebrain of rodents. An investigator is being sought with experience in histological and physiological methods requisite to the study of systems development. Candidates with experience in the application of in vitro techniques in the study of cellular processes and cellular interaction will also be considered. The candidate should have either an M.D. or Ph.D. degree. Applicants should send curriculum vitae, names and addresses of three references, and copies of selected publications to:

Dr. Verne S. Caviness, Jr., M.D.

Department of Neurology

Massachusetts General Hospital

Boston, MA 02114

*The Massachusetts General Hospital is an Equal Opportunity Employer.*

## Sr. Scientist DEVELOPMENTAL TOXICOLOGY

McNeil Pharmaceutical, a Johnson & Johnson Company, is a well established leader in the ethical pharmaceutical field. We currently have an opportunity for an individual to be responsible for planning experiments to test the potential effects of compounds on reproduction and development, and to assess their potential risk in humans.

The ideal candidate will have a PhD in Toxicology or Embryology with industrial experience in teratology/reproductive toxicology. Excellent communication, analytical and organizational skills are required.

We offer a competitive salary, excellent benefits and an environment which fosters your professional growth at our suburban Philadelphia facility. For consideration, please send resume with salary requirements to: Susanne Ford

 **McNEIL  
PHARMACEUTICAL**

Spring House, PA 19477

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## RESEARCH OPPORTUNITIES IN

### PLANT GENETIC ENGINEERING

The Dow Chemical Company, in Midland, Michigan, is a recognized global leader in the agricultural chemical industry. Expanded research efforts in the area of plant genetic engineering have created an immediate need within the Biotechnology Laboratory in the Central Research Department for qualified researchers in the following areas:

### PLANT MOLECULAR BIOLOGY/ GENE CLONING

The successful candidate will have a Ph.D. in molecular genetics. Some experience in cDNA cloning, preparation and screening of genomic libraries, eukaryotic expression vectors, and DNA sequencing is preferred. Research efforts will be directed toward introduction of genes into crop plants, with an increasing emphasis on commercially important monocots.

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

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

Send resume to:

**Technical Recruiting  
Department BT-7  
P.O. Box 1655  
Midland, MI 48641-1655**



The Dow Chemical Company is an Equal Opportunity Employer

# PROTEIN BIOCHEMISTS

The Molecular Biology Research Section of Lederle Laboratories is currently seeking Protein Biochemists to pursue basic research focusing on the structure and function of oncogenes, growth factors/cytokines, and viral proteins. Several positions are now available in the Department of Protein Chemistry.

The successful candidates will need a Ph.D., MS/BS or equivalent degree with extensive professional experience in one or more of the following areas: protein purification using modern techniques, protein structural analysis (amino acid analysis, sequencing, NMR, etc.), peptide synthesis, methods development (particularly micromethodology), and membrane proteins. Applicants at the Ph.D. level should

have relevant postdoctoral training. Individuals with an active interest in oncogene growth factor and viral protein research are especially encouraged to apply.

Lederle Laboratories is an established leader in pharmaceutical research and is located in Pearl River, NY, approximately 25 miles north of New York City. We offer excellent salaries, benefits including a 401k savings plans and growth potential.

For consideration, please send your resume and the names of three references, to: Maureen Quigley, Professional Employment Representative, Lederle Laboratories, Middletown Road, Pearl River, NY 10965. We are an equal opportunity employer.



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Since 1906**

# Clinical Affairs Specialist

Make your move to Baxter Healthcare Corporation, Edwards CC Division. As a major manufacturer of quality critical care and cardiovascular products, we presently have an opportunity available for a Clinical Affairs Specialist.

The selected candidate will be responsible for new product development support and associated regulatory activities, as well as designing, coordinating and monitoring clinical trials and product evaluation.

To qualify, you must possess a BS degree in Biomedical Sciences with 5 years of experience in the medical device industry, an MS degree with 3-5 years of related work experience, or a PhD with 1-3 years of work experience. Knowledge of FDA regulations pertaining to investigational and marketed medical devices and device submissions is required, plus basic experimental design, statistics, and computer skills. Must have relevant clinical research and regulatory experience in a medical device industry or equivalent. A willingness to travel is necessary.

At Baxter, Edwards CC Division, you'll enjoy an excellent salary and benefits package, quality work environment and the opportunity to advance professionally. Submit your resume with salary history to: **Ramon Santiago, Employment Department, Baxter Healthcare Corporation, Edwards CC Division, 17221 Red Hill Avenue, Irvine, California 92714.** We are an equal opportunity employer m/f/h.

Edwards CC Division

**Baxter**

The Department of Biology at Memphis State University invites applications for two tenure-track positions at the rank of assistant professor to begin Fall 1988 pending funding approval.

**PLANT ECOLOGIST:** The successful candidate should have an experimental and field-oriented background in plant ecology and be able to interact with terrestrial and aquatic ecologists. Ph.D. in botany or allied area required. Postdoctoral experience with interests in wetland ecology and/or community dynamics is desirable. Teaching responsibilities may include courses in general biology, botany, and a graduate course in an area of specialty. A strong commitment to teaching and to the development of an externally funded research program is imperative.

**ANIMAL CELL PHYSIOLOGIST:** An invertebrate or vertebrate cell physiologist working at the cellular level. Applicants must have a Ph.D. Preference will be given to candidates with experience in toxicology, developmental physiology or reproductive biology; however, individuals with other areas of expertise are encouraged to apply. The successful candidate will be expected to participate in introductory courses offered by the Biology Department, teach cell physiology, and develop a successful, extramurally funded graduate research program.

Applicants should submit a curriculum vitae, a statement of research interests and goals, and request three letters of reference be sent to the appropriate committee chairman:

Dr. Lewis B. Coons, Chairman Animal Cell Physiology Search Committee, phone (901) 454-2034  
Dr. Neil A. Miller, Chairman Plant Ecology Search Committee, phone (901) 454-2964

Department of Biology, Memphis State University, Memphis, TN 38152

Applications must be postmarked on or before January 15, 1988.

The successful candidate must meet the Immigration Reform Act criteria. Women and minority applicants are encouraged to apply. Memphis State University is an affirmative action/equal opportunity employer.

# SALK INSTITUTE FOR BIOLOGICAL STUDIES

## PLANT BIOLOGY LABORATORY

### Post-Doctoral Fellow and Technical Assistant

The Plant Biology Laboratory has two positions available July 1, 1988: one at the post-doctoral level and one at the B.S./M.S. level, to work on genetic analysis of light-regulated development in *Arabidopsis thaliana*. Candidates should have a demonstrated ability with molecular genetic techniques, and an interest in combining molecular biology with classical genetic analysis. Send curriculum vitae, a summary of research experience and interests and the names of three references to: **Personnel Dept. CL, Salk Institute for Biological Studies, P.O. Box 85800, San Diego, California 92138.**

We are an Equal Opportunity Employer M/F/V/H

# Research Opportunities in Cardiovascular Research

Genentech, Inc., a leader in the field of biotechnology, has a major commitment to research of the cardiovascular system. The Department of Cardiovascular Research is about to enter into a rapid growth phase and is looking for scientists who would like to make contributions in the fields of hemostasis, thrombosis, atherosclerosis and vascular cell biology.

**VASCULAR CELL BIOLOGY GROUP LEADER:** A group investigating endothelial cell physiology will be established. An experienced individual capable of establishing a competitive group to investigate the various roles of endothelial cells in the physiology and pathophysiology of the vascular system is being sought. A successful candidate should have a proven record of innovative and productive research in this area. The position will involve establishment of such a group and interfacing it with the molecular biology, protein chemistry, and pharmacology groups that will be supporting these efforts.

**PROTEIN CHEMISTS, MOLECULAR BIOLOGISTS, CELL PHYSIOLOGISTS, AND PHARMACOLOGISTS:** The growth of the Cardiovascular Research Department will require the addition of personnel at all levels. Research Assistants and Associates are being sought with experience in the above areas. In addition, positions for individuals with Ph.D.'s and M.D.'s at all levels will be available. Prior experience in the general fields of cardiovascular research is desired but not required. In addition, more senior level positions will be opening that will require a background in a related field. These individuals will be expected to establish and lead groups to support the efforts of the department to become a leading force in areas of study.

Genentech, Inc., offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send your curriculum vitae, a summary of your research interests and three letters of reference to: Sherrie V. Wilkins, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA, 94080. An equal opportunity employer.

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## Lovelace Medical Foundation

### Director of Biomedical Research Division

The Lovelace Medical Foundation is a non-profit organization that conducts medical research and education. It is affiliated with a large, integrated health care organization that includes a multispecialty group practice of medicine, an acute care hospital and a health maintenance organization.

As part of a reorganization, the Foundation is seeking a Director for its Biomedical Research Division. The successful candidate will be one of three Division Directors who will report to the Vice President/Chief Operating Officer. He or she will have responsibility for approximately fifteen doctoral level scientists and their support staff. The existing research programs are interdisciplinary and the staff has a wide range of backgrounds in such diverse areas as physics, cell biology, immunology, physiology, and engineering. The Foundation has active programs in nuclear magnetic resonance, photobiology, immunotoxicology, immunobiology, oxygen transport, and hemodynamics.

We seek an individual with a solid background in science who is seeking a management position. The successful candidate will exhibit the leadership skills and aptitude for program development that will result in the continued growth of the Foundation scientific research programs. The successful candidate will have the ability to lead the scientific staff in attracting program funding.

Requirements include a doctoral degree in the life sciences, a minimum of ten years experience in biomedical research and an aptitude for providing leadership to a professional staff representing a wide range of scientific disciplines.

Please respond with a letter of interest, curriculum vitae and names of three references to: **Lovelace Medical Center, Human Resources Department, 1400 San Mateo Blvd. SE, Albuquerque, New Mexico 87108, telephone number (505) 262-7700. EOE A/A M/F/H/V.**

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*With the widest possibilities in New Mexico.*

## PLANT POPULATION BIOLOGIST

The Department of Botany invites applications for a tenure-track Assistant Professor or Associate Professor position, beginning with the 1988-89 academic year (pending budgetary approval). The research interests of the candidate should be in experimental plant population ecology/biology. Teaching responsibilities will include an advanced course in plant population biology. As part of the reorganization of Biological Sciences at Berkeley, it is anticipated that this position will soon be incorporated into a new Department of Integrative Biology.

Applicants should send a curriculum vitae, statement of research and teaching objectives, relevant reprints and manuscripts, and names and addresses of three references to:

Chairman, Population Biologist Search Committee  
Department of Botany  
University of California  
Berkeley, CA 94720

**CLOSING DATE FOR RECEIPT OF  
APPLICATIONS: JANUARY 15, 1988**

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

## **BRL** **Technical Services**

Join Bethesda Research Laboratories' growing Technical Services Group. This group provides technical support for BRL products through the Tech-Line,™ workshops, seminars, Focus, and the applications laboratory. Innovative scientists with good communication skills and experience in molecular biology techniques are sought for the following positions:

### **Staff Scientist (Ph.D)**

- Teach DNA - sequencing and recombinant DNA workshops
- Develop new applications in the laboratory
- Present techniques seminars
- Handle technical questions

### **Technical Specialist (B.S./M.S.)**

- Handle technical questions
- Develop new applications in the laboratory
- Assist at workshops

These positions offer competitive salary and benefits. Travel is required. Send your resume in confidence to:

Mr. Richard L. Hotaling, Jr., *Personnel Manager*

**GIBCO/BRL Division**, Life Technologies, Inc.  
8717 Grovemont Circle, Gaithersburg, MD 20877

Attn: Dept. NS11/13 An equal opportunity employer, M/F/H/V

## Scientist Cell/Molecular Biology

Genentech, Inc., has a position available in the Molecular Biology of Cell Surface receptors.

Experienced scientist wanted in the field of expression of heterologous proteins in mammalian cell culture. Candidate will interact within a highly interdisciplinary drug discovery research group emphasizing the use of cell surface receptors.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send resume to: Sherrie Wilkins, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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## POSITIONS OPEN

### RESEARCH TECHNICIANS

We are a medical/research center located in northeast Philadelphia with several positions available for research technicians. Areas of research include tissue culture, virus research, cell culture, DNA purification, molecular biology, cloning, enzyme purification, and monoclonal antibody therapy. Bachelor's degree in biology, microbiology, or biochemistry required. Previous experience preferred. Send résumé to:

Personnel Department  
Fox Chase Cancer Center  
7701 Burholme Avenue  
Philadelphia, PA 19111  
Equal Opportunity Employer

### RETINAL CELL BIOLOGIST

The Eye Research Institute of Retina Foundation invites applications for an independent assistant or associate scientist faculty level position. Applicants should have a Ph.D. or equivalent, and an interest in retinal or macular degeneration. Currently funded candidates familiar with photoreceptor/retinal pigment epithelium biology are preferred.

Submit cover letter describing research interests, curriculum vitae, and names of three references to:

John Weiter, M.D., Director  
Macular Disease Research Center  
Eye Research Institute of Retina Foundation  
20 Staniford Street  
Boston, MA 02114

Equal Opportunity/Affirmative Action Employer M/F/V/H and others.

### EARLY ANNOUNCEMENT

Forestry Science Laboratory located in Delaware, Ohio is anticipating two permanent full-time **SCIENTIST** positions opening in spring/summer 1988. The work is aimed at elucidating the role of growth regulators in insect development. One position is for a biochemist with experience in protein purification/characterization and enzyme kinetics studies. The second position is to work on cDNA cloning, sequencing and expression of regulatory genes. Salary ranges \$27,172 to \$50,346. Commensurate with experience. U.S. citizen required. Reply to: Dr. M. Chang, Forestry Sciences Laboratory, 359 Main Road, Delaware, OH 43015. Telephone: 614-369-4476 or 4471.

**SENIOR RESEARCHER IN MENTAL RETARDATION:** The John F. Kennedy Center of Vanderbilt University is searching for an established researcher who studies problems related to mental retardation. Applicants should have an active and well-established program of research as well as a demonstrated capacity for scientific leadership. Scientists studying problems relevant to atypical development, mental retardation, or developmental disabilities from any perspective are encouraged to apply. The successful applicant will receive an appointment in the appropriate academic department of the University. Salary, rank, and starting date are negotiable. Interested persons should send a letter of application, curriculum vitae, names of at least three references, and relevant reprints to: Steven F. Warren, Chair, Search Committee, Box 328 Peabody, Vanderbilt University, Nashville, TN 37203. Applications received prior to 1 February 1988 will receive priority review.

Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.

### SOMATOSENSORY ELECTROPHYSIOLOGY

The Institute for Sensory Research, Syracuse University, is seeking a somatosensory electrophysiologist for a tenure-track position available spring 1988. Candidates should have a demonstrated ability to conduct independent research, a working knowledge of somatosensory literature in physiology and psychophysics, and mathematical skills sufficient for receptor-system modeling. Must have ability to advise graduate students. Rank and salary commensurate with qualifications. Send curriculum vitae, statement of research interests, representative reprints, and names of three references by 15 January 1988, to: Dr. Steven C. Chamberlain, Institute for Sensory Research, Syracuse University, Syracuse, NY 13244. Syracuse University is an Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

### SCIENTIFIC ASSOCIATE

Position available immediately for Ph.D. research scientist in ocular molecular virology. Candidate must be skilled in virology, tissue and organ culture and basic molecular biology. Knowledge of immunology and pharmacology desirable.

Funding available with salary commensurate with qualifications. After 3 years, should obtain own support. Send curriculum vitae to: D. P. Langston, M.D. or E. C. Dunkel, Ph.D., Eye Research Institute, 20 Staniford Street, Boston, MA 02114. Equal Opportunity/Affirmative Action Employer M/F/H/V.

Recent Ph.D. interested in immunochemistry and molecular immunology for a postdoctoral position as **STAFF ASSOCIATE IN MICROBIOLOGY** at the College of Physicians and Surgeons of Columbia University. Experience in protein or carbohydrate chemistry or hybridoma technology or molecular biology desirable. Problems involve study of monoclonal antipolysaccharide antibodies and the fine structures of their combining sites, cloning and sequencing. Send curriculum vitae to: Dr. Elvin A. Kabat, College of Physicians and Surgeons, Columbia University, 701 West 168th Street, New York, NY 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.

**FLORIDA STATE UNIVERSITY** Department of Chemistry and Supercomputer Computations Research Institute have a joint **TENURE-TRACK POSITION** available for an individual whose research utilizes supercomputers. The University is the site of the first ETA-10 supercomputer. Appointments at all levels will be considered. Although all areas of research involving supercomputer applications in Chemistry will be considered, the department is especially interested in the areas of computational molecular biophysics, electronic structure theory of large molecules, and chemical dynamics. Successful candidates are expected to participate in teaching at undergraduate and graduate levels. Applications should include curriculum vitae, a description of the proposed research, and three letters of recommendation. Address inquiries and applications to: Randolph L. Rill, Department of Chemistry, Florida State University, Tallahassee, FL 32306-3006. Equal Opportunity/Affirmative Action Employer.

### VERTEBRATE PALEONTOLOGIST UNIVERSITY OF CALIFORNIA, SANTA BARBARA

The Department of Geological Sciences invites applications for a tenure-track position in vertebrate paleontology at the assistant professor level, effective 1 July 1989. Applicants with research interests in areas including evolution, paleoecology, paleobiogeography, systematics, and biomechanics are encouraged to apply. Experience in stratigraphy and field geology is also valuable. Primary criteria for a successful applicant include the demonstration of excellence in independent research and a strong commitment to undergraduate and graduate education. Ph.D. required by time of appointment. Send a detailed résumé, a statement of research interests, and the names of three references by 15 January 1988 to:

Professor Michael Fuller, Chairman  
Department of Geological Sciences  
University of California, Santa Barbara  
Santa Barbara, CA 93106

The University of California, Santa Barbara is an Equal Opportunity/Affirmative Action Employer. Proof of U.S. citizenship or eligibility for U.S. employment will be required prior to employment (Immigration Reform and Control Act of 1986).

### SHAW VISITING PROFESSORSHIP IN AQUATIC SCIENCE—1988 TO 1989

The Center for Great Lakes Studies and Department of Biological Sciences, University of Wisconsin-Milwaukee, invite applications for sabbatical support for up to 1 year at the Center.

Visitors will present a series of lectures and participate in interdisciplinary research related to biogeochemical cycling in aquatic environments, e.g., biogeochemistry of metals; microbial ecology; phytoplankton ecology; remote sensing, etc.

For applications and information, contact: Dr. Kenneth H. Nealson, Shaw Distinguished Professor, Center for Great Lakes Studies, 600 East Greenfield Avenue, Milwaukee, WI 53204; telephone: 414-649-3006. An Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

The University of Alaska Fairbanks, Juneau Center for Fisheries and Ocean Science, is seeking applicants for a **TENURE-TRACK FACULTY POSITION** in the area of management of renewable aquatic resources. The appointment will involve research and/or supervision on the graduate level. Research will include emphasis on Alaskan fishery resources including salmon, herring, groundfish, and shellfish with special attention to the Gulf of Alaska and the Bering Sea; development of information gathering and processing for real-time decision making; optimization techniques for determining best compromise among conflicting management objectives in mixed stocks and multi-species fisheries; assessment, enumeration, and stock identification of fish populations; recruitment processes and fisheries oceanography; multi-species interaction and disruption of stable predator/prey assemblages by fisheries exploitation; role of predation by piscivores in fish population dynamics.

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

Search Committee  
Ole Mathisen, Chair  
c/o School of Fisheries and Ocean 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.

**TOXICOLOGY LAB MANAGER/STUDY DIRECTOR.** We are an independent contract testing laboratory seeking an experienced person (B.S./M.S.) to supervise and conduct acute and subchronic toxicology studies. Responsibilities include: protocol development, study design and implementation, data interpretation, reports, client liaison. Familiarity with TSCA, FIFRA, FHSA and GLP regulations essential. Send résumé to: Dr. Ralph Shapiro, Product Safety Labs, 725 Cranbury Road, East Brunswick, NJ 08816.

## COURSES

### A COURSE ON TISSUE CULTURE IN NEUROBIOLOGY 5 to 13 MAY 1988 UNIVERSITY OF SASKATCHEWAN SASKATOON, SASKATCHEWAN, CANADA

The course will deal with the isolation and culturing of neurons, astrocytes, oligodendrocytes, Schwann cells and established cell lines; biochemistry, physiology and nutrition of neural cells in culture; neurohistology and neuroimmunocytochemistry of cultured cells; quantification in culture systems including quantification of neural cell receptors; preparation of media, freezing and storage of cells, contamination and use of antibiotics in cultures. Mornings will be devoted to lectures and examination of cultures, afternoons to laboratory work, and evenings to demonstrations and discussion.

**FACULTY:** C. Barnstable (Rockefeller University, New York); J. E. Bottenstein (University of Texas, Galveston); R. P. Bunge (Washington University, St. Louis); J. De Vellis (University of California at Los Angeles); S. Fedoroff (University of Saskatchewan, Saskatoon); M. Manthorpe (University of California at San Diego); G. Moonen (University of Liege, Belgium); D. Munoz (University of Saskatchewan, Saskatoon); A. Richardson (University of Saskatchewan, Saskatoon); S. Richardson (University of Saskatchewan, Saskatoon) and W. Walz (University of Saskatchewan, Saskatoon).

The course is intended primarily for scientists and senior graduate students. Accommodations and meals will be available in University Residences. Registration fee: \$250.00. Applications should be submitted before 15 January 1988. Participation will be limited to 24 persons. Early registration is advised.

Applications and inquiries for more information should be directed to:

Dr. S. Fedoroff  
Department of Anatomy  
College of Medicine  
University of Saskatchewan  
Saskatoon, Saskatchewan  
S7N 0W0, Canada  
Telephone: 306-966-4080

## POSTDOCTORAL POSITIONS NATIONAL INSTITUTES OF HEALTH

**POSTDOCTORAL POSITIONS** in the National Institute of Neurological and Communicative Disorders and Stroke, National Institutes of Health, are available immediately for biochemical studies on glycoproteins and glycolipids in myelination, demyelinating diseases, and transmembrane signaling of receptor mediated information. Experience in molecular biology, neural tissue culture or glycolipid biochemistry is desirable. Appointments would be as Intramural Research Training Associates (United States citizens) for persons within 3 years of receiving their doctoral degree and are renewable annually for a maximum of 3 years. Starting salary will be \$20,000 per year or higher depending on experience. Interested candidates should send a curriculum vitae and the names of 3 references to: Drs. Richard Quarles and Peter Fishman, Laboratory of Molecular and Cellular Neurobiology, Park Bldg., Rm. 451, 12420 Parklawn Drive, Rockville, MD 20892. For information on qualifications and benefits, please contact Ms. Janet Clagett on (301) 496-6334.

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**TEACHING LABORATORY SPECIALIST.** Permanent position at small selective liberal arts college. B.S. in chemistry or biology required, M.S. preferred. Must have strong chemistry background. Duties include assisting in lab instruction, developing experiments, maintaining equipment and purchasing supplies. Send résumé, transcripts, and three letters of reference to: **Dr. Jane Stephens, Natural Sciences, New College of the University of South Florida, Sarasota, FL 34243-2197.** Telephone: 813-355-7671.

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## AWARDS

**MEYER ARTHRITIS INVESTIGATOR AWARD.** The Southern California Chapter of the Arthritis Foundation will offer the George L. N. and Edna Z. Meyer Arthritis Investigator Award to an outstanding young investigator (M.D. and/or Ph.D.) conducting research in the rheumatic diseases. The Award, in the amount of \$30,000, will be made for 1 year beginning 1 July 1988. Research conducted during the Award period must be done in the Southern California Chapter area or may be done by a Southern California investigator in another area provided he/she returns to Southern California. Deadline is 1 February 1988.

For applications write:

Arthritis Foundation  
Medical and Education Department  
4311 Wilshire Boulevard  
Los Angeles, CA 90010

Or telephone: 213-938-6111.

## GRADUATE TRAINING

**GRADUATE TRAINING IN BIOMEDICAL SCIENCES WITH SPECIALIZATION IN MICROBIOLOGY.** The Microbiology and Immunology Department at the University of South Carolina Medical School has research assistantships available for qualified candidates wishing to pursue a Ph.D. degree. Areas of specialization include cell biology, molecular virology, viral and bacterial pathogenesis, analytical microbiology, and immunology. For more information contact: **Dr. Alvin Fox, Graduate Director, Department of Microbiology and Immunology, University of South Carolina School of Medicine, Columbia, SC 29208.** *The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.*

## SENIOR FELLOWS

### RESEARCH CAREER DEVELOPMENT IN GERONTOLOGY

The University of Michigan Institute of Gerontology announces the availability of stipends and related expenses for specialized training in gerontological research for qualified, established investigators in the behavioral, biological, clinical, and social sciences, and the humanities, as well as for qualified new investigators who have completed their postdoctoral research training. The intent of these awards is to prepare individuals, who already are established and/or trained as researchers in specific disciplines, for the pursuit of independent research in gerontology. Positions are available for periods of 1 to 3 years. Salaries and starting dates, as well as the possibility of faculty appointments in cooperating academic departments, are negotiable. Potential faculty collaborators include: **W. A. Achenbaum, Ph.D.; R. C. Adelman, Ph.D.; D. Aminoff, Ph.D., D.Sc.; B. J. Cohen, D.V.M. Ph.D.; J. A. Faulkner, Ph.D.; B. E. Fries, Ph.D.; A. Gafni, Ph.D.; J. B. Halter, M.D.; A. R. Herzog, Ph.D.; J. S. House, Ph.D.; N. Krause, Ph.D.; J. Kuwada, Ph.D.; J. Liang, Ph.D.; M. A. Perlmutter, Ph.D.; D. Steel, Ph.D.; M. Supiano, M.D.; L. M. Verbrugge, Ph.D.; B. Villeponteau, Ph.D.; and T. P. White, Ph.D.** Applicants should forward a letter of interest, curriculum vitae and bibliography, and a detailed record of current and previous grant support to: **Richard C. Adelman, Ph.D., Director, Institute of Gerontology, The University of Michigan, 300 North Ingalls, Ann Arbor, MI 48109-2007.** *A Non-discriminatory Affirmative Action Employer.*

## TRAINING PROGRAM

**POSTDOCTORAL TRAINING PROGRAM IN NEUROBIOLOGY, COLUMBIA UNIVERSITY.** Emphasis is placed on the analysis of the cellular and molecular basis of neural development, behavior, and behavioral plasticity. Training faculty include: **Richard Ambron, Richard Axel, Craig Bailey, Jurgen Brosius, Vincent Castellucci, Jane Dodd, Michael Gershon, Claude Ghez, Daniel Goldberg, Robert Hawkins, Thomas Jessell, Eric Kandel, Arthur Karlin, John Koester, Irving Kupfermann, John Martin, Steve Rayport, Lorna Role, Samuel Schacher, James Schwartz, Eli Shapiro, Steven Siegelbaum, Ann-Judith Silverman, Gary Stuhl, Hadassah Tamir, Klaudiusz Weiss, and Robert Wong.** Applicants for this NIMH-sponsored program must have the M.D., Ph.D., or D.V.M. degree and be either U.S. citizens or have permanent residency status. Send curriculum vitae, a letter describing research interests, and three letters of reference to: **Admissions Committee, Postdoctoral Training Program, Center for Neurobiology and Behavior, 722 West 168th Street, New York, NY 10032.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

**POSTGRADUATE TRAINING PROGRAM IN RADIOLOGICAL SCIENCE;** 1 June 1988 opening for Ph.D. in the physical sciences to participate in a NIH-supported training program. The program affords an opportunity to enter the field of radiological sciences through formal courses, participation in seminars, and involvement in research. Areas of research include magnetic resonance imaging, positron emission tomography, kinetic modeling, and computer imaging. A requirement for appointment is U.S. citizenship or permanent resident status. Address correspondence to: **Dr. Nathaniel M. Alpert, Division of Radiological Sciences and Technology, Massachusetts General Hospital, Boston, MA, 02114.**

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIPS TOXICOLOGY

The University of Connecticut Toxicology Program has two openings (one immediate, one in the summer of 1988) for postdoctoral associates in biochemical/molecular toxicology. The NIEHS-supported program provides opportunities for research training with a focus on biochemical/pathological mechanisms of target organ toxicity, including toxicity of the hepatic, respiratory, cardiac, nervous, renal, and immune systems as well as teratologic, mutagenic, and analytical methods for investigating mechanisms and predicting toxicity. The toxicity of pesticides, metals, solvents, drugs and mycotoxins are of particular interest. Applicants must have a Ph.D., M.D., or D.V.M. degree and must be a U.S. citizen or permanent resident. The closing dates for applications are 1 January 1988 and 1 April 1988, respectively. Forward résumés and names of three references to: **Dr. Gerald Gianutos, Toxicology Program, University of Connecticut, School of Pharmacy, 372 Fairfield Road, Storrs, CT 06268.** *Applications from women and minorities are encouraged. We are an Affirmative Action/Equal Opportunity Employer, M/F (PER244).*

### PREDOCTORAL FELLOWSHIPS

Joint Graduate Program in Toxicology of Rutgers, The State University of New Jersey and The University of Medicine and Dentistry of New Jersey/Robert Wood Johnson Medical School. We are conducting a national search for scholars who wish to earn the M.S. and/or Ph.D. in toxicology. Our internationally recognized faculty will provide an opportunity for you to conduct research in cellular/molecular toxicology, immunotoxicology, hepatotoxicology, solvent toxicology, carcinogenesis, inhalation/respiratory toxicology, neurotoxicology, environmental and aquatic toxicology, and metabolism of environmental chemicals. Sources of graduate student support include a N.I.E.H.S. training grant, graduate teaching assistantships, and a variety of graduate research fellowships which include tuition and stipends. For further information please contact: **Dr. Robert Snyder, Director, Joint Graduate Program in Toxicology, Rutgers University College of Pharmacy, P.O. Box 789, Piscataway, NJ 08855-0789.** Telephone: 201-932-3720. *Rutgers, the State University of New Jersey is an Equal Opportunity/Affirmative Action Employer.*

## FELLOWSHIPS

### EAST-WEST CENTER, HONOLULU, HAWAII

**FELLOWSHIP IN RISK ASSESSMENT.** The Environment and Policy Institute of the East-West Center is seeking a Fellow to conduct research on the application of risk assessment to toxic chemical and air pollution problems in developing countries. The Fellow will work closely with EAPI research staff to plan and implement multinational studies using a broad-based systems approach.

Candidates should have a Ph.D. (or equivalent) in a relevant discipline plus 3 years of post-Ph.D. experience in risk assessment. Of particular interest are candidates with an understanding of quantitative risk assessment and of risk management considerations. Experience in Asian developing countries is desirable.

The starting date is flexible and the appointment will last from 6 to 12 months, with a possible extension. Stipend, depending on experience, will be \$2,500 to \$4,000 per month plus round-trip airfare. Please send a cover letter, curriculum vitae, and names, addresses, and telephone numbers of three references to: **Dr. Kirk R. Smith, Research Associate, EAPI, East-West Center, 1777 East-West Road, Honolulu, HI 96848.**

### POSTDOCTORAL FELLOWSHIP

A position is open in the Department of Ophthalmology for a person wanting additional postdoctoral training in mechanisms of viral immunopathology and enteroviral vaccine development. The position is for 2 years, and is available immediately. The salary is \$18,000 to \$24,000 per year. The successful candidate will have some experience and/or training in protein purification and immunochemistry. Please send curriculum vitae and name and address of three references to: **Dr. M. Langford, Department of Ophthalmology, Louisiana State University Medical Center, 1501 Kings Highway, Shreveport, LA 71130.** *An Equal Opportunity Employer.*

### RESEARCH/MUSEUM FELLOWSHIPS AMERICAN MUSEUM OF NATURAL HISTORY

Research/Museum Fellowships are available to postdoctoral researchers and established scholars starting in summer and fall 1988. Areas include vertebrate and invertebrate zoology, paleozoology, anthropology, mineral sciences, and the field of museum education as it relates to natural history museums or planetariums. Deadline for applications including Chapman Fellowships (ornithology) is 15 January 1988. Request information booklet and application from:

Office of Grants and Fellowships  
American Museum of Natural History  
Central Park West at 79th Street  
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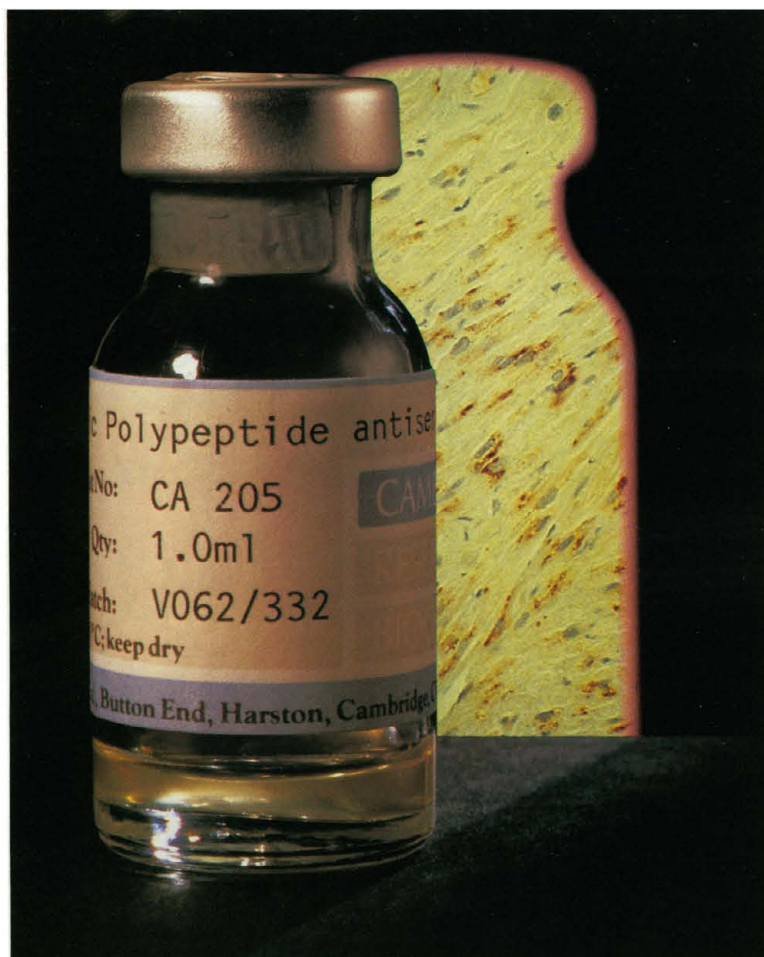
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