

enough to be explored by human beings and hence called caves is a secondary, although obviously enjoyable, concern of the author.

The first four chapters describe and classify the landforms of karst terrains, including both surface and underground morphology. The complex and ethnocentric terminology of karst landforms, drawn largely from Slavic, Spanish, and German research, is conveniently tabulated and reduced to a minimum of English-language terms. Even so, the descriptive terminology of karst remains formidable, and to a nonspecialist the economy of substituting "cutter and pinnacle" for "grike and clint" is not obvious. Chapters 5 and 7, on the chemistry of carbonate dissolution and the geochemistry of karst waters, form the heart of the book. These are excellent chapters for outside reading by students in geohydrology and geomorphology courses. They specifically apply to karst evolution, but because carbon dioxide dissolved in ground water is the most important factor in chemical weathering of other rocks as well, these chapters have wide applicability. Similarly, chapter 6, on karst hydrology, is a good review of the special problems of water movement through soluble rocks: Is the concept of a water table, or the application of Darcy's law, appropriate to karst terrains? When water flows through large interconnected conduits, should we apply surface-water or ground-water flow formulas? These are provocative and interesting topics.

The book weakens a little in its chapter on the Pleistocene history of karst evolution. Climate change has been important in karst development, and cave deposits are becoming useful as clocks and thermometers for the Pleistocene. Unfortunately, this topic is developing too fast to be reviewed in a general book on karst, and the concept the author espouses of only four Pleistocene ice ages is out of date. The recent increased appreciation of microorganisms in aqueous geochemistry is also not emphasized, given the physical-chemical approach of the book.

Following tradition and his own experience, the author concentrates on the landforms and processes in well-lithified and generally ancient carbonate rocks of Paleozoic and Mesozoic age. The widespread karst development on late Cenozoic tectonically emerged coral limestone terranes of tropical island arcs is barely mentioned. The classic "phytokarst" of Grand Cayman is noted but not defined, and a few references are made to coastal weathering of limestone, but the extensive, young, nearly pure limestones of coralline tropical islands are not otherwise mentioned. In a book about the weathering of limestone, it is odd that the word "coral" is never mentioned.

We are indebted to the author for this authoritative integration of a large, complex, and scattered polyglot literature. The book is an admirable cross-disciplinary synthesis applied to one of the more romantic landscapes of our planet.

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Geothermometry

Thermal History of Sedimentary Basins.

Methods and Case Histories. NANCY L. NAESER and THANE H. McCULLOH, Eds. Springer-Verlag, New York, 1988. xiv, 319 pp., illus. \$64. From a symposium, New Orleans, LA, March 1985.

Over the past decade, various thermal models have been proposed to explain the formation of sedimentary basins. At the same time, geological and geochemical studies have shown that certain sedimentary features provide an imprint of well-constrained temperature ranges.

Verification of thermal models of basin evolution by analysis of thermal imprints is one of many challenges in sedimentary basin analysis. This book has met the challenge by providing an outstanding demonstration of the type of imprints available from low-temperature geothermometry that can be used to evaluate such models. The book begins with a definitive overview chapter by the editors on various available methodologies for sedimentary geothermometry. Next follows an equally definitive paper by Blackwell and Steele on the significance of thermal conductivity measurements in sedimentary rocks. They demonstrate the importance of contrasting global heat budgets used in geophysical modeling with respect to internal thermal characteristics of basins controlled by magmatic intrusions, variation in radioactive heat production from both basement and sedimentary rocks, and lateral and vertical variation in thermal conductivity. Such local effects influence the thermal history of a sedimentary basin more than global effects. Because thermal conductivity measurements are limited, certain model assumptions lead to large-scale error in estimating thermal histories and organic maturation trends. Consequently, several published examples relying on unconstrained thermal conductivity measurements of shale have overestimated thermal budgets and hydrocarbon generation.

Next are three papers (by Creaney, Curiale *et al.*, and Barker) dealing with reactions of organic matter to geological heating,

thermal organic maturity indicators, and temperature and time considerations in organic maturation. Although their approaches differ, they show that different organic parameters in sediments constrain the temperature range a sedimentary basin and its sediment fills experience. A related paper by Armagnac *et al.* utilizes vitrinite reflectance to determine postdepositional erosional history.

Seven papers follow dealing with various mineralogical and geochemical indicators of low-temperature geothermometry. Approaches reviewed include utilization of selected trace element concentrations in formation waters (Kharaka and Mariner), fluid inclusions (Burruss), transformation of smectite to illite (Pytte and Reynolds), $^{40}\text{Ar}/^{39}\text{Ar}$ determinations of cooling histories of reheated detrital microclines (Harrison and Burke), and fission track dating (Naeser *et al.*, Green *et al.*, and Feinstein *et al.*). These techniques can be combined to calibrate temperature determinations (Feinstein *et al.*). A chapter on simulation methods (McDonald *et al.*) is included also.

The book closes with three excellent papers verifying geodynamic basin models from organic maturation data, clay mineral assemblages, and diagenetic mineral phases in extensional basins (Issler and Beaumont), a foreland basin (Hagen and Surdam), and transform margin basins (Heasler and Surdam). These chapters demonstrate clearly that well-constrained geodynamic models may be verified by a variety of geological observations and that combined approaches lead to fuller understanding of basin evolution and predicting occurrences of hydrocarbon and mineral resources.

In summary, the book is well worth reading, and any researcher interested in the evolution of sedimentary basins should possess a copy.

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Books Received

Advanced Turbo C Programming. Keith Weiskamp. Academic Press, San Diego, CA, 1988. xiv, 559 pp., illus. \$45.95.

Advances in Contemporary Neurology. Fred Plum, Ed. Davis, Philadelphia, 1988. xviii, 211 pp., illus. \$45. Contemporary Neurology Series, vol. 29.

Analysis of Psychiatric Drugs. Alan A. Boulton, Glen B. Baker, and Ronald T. Coutts, Eds. Humana, Clifton, NJ, 1988. xx, 547 pp., illus. \$79.50. Neuro-methods, vol. 10.

Animal Liberators. Research and Morality. Susan Sperling. University of California Press, Berkeley, 1988. xvi, 247 pp., illus. \$19.95.

Black Families in Crisis. The Middle Class. Alice F. Conner-Edwards and Jeanne Spurlock, Eds. Brunner/Mazel, New York, 1988. xiv, 305 pp. \$30.

Cutting Edge Technologies and Microcomputer Applications for Developing Countries. Report of an Ad Hoc Panel on the Use of Microcomputers for Developing Countries. Board on Science and Technology for International Development. Westview, Boulder, CO, and Intermediate Technology Publications, London, 1988. xiv, 489 pp., illus. \$29.95; paper, \$6.70.

Developmental Psychology. Childhood and Adolescence. David R. Schaffer. 2nd ed. Brooks/Cole, Pacific Grove, CA, 1988. xxiv, 680 pp., illus. \$38.

Digging Dinosaurs. John R. Horner and James Gorman. Workman, New York, 1988. 210 pp., illus., + plates. \$17.95.

Disorders of the Developing Nervous System. Changing Views on Their Origins, Diagnoses, and Treatments. John W. Swann and Anne Messer, Eds. Liss, New York, 1988. xiv, 277 pp., illus. \$42. Albany Birth Defects Symposium Volumes. From a symposium, Albany, NY, Sept. 1987.

Electronic and Photonic Applications of Polymers. Murrae J. Bowden and S. Richard Turner, Eds. American Chemical Society, Washington, DC, 1988. xiv, 372 pp., illus. \$94.95. Advances in Chemistry, vol. 218. From a symposium, Anaheim, CA, Sept. 1986.

Energy for a Sustainable World. Jose Goldemberg et al. Wiley, New York, 1988. xii, 517 pp., illus. \$39.95.

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Eukaryotic Transposable Elements as Mutagenic Agents. Michael E. Lambert, John F. McDonald, and I. Bernard Weinstein, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1988. xvi, 345 pp., illus. \$77. Banbury Report 30. From a conference, Cold Spring Harbor Laboratory, NY, April 1987.

Fishery Science and Management. Objectives and Limitations. Warren S. Wooster, Ed. Springer-Verlag, New York, 1988. ix, 339 pp., illus. Paper, \$49.50. Lecture Notes on Coastal and Estuarine Studies, vol. 28. From a workshop, Jan. 1987.

The Fractional Quantum Hall Effect. Properties of an Incompressible Quantum Fluid. T. Chakraborty and P. Pietiläinen. Springer-Verlag, New York, 1988. xii, 175 pp., illus. \$45. Springer Series in Solid-State Sciences, vol. 85.

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The Language of Biotechnology. A Dictionary of Terms. John M. Walker and Michael Cox. American Chemical Society, Washington, DC, 1988. viii, 255 pp., illus. \$49.95; paper, \$39.95. ACS Professional Reference Book.

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The Logarithmic Integral. Vol. 1. Paul Koosis. Cambridge University Press, New York, 1988. xvi, 606 pp., illus. \$89.50. Cambridge Studies in Advanced Mathematics, vol. 12.

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Molecular Biology of the Eye. Genes, Vision, and Ocular Disease. Joram Piatigorsky, Toshimichi Shinohara, and Peggy S. Zelenka, Eds. Liss, New York, 1988. xxxii, 471 pp., illus. \$96. UCLA Symposia on Molecular and Cellular Biology, vol. 88. From a symposium, Santa Fe, NM, Feb. 1988.

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Molecular Structure. Chemical Reactivity and Biological Activity. John J. Stezowski, Jin-Ling Huang, and Mei-Cheng Shao, Eds. International Union of Crystallography and Oxford University Press, New York, 1988. xxvi, 612 pp., illus. \$75. International Union of Crystallography Crystallographic Symposia, vol. 2. From a symposium, Beijing, China, Sept. 1986.

Morphogenesis and Evolution. Keith Stewart Thomson. Oxford University Press, New York, 1988. viii, 154 pp., illus. \$29.95.

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New Computer Methods for Global Optimization. H. Ratschek and J. Rokne. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1988. iv, 229 pp. \$49.95. Mathematics and Its Applications.

1929 Again? Terry R. Rudd. Bell Curve Research Foundation, Lewiston, ID, 1988. iv, 446 pp., illus. \$27.50. Reprint, 1986 ed.

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1988. xiv, 346 pp. \$49.50; paper, \$19.95. London Mathematical Society Student Texts, vol. 10. From a conference, Hull, U.K., 1986.

Peasants and Capital. Dominica in the World Economy. Michel-Rolph Trouillot. Johns Hopkins University Press, Baltimore, 1988. xvi, 344 pp., illus. \$35. Johns Hopkins Studies in Atlantic History and Culture.

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Philosophy of Biology Today. Michael Ruse. State University of New York Press, Albany, NY, 1988. x, 155 pp. \$29.50; paper, \$9.95. SUNY Series in Philosophy and Biology.

Progress in Crop Physiology. U. S. Gupta, Ed. Oxford and IBH, New Delhi, 1988. viii, 244 pp., illus. Rs 145.

Pyrolysis Oils from Biomass. Producing, Analyzing, and Upgrading. Ed J. Soltes and Thomas A. Milne, Eds. American Chemical Society, Washington, DC, 1988. xii, 353 pp., illus. \$74.95. ACS Symposium Series, vol. 376. From a symposium, Denver, CO, April 1987.

Quantum Processes in Semiconductors. B. K. Ridley, 2nd ed. Clarendon (Oxford University Press), New York, 1988. xii, 354 pp., illus. \$65; paper, \$29.95.

Quark Matter. H. Satz, H. J. Specht, and R. Stock, Eds. Springer-Verlag, New York, 1988. vi, 370 pp., illus. \$84.40. From a conference, Nordkirchen, F.R.G., Aug. 1987.

Quarks, Leptons, and Their Constituents. Antonio Zichichi, Ed. Plenum, New York, 1988. viii, 605 pp., illus. \$95. The Subnuclear Series, vol. 22. From a course, Erice, Italy, Aug. 1984.

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Rubberlike Elasticity. A Molecular Primer. James E. Mark and Burak Erman. Wiley-Interscience, New York, 1988. x, 196 pp., illus. \$35.

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The Selected Correspondence of Karl A. Menninger, 1919-1945. Howard J. Faulkner and Virginia D. Pruitt, Eds. Yale University Press, New Haven, CT, 1989. xiv, 432 pp. \$40.

Shamanic Odyssey. The Lushootseed Salish Journey to the Land of the Dead. Jay Miller. Ballena, Menlo Park, CA, 1988. xviii, 215 pp., illus. \$39.95; paper, \$28.95. Ballena Press Anthropological Papers, no. 32.

Transplacental Effects on Fetal Health. Dante G. Scarpelli and George Migaki, Eds. Liss, New York, 1988. xvi, 359 pp., illus. \$70. Progress in Clinical and Biological Research, vol. 281. From a symposium, Bethesda, MD, Nov. 1987.

Tree Breeding. Principles and Strategies. G. Namkoong, H. C. Kang, and J. S. Brouard. Springer-Verlag, New York, 1988. viii, 180 pp., illus. \$65. Monographs on Theoretical and Applied Genetics, vol. 11.

True BASIC by Problem Solving. Brian D. Hahn. VCH, New York, 1988. xiv, 337 pp. \$45.

United States Energy Policy, 1980-1988. U.S. Department of Energy, Washington, DC, 1988. (available from the Superintendent of Documents, Washington, DC). xxiv, 175 pp., illus. Paper, \$12.

The Weather Companion. An Album of Meteorological History, Science, Legend, and Folklore. Gary Lockhart. Wiley, New York, 1988. x, 230 pp., illus. Paper, \$12.95. Wiley Science Editions.

White Noise Theory of Prediction, Filtering and Smoothing. G. Kallianpur and R. L. Karandikar. Gordon and Breach, New York, 1988. xiv, 599 pp. \$149. Stochastics Monographs, vol. 3.

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Buffer Pads for Semidry Blotting

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Literature

Nalgene Labware 1989 is a catalog of beakers, bottles, cages, carboys, pipettes, filtering equipment, vials, and other laboratory products of plastic. Nalge. Circle 458.

Stable Isotopes is a brochure that describes the advantages of nonradioactive isotopes and services for synthesizing them. Icon Services. Circle 460.

Catalog 1989 lists buffers, enzyme test reagents, peptides, plant growth regulators, fluorescent label standards, tetrazolium salts, and biochemicals for brain research. Research Organics. Circle 481.

Fine Chemicals 1988-1989 is a 2200-page catalog of 24,000 types of laboratory chemicals, equipment, and glassware. Aldrich Chemical. Circle 482.

The brochure *RESPONSE UV/VIS Spectrophotometer* describes the features of an ultraviolet-visible scanning spectrophotometer that comes with applications software. Ciba Corning Diagnostics, Gilford Systems. Circle 483.

Modern Microscopy is a newsletter about light microscopy applications in environmental, forensic, and research and development applications. The McCrone Group. Circle 484.

Chemicals for Researchers, Manufacturers, and Large Users is a catalog of 1400 chemicals for biotechnology, diagnostic, and pharmaceutical industries. American Research Products. Circle 485.

MC100, MC63A is an 18-page brochure about two microscope cameras. Carl Zeiss. Circle 496.

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Cell Biologist, Ph.D., seeks directorship of an applications laboratory. Industrial (2.5+), academic, and medical school background. Successful experience in liaisoning with academic and industrial faculty, and teaching workshops. Supervisory and training experience in both academia and industry. Peer-reviewed publications, technical assistance, technical and grant writing. Excellent training includes "hands-on experience" with many different techniques in cell biology and biotechnology. Skills include microscopy, fluorescent probes, photomicrography, biochemistry, immunology, assay development. Salary and benefits competitive and commensurate with experience. Box 42, **SCIENCE**.

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Molecular Cytogeneticist, M.S., Ph.D. expected mid-1989. Experience in chromosomal research utilizing TEM, SEM, immunofluorescence, and differential interference contrast LM; preparation of polytene, plant, and human metaphase chromosomes; in situ hybridization procedures. Solid background in microbiology, botany, and pharmacology including DNA, plasmid (cosmid) isolation techniques; SDS-PAGE and agarose electrophoresis. Diptera and plant culturing. Present research involves immunoelectron gene localization with colloidal gold markers on polytene chromosomes and TEM chromosome mapping. Seeking end of 1989 position in academia, industry, or public sector. Box 38, **SCIENCE**.

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Science Writer/Editor for free-lance assignments. Biology degree and broad science knowledge. Research and foreign language skills. Douglas Garner, Box 7956, Austin, TX 78743-7956.

POSITIONS OPEN

ANATOMY AND CELL BIOLOGY FACULTY POSITION

GROSS ANATOMIST: Applications are invited for one tenure-track (rank open) faculty position available 1 September 1989. Candidate must have Ph.D. and active fundable research program in molecular cell biology, developmental anatomy, experimental or functional morphology. Experience in teaching gross anatomy is prerequisite. Teaching responsibilities include gross anatomy and participating in the graduate program. Salary and rank commensurate with qualifications. For full consideration, applicants should submit curriculum vitae, a statement of research and teaching interests, and names of at least three references by 31 May 1989 to: **Dr. Joel Cracraft, Chairman, Search Committee, Department of Anatomy and Cell Biology (M/C 512), University of Illinois at Chicago, IL 60680.** The University of Illinois at Chicago is an Equal Opportunity/Affirmative Action Employer.

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

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

Rush University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR IN MEDICAL MICROBIOLOGY

Applications invited for Ph.D. to teach immunology and virology to second-year medical students and assist in teaching laboratories. Commitment to teaching excellence. Rank and salary commensurate with qualifications. Research with clinical faculty encouraged. Send curriculum vitae plus names, addresses, and telephone of three current references by 1 May 1989 to: **Dr. L. Jensen, Microbiology Department, University of Health Sciences, College of Osteopathic Medicine, 2105 Independence Boulevard, Kansas City, MO 64124.** Applications encouraged from all qualified persons.

The Department of Neurology, University of Florida College of Medicine, invites applications for the position of **ASSISTANT RESEARCH SCIENTIST** to join behavioral neurology laboratory. Ph.D. in one of the behavioral sciences (psychology, anthropology) with comprehensive knowledge in the area of human neurobehavioral research. The successful candidate will demonstrate ability to integrate cross-cultural and evolutionary perspectives into neuropsychological research on emotions, nonverbal communication, language, and apraxia. Required experience working with neurologically impaired and normal populations using experimental neuropsychological methods and statistical analysis. Salary commensurate with experience. Send inquiries, curriculum vitae, and names of three references to: **Kenneth M. Heilman, M.D., Department of Neurology, J236, University of Florida, Gainesville, FL 32610.** Application deadline 1 June 1989. Anticipated starting date 1 July 1989. An Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR OF ANATOMY

We are seeking dynamic individual to be in charge of the histology lecture and laboratory courses, to assist in other didactic courses and to fulfill duties involving a combination of two or more of the following: research, clinical duties, and/or administrative duties: minimum required: O.D. or Ph.D. in anatomy, demonstrated experience and success in teaching, research, administration, grantsmanship and funding. Teaching knowledge of anatomy, ocular anatomy, and related subjects. Position available 1 July 1989. Interested candidates please submit résumé and salary history requirements to: **Director of Personnel, Pennsylvania College of Optometry, 1200 West Godfrey Avenue, Philadelphia, PA 19141.** Application deadline 31 May 1989. Affirmative Action Employer/Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR MOLECULAR PHARMACOLOGY OF ION CHANNELS

Tenure-track position with a 12-month state-funded salary, generous laboratory space and start-up funds are available in an established Biochemical Pharmacology Department which is expanding in the area of molecular pharmacology. Applicants should have strong research experience in the areas of ion channel biophysics and/or the application of molecular biological approaches to study channel structure or regulation. Send curriculum vitae, statement of research interests, and at least three letters of reference before 21 April 1989 to: **Dr. Linda M. Hall, Chair, Department of Biochemical Pharmacology, School of Pharmacy, 317 Hochstetter, SUNY at Buffalo, Buffalo, NY 14260.** *SUNY is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF ANATOMY

Applications are invited for appointment to a tenure-track position at the Medical College of Virginia of Virginia Commonwealth University. Candidates should have a Ph.D. or equivalent degree with at least 2 years of postdoctoral research training, show ongoing research productivity, and be willing to participate in the teaching responsibilities of the department. Preference will be given to applicants using contemporary molecular/cell biological approaches in areas compatible with the current research interests of the department, which include neurobiology and immunobiology. A candidate with currently funded research is highly desirable. The position becomes available 1 July 1989. Send curriculum vitae, the names of three references and a description of current research interests and expertise to: **Chair, Faculty Search Committee, Department of Anatomy, Medical College of Virginia, Virginia Commonwealth University, Box 709 MCV Station, Richmond, VA 23298-0709.** Review of applications will begin on 30 April 1989 and continue until a suitable candidate is identified.

Virginia Commonwealth is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

ASSISTANT PROFESSOR QUANTITATIVE EPIDEMIOLOGY OF PLANT PATHOLOGY. Applications are invited for a tenure-track position to conduct independent and collaborative research on the quantitative epidemiology of plant pathogens. Teaching duties include development of a graduate course in quantitative epidemiology. A Ph.D. with demonstrated experience is preferred. Send curriculum vitae, transcripts, selected reprints, a statement of research interests, and three letters of reference to: **Dr. A. H. Epstein, Iowa State University, Department of Plant Pathology, Ames, IA 50011-1020.** Deadline 15 May 1989, or until position is filled. *Affirmative Action/Equal Opportunity Employer.*

ASSOCIATE/FULL PROFESSOR OF CONSERVATION BIOLOGY AND ECOSYSTEM MANAGEMENT. The University of Michigan, School of Natural Resources is seeking applicants for the position of associate/full professor of conservation biology and ecosystem management. Nine-month, tenure-track research and teaching position with leadership responsibility of this new field of study. Positions may be filled by a person with Ph.D. and primary training in either biological or social sciences. However, if Ph.D. and experience are in social sciences, the applicant must have one degree in biology. Regional or national experience and commitment to this field are required together with demonstrated research performance commensurate with the appointment level. The School of Natural Resources is an interdisciplinary, research-oriented professional school focusing on the development of policies and management programs promoting the protection and sustained use of renewable natural resources, and on the training of practitioners and researchers these ends. Send curriculum vitae, statement of research interest, list of publications, transcripts of college work, and names of three persons able to evaluate leadership, research, and teaching skills to: **Dean's Office, The University of Michigan, School of Natural Resources, 3512 Dana Building, Ann Arbor, MI 48109-1115.** This position will remain open until filled. First review of applicants on 14 April 1989. This position is subject to availability of funds. *The University of Michigan is a Nondiscriminatory/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR, MICROBIOLOGY— LOUISIANA STATE UNIVERSITY

Applications are invited for a tenure-track assistant professor position beginning August 1989 in the Department of Microbiology. Candidates will have a Ph.D. degree and at least 2 years of postdoctoral experience. The ideal candidate will be one working on molecular aspects of eukaryotic microbiology, though outstanding candidates with other interests in microbiology will be considered. Salary is commensurate with qualifications and experience. Review of applications will begin on 17 April 1989 and continue until a suitable candidate is found. Please send curriculum vitae, a letter stating present and future research efforts, and the names and addresses of three references to: **Dr. M. D. Socolofsky, Chairman, Department of Microbiology, Louisiana State University, Baton Rouge, LA 70803-1715.**

Louisiana State University is an Equal Opportunity/Affirmative Action Employer.

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

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

Send résumé to:

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

BANTRELL FELLOWSHIP

The Division of Biology, California Institute of Technology, invites applications for Prize Postdoctoral Fellowships for Scientific Research. The competitively awarded Fellowships will be for 1 year initially; Fellows may compete for a second award. The annual stipend is \$32,000 to the awardee plus small research and travel allowances. *Applicants must be citizens of the United States or Israel.* Work may be associated with any faculty member of the Division. Applications, including curriculum vitae, list of publications, and research plan received by 15 April 1989 will be considered for the 1989 to 1990 academic year. Address inquiries to: **Dr. Norman Davidson, Interim Chairman, Division of Biology, Mail Code 156-29, California Institute of Technology, Pasadena, CA 91125.** *The Institute is an Equal Opportunity/Affirmative Action Employer and welcomes applications from women and members of minority groups.*

BIOCHEMIST

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

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

BIOMECHANICS: A tenure-track ASSISTANT/ASSOCIATE PROFESSOR position to conduct research and teach graduate and undergraduate students in kinesiology/exercise science. All areas of biomechanics (e.g., neuromuscular, modeling, sport) will be considered. Application letter, curriculum vitae, reprints, and three references should be sent by 15 April 1989 to: **Dr. L. Abraham, Kinesiology and Health Education, University of Texas, Austin, TX 78712.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

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

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

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

SCOTLAND UNIVERSITY OF EDINBURGH AND AGRICULTURAL AND FOOD RESEARCH COUNCIL INTERDISCIPLINARY RESEARCH CENTRE FOR ANIMAL GENOME RESEARCH DIRECTOR

Applications are invited for the post of Director of the Interdisciplinary Research Centre for Animal Genome Research. The Centre will be established during 1989 and will be supported for an initial period of 10 years, subject to regular peer review, by a substantial direct grant from the AFRC. It will pursue a research program in the field of genetic manipulation of vertebrate animals, and it will also act as a focus for multidisciplinary interactive projects in mammalian biology, agriculture, and medicine. It will have a core of scientific, technical, and managerial staff, advised, assisted and in some cases, directed by designated academic staff on partial secondment from the University and elsewhere. The Director will be a distinguished research worker in a field relevant to the program of the Centre, with proven experience of management. He will be employed by the University and appointed in consultation with the AFRC and will be responsible for all aspects of management and scientific direction.

The salary will be within the professional range. Further particulars may be obtained from: **The Secretary to the University, University of Edinburgh, 63 South Bridge, Edinburgh, EH1 1LS, Scotland,** to whom applications (fifteen copies) including curriculum vitae and the names and addresses of three referees, should be lodged not later than 15 April 1989. Overseas candidates need submit only one copy of the application. Please quote reference no. 61/89.

ENDOWED CHAIR IN AGRICULTURAL BIOTECHNOLOGY. The Oklahoma Agricultural Experiment Station has established an endowed chair to complement existing interdisciplinary research programs in arthropod-host and/or phytopathogen-host interactions. The department of academic appointment will be dependent on the research interests and qualifications of the candidate. Qualifications include an earned doctoral degree in an appropriate area of science, 6 years of research experience, an excellent record of publications, the ability to successfully obtain outside support, and the ability to work cooperatively with other scientists. Start-up equipment funding and continuing research support is available from a \$1-million endowment. The biotechnology program is supported by the new \$45-million Noble Research Center for Agriculture and Renewable Natural Resources. Applications should include a letter indicating qualifications and a general description of research achievements and goals, a complete curriculum vitae, and the names and addresses of at least five references. Applications will be accepted until a suitable candidate is identified. Nominations or applications should be sent to: **Dr. Tom Haan, 124 Agricultural Hall, Oklahoma State University, Stillwater, OK 74078.** *Oklahoma State University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ECOLOGIST/GENERALIST

Saint Francis College of Pennsylvania seeks an imaginative assistant professor of biology to teach ecology, botany, environmental science, microbiology and zoology. Some direction of undergraduate research expected. Candidates should provide evidence of ecologically-oriented research and interest in both bioethics and environmental education. Ph.D. desired. This is a pivotal appointment for our department. We must find a person whose enthusiasm can help our students gain a sense of excitement and purpose about environmental issues. Saint Francis College of Pennsylvania is located in Loretto, near Johnstown and Altoona. With an enrollment of over 1000 undergraduates, it is a liberal arts college in the Franciscan tradition. Reply to: **Dr. Wayne Takacs, Chair, Department of Biology, Saint Francis College, Loretto, PA 15940. Equal Opportunity Employer.**

ELECTRICAL ENGINEER: Design and construct specialized equipment for measuring hemoglobin deoxygenation within the adult human brain by a technique termed "near-red light spectroscopy." Evaluate photo detector circuits, PMT and silicon diodes, time sharing amplifying circuits, lock-in detectors and liquid crystal indicators. Develop an automatic phase tracking circuit for detecting positional variations of an x-ray synchrotron beam.

Qualifications: B.S. in precision instrument engineering with 2 to 3 years of experience in areas of beam position detection and control systems, high-frequency modulator laser beam system, and spectrophotometer.

Salary: \$18,650 per year.

Send résumés to: **Administrative Coordinator, D-501 Richards Building, Department of Biochemistry/Biophysics, School of Medicine, University of Pennsylvania, Philadelphia, PA 19104-6089, or call: 215-898-8796.**

FACULTY POSITION/tenure-track in the Division of Clinical Pharmacology, University of Colorado Health Sciences Center, Denver, Colorado. Qualifications include: (i) M.D. or M.D./Ph.D. degree; (ii) postdoctoral training in clinical pharmacology; (iii) board eligibility in internal medicine; and (iv) the ability to establish an independent research program. Applicants should forward curriculum vitae and the names of three referees to: **Alan S. Niles, M.D., Division of Clinical Pharmacology, UCHSC, Box C-237, 4200 East Ninth Avenue, Denver, CO 80262.**

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

FACULTY POSITION: CHEMISTRY/ORGANIC CHEMISTRY. Simon's Rock of Bard College invites applications for a faculty position in chemistry for fall 1989. Candidates should have a Ph.D. and a strong commitment to teaching. Responsibilities include teaching general chemistry, organic chemistry, supervision of student research and senior theses, and contribution to a non-majors science course. College teaching experience preferred. Send résumé, undergraduate and graduate transcripts and three letters of recommendation to: **Dr. Eileen T. Handelman, Dean of Science, Simon's Rock of Bard College, Great Barrington, MA 01230.**

Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION, MICROBIOLOGY. The Department of Anaerobic Microbiology, Virginia Polytechnic Institute and State University is seeking applicants for a tenure-track faculty position. Applicants should have postdoctoral experience. This is primarily a research position with some graduate teaching. The person will be expected to establish a competitive research program and attract external sources of funding. Previous research with anaerobic bacteria is not a requirement, but applicants should address how their research would involve anaerobes or anaerobic processes. Research interests could include, but are not restricted to, the following general areas: environmental or medical microbiology, degradation of toxic compounds, bacterial diversity, characterization, ecology or taxonomy. Deadline for applications is 20 May 1989; position begins 1 July 1989. Please refer to position #T3410 when applying. Send applications including curriculum vitae, a statement of plans for future research and addresses of three references to: **Selection Committee, Department of Anaerobic Microbiology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0305. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

FACULTY POSITION, Yale University: The Chemistry and Physics Departments at Yale University are looking to make a tenured joint appointment in the interface area between physics and chemistry involved with the study of molecular spectroscopy. Candidates should submit curriculum vitae and publication list and have three letters of reference sent to either: **Professor Peter Moore, Chairman, Chemistry Department, or Professor Thomas Appelquist, Chairman, Physics Department, Yale University, P.O. Box 6666, New Haven, CT 06511 by 24 April 1989. Yale University is an Affirmative Action/Equal Opportunity Employer and welcomes applications from qualified women and minority group members.**

FACULTY POSITION, ANAEROBIC MICROBIOLOGY. Tenure-track faculty position, for Ph.D. or equivalent, in research and graduate teaching related to characterization, identification, and taxonomy of clinical and normal flora of man, animals, and environment, including management and research utilization of a culture collection resource of over 60,000 characterized strains. Deadline for applications is 20 May 1989; position begins 1 July 1989. Please refer to position #T3406 when applying. Send applications to: **Selection Committee, Department of Anaerobic Microbiology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0305. An Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION—X-RAY CRYSTALLOGRAPHY

The Department of Biochemistry, Medical School at the University of Minnesota, invites applications for a tenure-track faculty position at the assistant or associate professor level. Candidates with professional distinction in research and writing and demonstrated effectiveness in teaching and advising will be considered for an associate professor position. Candidates demonstrating involvement in quality research accepted or published in peer-reviewed journals will be considered for an assistant professor position. Applicants should have a Ph.D. degree with expertise in x-ray crystallography and structural analysis of macromolecules. The successful applicant will be part of a group of scientists working in structural biology associated with the William F. Dietrich Chair program. The Structural Biology group complements a core of biophysical scientists in several departments in the Medical School and in the College of Biological Sciences. These departments maintain strong graduate programs in biophysics and molecular biology. The new opening includes ready access to state-of-the-art x-ray diffraction facilities and the Minnesota Supercomputer Institute.

Applications must be postmarked no later than 1 June 1989. Send curriculum vitae, a concise plan for future research, and the names of three references to: **Leonard J. Banaszak, Center for Structural Biology, Department of Biochemistry, Medical School, 4-225 Millard Hall, 435 Delaware Street, S.E., University of Minnesota, Minneapolis, MN 55455. The University of Minnesota is an Equal Opportunity Educational Employer, and specifically invites and encourages applications from women and minorities.**

The Arizona College of Osteopathic Medicine invites applications to fill **FACULTY POSITIONS** in all basic and clinical science departments. Must establish funded research programs. **1525 North Granite Reef Road, #6, Phoenix, AZ 85257.**

FACULTY POSITIONS—MOLECULAR ONCOLOGY AND DEVELOPMENT. Exciting opportunities at all levels exist in new program at Yale University. Applications are being accepted for tenure-track positions, to be filled over the next 3 years. Individuals with research interests in the molecular aspects of oncology or the development of multicellular organisms are invited to apply. Qualified candidates, Ph.D. or M.D., will have completed at least 2 years of productive postdoctoral research and will be expected to establish independent research programs. Interested applicants should submit curriculum vitae, along with a summary of research interests, and ask for three letters of reference to be sent to: **Dr. Sherman M. Weissman, Search Committee, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.**

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

FACULTY POSITION IN HUMAN NUTRITION CORNELL UNIVERSITY

The Division of Nutritional Sciences, New York State Colleges of Human Ecology and Agriculture and Life Sciences at Cornell University invites applications for a faculty position (rank open) in human nutrition. This is a 12-month, tenure-track appointment that begins as soon as possible. The successful applicant is expected to teach at the undergraduate and graduate levels and to maintain a strong research program based on the use of isotopic tracers that is suitable for training graduate students in human nutrition. In addition, she/he is expected to oversee the Division's new mass spectroscopy facility. Candidates should have a doctoral degree, postdoctoral experience, and the potential for outstanding accomplishments in research and teaching. Experience in mass spectrometry and the application of stable isotopes to research in human subjects is desirable. Send curriculum vitae, list of publications, brief statement of research and teaching interests, and three letters of reference to: **Dr. K. M. Rasmussen, Division of Nutritional Sciences, 111 Savage Hall, Cornell University, Ithaca, NY 14853-6301. Consideration of applications will begin on 1 May 1989.**

Cornell University is an Affirmative Action/Equal Opportunity Employer.

FOUNDING FACULTY, SAN MARCOS, THE CALIFORNIA STATE UNIVERSITY (CSU)

The Board of Trustees of The CSU invites applications from senior, tenured faculty for tenured appointments, to begin 1 July 1989, as founding faculty for its new campus at San Marcos. The faculty, working with a President to be appointed in 1989, will prepare for accreditation; advise on appointment of Deans, Academic Vice President, and needs for future faculty; design curriculum, organization, and collegial governance; effect transition from off-campus center to full university status; and advance relationships with the community. Candidates will have a record of achievement in teaching and in research, scholarship, or creative activity. *Affirmative Action candidates are especially encouraged.* Positions: Social and behavioral sciences (two from economics, political science, public administration, psychology or sociology); biological sciences (one); physical sciences (one); mathematics (one). Send a letter of application with a statement of interest and qualifications for the position and the scope of work described; curriculum vitae; names, addresses, and telephone numbers of at least three references; and other supporting materials by 14 April 1989 to: **Chair, Search Committee, San Marcos Campus, 800 West Los Vallecitos, San Marcos, CA 92069. Equal Opportunity/Affirmative Action, 503/504 Employer.**

IMMUNOLOGY POSITION OPENING

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

INSTRUCTOR, nuclear medicine and tumor biologist for a multidisciplinary group to study the case of nonclonal antibodies as carriers of radionuclides for diagnosis and therapy of human cancer and to teach residents. Candidate must demonstrate a commitment to basic research and academic medicine. Must be able to supervise personnel and develop and execute protocols independently. Must have experience in (i) monoclonal antibody production and technology, and tissue culture technique; (ii) use of radioactive materials and radiolabeling procedures; (iii) animal tumor models, animal surgical procedures, and biodistribution techniques including pharmacological and pharmacokinetic studies; (iv) equipment used in the nuclear medicine field; (v) human research protocols and applications. Minimal educational requirements: M.D. degree with 5 years of postdoctoral experience in clinical and basic science research. Salary: \$30,000 per year. Send résumés to: **Massachusetts Department of Employment and Training, Special Program Department, 19 Staniford Street, Boston, MA 02144, and refer to case number 9609.**

Biochemist

Pfizer Central Research, an industry leader in inflammation research, has an immediate opening for a biochemist to contribute to the discovery of new drugs for the treatment of inflammatory diseases. You will join well established, multidisciplinary research teams in the expanding Department of Immunology and Infectious Diseases and work in newly constructed facilities with state-of-the-art equipment.

This position requires a PhD degree in biochemistry or a related discipline, relevant postdoctoral experience and a record of accomplishments in your research endeavors. You should have a strong background in mediator-receptor interactions and signal transduction processes. Experience with cell culture and with techniques for protein isolation, purification and characterization is desirable. Prior work in the area of cell trafficking and/or intercellular communication would be helpful. Demonstrated project management skills, though not essential, are desirable.

This position offers an excellent opportunity for professional recognition and growth. 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: Dr. Jerry K. Larson, Assistant Director, Employee Resources, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.



Computer Science Positions

Inter American University of Puerto Rico - Department of Business Administration - invites applications for three (3) Visiting Professors of Computer Science positions on a full time basis for undergraduate teaching. The teaching will be conducted in Spanish. Candidates must have a M.S. in Computer Sciences or System Engineering and have college level teaching experience of three (3) years minimum. Starting salary of \$16,560.00. Deadline for applications will be one month after publication. Send resume and academic credentials to: Dean of Academic Affairs - Inter American University of Puerto Rico, San Germán Campus, Luna St., San Germán, Puerto Rico 00753.



**Inter American
University of Puerto Rico**

MICROPROBE CORPORATION DNA PROBE TECHNOLOGY THERAPEUTIC & DIAGNOSTIC PRODUCTS

MicroProbe, a rapidly growing company applying synthetic oligonucleotide technology to therapeutic and diagnostic products, has openings for Scientists and Research Associates in:

Molecular Biology: Experience in any of the following areas: regulation of gene expression, in vitro or in vivo manipulation of nucleic acids, virology, or development of DNA probe-based assays.

Chemistry: Bioorganic chemists, preferably with experience in nucleosides and nucleotides, and an individual with experience in oligonucleotide synthesis.

Senior Scientists will have a Ph.D. plus postdoctoral training. Research Associates will have an M.S., or a B.S. with experience.

MicroProbe is located in suburban Seattle and offers a stimulating research and development environment, a competitive salary and benefits package, plus an equity position.

Submit resume in confidence to:
MicroProbe Corporation
1725 220th Street SE
Bothell, WA 98021

Monsanto Crop Protection Technology

The Crop Protection Technology Group, an integral part of Monsanto Agriculture Company, located in suburban St. Louis, is committed to high quality basic and applied research in plant science. Monsanto is a leader in the development of new technologies in agriculture.

Discovery of Novel Pest Control Proteins

Ph.D. Biochemist, probably with post-degree experience, is needed immediately to create and develop novel strategies to discover proteins that can be engineered into plants for crop protection from insects and disease. The candidate must be strong in protein purification and general protein biochemistry with some experience in cell physiology and general metabolism. The position requires development of innovative/novel protein assays and investigations into molecular modes of action.

Biochemist/Enzymologist

B.S./M.S. with research experience to perform biochemical assays and isolate proteins in close collaboration with biology and chemistry discovery groups with the objective of producing pest resistant plants or chemical control agents. Laboratory experience in enzymology and protein purification using radioisotopes, electrophoresis, HPLC, chromatography methods and sterile technique is necessary.

The individuals will be expected to collaborate in a multidisciplinary project team. The candidates must have strong communication, interpersonal and presentation skills. An established publication record and a visible commitment to research will be important.

Please send curriculum vitae and names of three references to: Dr. Doug Sammons GG4C; MONSANTO COMPANY; 700 Chesterfield Village Parkway; St. Louis, MO 63198. Equal Opportunity Employer M/F/H/V.

Monsanto

POSITIONS OPEN

INVERTEBRATE ZOOLOGIST/ECOLOGIST—September 1989, tenure-track, assistant professor, salary dependent on experience and qualifications, to teach undergraduate and graduate courses in invertebrate zoology, ecology, and general biology and to have active research interests appropriate for undergraduate and masters' programs. Ph.D. in invertebrate zoology and/or ecology required. Send letters of application, statement of teaching and research goals, and résumé with names, addresses, and telephone numbers of three references to: **Dr. Leeds M. Carluccio, Chairman, Department of Biological Sciences, Central Connecticut State University, New Britain, CT 06050** by 24 April 1989. *CCSU is an Affirmative Action/Equal Opportunity Employer. Women, minorities, handicapped, and veterans are encouraged to apply.*

LABORATORY MANAGER—TOXICOLOGY

Chicago-based laboratory has a position for an individual with minimum of a master's degree in chemistry or related discipline who can qualify as a NIDA certifying official and also act as laboratory manager. Applicants should possess progressive management and production experience with a service-oriented laboratory. The high growth state-of-the-art toxicology laboratory offers an excellent compensation package. Send curriculum vitae to: **Poull Brien, Bio-Analytical Technologies, 2356 North Lincoln Avenue, Chicago, IL 60614.**

Beloit College seeks a 2-year **LEAVE REPLACEMENT** for August 1989, to teach general chemistry and biochemistry; research with undergraduates strongly encouraged. Ph.D. expected before or shortly after appointment. For assured consideration send résumé, statement of teaching experience and research interests, transcripts, and names of three references by 17 April 1989 to: **Professor Brock Spencer, Chemistry Department, Beloit College, Beloit, WI 53511.** *Beloit College is an Equal Opportunity and Affirmative Action Employer.*

MICROBIAL ECOLOGIST. Ph.D. in biology, microbiology, or ecology with experience in microbial ecology, detritus-based ecosystems and modeling who will determine process rates for formation of detritus in a study reach of the Upper Mississippi river, preferably from existing data or measurements to be made during the summer of 1989, or literature values if necessary. Integrate results in an existing nine-component model of carbon flow in the study reach and publish results. The position is available immediately and terminates at the end of the grant period 31 December 1989. Postdoctoral: \$2,000 to \$2,700 per month, depending on experience. Sabbatical support: subject to negotiation. Applications will be accepted until 21 April 1989, or until the position is filled. Send résumé, letter of interest, and names, addresses, and telephone numbers of three references to: **Richard E. Sparks, Illinois Natural History Survey, River Research Laboratory, Post Office Box 599, Havana, IL 62644.** Telephone: 309-543-3950. *The Illinois Natural History Survey is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are encouraged to apply.*

AUBURN UNIVERSITY POSITION IN MOLECULAR GENETICS

The Department of Botany and Microbiology of Auburn University invites application for a tenure-track position at the assistant or associate professor level. Preference will be given to candidates who document abilities in molecular genetics/cellular biology of higher plant systems. The successful candidate will be expected to contribute to at least one of the principal areas of research involvement of the Department. These include programs in molecular genetics and plant cell culture, and an emerging program in plant-microbial interactions in the rhizosphere. Applicants must have a minimum of 1 year of postdoctoral training and a strong background in biochemistry or molecular biology. Responsibilities include development of a creative and vigorous research program and participation in undergraduate and graduate level instruction. Please submit curriculum vitae, transcripts, reprints of recent publications, a statement of professional goals/research interests, and names of three references to: **Search Committee, Department of Botany and Microbiology, Auburn University, AL 36849-5407.** Telephone: 205-844-4830. This position is available immediately; applications will be accepted 31 May 1989 or until a suitable candidate is found. *Auburn University is an Equal Opportunity Educational Employer and encourages applications from minorities and women.*

POSITIONS OPEN

MOLECULAR AND CELLULAR BIOPHYSICS CORNELL UNIVERSITY POSTDOCTORAL RESEARCH ASSOCIATE

Research in cellular biophysics and molecular cell biology, particularly on cell surface receptor dynamics and transmembrane signalling mechanisms utilizing the facilities of our Development Resource for Biophysical Imaging and Optoelectronics. Current group interests include F_c receptors, lipoprotein receptors, intramembrane receptor interactions, conformational transformations and mechano-receptor mechanisms. The position includes some service as a cell biological and biochemical consultant for the Resource, and collaboration with its multidisciplinary users and collaborators and its largely biophysical staff. For measurements on cells in culture available technologies include the latest developments in quantitative electro-optical and confocal microscopic image acquisition, digital image analysis, picometer sensitivity interferometry, fluorescence photolysis and photobleaching photochemistry, and fluorescent photochemical indicators of cellular electrochemistry. Supporting facilities for tissue and cell culture, biotechnology, molecular biology, analytical biochemistry and physical and computer services are available.

Position appropriate for biophysical chemist, molecular cell biologist, cellular biophysicist or biochemist with background capability for interdisciplinary research and motivation to learn biophysical technologies.

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

The Ohio State University Department of Pediatrics is seeking a full-time **MOLECULAR BIOLOGIST** at the assistant to associate professor level with research interests in human development or the genetics of childhood diseases. This regular tenure-track position is open to research scientists with either Ph.D. or M.D. training. Laboratory space and equipment allowance will be offered in the new Wexner Institute for Pediatric Research located at Children's Hospital. The Institute offers excellent opportunities for building an independent research program in areas of oncology, immunology, neurobiology, nutrition, virology or gastroenterology in the pediatric patient. Ample opportunity exists for collaboration with investigators in other departments of The Ohio State University College of Medicine and Biotechnology Center. Contact: **M. Sue O'Dorisio, M.D., Ph.D., Professor of Pediatrics, Chairperson, Hematology/Oncology Molecular Biologist Search Committee, Children's Hospital, 700 Children's Drive, Columbus, OH 43205.** *The Ohio State University is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGIST

The Division of Pediatric Neurology, College of Physicians and Surgeons, Columbia University is recruiting a molecular biologist interested in inherited metabolic diseases that affect the developing nervous system. Salary and faculty rank based on educational background, training, and experience. Excellent collaborative opportunities. Send curriculum vitae to: **Darryl C. De Vivo, M.D., Neurological Institute, 710 West 168 Street, New York, NY 10032.**

Columbia University is an Equal Opportunity Employer.

MOLECULAR VIROLOGY

Two postdoctoral/research associate positions are available for individuals with expertise in molecular virology, cloning and expressing viral genes to join a group working on the biochemistry and molecular biology of herpesvirus, rotavirus and coronavirus. Individuals interested in molecular pathogenesis, viral receptors and novel systems for vaccine delivery are also encouraged to apply. Please send curriculum vitae to:

**Dr. Lorne Babiuk
Associate Director (Research)
Veterinary Infectious Disease Organization (VIDO)
124 Veterinary Road
Saskatoon, Saskatchewan
Canada S7N 0W0**

POSITIONS OPEN

MOLECULAR GENETICS OF RECEPTORS

SCIENTIST AND TECHNICIAN positions with Receptor Genetics Group. People with interests/backgrounds in molecular genetics, gene transfer, electrophysiology and molecular pharmacology should apply. The Group is conducting a privately funded collaboration at the Laboratory of Molecular Biology, NINDS, applying techniques of molecular genetics and pharmacology to the study of receptors. Contact: **Susan O'Malley, telephone: 301-496-0813.**

MOLECULAR GENETICIST to establish a new laboratory in our Department of Genetics. The successful candidate will be expected to develop a strong independent research program and will have opportunities to collaborate in ongoing research involving human subjects and our unique pedigreed colonies of 3,000 baboons and 1,200 marsupials. Major projects involve comparative gene mapping, genetic/dietary interactions in relation to lipoproteins and atherosclerosis, gene regulation in relation to hypertension-induced cardiac hypertrophy, genetics and gene regulation in relation to alcohol metabolism, X-chromosome inactivation, and primate evolution and speciation. This is an excellent opportunity for a creative scientist in a young expanding department. Salary and rank will be commensurate with experience. Please mail résumé, statement of research interests and names, addresses, and telephone numbers of three references to: **Personnel Director (15), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.** *Equal Opportunity Employer M/F.*

MOLECULAR PLANT PATHOLOGIST

Position available 1 August 1989 at the International Rice Research Institute (IRRI) for an associate plant pathologist to conduct research on the genetic and molecular basis of host-pathogen interactions and to apply molecular techniques to disease control and management in rice. Emphasis is on developing molecular approaches to isolate disease resistance factors to major rice diseases. The pathologist will participate in collaborative programs on rice biotechnology with laboratories in developed and developing countries. A strong background in molecular biology with broad experience in both prokaryotic and eukaryotic genetics is essential. A Ph.D. in plant pathology or a related biological science, and postdoctoral work, is required. Experience in rice pathology and genetics preferred. IRRI has a well-equipped laboratory and the infrastructure for conducting research in molecular biology. Salary and benefits are commensurate with those at similar international agricultural research institutions. Applications accepted until 30 April 1989, or until position is filled. Applicants should send curriculum vitae, a statement of research interests, and the names of three or more references to: **Dr. Klaus Lampe, Director General, IRRI, P.O. Box 933, 1099 Manila, Philippines.**

NEUROBIOLOGICAL RESEARCH. POSTDOCTORAL RESEARCH ASSOCIATE OR RESEARCH ASSISTANT PROFESSOR in biochemistry, cell biology, or molecular neurobiology to study the role of protein phosphorylation in synaptic/neuronal function in a laboratory with interests in affective illness, aging, Alzheimer's disease, and psychopharmacology. Please send résumé and names of three references to: **Dr. E. Friedman, Medical College of Pennsylvania, 3200 Henry Avenue, Philadelphia, PA 19129.**

NEUROBIOLOGIST

Beloit College, a distinguished 4-year, liberal arts college with 1100 undergraduate students, invites applications for a tenure-track, assistant professor position in neurobiology. Candidates must be strongly committed to quality teaching, eager to direct undergraduate research, and able to teach physiology, neurobiology, and other biology courses. Applications received by 10 April 1989 will receive full consideration. The position begins in mid-August 1989. Send application including curriculum vitae, statement of teaching and research interests, and names of three references to: **K. Yasukawa, Biology Search Committee, Beloit College, 700 College Street, Beloit, WI 53511.** *Beloit College is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

NEUROSCIENCE POSTDOCTORAL POSITION: Available 1 September 1989 (flexible), in active, multi-disciplinary laboratory, to study physiologic, morphologic, and neurochemical plasticity of hippocampal pyramidal cells and interneurons following clinically relevant lesions produced by excitatory amino acids and/or ischemia. The ideal candidate will have an interest in hippocampal microcircuitry, with some exposure to physiologic recording, and a desire to learn in vitro intracellular techniques. Send curriculum vitae, detailed statement of short-term research interests, and names of three references to: **Dr. P. A. Schwartzkroin or Dr. J. E. Franck, Department of Neurological Surgery, RI-20, University of Washington, Seattle, WA 98195.** *An Equal Opportunity Employer.*

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

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

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

PLANT PHYSIOLOGY—A TENURE-TRACK POSITION will be available in September 1989 for a plant physiologist, preferably whose expertise includes both laboratory and field approaches. Teaching duties include plant physiology, a junior seminar, an advanced course in the candidate's specialty, and participation in Allegheny's Liberal Studies program. In addition to teaching, establishment of a research program and direction of student research projects is expected. Substantial research support is available on a competitive basis from funds provided by the Howard Hughes Medical Institute. We are seeking individuals with demonstrated excellence in both teaching and research, as well as a strong commitment to liberal arts education. The successful applicant will also be expected to contribute to the design of our new biology building. Send curriculum vitae, statements of teaching and research interests, three reference letters, and graduate transcripts to: **Dr. Glen Wurst, Chair, Biology Department, Allegheny College, Meadville, PA 16335.** Review of credentials will begin 17 April 1989. *Equal Opportunity Employer.*

24 MARCH 1989

Opportunities for BS/MS in Biochemistry, Immunology, and Molecular Biology

The Institute for Arthritis and Autoimmunity (IAA) is engaged in a major expansion of its staff. IAA is the newest of four major research groups located at the newly-formed Miles Research Center in West Haven, CT near the Yale University Campus. The Center functions as a major research resource of Bayer AG of West Germany and its subsidiary, Miles Inc.

IAA is seeking applicants with a BS or MS to participate in research programs devoted to the study and treatment of rheumatoid arthritis and osteoarthritis. Specific areas of our research interest are described below:

CARTILAGE BIOLOGY

- Regulation and structure of cartilage proteases
- Molecular biology of the chondrocyte

IMMUNOREGULATION

- Analysis of animal models of arthritis and autoimmunity
- Analysis of the regulation of immune responses *IN VITRO* in both human and animal systems

HISTOLOGY

IAA is seeking a BS or MS with 5 or more years of experience in histology. This individual will be responsible for establishing and operating a histology laboratory. Experience with both frozen and hard tissue sectioning is preferred.

PROTEIN PURIFICATION

IAA is also seeking a BS or MS with 5 or more years of experience in protein purification to establish a laboratory able to purify proteins derived from recombinant DNA methods. Experience in tissue culture is preferred.

The positions offer attractive compensation commensurate with qualifications, generous benefits, and an excellent opportunity for personal growth and professional satisfaction. Resumes should be forwarded to: **Department DRA, Miles Research Center, 400 Morgan Lane, West Haven, CT 06516.**



An Equal Opportunity Employer M/F/H/V

**Research
Center**

**AIDS RESEARCH AT THE NATIONAL
INSTITUTES OF HEALTH
DIRECTOR OF PROTEIN EXPRESSION
LABORATORY**

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

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

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



Dr. Joseph E. Rall
Deputy Director for Intramural Research
Building 1, Room 126
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892

The National Institutes of Health, which is located 10 miles from the center of Washington, D.C., is the largest biomedical research institution in the world, and is an Equal Opportunity Employer.

**Marine Biological Laboratory
WORKSHOP ON
MOLECULAR EVOLUTION
August 20–September 1, 1989**

This workshop will consist of a series of lectures and discussions exploring multiple approaches to molecular evolution. This program is designed for established investigators, postdoctoral fellows, and advanced graduate students. The theoretical basis of comparative sequence analysis and phylogenetic tree construction will be presented. The evolution of mutation rates, introns, transposable elements, and multigene families will be examined. Model systems for the study of micro-evolution and the applicability of molecular phylogeny data towards understanding the evolutionary history of living systems will be described. Enrollment limited to 60 students. Financial aid is available to qualified applicants.

Co-Directors: Mitchell L. Sogin, National Jewish Center for Immunology and Respiratory Medicine and Mark Wheelis, University of California, Davis.

Cost: \$350, includes tuition, room and board

Application Deadline: June 1, 1989

For further information contact: **Admissions Coordinator, Marine Biological Laboratory, Woods Hole, MA 02543 (508) 548-3705, ext. 216.**



Research Scientist

Allergan Pharmaceuticals' Research Division has an immediate opening for a Research Scientist to join a multi-disciplinary team in the discovery of new drugs for the treatment of ophthalmic disease.

The position requires a Ph.D. or equivalent degree in Biochemistry, Anatomy or related discipline. Preference will be given to candidates with a strong background in cell differentiation and extracellular matrix interactions. The successful candidate will play a major role in strengthening and expanding the existing Wound Healing Research Group.

Allergan rewards employee contributions with excellent salaries, benefits, an employee fitness center and more. Please send your resume to: **Allergan Pharmaceuticals, Human Resources Dept. KW-S, 2525 Dupont Drive, Irvine, CA 92715.** Equal Opportunity Employer M/F/H/V.

Growth With Vision

 **ALLERGAN PHARMACEUTICALS**

**ION CHANNEL
PHARMACOLOGIST**

An opening exists in our CNS pharmacology group for a neuroscientist with expertise in patch clamp techniques. This individual would join a multidisciplinary drug discovery group actively engaged in the identification, characterization, and elucidation of the mechanism of action of agents affecting CNS function. A background in primary tissue culture and biochemical techniques would be a significant asset. A Ph.D. degree and 2 or more years of postdoctoral experience are required. An ability to work with state-of-the-art equipment and techniques are consistent with our modern approach to research and the candidate should have shown clear evidence of familiarity with these areas of expertise in his/her scientific publications.

We offer excellent compensation, comprehensive benefits and relocation assistance. Please send your curriculum vitae and names of three references in confidence to:

**Personnel Services Manager
(Refer to Job Code MWD)**

Merrell Dow

**MERRELL DOW
RESEARCH INSTITUTE
2110 East Galbraith Road
Cincinnati, OH 45215**
Equal Opportunity Employer M/F/H/V

MICROBIOLOGIST

Senior Scientist/Project Leader

DIFCO Laboratories, a world leader in products for the microbiology laboratory, has a position open for a creative, result oriented scientist with fundamental training in bacteriology relating to microbial physiology and clinical microbiology. Candidate should have a Ph.D. with solid training in microbiology, proven leadership and innovative skills. The successful applicant will lead projects relating to the development of new diagnostic products in the area of clinical microbiology.

DIFCO R&D Center is located in Ann Arbor, Michigan, home of the highly rated University of Michigan. Reply to:



Quality Products
for Microbiology

D. S. Kerschbaum
DIFCO LABORATORIES
Research and Development Center
1180 Ellsworth Road
Ann Arbor, MI 48108 USA
EOE M/F

Laboratory Scientist in Molecular Biology

Pfizer Central Research is seeking a dedicated experimentalist with a long term interest in working with state-of-the-art recombinant DNA techniques. You will join the Fermentation Process Research Department, exploiting its proprietary *Yarrowia lipolytica* system for secreting heterologous proteins, and will be responsible for introducing and establishing new laboratory methodologies.

You should have a BS or MS in Molecular Biology or a related discipline plus several years of relevant laboratory experience, and a demonstrated record of productivity. You should also be skillful at cloning, sequencing, and vector construction.

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



GLOBAL CLIMATE RESEARCHER

Los Alamos National Laboratory, an international leader in technological and scientific research and development, has an excellent opportunity for a researcher specializing in global climate change.

Contributing to an important interdisciplinary and collaborative effort, your primary responsibility will involve numerical modeling of global climate problems. Your researching will include simulating global climate changes through various effects, nuclear winter simulations and interfacing global scale and mesoscale physics and effects. You will assist in developing state-of-the-art modeling codes and in the application of codes to key problems.

The selected candidate must have demonstrated experience with a wide range of climate research along with proven skills in numerical modeling techniques, including code development and execution of models, applicable to global climate research. An understanding of the interaction of model results with observational data and familiarity with current climate research developments are essential. Effective communication and team skills are imperative; demonstrated leadership abilities are desired. We require a PhD in Atmospheric Sciences, Physics, Mathematics or an equivalent combination of education and relevant work experience.

If interested and qualified, please send a resume to: Molly Birely (MS P280), Personnel Services Division 90073-Y, Los Alamos National Laboratory, Los Alamos, NM 87545.

Affirmative Action/Equal Opportunity Employer. Must be able to obtain a Department of Energy Security Clearance.

University of California

Los Alamos

POSITIONS OPEN

PHARMACOLOGIST—Ph.D. or Pharm.D. to join Department of Anesthesiology in major teaching hospital. Responsibilities include independent research on anesthetic and related agents and assistance to anesthesiology staff and residents in research design, methodology, and reporting. Reply to: **Paul C. Royce, M.D., Ph.D., Vice President, Medical Affairs, Monmouth Medical Center, 300 Second Avenue, Long Branch, NJ 07740.**

PLANT-MICROBE MOLECULAR BIOLOGISTS

The Department of Microbiology at the University of Vermont is continuing to expand its research base in molecular biology. Tenure-track positions at the assistant and/or associate professor level are available in areas of molecular microbiology relevant to the agricultural sciences. Areas of interest include, but are not limited to, (i) molecular aspects of microbe-plant interactions (including viral, bacterial and fungal pathogens and symbionts) and (ii) molecular biology of photosynthetic microorganisms. Applicants' research programs are expected to address questions that relate to gene structure, expression or function. A Ph.D. and postdoctoral experience are required. The Department will be housed in a new Microbiology Center currently under construction. Start-up funds and interim renovated space are available. Faculty members hold appointments in both the College of Agriculture and Life Sciences and the College of Medicine. The Department's primary emphasis is on research; teaching responsibilities are to undergraduate, graduate and medical students.

The University of Vermont enrolls approximately 10,000 students and is ranked among the top "Public Ivies" for its academic excellence and agreeable atmosphere. Scenically located near the Green Mountains and on the shores of Lake Champlain, Burlington offers excellent cultural and recreational opportunities as well as proximity to Montreal and Boston.

Send nominations and applications with curriculum vitae, present and future research plans, and at least three letters of reference to:

**Search Committee
Department of Microbiology, Given Building
University of Vermont
Burlington, VT 05405**

Review of applications will begin immediately, and continue until the positions are filled. *An Equal Opportunity/Affirmative Action Employer. Women and minorities are especially encouraged to apply.*

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

POSTDOCTORAL FELLOW REGULATORY LIPID BIOCHEMISTRY AND CELL BIOLOGY

A postdoctoral position is available to participate in an ongoing research program focused on the biochemical characterization and cloning of key enzymes that modulate phospholipid synthesis and degradation. Candidates with a Ph.D. degree interested joining an energetic, multidisciplinary group applying contemporary techniques of molecular genetics, protein purification and antibody production to problems related to the regulation of lipid metabolism should submit their curriculum vitae, reprints and names of three references to: **Dr. Suzanne Jackowski, Biochemistry Department, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL ASSOCIATES to study cAMP-dependent kinase gene expression and structure/function using recombinant DNA and gene transfer methodologies. Positions available immediately with stipend support of up to \$30,000 per year.

Send curriculum vitae and three letters of reference to:

**Dr. Richard A. Maurer
Department of Physiology and Biophysics
University of Iowa College of Medicine
Iowa City, IA 52242**

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

POSTDOCTORAL FELLOW: A biochemist with strong background in analytical food chemistry and/or toxicology is required to work on a National Research Council-funded research project focused on "domoic acid" shellfish toxin. Previous experience in related field is desirable. Two-year appointment. Applications should include curriculum vitae, names and addresses of three references, and pertinent publications. Submit to: **Dr. M. S. Nijjar, Department of Anatomy and Physiology, University of Prince Edward Island, Charlottetown, Prince Edward Island, Canada, C1A 4P3.**

POSTDOCTORAL FELLOW: Yale University. A position is available beginning early summer 1989. We are engaged in two projects: (i) Sunlight-related step of human skin cancer including sequencing mutations in oncogenes from basal and squamous cell carcinomas. (ii) Excision repair of UV photoproducts at the DNA sequence level. Applicants should have Ph.D. or M.D. with experience in molecular biology, skin cancer, or human genetics. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. Douglas E. Brash, Yale University School of Medicine, 333 Cedar Street (HRT-315), New Haven, CT 06510.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW/INSTRUCTOR DEPARTMENT OF BIOCHEMISTRY AVAILABLE 1 JUNE 1989

To study molecular biology of connective tissue related diseases. Candidates should have experience in molecular biology. Salary commensurate with experience. Send curriculum vitae and names of three references to:

**Klaus E. Kuettner, Ph.D., Chairman
Department of Biochemistry
Rush-Presbyterian-St. Luke's Medical Center
Chicago, IL 60612-3864**

POSTDOCTORAL FELLOWSHIP available immediately to study molecular genetics of connective tissue biogenesis. Projects to include analysis of mutations in connective tissue genes associated with heritable disorders and experimental approaches to gene therapy. Experience with molecular biology techniques a must, and experience in mutagenesis and expression of cloned genes would be a plus. Funding by NIH training grant with salary negotiable. Send curriculum vitae, reprints, and cover letter to: **Dr. Richard Wenstrup, Box 3135, Duke University Medical Center, Durham, NC 27710.**

POSTDOCTORAL POSITION at Long Island Jewish Hospital available to study molecular and cellular mechanisms underlying the regulation of brain opioid systems after exogenous drug administration in the developing central nervous system. Experience with molecular biological techniques desirable but willing to train. Salary commensurate with NIH pay scale and experience. Send curriculum vitae, names of three references and a description of experience and career goals to: **Dr. Ann Tempel, Department of Neuroscience—603 RFK, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.** *Albert Einstein/LIJ are Affirmative Actions/Equal Opportunity Employers.*

POSTDOCTORAL POSITION available immediately for 2 to 3 years to study the cellular regulation of goblet cell mucus glycoproteins. Experience in protein chemistry and/or molecular biology required. Send curriculum vitae and the names of three references to: **Dr. K. C. Kim, Pulmonary Center, Boston University School of Medicine, 80 East Concord Street, K-603, Boston, MA 02118.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study antibiotic proteins from human phagocytic cells. Research program includes the biochemistry and mechanism of action of these proteins, their localization in phagocytes under various states of activation, their presence and/or activity in syndromes marked by defective leukocyte function, and the cloning and expression of their genes. Experience in molecular biology and/or biochemistry is desirable. Salary is competitive and commensurate with experience. Send curriculum vitae, and names, addresses and telephone numbers of three references to: **Dr. Joelle Gabay, Box 57, Department of Medicine, Cornell University Medical College, 1300 York Avenue, New York, NY 10021.**

POSTDOCTORAL POSITION available in Department of Pathology at New York University Medical Center to study mechanisms of control of malignant growth and metastasis. The project will focus on defining the cellular distribution, biochemical characterization and functional aspects of a novel growth inhibitor. Stimulating academic environment. Salary, \$25,000. Please send curriculum vitae with names and telephone numbers of three references to: **Dr. Leslie Gold, New York University Medical Center, 400 East 34th Street, New York, NY 10016.** Telephone: 212-340-6320.

POSTDOCTORAL POSITION in plant physiology available summer/fall 1989 for 2 years to investigate root/soil interactions related to uptake of toxic elements. Submit curriculum vitae, a brief statement of research goals, and a list of three or more references to: **Dr. D. C. MacLean, Boyce Thompson Institute, Tower Road, Ithaca, NY 14853.** Telephone: 1-607-254-1234. *BTI is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available September 1989 to discover and map highly polymorphic marker loci in the human genome based upon "microsatellites." (See M. Litt and J. Luty, *American Journal of Human Genetics*, March 1989.) Experience with DNA cloning and sequencing helpful. Good communication skills and ability to work as part of a team are essential. Send curriculum vitae and telephone numbers of three references to: **Dr. Mike Litt, Biochemistry Department, Oregon Health Sciences University, L224, 3181 SW Sam Jackson Park Road, Portland, OR 97201.** *OHSU is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION in the analysis of structure and function of integrin cell adhesion receptors utilizing immunochemical, biochemical, and recombinant DNA approaches. Background in protein chemistry or molecular biology helpful. Reply with curriculum vitae and three references to: **Dr. Mark H. Ginsberg, Research Institute of Scripps Clinic, La Jolla, CA 92037.**

POSTDOCTORAL POSITION. Applications are invited for a postdoctoral position to study the modulation of transmitter release by neurotoxins at the neuromuscular junction. Applicants should have an M.D./Ph.D. or Ph.D. degree with experience in single-channel and whole-cell recording techniques. The successful applicant will join a multidisciplinary neurobiology program with investigators from the Departments of Medicine, Neurology, Pharmacology, Physiology, and Pathology. Send curriculum vitae, and the names and addresses of three references to: **Dr. Lance Simpson or Dr. Lee Chabala, Department of Medicine, Jefferson Medical College, 1025 Walnut Street, Philadelphia, PA 19107.** *Thomas Jefferson University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION: A postdoctoral position is available immediately for the study of the regulation of *in vivo* IgE production in mice by lymphokines and T cell help and the role of protective immunity in parasitic infections. Applicants should have cellular immunology experience. Send curriculum vitae and names of three references to: **Dr. Ildy M. Katona, Department of Pediatrics, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799.** *USUHS is an Equal Opportunity/Affirmative Action Employer.*

NORTHWESTERN UNIVERSITY

DIRECTOR, OFFICE OF RESEARCH SAFETY

Northwestern University is seeking a Director for its Office of Research Safety, a centrally administered unit having responsibilities on both the Chicago and Evanston campuses. The Office's duties encompass radiation safety, chemical, biological and rDNA safety, and hazardous waste management.

The Director is responsible for program planning and development as well as maintaining regulatory compliance with applicable federal and state regulations and University policies. Candidate should have a Ph.D. or equivalent degree in health physics, environmental health, chemistry or a related field. At least 5 years of experience, including administration, in an environmental health program or office required. The Director reports to the Vice President for Research and Dean of the Graduate School through the Director of Research Services Administration.

The position is currently available and applications will be reviewed until the position is filled. Applicants should submit a resume, including the names of at least three references, to: **Search Committee,**

**Northwestern University
Research Services
Administration
633 Clark Street
Evanston, IL 60208.
Equal Opportunity
Employer M/F.**



Research Section Head

Challenging opportunity for a professional Ph.D. Scientist to direct cancer research including developing & conducting scientific research studies, supervising in-vivo & in-vitro laboratories and coordinating interinstitutional collaborations. Qualifications: A related Ph.D. & 5 yrs post-doctoral experience with biochemistry cell culture & molecular biology. Successful candidates must be eligible for faculty appointments in affiliated medical school based on publication records & experience.

Position offers an excellent salary & benefits package. For consideration, send resume stating salary history/requirements to our Employment Office.

**Long Island Jewish
Medical Center**
400 Lakeville Road,
New Hyde Park, N.Y. 11042
LJMC is an equal opportunity employer



DIRECTOR OF MOLECULAR NEUROBIOLOGY



**Impact
products,
processes
and your
career**

Hoechst-Roussel Pharmaceuticals Inc., an internationally based pharmaceutical company and world leader in CNS research, has an immediate opening in its Neurosciences Research Group for a Director to set up and head its newly created Molecular Neurobiology Department.

This Department will work in close collaboration with existing innovative drug discovery groups in CNS Pharmacology, Biochemical Pharmacology and Medicinal Chemistry. Emphasis of the group will be on development of methodology and basic knowledge relevant to establishing IN VIVO/IN VITRO models for the evaluation of drugs to treat Alzheimer's disease, schizophrenia and affective disorders. Particular focus will be on identification, isolation, and characterization of genes and gene products associated with these diseases, and the study of gene regulation mechanisms.

Requirements of this position include a Ph.D. in molecular biology, neurobiology, biochemistry, or a closely related field with extensive experience in the study of gene expression in the central nervous system. The successful candidate will also have a significant record of research accomplishments in molecular biology and a demonstrated ability to direct a multi-disciplinary research team.

Position is located in our modern research facilities on a 110-acre campus in Bridgewater, New Jersey, convenient to good housing, recreation and educational facilities, and offers a comprehensive salary and benefits package.

Please send resume with salary requirements in confidence to: Nancy Wilkerson, Manager, Human Resources, Building M-303, Department 36, Hoechst-Roussel Pharmaceuticals Inc., Route 202-206, P.O. Box 2500, Somerville, NJ 08876-1258. An Affirmative Action Employer M/F/H/V.

Hoechst Celanese

Hoechst

R&D Group Leader/ Sr. Research Chemist Technology Transfer

**Newly formed group takes you
beyond traditional parameters**

To a dedicated, energetic scientist whose broad skills and flexibility adapt to many changing situations, this world class manufacturer of advanced diagnostic instrumentation will offer new opportunity to demonstrate innovative leadership.

Working in the area of non-isotopic immunodiagnostic testing, the professional selected will take the initiative in applying new technologies to improve product development and production processes. Will use both entrepreneurial and scientific expertise to impact a wide range of developmental stages.

Qualifications include PhD in biochemistry, immunology or related field with 3 or more years applicable experience, or MS/BS with 8 or more years. Strong communications/interpersonal/supervisory skills a must.

An excellent salary and benefits package will be offered in a climate of continuing growth opportunity. To find out more, please send resume including salary history/requirements to: Attn: Human Resources Department, Becton Dickinson, Advanced Diagnostics, 13 Mountain View Avenue, Orangeburg, NY 10962-1294. We are an equal opportunity/affirmative action employer. Minorities and females are encouraged to apply.

Superior quality is the only way

**BECTON
DICKINSON**

POSITIONS OPEN

POSTDOCTORAL POSITION available for a Ph.D. in chemistry or biochemistry to study the mechanism of the electron transfer reactions of the membrane protein, cytochrome P-450. Experience with enzyme kinetics and/or stopped-flow spectrometry helpful. Salary negotiable. Send curriculum vitae and three letters of recommendation to: **Dr. L. Waskell, M.D., Ph.D., VA Medical Center, University of California, San Francisco, 4150 Clement Street, San Francisco, CA 94121.** *Equal Opportunity Employer/Affirmative Action.*

POSTDOCTORAL POSITION IN GENETIC EPIDEMIOLOGY. Immediate opening for an individual with a strong background in quantitative genetics or human population genetics and an interest in genetic mediation of disease susceptibility, to collaborate with investigators in our Population Genetics Laboratory (**Drs. Jean MacCluer, Candace Kammerer, and Bennett Dyke**). Ongoing projects include investigations of genetic factors in atherosclerosis and heart disease (using data from human families and from our pedigreed baboon and marsupial populations), comparative gene mapping, and evaluations of methods of genetic analysis. Please send résumé, statement of research interests, and names, addresses, and telephone numbers of three references to: **Personnel Director (21), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.** *Equal Opportunity Employer M/F.*

POSTDOCTORAL POSITIONS are available in two research areas: (i) computer-assisted and molecular studies of cell motility and chemotaxis in *Dictyostelium* and leukocytes, and (ii) the molecular biology of gene regulation during dedifferentiation and the possible role of genetic transposition on developmental timing in *Dictyostelium*. Send curriculum vitae and names of two references to: **Dr. David R. Soll, Department of Biology, University of Iowa, Iowa City, IA 52242.** *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MASSEY UNIVERSITY PALMERSTON NORTH, NEW ZEALAND POSTDOCTORAL POSITION IN PROTEIN CRYSTALLOGRAPHY

Applications are invited for a postdoctoral position in protein crystallography with an established group in the Department of Chemistry and Biochemistry.

The project is aimed at the determination of the three-dimensional structures of heat-stable enzymes by x-ray crystallography through the preparation of diffraction-quality crystals of enzymes and subsequent x-ray structure analysis. Mutants of several of the enzymes are currently being prepared. The appointee will also have the opportunity to participate in other protein structural projects in the laboratory.

Applicants with experience in protein crystallography are preferred, but small-molecule crystallographers or biochemists with an interest in protein structure are also invited to apply.

Facilities include CAD4 diffractometer, Evans and Sutherland PS330 interactive graphics system, Optronics microdensitometer, and rotating anode generator.

The position, which is for a period of up to 2 years, is available immediately. Further information may be obtained from **Dr. E. N. Baker** at the University.

Salary: NZ\$35,000.

Applications, including curriculum vitae, a list of relevant publications and the names and addresses of three referees, close with: **Mrs. V. B. Bretherton, Personnel Section, Massey University, Palmerston North, New Zealand,** on 30 April 1989.

POSTDOCTORAL POSITION IN IMMUNOLOGY—Available immediately for a Ph.D. in cellular/molecular immunology to work on NIH-funded grants on cancer immunology and autoimmunity. Send résumé and three references by 1 April 1989 or until position is filled to: **Dr. Mitzi Nagarkatti, Department of Biology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.** *VPI&SU is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION MOLECULAR BIOLOGY/CELL BIOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

Available 1 May 1989 to study the regulation of expression and structural domains of regulatory serine protease inhibitors. Candidate must have demonstrated proficiency in cloning mammalian cell genes using cDNA libraries and synthetic oligonucleotides. Starting salary \$21,000 to \$24,000 plus benefits. Submit curriculum vitae and brief summary research experience to: **Dr. Daniel J. Knauer, Department of Developmental and Cell Biology, Steinhaus Hall, University of California, Irvine, Irvine, CA 92717.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS in Taiwan available to study (i) genetic recombination and genetic instability in *Streptomyces* or (ii) genetic regulation of amino acid biosynthesis in filamentous fungi. Recombinant DNA expertise required. Salary approximately U.S.\$14,000 plus round-trip airfare and possible free housing. Send curriculum vitae and names of three references to: **Dr. Carton W. Chen, Institute of Genetics, National Yang-Ming Medical College, Shih-Pai, Taipei, Taiwan, Republic of China.**

POSTDOCTORAL POSITION IN RESPIRATORY NEUROPHYSIOLOGY

Position available for September 1989 to study synaptic interactions between respiratory neurons in the medulla and spinal cord, including the identity and functional properties of neurotransmitters. Project involves extra- and intracellular recording, pressure- and micro-electrophoresis and computer methods. Salary range \$18,000 to \$20,000. Send résumé and three letters of reference to: **Peter M. Lalley, Ph.D., Department of Physiology, University of Wisconsin, 470 North Charter Street, Madison, WI 53706.**

Cell Culture in Molecular Genetics

Pfizer Central Research is seeking a person expert in the techniques of cell culture to be responsible for an expanding centralized cell culture facility within the Molecular Genetics Department at our Groton, Connecticut research laboratories.

You must have either a BS or MS degree with several years of research experience in cell culture. In addition, you should have experience in transformation/transfection techniques of mammalian cells using purified DNAs and/or experience with primary cell culture.

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



Computer Science Positions

Applications are welcome for two (2) Visiting Professor (Full Professor Level) positions in Computer Sciences, for undergraduate teaching in Spanish. The candidate must have a Doctorate in Computer Sciences or equivalent. Teaching Experience of four (4) years minimum, Research and Leading Experience Recognized. Teaching load of 15 hours-credit weekly. Salary \$28,200.00. Deadline one (1) month after publication. Send resume and sustain documents to: **M. García, Director of Mathematics and Computer Sciences Dept., P.O. Box 1293, Hato Rey, Puerto Rico 00919,** and/or **Dr. Federico Matheu, Inter American University of Puerto Rico Chancellor - San Germán Campus, Luna St., San Germán, Puerto Rico 00753**



**Inter American
University of Puerto Rico**

BIOTECHNOLOGY

SCIENTIST

Analytical Development

Cetus Corporation, a leader in biotechnology, has an opening in the Analytical Development Group for a Scientist to help lead a group of six researchers in the development of immunoassays and DNA assays in support of the production of recombinant products.

Requirements include a PhD/MS or equivalent experience in immunology or allied field, with a minimum of 2-4 years' experience developing immunological and DNA assays. Demonstrated supervisory skills are also required; biotechnological/pharmaceutical experience is desirable.

Cetus offers an excellent benefits package along with an environment that encourages innovation and growth. For consideration, please send your resume to Cetus Corporation, Box MG, 1400 Fifty-Third Street, Emeryville, CA 94608. We are an Equal Opportunity Employer.



ASSISTANT/ ASSOCIATE INVESTIGATOR

The Lindsley F. Kimball Institute of The New York Blood Center

Position available for **Ph.D. in molecular biology/immunology** to work with Dr. A.R. Neurath, biochemical virology laboratory.

Applicant must have four or more years of postdoctoral experience, and publication record demonstrating innovative and independent research accomplishments. Will also be expected to participate in the design of immunogens eliciting B-and T-cell immunity against human viruses, including the human immune deficiency virus. Salary range \$32,000-\$50,000, depending upon experience and rank of appointment.

Send resume and three letters
of recommendation to:

**S.L./Human Resources Dept
The New York Blood Center
310 East 67th Street, NY, NY 10021**



THE NEW YORK BLOOD CENTER

Equal Opportunity Employer M/F

Senior Scientists

Molecular Diagnostics Division of Life Technologies, Inc. has immediate openings for Ph.D. scientists in its Molecular Probe Technology Group.

• **Senior Scientist, Nucleic Acid Amplification.** The selected candidate will plan and perform research projects leading to new and state-of-the-art methods for amplification of nucleic acids. Applicants ideally should have post-doctoral experience and demonstrated creativity in *in vitro* manipulation of nucleic acids. Please cite position J.H.

• **Senior Scientist, Nucleic Acid Probes.** The selected candidate will plan and perform research projects leading to development of nucleic acid probes and application of novel nucleic acid amplification methods to diagnostic assays. The ideal candidate will have a Ph.D. degree and several years of post-doctoral experience in molecular biology/microbiology. Experience in development of DNA probe assays is desirable. Please cite position A.R.

• **Research Associate.** Individuals with experience in molecular biology, microbiology or immunochemistry are needed to join our active research program for development of diagnostic assays and nucleic acid amplification technologies. A Masters degree or Bachelors degree with several years of experience is required. Please cite position V.F.

For consideration, please send resume or C.V. to:

Richard L. Hotaling, Jr.
Personnel Manager, MPT
Life Technologies, Inc.
Molecular Diagnostics
8717 Grovemont Circle
Gaithersburg, MD 20877
(A suburb of Washington, D.C.)

LIFE TECHNOLOGIES, INC.
MOLECULAR DIAGNOSTICS DIVISION

An equal opportunity employer, M/F/V/H

POSITIONS OPEN

POSTDOCTORAL POSITION for research on mammalian germ cells and embryo development using transgenic mouse models. Apply with curriculum vitae to: **Dr. R. L. Brinster, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA 19104.**

POSTDOCTORAL POSITIONS

Postdoctoral openings are available in the Department of Molecular Biology and Biochemistry at the University of California, Irvine. These positions are for 1 or 2 years under the sponsorship of the following faculty members: **R. Davis:** biochemical genetics of *Neurospora*. **B. K. Burgess:** biochemistry and genetics of nitrogen fixation. **G. A. Granger:** cell and molecular mechanisms operative in cellular immunity. **B. A. Hamkalo:** eukaryotic chromosome structure and function. **H. Y. Fan:** animal virology nucleic acid studies in murine leukemia viruses. **J. E. Manning:** gene sequence organization in eukaryote DNA, electron microscopy. **Michael B. O'Connor:** molecular genetics of development. **Donald F. Sencar:** regulatory energetics and protein-DNA assemblies. **W. M. Stanley, Jr.:** protein biosynthesis in eukaryotic cells. **K. K. Tewari:** nucleic acids of chloroplasts and other organelles. **E. K. Wagner:** nucleic acids and molecular biology of herpesvirus replication. **C. A. Woolfolk:** general microbiology, enzymology. **M. G. Cumsy:** mitochondrial biogenesis, mitochondrial protein import and gene expression in yeast. **L. P. Villarreal:** molecular biology of small DNA viruses. **R. Miledi:** neurotransmitter receptors and synaptic functions. **C. Glabe:** developmental biology; cell-cell interactions. **S. Tewari:** neuro-molecular biology and CNS acting drugs. For further information contact or write to: **The Department of Molecular Biology and Biochemistry, University of California, Irvine, Irvine, CA 92717. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS (2 years) available 1 June 1989, one each in two of the following areas. (i) Host plants, natural enemies, and geography: interactive influences on insect life histories and modes of speciation; must have interest in ecology and evolutionary biology; contact: **T. K. Wood.** (ii) Mechanisms and effects of herbivore-induced chemical responses in cucurbits; experience with natural products chemistry or plant physiology required; contact: **D. W. Tallamy.** (iii) Cellular immune response of insects to infective stages of fungal pathogens and determinants of pathogen host range; familiarity with techniques of insect physiology, biochemistry, or pathology; contact: **C. B. Keil.** (iv) development of alternative controls (antifeedants, predators and bacteria) for Colorado potato beetle; background in insect ecology or integrated pest management preferred; contact: **J. A. Hough-Goldstein.** Call contacts: **302-451-2526**, for details. Send curriculum vitae, statement of research interests and three letters of reference by 17 April 1989 to appropriate contact at: **Department of Entomology and Applied Ecology, University of Delaware, Newark, DE 19717-1303. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Immediate opening for biochemist or chemist to work on development of biosensors using antibodies and antigens attached to microelectrodes. Experience with protein chemistry and antibodies is desirable, but not essential. The successful applicant will join a multidisciplinary team of biologists, biochemists, surface chemists, and chemical engineers working on biosensor technology in The Electronic Design Center at CWRU. Excellent salary and fringe benefits. Write or call: **Professor James E. Zull, Department of Biology, Case Western Reserve University, Cleveland, OH 44106, Telephone: 216-368-3572. CWRU Is An Equal Opportunity Employer.**

QUANTITATIVE FOREST GENETICIST

Two-year postdoctoral position. GS-11 (\$28,852 per year). Incumbent must have strong quantitative skills. Opportunity to work with large data sets of five- to twenty-year-old evaluation plantations. Send completed SF-171, transcripts, and three letters of reference to: **Donald Copes, Pacific Northwest Research Station, Forestry Sciences Laboratory, 3200 Jefferson Way, Corvallis, OR 97331.** Applications received through 14 April 1989. *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS available immediately to study cell and molecular biology of bacterial toxin action and replication of animal viruses, as models for receptor-mediated endocytosis, biosynthesis and processing of proteins, and regulation of gene expression. Applicants with a background in molecular cell biology, biochemistry or virology, and experience with hybridoma production, recombinant DNA technology, or protein chemistry of receptors and enzymes will be considered. Send curriculum vitae and names of three references to: **Dr. Thomas Moehring, Department of Microbiology, University of Vermont, College of Agriculture and Life Sciences, and College of Medicine, Burlington, VT 05405. Equal Opportunity/Affirmative Action Employer.**

RICE UNIVERSITY POSTDOCTORAL RESEARCH POSITION

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

PROFESSOR OF HUMAN NUTRITION AND NUTRITION CLUSTER LEADER UNIVERSITY OF MISSOURI-COLUMBIA

Applications are invited for the position of Professor of Human Nutrition and Nutrition Cluster Leader at the University of Missouri-Columbia. As professor in the Department of Human Nutrition and Foods, the successful candidate will have primary responsibility for developing a distinguished research program and will have limited instructional responsibilities. The Nutrition Cluster Leader is expected to provide dynamic leadership for scientists engaged in basic nutritional research across several university departments. Candidates for the position must hold a doctoral and/or medical degree.

To apply, send a letter of application and curriculum vitae with names and addresses of three references to: **Nutrition Search Committee, Gretchen Myers Hill, Chair, 217 Gwynn Hall, University of Missouri, Columbia, MO 65211.**

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

Revision of 10 March 1989 ad: **RESEARCH ASSOCIATE.** To investigate properties of membrane-associated enzymes. The applicant must have a Ph.D. in biochemistry; three or more years of postdoctoral experience in the areas of protein purification and membrane-protein interactions; and have demonstrated, through content of publications in refereed journals, practical and theoretical knowledge of enzymology, phospholipid membranes and spectroscopy, especially light scattering and CD. Send curriculum vitae and three letters of recommendation to: **Dr. Gary Nelsestuen, Department of Biochemistry, University of Minnesota, 1479 Gortner Avenue, St. Paul, MN 55108,** and should be received by 31 May 1989. *The University of Minnesota is an Equal Employment Opportunity Educator and Employer, and specifically invites and encourages applications from women and minorities.*

A **RESEARCH ASSOCIATE** position is available immediately to study the mechanisms of transformation in human breast epithelial cells, mainly the interaction of carcinogens with oncogenes. Research experience in molecular biology is required. Send curriculum vitae to: **Dr. Jose Russo, Department of Pathology, Michigan Cancer Foundation, 110 East Warren Avenue, Detroit, MI 48201.**

Applicants are being sought for a **RESEARCH ASSOCIATE** with research experience in the area of molecular biology, specifically the use of molecular cloning techniques. Send curriculum vitae and the names, addresses, and telephone numbers of three references to: **Dr. Paul F. Cook, Chairman, Department of Microbiology and Immunology, Texas College of Osteopathic Medicine, 3500 Camp Bowie Boulevard, Fort Worth, TX 76107. TCOM is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

A **RESEARCH ASSISTANT PROFESSORSHIP** will be available starting 1 September 1989 for a candidate with a Ph.D. in biochemistry and a minimum of 3 years of postdoctoral experience working with plant enzymes. The successful candidate will be expected to initiate and conduct research in structure/function relationships of plant enzymes, train graduate students and supervise their research, and participate in preparing grant proposals. The starting salary is \$26,500 per year. Apply at **The Texas Employment Commission, Lubbock, Texas,** or send résumé to: **The Texas Employment Commission, TEC Building, Austin, TX 78778, J.O. #5190774. Ad paid by an Equal Employment Opportunity Employer.**

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

RESEARCH ASSOCIATE. Morehouse School of Medicine, Department of Pathology wishes to interview people with M.S. or equivalent experience for research in ophthalmology (oncogenes, human pigment epithelium and differentiation). Training for this individual will include tissue culture and molecular biology (Northern, Southern, Western blots, cloning, etc.). The post will offer opportunity for research at Morehouse School of Medicine and The Centers for Disease Control. The person will manage the laboratory and conduct independent research as a part of senior investigator's research program. Ample opportunity for expansion/furthering research training/education.

Send curriculum vitae and references to:

**Kamla Dutt, Ph.D.
Morehouse School of Medicine
Department of Pathology
720 Westview Drive, S.W.
Atlanta, GA 30310-1495
Telephone: 404-752-1769**

RESEARCH ASSOCIATE—Department of Oral Biology to conduct research on oral antimicrobial salivary proteins. Applicants should have both D.M.D. and Ph.D. or equivalent. Experience in protein chemistry and mycology required. Submit curriculum vitae and three letters of reference to: **Dr. Frank Oppenheim, Chairman, Department of Oral Biology, Boston University School of Graduate Dentistry, 100 East Newton Street, Boston, MA 02118. Salary commensurate with experience. Equal Opportunity Employer.**

A **RESEARCH ASSOCIATE** position is available immediately to participate in studies on the genetic regulation of cytokinin metabolism in food legumes. The position will involve teaching a course in methods of plant molecular biology. A Ph.D. in molecular biology, genetics or biochemistry is required. Experience in research and teaching, for a minimum of 2 years, of enzymology and recombinant DNA is required. Salary range: \$23,000 to \$25,000. Application deadline 15 April 1989. Submit résumé, research interests, transcripts and four letters of recommendation to: **Dr. David W. S. Mok, Department of Horticulture, Oregon State University (OSU), Cordley Hall 2042, Corvallis, OR 97331-2911. Telephone: 503-754-3695. OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of The Rehabilitation Act of 1973. OSU has a policy of being responsive to the needs of dual-career couples.**

RESEARCH BIOCHEMIST

Position available for the synthesis of biological lipids for ongoing studies of cell membrane structure/function. Excellent opportunity for a capable organic chemist to develop new methods for the synthesis of glycolipids, sphingolipids, phospholipids, etc., and to participate in biochemical/biophysical studies. Experience in carbohydrate and/or lipid synthesis useful but not required. Ph.D. in synthetic organic chemistry required. Send curriculum vitae and three letters of recommendation to: **Dr. G. Graham Shipley, Department of Biophysics, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118. Boston University is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH POSITIONS

SIBIA is an established biotechnology company involved in a wide spectrum of innovative research programs. SIBIA, with a staff comprised of leading scientific members, provides an exceptional scientific research environment in which to work, near the ocean in La Jolla. Applications are requested for the following positions:

POSTDOCTORAL SCIENTIST ELECTROPHYSIOLOGY

Study the electrophysiological properties of recombinant ion channels and receptors expressed in *Xenopus* oocytes as well as mammalian and yeast cells. Experience with whole cell voltage clamp or patch clamp techniques is essential.

PH.D.-BIOCHEMISTRY OR MOLECULAR BIOLOGY

Work involves developing new tools to study the epidemiology of HIV-1 infection and the viral genes responsible for cis and trans regulatory function. Experience in virology, enzymology, and nucleic acid hybridization and cloning with at least a one year post-doctoral position preferred.

PH.D.-BIO-ORGANIC CHEMISTRY

Ph.D. in Chemistry with 1-2 years postdoctoral training. Experience in synthetic organic chemistry, peptide chemistry, and enzymology. Responsibilities will include the design and synthesis of peptide analogs directed toward development of new pharmaceuticals.

We offer a comprehensive benefits package and competitive salaries. For confidential consideration, please submit your curriculum vitae, a statement of research interests and goals, and the names of three professional references to: SIBIA, Dept. 2, 505 Coast Boulevard South, La Jolla, CA 92037.

SIBIA

The Salk Institute
Biotechnology/Industrial Associates, Inc.

An Equal Opportunity Employer

BIOTECHNOLOGY

DIRECTOR OF TOXICOLOGY, RESEARCH & DEVELOPMENT

Cetus Corporation, a leader in biotechnology, is seeking an accomplished, highly motivated leader in toxicology to direct scientists and technical staff involved in the research and development of novel biotechnology products.

You must possess a doctorate in Toxicology or related discipline and have 5+ years of experience in the pharmaceutical industry, including hands-on experience conducting and supervising regulatory toxicology work as well as managerial experience. You must also be strong scientifically, as evidenced by extensive and significant contributions to the literature. Experience in the areas of safety assessment, pathology, reproductive toxicology, veterinary medicine, physiological toxicology and carcinogenicity is highly desirable. Experience with immunological products, especially recombinant biological response modifiers and antibodies is also highly desirable. In addition, experience with the FDA and European Boards of Health is essential. Board certification in Toxicology or Pathology is also desirable.

Cetus provides an outstanding opportunity for professional recognition as well as career and personal growth. We offer excellent compensation, comprehensive benefits and relocation assistance. For consideration, please send your resume to: Cetus Corporation, Box MS, 1400 Fifty-Third Street, Emeryville, CA 94608. We are an Equal Opportunity Employer.



CLINICAL RESEARCH OPPORTUNITIES

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

Our recent acquisition by the Ethyl Corporation affords us the opportunity to expand our Drug Development activities. As part of this expansion, we have the need for dynamic individuals to fill the following positions in our Clinical Research Department.

Clinical Scientists

Responsible for planning the scientific clinical development of new chemical entities, mainly in the cardiovascular area. Interact with other scientists in the research and development groups, as well as clinical researchers from outside the company. Ph.D. in physiology or pharmacology and approximately 2-4 years' experience in managing clinical trials of new drugs.

Clinical Research Associates

Responsible for the planning and monitoring of clinical trials on our investigational compounds. B.S. in biological sciences or equivalent and 2 years' experience monitoring clinical studies of systemic pharmaceuticals.

POSITIONS REQUIRE EXCELLENT ANALYTICAL, ORGANIZATIONAL AND COMMUNICATION SKILLS.

Nelson Research offers a creative, challenging environment and competitive salary and benefit package. Interested candidates may send their resume with salary history to:

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

Ethyl

An equal opportunity employer

DRUG METABOLISM INVESTIGATOR

As a world leading provider of quality health care products and services, Abbott Laboratories is strongly committed to providing our employees with what they need to perform at the highest level. To further our goals in Pharmacology, we now seek a research professional for an expanding Drug Delivery Project.

We seek a biologist with a background in pharmacology/metabolism to assist in characterizing both metabolic and transport phenomena of liver. The selected individual must be capable of using cell culture techniques in identifying mechanisms of hepatic clearance which limit oral bioavailability of drug candidates. Qualified candidates should have a familiarity with analytical techniques, including HPLC, and a PhD in pharmacology, toxicology, biochemistry, cell biology, or physiology with two years of post-doctoral experience. A PhD with 4 years industrial experience would also qualify. Experience with suspended cell culture and epithelial monolayers is advantageous.

In addition to an outstanding scientific environment, Abbott provides an excellent salary and benefits package, including profit sharing and a stock retirement plan. We're located in an attractive suburban area 30 miles north of Chicago. For consideration, please send your resume with salary history to: **Patricia Handy, Corporate Placement, Dept. SC1/3-24, Abbott Laboratories, Abbott Park, IL 60064.** Abbott is an Affirmative Action Employer.

ABBOTT LABORATORIES



POSITIONS OPEN

RESEARCH BIOCHEMIST OR POSTDOCTORAL FELLOW

Ph.D. in biochemistry with expertise in protein purification and structural analysis, enzymology and cell biology. NIH-supported research on transport mechanisms in the liver and their regulation. Send résumés to: **I. M. Arias, M.D., Chairman, Department of Physiology, Tufts University School of Medicine, 136 Harrison Avenue, Boston, MA 02111.**

SCIENCE EXHIBIT DEVELOPER. A position is available for someone to research topics in contemporary science, technology, and medicine and develop them into exhibits understandable and relevant to the general public. As part of a staff team, which conceives the theme and organization of the topics, the exhibit developer will contribute to the design presentation, originate and evaluate exhibit content, prototype, and test exhibit ideas. The developer will also utilize technologies, such as computers, to enhance the presentation of science information.

Requirements: A.B. or higher degree in a science or related field. Would be helpful to have excellent writing skills, experience in public education and project management, and skills to use computers and other kinds of exhibit equipment. Candidate should be imaginative, self-motivated, with hands-on laboratory and/or workshop experience. Send letter of application, curriculum vitae, and three letters of recommendation to: **Director of Human Resources, Museum of Science and Industry, 57th Street and Lake Shore Drive, Chicago, IL 60637-2093.** Affirmative Action/Equal Opportunity Employer.

SCIENTISTS—BIOMEDICAL RESEARCH

Several staff scientist positions exist at the U.S. Army Medical Research Institute of Infectious Diseases, Department of the Army. These openings are competitive Federal Civil Service positions and applicants must be U.S. citizens.

Salary: \$41,121 through \$44,957 per annum.

NEUROPHYSIOLOGIST: Selectee will participate in a multidisciplinary team studying the site and mechanism of action of diverse neurotoxins, both organic and peptide in nature. In vitro as well as in vivo skills are needed. The ultimate goal is development of therapy. Collaboration with intra and extramural scientists will be encouraged.

IMMUNOLOGIST: Selectee will develop a program to measure the immune response to hemorrhagic fever viruses and their non-pathogenic analogues. Emphasis will be on developing innovative techniques to evaluate cellular immunity in man and non-human primates. Some background in molecular biology is desirable.

The Institute, which has excellent facilities, is a leading medical research facility engaged in the development of drugs and vaccines against militarily important diseases. All research is unclassified and publication is encouraged. The Institute is located in Frederick, Maryland, in a semi-rural setting, with ready access to the metropolitan areas of Washington, D.C., and Baltimore, Maryland.

Application procedures: For specific job information, application forms and procedures, contact:

Mr. Raymond J. Mangold
Directorate of Civilian Personnel
Fort Detrick, Frederick, MD 21701-5000
Telephone: 301-663-2007
Equal Opportunity Employer.

SENSORY AND/OR PHYSIOLOGICAL PSYCHOLOGIST

The Department of Psychology at Arizona State University has an opening for a 1-year temporary, non-tenure-track appointment starting in August of 1989. The visiting professor who fills this position will be expected to teach classes in sensory processes and psychobiology. ASU is an Equal Opportunity Employer and encourages applications from members of protected classes. Applications should be sent with a current résumé and three letters of reference to: **Dr. William R. Uttal, Chair, Department of Psychology, Arizona State University, Tempe, AZ 85287-1104.**

POSITIONS OPEN

NEW ZEALAND UNIVERSITY OF CANTERBURY SENIOR LECTURER OR LECTURER IN MICROBIOLOGY DEPARTMENT OF PLANT AND MICROBIAL SCIENCES

Applications are invited for the above position.

Applicants should have a Ph.D. degree in microbiology. Preference will be given to a candidate with research experience in non-medical microbiology and microbial metabolism. The appointee will be expected to contribute to the teaching of microbiology courses at all levels and first-year biochemistry, and to pursue an active research program including the supervision of M.Sc. and Ph.D. students.

The salary for senior lecturers is on a scale from \$NZ49,000 to \$NZ57,000 per annum and a range from \$NZ59,000 to \$NZ63,000 per annum, and for lecturers is on a scale from \$NZ35,000 to \$NZ42,500 (bar), \$NZ44,000 to \$NZ46,000 per annum.

Applications close on 31 May 1989.

Further particulars and Conditions of Appointment, quoting Position No. PL2, may be obtained from the undersigned to whom applications must be addressed: **A. W. Hayward, Registrar, University of Canterbury, Private Bag, Christchurch, New Zealand.**

SENIOR VICE PRESIDENT FOR ACADEMIC AFFAIRS NEW YORK INSTITUTE OF TECHNOLOGY

New York Institute of Technology invites nominations and applications for the position of Senior Vice President for Academic Affairs.

New York Institute of Technology is a multicampus college located in New York City, Nassau and Suffolk counties; it is independent and nonsectarian, with a history of rapid growth and innovation, especially in the area of educational technology.

NYIT is an undergraduate and graduate institution composed of seven schools: Management, Media and Arts, Engineering and Technology, Humanities, Architecture, Natural Sciences, Hotel and Restaurant Administration and the New York College of Osteopathic Medicine. Its most recent development is a new core curriculum that promotes computer literacy, writing across the curriculum, and quantitative reasoning.

The Senior Vice President for Academic Affairs is responsible for academic program administration, faculty development, research, program development and is an administrative representative in the collective bargaining process. As a chief academic officer, the Senior Vice President for Academic Affairs will report directly to the President.

Qualifications include:

- earned doctorate or equivalent
- administrative experience, which includes supervisor and creative leadership
- a record of teaching, research/scholarship, and service commensurate with appointment as full professor
- commitment to affirmative action, cultural diversity, and academic excellence
- awareness of issues facing independent higher education
- leadership and achievement in scientific, technical or engineering discipline/s (preferred)

Salary is competitive and negotiable.

Address inquiries to:

Dr. King V. Check, Chair
Vice President for Academic Affairs
Search Committee
New York Institute of Technology
Old Westbury, NY 11568

NYIT is an Equal Opportunity Employer.

SUMMER TEACHING POSITIONS: Bard College Graduate School of Environmental Studies. Positions may be available for the following courses: Community ecology, population ecology, history of and introduction to ecology, cultural ecology, quantitative methods in ecology, land-use planning and environmental geology. Two summer sessions: 25 June to 21 July and 31 July to 25 August 1989. Send résumé to: **Donald Roeder, Graduate School of Environmental Studies, Bard College, Annandale-on-Hudson, NY 12504.**

POSITIONS OPEN

SENIOR RESEARCH ASSISTANT for orthopaedic biochemistry laboratory. Bachelor's degree in biology, chemistry, or related field and a minimum of 1 year of laboratory experience required. Experience with radioimmunoassay, prostaglandins, immunohistochemistry, and cell culture highly desirable. Send résumé and cover letter to: **SUNY Health Science Center at Syracuse, Personnel Office, 750 East Adams Street, Syracuse, NY 13210.** Applications will continue to be accepted until the position is filled.

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STAFF SCIENTIST/POLYMER SCIENCE

ALZA, manufacturer of innovative drug delivery systems, currently requires a staff scientist for its physical sciences group. Applicants must have a Ph.D. in chemical engineering, polymer science, biomedical engineering or related discipline. You will direct research into the functionality, both chemical and physical, of a family of bioerodible polymers and into their uses in pharmaceutical products. At least 3 years of experience in pharmaceutical research is required, as well as 2 years of experience in both the development and the physicochemical characterization of polymer-based drug delivery systems. The successful candidate will have demonstrated capacity to transform concepts into systems that are functional both in vitro and in vivo, up to the level of trials in human volunteers or patient studies. She/he should have at least 1 year of experience in characterizing the physicochemical interactions between polymers and absorbed low-molecular-weight compounds, in particular water. The candidate must have a good working knowledge of organic and peptide chemistry. The successful candidate will direct a team of approximately ten scientists and engineers and participate in the management of the Physical Sciences Area. Since this is an innovative field in science, it requires the individual to possess instructional and training skills. Good written and oral presentation skills are essential. The salary range for this position will be \$48,000 to \$53,500, depending on background and experience. Responses must be postmarked no later than 23 April 1989 to be considered. If offered employment, you must show you have the legal right to work in the United States. For immediate consideration, please send your résumé and three written references to: **ALZA Employment Department, #8, 950 Page Mill Road, Palo Alto, CA 94303-0802.** We are an Equal Opportunity Employer.

TEACHING POSITION—BIOLOGY. Assistant professor molecular biologist, Ph.D., beginning September 1989. Primary teaching responsibility in undergraduate microbiology, molecular genetics, and biochemistry/microbiology laboratories; also to share teaching of general education introductory biology and biochemistry/molecular biology courses. Appointment renewable annually for maximum of 7 years. Strong commitment to liberal arts and undergraduate teaching required. Applications, résumés, transcripts, and reference letters to: **Leonard DiLillo, Dean, Centre College, Danville, KY 40422.** Applications accepted until position filled. Equal Opportunity Employer. Women and minorities urged to apply.

VIROLOGIST

Biotechnology company in the San Francisco Bay Area needs a virologist to join a multidisciplinary group of biochemists and chemists in the investigation of antiviral receptor drugs. The company is seeking individuals with experience in:

- Tissue culture propagation of human viruses (e.g., enterovirus, herpesviruses, coronaviruses)
- Virus biochemistry and enzymology
- Isolation and purification of viral glycoproteins
- Antibody purification and EIA
- Receptor purification and isolation
- Restriction mapping

The company wishes to build a scientific staff consisting of outstanding academic researchers. We offer an exciting research and development environment of the highest quality for scientists wishing to pursue viral receptor research in a multidisciplinary environment. Salaries and benefits are highly competitive. Please send résumé in confidence to: **Box 43, SCIENCE.**



CALL FOR RESEARCH PROPOSALS

The BIOTECHNOLOGY RISK ASSESSMENT PROGRAM in the Office of Research and Development of the U.S. Environmental Protection Agency anticipates funding new extramural RESEARCH COOPERATIVE AGREEMENTS AND/OR CONTRACTS in FY '89. Research must relate to the assessment of ecological risk associated with the environmental release of recombinant and nonrecombinant bacteria, fungi, and viruses, including microbial pest control agents. Preproposals identifying innovative research ideas and approaches in the research topics listed below are being sought. Preproposals (3 page maximum) should include research objectives, significance to risk assessment, experimental approach, time frame for accomplishments, a budget (annual and total), and investigator(s) qualifications. More than one preproposal may be submitted.

Research topics of interest (in priority order) are:

1. Development of verified mathematical models for describing microbial colonization, dispersal and long-term survival across and in soil or water. Models should include the effects of climate, physical, chemical and environmental conditions on microbe survival/colonization.
2. Characterization and quantification of the ecological effects resulting from the introduction of recombinant or nonrecombinant microorganisms into contained microcosms representing different habitats. Examples of effects may include altered or excessive metabolic characteristics or altered pathogenicity.
3. Characterization of the attributes of microorganisms which support or restrict their long-term survival, growth, and/or colonization in different habitats and development of modeling frameworks to relate these attributes to changes in environmental conditions or microbial community interactions. The microorganism attributes that should be considered include relationships among physiological state, viable but nonculturable characteristics, starvation resistance, growth characteristics, response to competition, predation, syntrophy and trophic interactions.
4. Development of methods to measure the potential for gene exchange between introduced fungi or baculoviruses and the indigenous microflora under different environmental conditions.
5. Development of methods to improve the extraction efficiency of DNA and RNA from natural samples of soils and sediments for the purpose of enhancing the application of nucleic acid probes to the detection of microorganisms.
6. Develop sensitive, reliable, and field calibrated methods for detection/enumeration of bacteria, viruses, and fungi in the environment.

Preproposals will be peer reviewed and will provide the basis for requesting full proposals from selected scientists. Limited resources may prevent funding research in all program areas.

A summary document describing current biotechnology risk assessment research activities at the Environmental Research Laboratories at Gulf Breeze, Corvallis, Duluth, Cincinnati, Las Vegas and RTP is available from Dr. Hap Pritchard, Research Coordinator for Biotechnology Risk Assessment, U.S. Environmental Protection Agency, Gulf Breeze, FL 32561. Preproposals should be sent to the above address, postmarked no later than 30 working days after the cover date of issue of this journal.

CALIFORNIA INSTITUTE OF TECHNOLOGY THE MYRON A. BANTRELL POSTDOCTORATE FELLOWSHIP FOR SCIENTIFIC RESEARCH IN GEOLOGICAL AND PLANETARY SCIENCES

A fellowship will be awarded for postdoctoral studies in geological and planetary sciences at the California Institute of Technology. This fellowship carries an annual stipend of \$32,000 from Fall 1989, and in addition offers a research-expense fund of \$1,000 per year. The duration of the fellowship will normally be for 1 year. Applicants must be U.S. citizens.

This fellowship program has been established to offer scientists, typically within two years of receipt of the Ph.D., the best possible opportunity to develop their talents. It is the intent of this program to identify and support innovative and creative work in the earth and planetary sciences, with particular emphasis on interdisciplinary work. In addition to individuals with degrees in geology, geophysics, geochemistry, or planetary science, we urge highly talented individuals with training in chemistry, physics, biology or computer sciences to apply. The Caltech faculty is currently active in Planetary Science, Geology, Geophysics, Geochemistry and Cosmochemistry.

Application forms may be obtained from Professor G. J. Wasserburg, Chairman, Division of Geological and Planetary Sciences, 170-25, California Institute of Technology, Pasadena, California 91125.

COMPLETED APPLICATIONS WITH REFERENCES
SHOULD ARRIVE AT CALTECH
BEFORE MAY 1, 1989

Fellowship candidates will automatically be considered for other available postdoctoral positions at Caltech in their fields of interest.

Caltech is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

SCIENTIST POSITIONS Drugs and Toxicology

The American Medical Association, one of the nation's leading advocates of better public health, is currently seeking two Scientists to join our challenging, progressive Department of Drugs and Toxicology.

The successful candidates will review and evaluate pertinent literature, consult with various experts and organize and present acquired medical knowledge for the AMA's Drug Evaluations. Additional responsibilities will include: serving as an AMA topical resource professional, representing the Division of Drugs at national meetings, and aiding in the development of AMA drug legislation positions.

Candidates for both positions must have an MD or Ph.D. in pharmacology (or related biomedical science) or PharmD degree. Knowledge/training/experience in general pharmacology is essential. A background in psycho/neuropharmacology is highly desirable for one of these positions. Publication and professional experience in academic, governmental, or industrial pharmacology is highly desired.

In addition to the challenge of these positions, the AMA offers a competitive compensation/benefit package and national visibility. Please send resume along with salary history to:

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Molecular Biologist Develop new vectors for gene transfer into human cells. Strong skills in molecular biology are required.

Cell Biologist Develop new gene transfer techniques with cultured human cells. Experience in cell culture is required.

Assay Development Scientist Develop unique DNA probes and im-

munoassays in order to characterize gene transfer products. Experience in immunology or biochemistry is required.

Senior scientist positions are available for individuals with related post doctoral or industrial experience. Scientist positions require a PhD in the appropriate field.

Cell Genesys offers competitive salaries, excellent benefits and equity participation. For immediate consideration, please send your resume, indicating position of interest to: DSE Confidential Reply Service, Dept. 110, 651 Gateway Blvd. #850, South San Francisco, CA 94080. Cell Genesys is an equal opportunity employer.

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POSITIONS OPEN

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

VICE PRESIDENT FOR PUBLIC PROGRAMS THE AMERICAN MUSEUM OF NATURAL HISTORY

The American Museum of Natural History invites applications and nominations for the position of Vice President for Public Programs. This is a senior level position reporting to the President.

Significant areas will report to the person in this position, including Exhibition, Education and the Hayden Planetarium. The American Museum attracts approximately three million visitors a year and the Planetarium attracts several hundred thousand visitors. The Museum has over 35 million specimens in its collections and is a leader in scientific inquiry in the natural sciences.

The Museum intends to appoint a person with an advanced degree, preferably in a field related to the scholarly activities conducted here. The Vice President will coordinate and lead significant, very visible and public aspects of the Museum; the individual, therefore, will need to have had senior administrative experience. Evidence of creativity is important, as is successful experience in dealing with scholars, the general public and the presentation of scholarly products to the public.

Salary and benefits will be commensurate with experience and with the responsibilities for this position, and will be competitive with those at similar institutions.

Inquiries, applications with résumés, and nominations should be submitted by 7 April 1989, to:

Mr. William J. Moynihan
Executive Assistant to the President
American Museum of Natural History
Central Park West at 79th Street
New York, NY 10024-5192

The American Museum of Natural History is an Equal Opportunity Employer.

A 4-year public institution with campuses on St. Thomas and St. Croix, U.S. Virgin Islands, serving full-time and part-time students, announces a faculty vacancy in the Science and Math Division effective 15 August 1989. A doctorate degree in invertebrate biology and evolution or oceanography are required.

VISITING ASSISTANT, or VISITING ASSOCIATE PROFESSOR OF BIOLOGY (Nontenure-track renewable).

Salary range is \$29,358 to \$48,525 plus benefits. For more detailed information write to: **Dr. William MacLean, Vice President for Academic Affairs, University of the Virgin Islands, Charlotte Amalie, St. Thomas, U.S. Virgin Islands 00802.** To apply for the position, send letter of application, up-to-date résumé, short statement of research interests, official transcripts, and three letters of recommendation to the Vice President for Academic Affairs by 17 April 1989 (late applications considered until position is filled).

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WEIZMANN FELLOWSHIP

The Division of Biology, California Institute of Technology, invites applications for Prize Postdoctoral Fellowships for Scientific Research. The competitively awarded Fellowships will be for 1 year initially; Fellows may compete for a second award. The annual stipend is \$32,000 to the awardee plus small research and travel allowances. Applicants must be citizens of the United States or Israel. Work may be associated with any faculty member of the Division. Applications, including curriculum vitae, list of publications, and research plans received by 15 April 1989 will be considered for the 1989 to 1990 academic year. Address inquiries to: **Dr. Norman Davidson, Interim Chairman, Division of Biology, Mail Code 156-29, California Institute of Technology, Pasadena, CA 91125.** *The Institute is an Equal Opportunity/Affirmative Action Employer and welcomes applications from women and members of minority groups.*

GRANTS

RESEARCH INQUIRIES INVITED

The Smokeless Tobacco Research Council, Inc. invites inquiries regarding grant applications.

The Council sponsors independent research into questions of smokeless tobacco and health. Research support is through a program of grants-in-aid.

Grant applications are evaluated by the Scientific Advisory Board to the Council and will be judged solely on the basis of scientific merit and relevance.

Deadlines for submission of grant applications are 31 December for 1 July funding and 30 June for 1 January funding. Address inquiries or requests for applications to: **The Smokeless Tobacco Research Council, Inc. 420 Lexington Avenue, New York, NY 10170. Telephone: 212-697-3485.**

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Information: **Dr. Peter Jones 213-224-6503**

TRAINING PROGRAM

Mayo Foundation Division of Anesthesiology Research offers a **RESEARCH TRAINING PROGRAM** for 1 to 3 years to anesthesia residents or Board-qualified anesthesiologists. Choose from seven NIH-funded anesthesia research programs; clinical duties are optional. Applicants must be U.S. citizens or residents. **Kai Rehder, M.D., Director of NIH Research Training Program in Anesthesiology, Mayo Clinic, Rochester, MN 55905. Telephone 507-285-4288.** *An Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

The Department of Psychiatry is offering a **FELLOWSHIP IN ALCOHOL/DRUG DEPENDENCY** for physicians licensed in the United States who have had at least three, and preferably 4, years of previous training in a primary care field (including psychiatry). Training includes inpatient, outpatient, consultation-liaison, day and evening programs, teaching, administration, and research. Send correspondence, including résumé and three letters of reference to: **Joseph Westermeyer, M.D., Director, Alcohol-Drug Treatment Program, University of Minnesota, Box 393 Mayo, 420 Delaware Street S.E., Minneapolis, MN 55455.** *The University of Minnesota is an Equal Opportunity Employer and specifically invites and encourages applications from women and minorities.*

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

FELLOWSHIPS

RESEARCH FELLOWSHIP IN OTOLARYNGOLOGY AND RELATED BASIC SCIENCE SPECIALTIES—A 2-year fellowship is available for a Ph.D. basic scientist. Opportunities available: tumor preparation, cell culture, flow cytometry, biochemistry of the inner ear, olfactory physiology, energy-linked transport in the inner ear, cancer immunology, deglutition, mucosal immunology, psychosocial intervention of cancer patients, experimental therapeutics. Send curriculum vitae, brief description of research interests, and three letters of reference to: **Robert Mathog, M.D., Chairman, Otolaryngology 5E-UHC, Wayne State University, 540 East Canfield, Detroit, MI 48201.**

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

TRAUMA RESEARCH TRAINING FELLOWSHIPS AVAILABLE

Two postdoctoral research fellowships, supported by an NIH Training Grant, are available in the area of pathophysiologic responses to injury, for the 2-year period beginning 1 July 1989 and ending 30 June 1991. Research foci include investigation of the central neural, autonomic and pituitary-adrenal responses to injury; studies of local wound metabolism and whole body metabolism in response to injury; and investigations into the control of cerebral spinal fluid flow and the mechanisms underlying brain edema following injury. This interdisciplinary training program is supervised by faculty from the Departments of Surgery, Neurosurgery, and Neurobiology. First-year stipends are \$25,000. Applicants must be citizens or permanent residents of the United States, possess either a Ph.D. or an M.D. degree, and have 2 years of experience following their doctoral program. Please send curriculum vitae and the names of three references to: **Michael D. Caldwell, M.D., Ph.D., Rhode Island Hospital, 593 Eddy Street, APC-137, Providence, RI 02903.** Applications must be received no later than 15 April 1989. *Women and minorities are encouraged to apply. The Rhode Island Hospital is an Equal Opportunity/Affirmative Action Employer.*

POSTGRADUATE AND FACULTY RESEARCH PROGRAM at The Agency for Toxic Substances and Disease Registry—ATSDR is a new agency of the Public Health Service based in Atlanta created to implement health-related sections of laws that protect the public from hazardous waste or environmental spills of hazardous substances. Immediate openings are available for those with experience in toxicology, epidemiology, health education, and related areas. *U.S. citizenship or PRA status is required.* For more information and applications contact (please indicate if faculty or postgraduate): **Research Participation Program/ATSDR, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-3190.**

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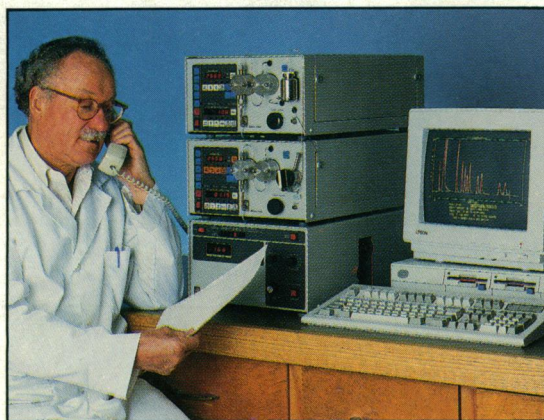
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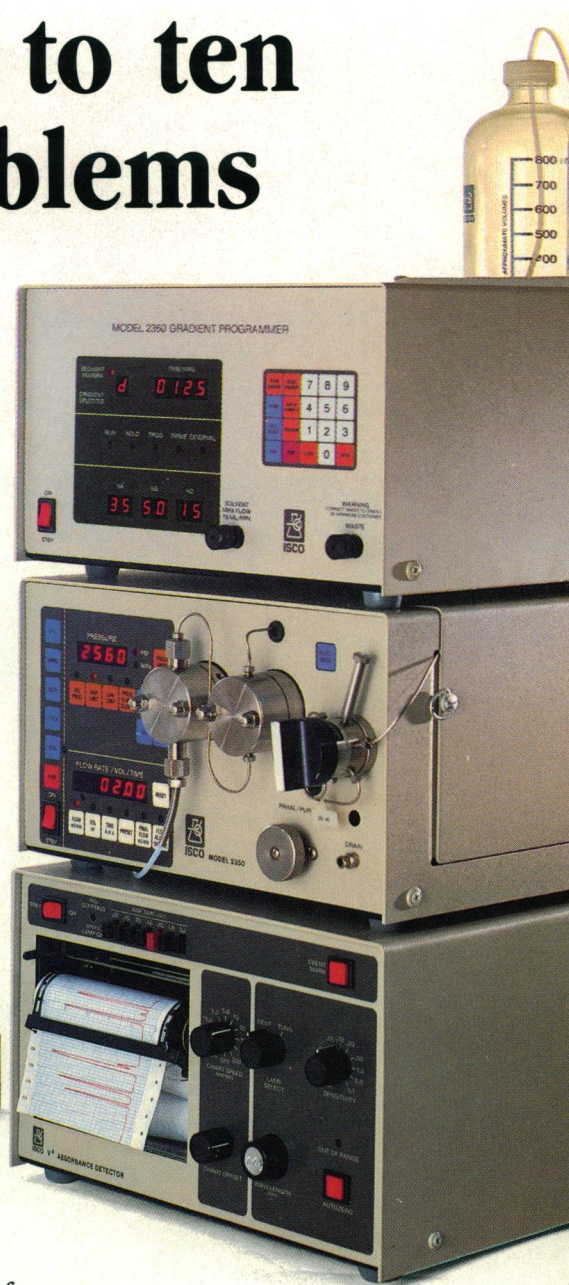
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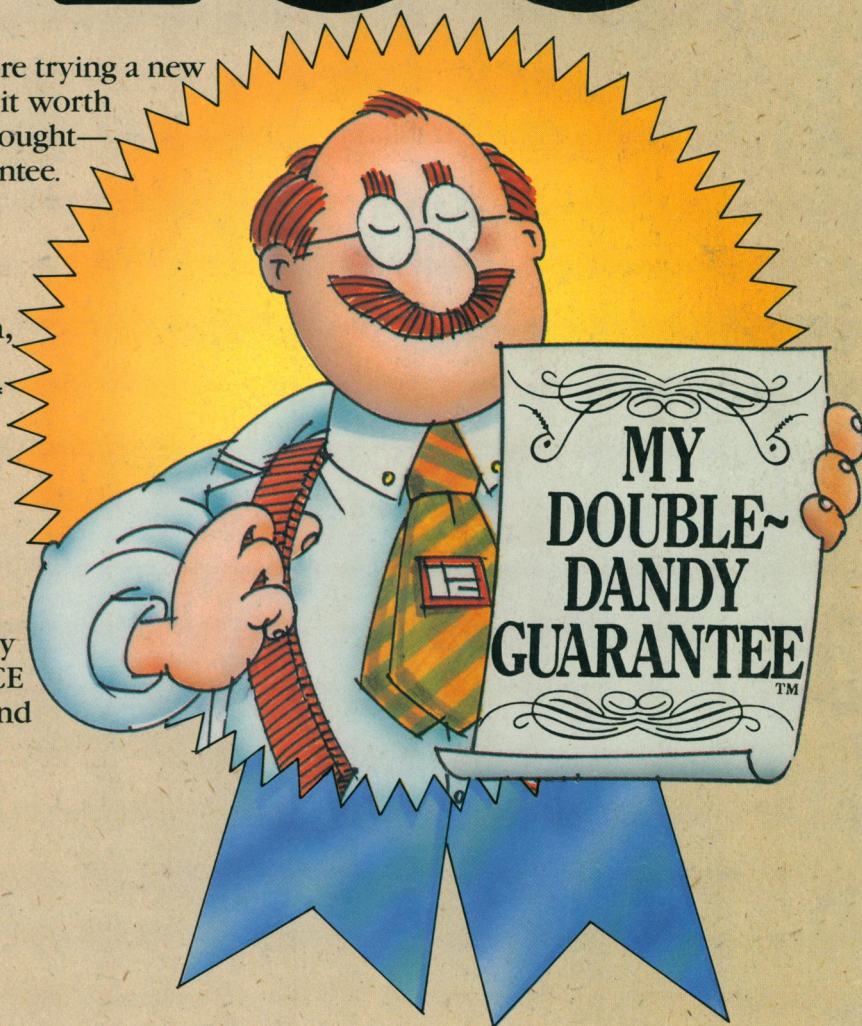
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