

globulins, each with the capability to bind one or a few antigens with great specificity. Moreover, one part of the immunoglobulin protein (the variable region) has all of the diversity; the other part (the constant region) is invariant among antibodies of the same type. Of the two immunoglobulin genes on the homologous chromosomes of a cell, only one expresses immunoglobulin protein; the other is inactive in protein production. As a cell differentiates, however, it can express the single variable region from this chromosome with several types of immunoglobulin proteins. Immature immunoglobulin-producing cells first express variable regions on a cell-surface IgM molecule, then later express variable regions on both IgM and IgD molecules. When those surface immunoglobulins recognize antigen, the cell may further differentiate to produce a secreted form of IgM, or of IgG, IgA, or IgE. How do antigen-binding diversity and specificity of immunoglobulins arise? How can the immunoglobulin protein have a highly variable and an absolutely constant part? Why is only one of two possible immunoglobulin genes expressed? How can one type of immunoglobulin be expressed in both membrane-bound and secreted forms? How can one antigen binding site be expressed on two different types of immunoglobulin simultaneously or sequentially? These are the experimental questions that immunologists defined in the first three-quarters of the 20th century and that molecular biologists answered in a few short years following the advent of recombinant DNA technology and the discovery of rearrangement of immunoglobulin genes by Hozumi and Tonegawa in 1975. *Immunoglobulin Genes* includes a discussion of these central questions, the corollary investigations that arose during these studies, and the new directions in which immunoglobulin genes have taken immunologists and molecular biologists in the '80s.

The book contains 19 chapters by more than 40 authors. About half of it is devoted to the basics of immunoglobulin gene arrangement, rearrangement, and expression in normal human and mouse cells. Additional chapters discuss the evolutionary variation of immunoglobulin genes (using chicken and lower vertebrates as examples), the rearrangement process as it goes awry in lymphoid tumors, the developmental pathways of cells that produce immunoglobulins, and the molecules that are closely related to immunoglobulins. The writing is uniformly careful and there is little redundancy among the chapters, nor are many important aspects of immunoglobulin genes neglected. (An exception: the process of and theories concerning somatic hypermutation of vari-

able regions receive very little space.) There are few factual errors, although a few typographical and mechanical errors appear.

This book will be most useful to experienced immunologists and, as the editors point out, to molecular biologists. The chapters are usually extensively referenced, and even in those with restricted reference lists excellent review articles are cited. The authors have conscientiously defined the remaining unresolved issues in each aspect of immunoglobulin genes and cited the relevant data on both sides. Each chapter will bring the reader up to date.

In a text of only 387 pages, it is not surprising that something had to be sacrificed. The novice may find this book difficult to use, since it lacks a basic chapter on the structure and function of immunoglobulin proteins and some chapters presuppose information from later ones. The authors have covered the past succinctly. For example, the elucidation of the nucleotide signals that mediate assembly of variable region genes by Tonegawa, Leder, and others is covered in a little more than a page. This reviewer would have allotted more space to these studies, but they are covered in many textbooks of immunology and biochemistry. Finally, the writing in *Immunoglobulin Genes* is very terse. Readers should be prepared to concentrate on every sentence.

Immunoglobulin genetics is a mature science. Most of the fundamental mechanisms have been sketched out; ongoing research concentrates on the details of those mechanisms. The timing of *Immunoglobulin Genes* is excellent. It summarizes the experiments and theories in a field with a solid foundation. It should be an important reference book.

WESLEY DUNNICK

Department of Microbiology and Immunology,
University of Michigan Medical School,
Ann Arbor, MI 48109-0620

Books Received

Acceptable Risk? Making Decisions in a Toxic Environment. Lee Clarke. University of California Press, Berkeley, 1989. xiv, 229 pp. \$25.

Acidic Deposition and Forest Soils. Context and Case Studies of the Southeastern United States. D. Binkley *et al.* Springer-Verlag, New York, 1989. viii, 149 pp., illus. \$49. Ecological Studies, vol. 72.

Acute Toxicology Testing. Perspectives and Horizons. Shayne C. Gad and Christopher P. Chengelis. Telford, Caldwell, NJ, 1988. xiv, 530 pp. \$62.50.

Advanced CMOS Process Technology. J. M. Pimbley *et al.* Academic Press, San Diego, CA, 1989. viii, 296 pp., illus. \$65. VLSI Microstructure Science, vol. 19.

CODATA Key Values for Thermodynamics. J. D. Cox, D. D. Wagman, and V. A. Medvedev, Eds. Hemisphere, New York, 1989. xiv, 271 pp. \$59.50. CODATA Series on Thermodynamic Properties.

Cognitive Strategy Research. From Basic Research to Educational Applications. Christine B. McCormick, Gloria Miller, and Michael Pressley, Eds. Springer-Verlag, New York, 1989. x, 340 pp., illus. \$50.

The Collins Field Guide to the Birds of Galapagos. Michael Harris. Green (Penguin), New York, 1989. 160 pp., illus. \$19.95.

The Collins Guide to the Birds of New Providence and the Bahama Islands. P. G. C. Brudenell-Bruce. Greene (Penguin), New York, 1989. 143 pp., illus. Paper, \$14.95.

Collins Handbook to the Birds of the Indian Subcontinent. Martin W. Woodcock. Greene (Penguin), New York, 1989. 178 pp., illus. Paper, \$11.95.

The Conquest of War. Alternative Strategies for Global Security. Harry B. Hollins, Averill L. Powers, and Mark Sommer. Westview, Boulder, CO, 1989. xvi, 224 pp. \$29.95; paper, \$9.95.

Continuity, Integration and Fourier Theory. Adriaan C. Zaanen. Springer-Verlag, New York, 1989. viii, 251 pp. Paper, \$39. Universitext.

Control of Liquid-Liquid Extraction Columns. Kaddour Najim. Gordon and Breach, New York, 1988. xii, 259 pp., illus. \$60. Topics in Chemical Engineering, vol. 5.

Disease Processes in Marine Bivalve Molluscs. William S. Fisher, Ed. American Fisheries Society, Bethesda, MD, 1988. viii, 315 pp., illus. \$34. American Fisheries Society Special Publication 18.

Drugs as Tools in Neurotransmitter Research. Alan A. Boulton, Glen B. Baker, and Augusto V. Juorio, Eds. Humana, Clifton, NJ, 1989. xviii, 512 pp., illus. \$84.50. Neuromethods, vol. 12.

Early Influences Shaping the Individual. Spyros Doxiadis, Ed. Plenum, New York, 1989. x, 338 pp., illus. \$72.50. NATO Advanced Science Institutes Series A, vol. 160. From a workshop, Athens, Greece, Jan. 1988.

Electrochemistry, Past and Present. John T. Stock and Mary Virginia Orna, Eds. American Chemical Society, Washington, DC, 1989. x, 606 pp., illus. \$89.95. ACS Symposium Series, vol. 390. From a symposium, Toronto, Ontario, June 1988.

Elements of Computer Algebra with Applications. Alkiviadis G. Akritas. Wiley-Interscience, New York, 1989. xvi, 425 pp. \$46.95.

Eosinophils. A Comprehensive Review, and Guide to the Scientific and Medical Literature. Christopher J. F. Spry. Oxford University Press, New York, 1988. xviii, 484 pp., illus., + plates. \$89. Oxford Medical Publications.

Equilibrium Statistical Physics. Michael Plischke and Birger Bergersen. Prentice Hall, Englewood Cliffs, NJ, 1989. xii, 356 pp., illus. \$46. Prentice Hall Advanced Reference Series.

The Evolution of Spatial Competence. Thomas Wynn. University of Illinois Press, Champaign, IL, 1989. viii, 107 pp., illus. Paper, \$13.95. Illinois Studies in Anthropology, no. 17.

The Informal Economy. Studies in Advanced and Less Developed Countries. Alejandro Portes, Manuel Castells, and Lauren A. Benton, Eds. Johns Hopkins University Press, Baltimore, 1989. viii, 327 pp. \$39.50; paper, \$16.95.

Interacting Boson Models of Nuclear Structure. D. Bonatsos. Clarendon (Oxford University Press), New York, 1988. xiv, 317 pp., illus. \$45. Oxford Studies in Nuclear Physics, vol. 10.

Interaction of Ultrashort Pulses with Matter. M. D. Galanin, Ed. Nova Science, Commack, NY, 1989. viii, 132 pp., illus. \$47. Proceedings of the Lebedev Physics Institute, vol. 179, supplemental vol. 1. Translated from the Russian edition (Moscow, 1984) by Kevin S. Hendzel.

Introduction to Continuum Mechanics for Engineers. Ray M. Bowen. Plenum, New York, 1989. x, 261 pp. \$45. Mathematical Concepts and Methods in Science and Engineering, vol. 39.

Law and Semiotics. Vol. 2. Roberta Kevelson, Ed. Plenum, New York, 1988. x, 368 pp. \$69.50. From a symposium, Reading, PA, May 1988.

Lead Exposure and Child Development. An International Assessment. M. A. Smith, L. D. Grant, and A. I. Sors, Eds. Published for the Commission of the European Communities and the U.S. Environmental Agency by Kluwer, Norwell, MA, 1989. x, 515 pp., illus. \$70. Based on a workshop, Edinburgh, U.K., Sept. 1986.

Life at the Edge. Readings from *Scientific American* Magazine. James L. Gould and Carol Grant Gould, Eds. Freeman, New York, 1989. x, 162 pp., illus. Paper. \$10.95.

Light. Michael I. Sobel. University of Chicago Press, Chicago, 1989. x, 263 pp., illus. Paper, \$14.95. Reprint, 1987 ed.

Linear Algebra. Serge Lang. 3rd ed. Springer-Verlag, New York, 1989. x, 285 pp., illus. \$39.80. Undergraduate Texts in Mathematics.

Machines That Walk. The Adaptive Suspension Vehicle. Shin-Min Song and Kenneth J. Waldron. MIT Press, Cambridge, MA, 1989. xvi, 314 pp., illus. \$40. The MIT Press Series in Artificial Intelligence.

Modern Quantum Chemistry. Introduction to Advanced Electronic Structure Theory. Attila Szabo and Neil S. Ostlund. 2nd ed. McGraw-Hill, New York, 1989. xiv, 466 pp., illus. \$39.95.

Molecular Aspects of Picornavirus Infection and Detection. Bert L. Semler and Ellie Ehrenfeld, Eds. American Society for Microbiology, Washington, DC, 1989. xvi, 320 pp., illus. \$59; to ASM members, \$45. From a conference, Newport Beach, CA, Jan. 1988.

Monteregian Treasures. The Minerals of Mont Saint-Hilaire, Quebec. J. A. Mandarino and V. Anderson. Cambridge University Press, New York, 1989. xiv, 281 pp., illus., + plates. \$85.

Pelagic Snails. The Biology of Holoplanktonic Gastropod Mollusks. Carol M. Lalli and Ronald W. Gilmer. Stanford University Press, Stanford, CA, 1989. xvi, 259 pp., illus., + plates. \$49.50.

Persistence of Forage Legumes. G. C. Marten *et al.*, Eds. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America, Madison, WI, 1989. xxiv, 572 pp., illus. Paper, \$19. From a workshop, Honolulu, HI, July 1988.

Perspectives in Coastal Dune Management. F. van der Meulen, P. D. Jungerius, and J. H. Visser, Eds. SPB, The Hague, 1989. viii, 333 pp., illus. Paper, \$52.50. From a symposium, Leiden, The Netherlands, Sept. 1987.

Physicochemical Hydrodynamics. An Introduction. Ronald F. Probst. Butterworths, Stoneham, MA, 1989. xiv, 353 pp., illus. \$65. Butterworths Series in Chemical Engineering.

Plants and Temperature. S. P. Long and F. I. Woodward, Eds. Published for the Society for Experimental Biology by the Company of Biologists, Cambridge, U.K., 1989 (distributor, Biochemical Society Book Depot, Colchester, U.K.). viii, x 415 pp., illus., + index. \$77. Symposia of the Society for Experimental

Biology, no. 42. From a symposium, Colchester, U.K., Sept. 1987.

Polymer Characterization/Polymer Solutions. M. Andreis *et al.* Springer-Verlag, New York, 1989. viii, 177 pp., illus. \$69.50. Advances in Polymer Science, vol. 89.

Population Harvesting. Demographic Models of Fish, Forest, and Animal Resources. Wayne M. Getz and Robert G. Haight. Princeton University Press, Princeton, NJ, 1989. xvi, 391 pp., illus. \$45; paper, \$15.95. Monographs in Population Biology, vol. 27.

Prestressed Bodies. D. Iesan. Longman Scientific, Harlow, U.K., and Wiley, New York, 1989. xiv, 280 pp. Paper, \$57.95. Pitman Research Notes in Mathematics, vol. 195.

Principles of Cellular, Molecular, and Developmental Neuroscience. Oswald Steward. Springer-Verlag, New York, 1989. xii, 257 pp., illus. \$35.

Proceedings, Second Advanced Accelerator Physics Course. (Berlin, F.R.G., Sept., 1987.) S. Turner, Ed. CERN, Geneva, 1989. xii, 266 pp., illus. Paper.

Proceedings, Superconductivity in Particle Accelerators. (Hamburg, F.R.G., May-June 1988.) S. Turner, Ed. CERN, Geneva, 1989. xii, 322 pp., illus. Paper.

Product Innovation. Idea to Exploitation. J. A. A. Bradbury. Wiley, New York, 1989. viii, 181 pp., illus. \$39.95.

Role of Numeric Databases in Materials and Biological Sciences. John R. Rodgers and Alan D. Mighell, Eds. U.S. Department of Commerce, Washington, DC, 1989 (available from the editor, Alan D. Mighell, National Institute of Standards and Technology, Gaithersburg, MD 20899). x, 93 pp., illus. Paper. *Journal of Research of the National Institute of Standards and Technology*, vol. 94, no. 1. From a workshop, Philadelphia, PA, June 1988.

The Rotation and Lorentz Groups and Their Representations for Physicists. K. N. Srinivasa Rao. Wiley, New York, 1989. xii, 358 pp. \$31.95.

The Safe Handling of Chemicals in Industry. P. A. Carson and C. J. Mumford. Longman Scientific, Har-

low, U.K., and Wiley, New York, 1988. 2 vols. xvi, 1089 pp., illus. \$150.

Satellite Monitoring of the Earth. Karl-Heinz Sze-kielda. Wiley-Interscience, New York, 1989. xiv, 326 pp., illus., + plates. \$54.95. Wiley Series in Remote Sensing.

Schrödinger's Mechanics. David B. Cook. World Scientific, Teaneck, NJ, 1988. xiv, 150 pp., \$32. World Scientific Lecture Notes in Physics, vol. 28.

Science and Technology in Post-Mao China. Denis Fred Simon and Merle Goldman, Eds. Harvard University Council on East Asian Studies, Cambridge, MA, 1989 (distributor, Harvard University Press, Cambridge, MA). xvi, 461 pp. Paper, \$14. Harvard Contemporary China Series, vol. 5.

The Scientific Background to Modern Philosophy. Selected Readings. Michael R. Matthews, Ed. Hackett, Indianapolis, IN, 1989. x, 162 pp., illus. \$17.50; paper, \$4.95.

Selenium in Agriculture and the Environment. L. W. Jacobs, Ed. American Society of Agronomy, and Soil Science Society of America, Madison, WI, 1989. xiv, 233 pp., illus. Paper, \$24. SSSA Special Publication no. 23. From a symposium, New Orleans, LA, Dec. 1986.

Skin Carcinogenesis. Mechanisms and Human Relevance. Thomas J. Slaga *et al.*, Eds. Liss, New York, 1989. xxii, 424 pp., illus. \$84. Progress in Clinical and Biological Research, vol. 298. From a symposium, Austin, TX, Dec. 1987.

Stem Cells. Brian I. Lord and T. Michael Dexter, Eds. The Company of Biologists, Cambridge, U.K., 1989 (distributor, Biochemical Society Book Depot, Colchester, U.K.). viii, 288 pp., illus. \$65. *Journal of Cell Science* supplement 10 (1988). From a symposium, Bristol, U.K., April 1988.

Les Vertébrés Fossiles de la Formation Pisco (Pérou). Part 3, Les Odontocètes (Cetacea, Mammalia) du Miocène. Christian de Muizon. Editions Recherche sur les Civilisations, Paris, 1988. 244 pp., illus. Paper, 273.93 FF. Institut Français d'Etudes Andines Memoir no. 78.

Variability and Management of Large Marine Ecosystems

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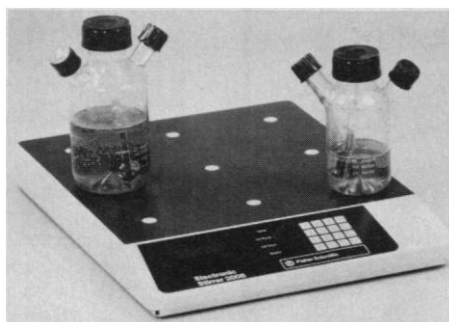
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A 28-page catalog details products from the HPLC Division of Shandon Scientific. Circle 441.

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The University of California, San Diego, **ASSISTANT PROFESSOR, BIOCHEMISTRY**. The Chemistry Department is recruiting for a junior tenure-track position in the biochemistry area. The candidate must have a Ph.D. and a demonstrated ability for creative research and teaching at the undergraduate and graduate levels. Duties would include teaching in biochemistry both on campus and in the Medical School. Particular preference will be given to candidates using biochemical and biophysical approaches, such as NMR and x-ray crystallography, to study protein structure and function or DNA: protein interactions. All applications received through 15 October 1989 will be given thorough consideration. Salary commensurate with experience and based on the University of California pay scale. Candidates should send curriculum vitae, a list of publications, reprints of representative papers, a summary of research plans and names and addresses of three references to: **Chairman, Biochemistry Search Committee, Department of Chemistry, B-032, University of California, La Jolla, CA 92093-0332. The University of California is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSORSHIP

An assistant professor with a D.V.M. degree and a Ph.D. is sought for a tenure-track position in the Department of Veterinary Microbiology, College of Veterinary Medicine, University of Missouri. A strong interest in food safety, preventive veterinary medicine, public health or zoonotic diseases with skills in immunology, cellular molecular biology and/or data management is required.

The appointee will teach veterinary students and graduate students, develop a host-resistance research program on infectious or zoonotic diseases of animals, pursue extra-mural research support and perform University and public service activities.

Applications will be reviewed beginning 1 December 1989 and will be accepted until a suitable person is identified. Salary is dependent upon qualifications.

Interested applicants should send curriculum vitae, statement of career goals, and names and addresses of three references to:

**Dr. James G. Thorne, Chair, Search Committee
Department of Veterinary Microbiology
108 Connaway Hall
University of Missouri-Columbia
Columbia, MO 65211
Telephone: 314-882-6068**

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

DEPARTMENT OF ANATOMY AND NEUROBIOLOGY COLLEGE OF MEDICINE THE UNIVERSITY OF TENNESSEE, MEMPHIS

ASSISTANT AND ASSOCIATE PROFESSOR tenure-track positions are available. Rank and salary will be commensurate with qualifications. Candidates must participate in teaching anatomical courses, including human gross anatomy, and must show strong evidence of research achievement. The department is the center of a rapidly expanding multidisciplinary neuroscience program. Candidates must be pursuing research programs in neuroscience, preferably molecular neurobiology, neurochemistry, or neurogenetics. Please submit by 1 October 1989, curriculum vitae, statement of research interests, and names of three individuals who can be contacted for letters of reference to: **S. T. Kitai, Chairman, Department of Anatomy and Neurobiology, College of Medicine, The University of Tennessee, Memphis, 875 Monroe Avenue, Memphis, TN 38163.**

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Affirmative Action Employer.*

ASSOCIATE DIRECTOR FOR MUSEUM AFFAIRS, Milwaukee Public Museum. Will coordinate collections management, research, exhibits and education, overseeing 100 staff and \$5-million budget. Must have advanced degree in museology or a museum discipline and 5 years of museum management experience. Administrative, interpersonal and grant-writing skills essential. Send letter of interest, résumé, and addresses of three references to: **Carter Lupton, Milwaukee Public Museum, 800 West Wells, Milwaukee, WI 53233. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR THE UNIVERSITY OF WISCONSIN-MADISON

The School of Pharmacy at the University of Wisconsin-Madison invites applications for a full-time tenure-track position at the assistant professor level in the area of pharmaceuticals. Candidates should be capable of developing an independent, aggressive, and fundamental program of physical chemical studies of the structure, properties, or function of biomolecules (such as peptides, proteins, nucleic acids, or carbohydrates). The primary interest should be in generating new knowledge at the molecular level, though the research should have potential application to drugs. Candidates should hold the Ph.D. in physical or analytical chemistry, pharmaceuticals, or a related field with a strong physical-chemical background, and should have relevant postdoctoral research experience. Teaching responsibilities will include undergraduate and graduate courses. Please send a complete curriculum vitae with a description of research interests and proposed research, and addresses of at least three references by 1 November 1989 to:

**Dr. Kenneth A. Connors
School of Pharmacy
University of Wisconsin
Madison, WI 53706
Telephone: 608-262-2990
FAX: (608) 262-3397**

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

ASSISTANT PROFESSOR OF PHYSIOLOGY

The Department of Physiology, Wayne State University School of Medicine, is inviting application for a tenure-track position at the assistant professor level. Responsibilities will include participation in team teaching medical and allied health physiology, graduate education, and the establishment of an extramurally funded research program. Applicants should have the M.D. or Ph.D. degree and postdoctoral experience. Candidates with a research interest in physiology, preferably with expertise in molecular and cellular approaches to their area of interest, are encouraged to apply. The target date for filling the position is the spring of 1990. Salary will be commensurate with qualifications and experience. Send curriculum vitae, a description of research interests and the names of three or more references to: **Dr. John W. Phillis, Chairman, Department of Physiology, Wayne State University School of Medicine, 5374 Scott Hall, 540 East Canfield, Detroit, MI 48201. Wayne State University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.**

ASSISTANT/ASSOCIATE PROFESSOR TOXICOLOGY/CHEMICAL ECOLOGY UNL DEPARTMENT OF ENTOMOLOGY

Seek tenure-track candidates to develop and conduct a research program that will contribute to reducing or preventing contamination of ground or surface water, within the broad topic area of movement, fate, or mode of action of toxicants within agroecosystems. Research areas might include but are not restricted to one or more of the following: study of naturally-occurring or genetically-manipulated plant compounds influencing arthropods; development of alternatives to current pesticide practices; fate of pesticides in the environment and their influence on plants and animals. The position is jointly sponsored by the Department of Entomology and the Water Quality Center in the Institute of Agriculture and Natural Resources with funding by the Water Sciences area of the Nebraska Research Initiatives. Development of, or contribution to, a multidisciplinary toxicology program is encouraged.

Requires Ph.D. in entomology, environmental toxicology or related discipline. Experience in interdisciplinary or collaborative research is preferred.

Send letter of application, a brief statement of professional interests and experiences, curriculum vitae, reprints, academic transcripts, and names, addresses, and telephone numbers of three references postmarked by 1 October 1989 to: **Chair, Toxicologist Search Committee, Department of Entomology, University of Nebraska-Lincoln, Lincoln, NE 68583-0816. Telephone: 402-472-2123.**

Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

ASSISTANT PROFESSOR URBAN PLANT ECOLOGY

The Center for Urban Horticulture, University of Washington, seeks an **URBAN PLANT ECOLOGIST** to participate in research, teaching and public service programs. Must develop innovative research in description, analysis or management of plants in human-dominated landscapes. Will teach courses in ecology of urbanizing areas and urban forestry. Training and experience in community, physiological, restoration, ecosystem or landscape ecology preferred. Send letter of application, résumé, official transcripts and names of five references to: **Dr. H. B. Tukey, Center for Urban Horticulture, University of Washington, Seattle, WA 98195. Telephone: 206-543-8616. Closing date: 15 September 1989. Equal Opportunity Employer/Affirmative Action.**

TWO ASSISTANT PROFESSORSHIPS—The Department of Veterinary Microbiology, College of Veterinary Medicine, University of Missouri-Columbia, has two full-time, tenure-track assistant professorships open immediately. The Department focuses on contemporary immunologic technology for controlling infectious diseases of veterinary, zoonotic, and comparative medical importance. The Department collaborates with campus researchers in molecular/cell biology, medicine, agriculture, and biological sciences.

POSITION 1—Requires a Ph.D. immunologist to teach immunology to professional (D.V.M.) students. D.V.M. degree is preferred. The position will also involve development of a competitive research program in immunology and instruction of graduate students.

POSITION 2—Requires a Ph.D. microbiologist or parasitologist with special interest and experience in molecular immunology to participate in graduate teaching and interdisciplinary immunologic research. The successful candidate will be expected to establish a competitive research program and obtain extramural funding.

Applications will be reviewed beginning 15 November 1989, and will be accepted until suitable candidates are identified. Salaries dependent upon qualifications.

Send curriculum vitae, names and addresses of three references, and a letter stating professional goals to:

**Dr. Gary K. Allen, Chair, Search Committee
Department of Veterinary Microbiology
203 Connaway Hall
University of Missouri-Columbia
Columbia, MO 65211
Telephone: 314-882-2280**

*The University of Missouri is an Affirmative Action/
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ASSISTANT RESEARCH SCIENTIST: Position immediately available in laboratory of **Dr. William Rom** for molecular biologists trained in Northern, Southern, solution hybridization, and PCR to do research on pulmonary fibrosis in environmental lung disease. Please send curriculum vitae and names of three references to: **Joan Harmon, Personnel Department, New York University Medical Center, 550 First Avenue, New York, NY 10016. An Equal Opportunity Employer M/F.**

ASSOCIATE OR FULL PROFESSOR. The Medical College of Georgia invites applications from qualified individuals for a senior tenure-track position in the Department of Cell and Molecular Biology. Preference will be given to candidates who have an active research program and who are using molecular approaches to study immunology or host parasite interactions. Applicants should have a proven ability to compete successfully for extramural funding. Academic responsibilities include both medical and graduate education. Administrative support for research and excellent facilities contribute to a strong research environment. The Medical College of Georgia, in Augusta, is located in a metropolitan area with a population of over 350,000, a strong cultural arts base, and a growing, diversified economy. Interested individuals should send by 15 October a brief letter of interest, curriculum vitae, a copy of two recent publications, and the names and addresses of three references to: **Dr. David F. Lapp, Chairman, Search Committee, Department of Cell and Molecular Biology, Medical College of Georgia, Augusta, GA 30912-2100. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR—NEUROPHARMACOLOGY/NEUROTOXICOLOGY. The Department of Pharmacology, Toxicology, and Therapeutics at the University of Kansas Medical Center invites applications for a tenure-track position for a neuropharmacologist or neurotoxicologist. The applicant must have an appropriate Ph.D. or an M.D., with 2 years or more of relevant postdoctoral experience. The successful candidate will be expected to establish an independent research program and to contribute to the teaching of graduate and medical students. Primary appointment will be in this department, but additional affiliation with the Center for Environmental and Occupational Health and the Mental Retardation Research Center is possible. Applications should be received by 1 November 1989. Applicants should send curriculum vitae, a short summary of research plans, and the names of three references to: **Dr. Gregory A. Reed, Department of Pharmacology, Toxicology and Therapeutics, University of Kansas Medical Center, Kansas City, KS 66103.** *The University of Kansas is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF CHEMICAL ENGINEERING MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Applicants are invited for two junior-level, tenure-track faculty positions in the Department of Chemical Engineering. Applicants should have a Ph.D. in chemical engineering or a closely related field, should have demonstrated excellence in academic research, and should have a strong interest in teaching graduate and undergraduate chemical engineering. Applicants are preferred with research interests in either polymer science and engineering, applied chemistry or chemical reaction engineering. Outstanding candidates with other research interests will be considered. Send résumé including the names of at least three references, graduate transcripts and a description of research interests to: **Dr. Robert A. Brown, Head, Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139.** Material should be received by 1 November 1989. *MIT is an Equal Opportunity/Affirmative Action Employer.*

University of California San Francisco, Department of Psychiatry seeks an **ASSOCIATE RESEARCH BIOCHEMIST** with expertise in purification of proteins, and glycoconjugates and their characterization by mass spectrometry and other techniques to assist in a program on glycoconjugates in the nervous system. Annual salary \$44,000 to \$59,000. Duties include research and supervision in: (i) Purification of carbohydrate binding proteins and glycoproteins. Requires: Expertise in affinity chromatography and other protein purification methods; (ii) Purification of glycolipids. Requires: Expertise in chromatography; (iii) Structural analysis of carbohydrate binding proteins and glycoconjugate ligands. Requires: a) Expertise in characterization of glycoconjugates, b) Expertise in mass spectrometry of saccharides, and peptides; (iv) Testing specificity of interaction between carbohydrate binding proteins and glycoconjugates. Requires: Demonstrated expertise in binding assays, Western blots, TLC, overlay assays; (v) Member of team planning studies of protein-carbohydrate interactions in the brain. Requires: Ability to interact with psychiatric researchers. General Requirements: (vi) Ph.D. with focus on glycoconjugates; (vii) Finalists will be asked to submit publications, minimum of three letters and curriculum vitae by 1 October 1989 c/o: **Laurel Koepf, Research Administrator, 401 Parnassus, UCSF, San Francisco, CA 94143-0984.** *University of California is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

ASSOCIATE RESEARCH SCIENTIST. The Division of Pediatric Hematology/Oncology seeks a molecular biologist or biochemist for studies of enzymes cloning and prenatal diagnosis of hematological disorders. Ph.D. in a related discipline and experience with restriction endonucleases required; additional experience in monoclonal antibody development also desirable. Please send curriculum vitae to: **Sergio Piomelli, M.D., Columbia University, College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR IN PLANT MOLECULAR BIOLOGY

The Department of Biological Sciences of the University of Illinois at Chicago invites applications for a tenure-track position in plant molecular biology at the assistant professor level to begin September 1990. Applicants should have postdoctoral experience and expertise in molecular approaches to plant development or regulation in either higher or lower eukaryotic plant cells. The successful candidate will join an active group of molecular and plant biologists within the Department, will be expected to develop a research program in plant molecular biology, and will contribute to the Department's undergraduate and graduate teaching programs. Interested applicants should send curriculum vitae, a statement of research goals, and the names and addresses of three referees to:

**Plant Molecular Biology Search Committee
c/o Dr. Sidney B. Simpson, Jr., Head
Department of Biological Sciences (m/c 066)
The University of Illinois at Chicago
Box 4348
Chicago, IL 60680**

Applications will be accepted until 15 December 1989.

The University of Illinois at Chicago is an Affirmative Action/Equal Opportunity Employer.

BIOCHEMIST/ASSOCIATE PROFESSOR

Seek associate professor for 12-month, tenure-track position with 80% research and 20% teaching. Should have a research program that relies on modern biochemical techniques. Requires Ph.D. in biochemistry or closely related area. Submit curriculum vitae, statement of research interests and plans, representative reprints, and names of at least three references by 16 October (or until suitable applicant is found thereafter) to: **Dr. Robert Klucas, Department of Biochemistry, University of Nebraska-Lincoln, 206 Biochemistry Hall, Lincoln, NE 68583-0718.** Telephone: 402-472-2932. *Affirmative Action/Equal Opportunity Employer.*

BIOLOGISTS

Southern Methodist University invites applications for two tenure-track positions at either the assistant or associate professor level in the Department of Biological Sciences. We seek individuals whose training and research interests will complement current programs in biochemistry, molecular genetics, microbiology, and cell biology. The successful candidates will be expected to develop a research program that will merit extramural funding, and teach both undergraduate and predoctoral graduate students.

MOLECULAR GENETICIST: Preference will be given to the individual working on either *Drosophila* or yeast. Teaching duties will include assignment to the undergraduate genetics course.

MOLECULAR PHYSIOLOGIST-Biochemist: Preference will be given to the candidate whose research employs the techniques of molecular biology, and who is qualified to teach an undergraduate course in animal physiology.

Submit applications by 1 November 1989 to the **Chairman of the appropriate search committee, Department of Biological Sciences, Southern Methodist University, Dallas, TX 75275.** *SMU is an Equal Opportunity/Affirmative Action/Title IX Employer.*

CELL OR DEVELOPMENTAL BIOLOGY

The Department of Anatomy and Cell Biology at the University of Michigan Medical School invites applications for **ONE OR TWO TENURE-TRACK POSITIONS** at the assistant or possibly at the associate or full professor level. We seek individuals with a vigorous research program in which significant problems are approached with contemporary techniques. Teaching can be in neuroscience, histology, or gross anatomy. Candidates should send their curriculum vitae, reprints, statement of research interests, and have three letters of reference sent to:

**Dr. Bruce M. Carlson, Chairman
Department of Anatomy and Cell Biology
University of Michigan Medical School
Ann Arbor, MI 48109-0616**

The deadline for receipt of applications is 1 October 1989.

The University of Michigan is an Equal Opportunity Employer.

Senior Biochemist



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POSITIONS OPEN

BIOLOGY: ASSISTANT PROFESSOR with specialty in plant science, beginning January 1990. Tenure-track position. Ph.D. required. Responsibilities include teaching plant science, nonmajors introductory biology, and electives in specialty area. Candidate must be willing to develop an undergraduate research program. New science facility opening Spring term 1990. Send letter of application, résumé, transcripts, and three letters of reference to: **Dr. R. B. Angstadt, Chairman, Department of Biology, Lycoming College, Williamsport, PA 17701.** Applications invited through 1 October 1989. *Lycoming College is an Equal Opportunity Employer.*

GLYCOBIOLOGY UNIT DEPARTMENT OF BIOCHEMISTRY UNIVERSITY OF OXFORD BIO-ORGANIC MASS SPECTROMETRIST BC/304

The Glycobiology Unit is seeking a bio-organic mass spectrometrists with experience in the structural characterization of biomolecules, especially complex carbohydrates, to supervise the mass spectrometry facility within the unit. The successful candidate must have extensive experience with sector instruments, as he/she will be responsible for the selection and purchase of a state-of-the-art, high-mass instrument with array detection, and for the operation and routine maintenance of the instrument when it is installed. Experience in GC-MS analysis of carbohydrates using quadrupole instruments would also be advantageous. Collaboration with other members of the Unit in the structural characterization of complex carbohydrates, and development of new methods for the application of mass spectrometry to the characterization of biomolecules will be expected. At least 2 years of relevant postdoctoral experience is essential, as the appointment will be made at a level at least commensurate with that of a junior lecturer. There will be the option of participating in the teaching programme within the Department of Biochemistry. Salary will be on the scale of £10,458 to £16,665 per annum, depending upon experience. The appointment will be available for 5 years in the first instance with the possibility of renewal. Applications, which should include a full curriculum vitae and the names of two or three references, should be sent to: **The Administrator, Department of Biochemistry, University of Oxford, South Parks Road, Oxford OX1 3QU, England.** *An Equal Opportunity Employer.*

BLOOD RESEARCH POSITIONS

Federal Service. Letterman Army Institute of Research, San Francisco, California, is seeking: (i) Ph.D.-level **BIOCHEMIST OR PHYSIOLOGIST** to conduct research in the development of oxygen-carrying blood substitutes to include hemoglobin structure, function, modification, physiologic and metabolic properties; (ii) a **BIOMEDICAL ENGINEER** with experience in process design and implementation and laboratory automation to join a research team engaged in the production of hemoglobin-based oxygen-carrying blood substitutes. *Must be a U.S. citizen.* Send curriculum vitae to: **Robert M. Winslow, M.D., Letterman Army Institute of Research, Presidio of San Francisco, CA 94129.** *An Equal Opportunity Employer.*

CANCER BIOLOGIST. Responsible for studying response of anticancer drugs and radiation of human squamous carcinoma and other types of cancer cells grown in culture as monolayers and multicellular spheroids, particularly the influence of chronic hypoxia and growth factors on such response. Requires Ph.D. in cancer biology, biology, or biochemistry. Also requires demonstrated expertise and prior successful developments in the study of chemotherapy and radiotherapy effects on multicellular cancer spheroids; experience with flow cytometry, hypoxia technology, colony formation assays, handling radioactive materials, DNA damage assays, and growing multicell spheroids (may include research experience toward Ph.D.). Salary: \$37,000 per year. Job site: Menlo Park, California. Send this ad and résumé to: **Job #SS-7227, P.O. Box 9560, Sacramento, CA 95823-0560** not later than 15 September 1989.

POSITIONS OPEN

CAREER OPPORTUNITY

A **RESEARCH POSITION** is available immediately to study growth regulators in insects. The position is part of a program involving application of biotechnology to forest pest control. The candidate should have proven experience in recombinant DNA techniques. *U.S. citizenship is required.* Initial appointment will be as a postdoctoral fellow, but the possibility exists for conversion to a permanent position. Starting salary is \$28,852 plus benefits. Send curriculum vitae with telephone numbers of three references to: **Dr. Shiv Hiremath, USDA Forest Service, 359 Main Road, Delaware, OH 43015.** Telephone: 614-369-4476.

CELLULAR ENDOCRINOLOGIST UNIVERSITY OF ARIZONA

The Departments of Physiology and Obstetrics and Gynecology (ObGyn) are jointly seeking a tenure-track assistant professor. Preference will be given to applicants with research expertise in reproductive biology, using the techniques of molecular biology, and teaching expertise in systems endocrinology. The tenure-line will be in physiology, although a primary appointment in ObGyn would be considered under exceptional circumstances. Successful candidates should have postdoctoral experience and must document their potential to develop an independent research program in reproductive biology. The development of research interactions with relevant colleagues in ObGyn is essential and university-wide interactions are encouraged. Teaching responsibilities will include formal lectures on cellular and systems endocrinology to first-year medical students, tutorials with ObGyn residents, and participation in a university-wide Ph.D. program in the physiological sciences. Submit curriculum vitae and have three supporting letters sent to: **Dr. Stephen Wright, Cellular Endocrinologist Search Committee, Department of Physiology, College of Medicine, University of Arizona, Tucson, AZ 85724.** To ensure consideration, applications should be submitted by 31 October 1989; however, applications will be accepted until the position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer and applications from females and minority group members are strongly encouraged.*

CHAIR DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

The School of Medicine of the University of North Carolina at Chapel Hill seeks an individual committed to academic excellence to provide professional and administrative leadership for the research and teaching programs of the Department of Microbiology and Immunology. The department has an excellent faculty, strong research and graduate educational programs, and productive collaborative relationships with other departments, research centers, and institutes within the University. Other research-intensive institutions in the Research Triangle Park area enhance the scientific environment.

Preference will be given to candidates who reply before 10 October 1989. Reply with curriculum vitae and a list of at least three references to: **R. L. Juliano, Ph.D., Chair, Search Committee for Chair of Department of Microbiology and Immunology, Office of the Dean, The School of Medicine, CB# 7000, MacNider Building, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7000.** *Women and minorities are encouraged to apply and to identify themselves. UNC-CH is an Equal Opportunity/Affirmative Action Employer.*

The J. L. Sorenson School of Medicine at the University of Utah is seeking a **CHAIRPERSON** for the newly created Department of Neurosciences and Anatomy. The chairperson would occupy the newly endowed George and Laura Winder Chair of Neurosciences. Interested individuals should write with curriculum vitae and bibliography to: **J. Richard Baringer, M.D., Department of Neurology, J. L. Sorenson School of Medicine, 50 North Medical Drive, Salt Lake City, UT 84132.** This position will close on 30 September 1989. Applications submitted after the close date may be accepted if no qualified applicants have applied. *The University of Utah is an Equal Employment Opportunity Employer.*

POSITIONS OPEN

CELLULAR PHYSIOLOGIST/ PHARMACOLOGIST UNIVERSITY OF ARIZONA

The Departments of Physiology and Pharmacology are jointly seeking a tenure-track assistant professor. Preference will be given to applicants with teaching expertise in gastrointestinal (GI) physiology and research expertise in gastrointestinal biology, using quantitative microscopy and imaging techniques or other equivalent state-of-the-art techniques. The tenure-line will be in physiology, although a primary appointment in pharmacology will be considered. Successful candidates should have postdoctoral experience and must document their potential to develop an independent research program and to interface effectively between physiology and pharmacology. University-wide collaborations and interactions are also encouraged. The primary teaching responsibility will be teaching and coordinating the GI section of the first-year medical student course in human physiology. Additional graduate-level teaching is expected through participation in the Physiological Sciences and Pharmacology-Toxicology graduate training programs. Submit curriculum vitae and have three supporting letters sent to: **Dr. Janis M. Burt, Cellular Physiologist/Pharmacologist Search Committee, Department of Physiology, College of Medicine, University of Arizona, Tucson, AZ 85724.** To ensure consideration, applications should be submitted by 31 October 1989; however, applications will be accepted until the position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer and applications from females and minority group members are strongly encouraged.*

CHAIR DEPARTMENT OF BOTANY

Position: Miami University invites applications and nominations for the position of Chair of the Department of Botany. Candidates must have an excellent record of accomplishment in research within the discipline, a demonstrated interest and ability in effective teaching, and the capability of providing the administrative leadership to continue and extend the department's established strengths in research, teaching, and service. The successful candidate will begin a 5-year renewable term 1 July 1990.

Department: The Department of Botany, with seventeen faculty, offers the Baccalaureate, Master's, and Ph.D. degrees. The department occupies the upper floor of a new biological sciences building. Special research facilities include an electron microscopy center, the Willard Sherman Turrell Herbarium, research greenhouses, a plant growth chamber facility, a 160-hectare ecology research center, and computer and microcomputer facilities. Departmental research interests include: ecology, molecular biology, morphology, mycology, phycology, plant anatomy, plant physiology, systematics and tissue culture. Major interdisciplinary projects have been developed with faculty of Chemistry, Microbiology and Zoology Departments.

Application: Review of applications will commence on 13 October 1989. Application should include curriculum vitae and descriptions of: administrative experience, teaching experience, and current research, including copies of representative publications. All above material and five letters of reference should be sent to: **Dr. John Skillings, Chair, Botany Chair Search Committee, College of Arts and Science, 270 Upham Hall, Miami University, Oxford, OH 45056.** Telephone: 513-529-5818. *Equal Opportunity in Employment and Education.*

The University of Michigan, **CHAIR OF BIOLOGICAL CHEMISTRY.** The University of Michigan Medical School is seeking an academic leader to direct the research, teaching, and service programs of its Department of Biological Chemistry. Qualifications include: a Ph.D. (or M.D.) degree in biological chemistry or a related field, national stature as a researcher in an area of biological chemistry, commitment to teaching, and administrative ability. The position includes an instructional (tenure) track faculty appointment. Please respond by 15 October 1989 to: **Frederick C. Neidhardt, Ph.D., Chair, Biological Chemistry Review and Search Committee, c/o Ms. Susan E. Blackwell, Medical Administration Staff Assistant, The University of Michigan Medical School, M7325A Medical Science I Building, Ann Arbor, MI 48109-0624.** *The University of Michigan is a non-discriminatory Affirmative Action Employer.*

**National Institutes of Health
National Institute of Dental Research**

**Chief, Laboratory of Developmental
Biology and Anomalies**

The Intramural Research Program of the National Institute of Dental Research invites nominations and applications for the position of Chief, Laboratory of Developmental Biology and Anomalies.

The Chief, Laboratory of Developmental Biology and Anomalies will be responsible for planning, directing, and conducting research programs which use biological, genetic and molecular approaches to study normal development and its aberrations. Appointee will have latitude in the recruitment of other senior scientists, post-doctoral fellows, and technicians.

Applicants should have a Doctoral degree or equivalent with accomplishments in the general area of developmental biology and with demonstrated ability for administrative leadership. Position is available immediately. This is a Civil Service position with a salary range of \$57,158 to \$74,303 per annum. Physicians and dentists may be eligible for Physician's Comparability Allowance of up to \$20,000 per year. Alternatively, appointment in the Commissioned Corps of the U.S. Public Health Service may be appropriate. U.S. Citizenship is required.

Applicants must submit curriculum vitae, brief statement of research directions, and the names of three references. Civil Service applicants also must submit a SF-171. Documents must be submitted no later than September 30, 1989 to:

**Ms. Judith T. Dulovich
Personnel Management Specialist
National Institute of Dental Research
National Institutes of Health
Building 31, Room 2C23
9000 Rockville Pike
Bethesda, MD 20892**



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**Cardiovascular
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G.D. Searle, a world-wide leader in the pharmaceutical industry, has three immediate openings for the following laboratory professionals to work in the Department of Cardiovascular Diseases Research in St. Louis. Successful applicants will become members of a multidisciplinary drug discovery team focusing on cardiovascular therapy.

Quantitative Autoradiography

Strong background in receptor binding studies using quantitative autoradiographic techniques. Must be skilled in all aspects of the technique, especially image analysis, and able to function independently. Additional related skills, e.g. immunohistochemistry, in situ hybridization, etc. desirable. Good communication skills are essential. MS degree preferred.

**General Cardiovascular
Pharmacology**

Strong background in general laboratory procedures is required. Both biochemical, e.g. RIA, analytical chemistry, and animal research (small and large species) will be conducted. Experience in sterile surgical procedures, and chronic instrumentation will be valuable. Good communication skills are essential. MS degree preferred.

Biochemistry

Requires BS/MS in biochemistry, pharmacology or biology with a minimum of 2 years laboratory experience; previous experience in receptor binding methodology is preferred. Experience in several of the following areas is desirable: enzyme assays, column chromatography, electrophoresis, immunoassays. Good oral and written communication skills are necessary.

The above positions are available at the St. Louis site of G.D. Searle R&D in the newly built, modern Life Sciences research facility. G.D. Searle & Company, a wholly owned subsidiary of Monsanto Company, offers competitive salary and benefits plans. Qualified applicants should send resumes in confidence to: **Joan M. Lineberry - EHB; G.D. SEARLE & COMPANY; Monsanto Life Sciences Research Center - BB4E; 700 Chesterfield Village Parkway; St. Louis, MO 63198.** An Equal Opportunity Employer. M/F

SEARLE

POSITIONS OPEN

CHEMICAL OCEANOGRAPHER

The Atlantic Oceanographic and Meteorological Laboratory (AOML) of the National Oceanic and Atmospheric Administration (NOAA), Department of Commerce is seeking applicants for a position as a chemical oceanographer with a working knowledge of the biogeochemistry of carbon cycling in the ocean as it relates to atmosphere/ocean exchange of carbon dioxide. The incumbent will be based at AOML in Miami, Florida and conduct research within that laboratory as well as in various field programs, including cruises to remote ocean areas. The position is a career appointment, initially at the GS-12 level with a starting salary of \$34,580 per annum.

The incumbent will be responsible for developing a research component at AOML on the oceanic aspects of atmospheric/ocean carbon dioxide exchange. This research will be cooperative with other NOAA research units, as well as academic scientists, within NOAA's Climate and Global Change research effort. Qualifications include, but are not limited to, a strong chemical background with broad expertise in oceanography. Of particular importance is a demonstrated expertise in the biogeochemistry of carbon cycling in the ocean and the carbon dioxide/bicarbonate/carbonate system, especially as it relates to exchange of carbon between the atmosphere and the surface ocean and between the surface and deep ocean. The incumbent will be expected to publish research findings in the refereed literature. A graduate degree at the doctoral level, or equivalent experience in ocean science is desired.

For information as to how to apply, contact: **Andrew Hicks, Central Administrative Support Center, Personnel Division, Federal Building, Room 1747, 601 East 12th Street, Kansas City, MO 64106, telephone: 816-374-7468.** Reference vacancy CASC/ERL 89-208. For information about the research situation, contact: **Dr. Donald K. Atwood, NOAA/AOML, 4301 Rickenbacker Causeway, Miami, FL 33149. Telephone: 305-361-4374.**

The Department of Biochemistry and Molecular Biology at Mississippi State University invites applications for the position of **DEPARTMENT HEAD**. The department head is responsible to the Dean of the College of Agriculture and Home Economics and the Director of the Mississippi Agricultural and Forestry Experiment Station. The head has the administrative responsibilities for teaching and research including personnel and budgetary management; development and implementation of research activities funded by federal, state, and non-government sources; supervision and coordination of departmental activities; liaison with university administration, other departments, and the agricultural industry in the state. A Ph.D. in biochemistry and/or molecular biology, demonstrated leadership in planning, developing, coordinating and evaluating teaching and research; and a strong commitment to excellence in academic and research programs in biochemistry and molecular biology are required. Applications will be accepted until 31 October 1989, or until position is filled. Send résumé and three letters of recommendation to: **Office of the Dean, College of Agriculture and Home Economics, P.O. Drawer AG, Mississippi State, MS 39762.** *Mississippi State University is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR, CENTER ON DRUG AND ALCOHOL ABUSE

The University of Kentucky is accepting applications for Director of the Center on Drug and Alcohol Abuse. This is an interdisciplinary Center involving many sectors of the University, the community, and various levels of government. Administrative and scientific credentials required as well as significant experience in alcohol and drug abuse research. We are seeking a senior, doctoral level individual with superior administrative skills. Public and private multi-agency experience necessary. Closing date for receipt of applications is 30 September 1989. Address responses to: **Robert F. Kraus, M.D., Chairman Search Committee; University of Kentucky, Department of Psychiatry; Medical Center Annex 2; Lexington, KY 40536-0080.**

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

CHAIR DEPARTMENT OF PLANT BIOLOGY

The University of New Hampshire solicits applications and nominations for the position of Chair of the Department of Plant Biology in the College of Life Sciences and Agriculture. The new department was formed in July 1989 from a merger of botany and plant pathology and plant science (agronomy and horticulture). The 200-acre campus of 11,000 students is located in Durham, near the seacoast of New Hampshire, approximately 50 miles north of Boston and an hour's drive from the White Mountains. Candidates for this position should be at the associate- or full-professor rank with an earned doctorate in appropriate discipline. A productive research record and leadership skills appropriate for a 24-member department are important. Familiarity with the Land Grant philosophy is important. To apply, send curriculum vitae (non-citizens must include current visa status), names, addresses, and telephone numbers of four references, list of publications, and statement of academic and administrative philosophy. Review of completed applications will begin 1 September 1989. Submit to:

**Dr. George O. Estes, Chair
Plant Biology Search Committee
125 Nesmith Hall
University of New Hampshire
Durham, NH 03824**

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

CURRICULUM DEVELOPMENT IN EVOLUTION THEORY: The Biological Sciences Curriculum Study (BSCS) has an immediate opening for a **STAFF ASSOCIATE** to work on a new instructional program on advances in evolution theory. The program will consist of print materials and an interactive videodisc for use in high school earth science and biology classes. Responsibilities include working with the principal investigator and advisory committee to set the conceptual framework for the project, assisting with writing and production of experimental materials, supervising field test of materials, and preparing final material for publications.

Requirements include a strong background in evolution and ecology; Ph.D. preferable, master's degree required. Knowledge of precollege science education is essential, as is experience in curriculum development. Candidates must communicate well in writing and orally. Familiarity with educational computing is helpful.

Send curriculum vitae and transcripts by 30 September 1989 to: **Joseph D. McInerney, Director, BSCS, 830 North Tejon Street, Suite 405, Colorado Springs, CO 80903.** *BSCS is an Equal Opportunity Employer.*

DEVELOPMENT DIRECTOR OF CORPORATE AND FOUNDATION RELATIONS

Fox Chase Cancer Center is one of four independent comprehensive cancer centers designated by the National Cancer Institute. The Director of Corporate and Foundation Relations will report directly to the Vice President for Development. Responsibilities include management of the corporate and Foundation's gift program; supervision of related research and stewardship of projects; and coordination, together with the Vice President for Development and the President, of the planning for the program. The Director works with the board, faculty, officers and volunteers of the Center, and maintains personal contact with Corporation and Foundation representatives. Successful candidates will have at least a Master's degree in the biomedical sciences (Ph.D. strongly preferred), excellent written and oral communication skills, will be self motivated, and evidence extraordinary ability to work well with the development team and the clinical scientific research staff at Fox Chase Cancer Center. Salary and benefits are excellent and are commensurate with experience and individual qualifications. Minimum qualifications include 3 years of development or related experience and the above mentioned educational background. The position is available immediately. Please submit an application, consisting of a résumé, letter of application, and three references, names, and telephone numbers to: **Search Committee for Director of Corporate and Foundation Relations, c/o Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** *Equal Opportunity Employer.*

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA SANTA CRUZ CAMPUS DEAN OF NATURAL SCIENCES

Reports to Academic Vice Chancellor. Should be eligible for senior tenured appointment; have demonstrated academic administrative leadership; ability to lead Division having full range of Natural Science disciplines in era of growing enrollments and programs; appreciation of responsibilities of a university serving a multi-ethnic state; demonstrated commitment to affirmative action; experience in shared governance. Effective summer 1990. Deadline for applications and nominations 30 October 1989. Submit to: **University of California, Santa Cruz, Search Committee for the Dean of Natural Sciences, Office of the Academic Vice Chancellor, McHenry Library, Santa Cruz, CA 95064.** Refer to position #200-890. *UCSC is an Equal Employment Opportunity/Affirmative Action/IRCA Employer.*

DIRECTOR, JOINT PROGRAM IN MARINE AND ESTUARINE SCIENCES

The University of Maryland announces the reopening of a tenure-track faculty appointment in Marine and Estuarine Sciences at two of its institutions on the Eastern Shore of Chesapeake Bay. The appointment will be joint between the Horn Point Environmental Laboratories of the Center for Environmental and Estuarine Studies (CEES) and the University of Maryland Eastern Shore (UMES).

The Horn Point Environmental Laboratories is one of three laboratories of CEES devoted to research, education and public service in areas concerned with the environment and natural resources. UMES, one of the nation's Historically Black Colleges and Universities, is a Land-Grant campus of the University of Maryland System.

The successful appointee will be responsible for directing a joint B.S./M.S. Degree Program in Marine and Estuarine Sciences. The Director of the Program will be expected to contribute to the research and teaching missions of both CEES and UMES. Areas of professional expertise and rank remain open within the context of campus missions and needs.

Applications, including the names and addresses of five references should be sent to:

**Professor Charles H. Hocutt
Chairman, CEES/UMES Search Committee
Horn Point Environmental Laboratories
Post Office Box 775
Cambridge, MD 21613.**

Applications received by 1 October 1989 will be assured full consideration.

The University of Maryland is an Affirmative Action Employer.

ENVIRONMENTAL PATHOLOGY/NEUROTOXICOLOGY. Postdoctoral positions available. Application of cellular and subcellular morphometric and neurochemical methods for assessing neurotoxic lesions in mammals, using a model of molecular injury by mercury or pesticides. Inquiries: **N. Karle Mottet, M.D., Program Director, Department of Pathology, SM-30, University of Washington, Seattle, WA 98195.** *U.S. citizen or permanent resident. Affirmative Action/Equal Opportunity Employer.*

The Department of Physiology at Louisiana State University Medical Center in Shreveport has a position available for a **FACULTY MEMBER** at either the junior or senior level. The candidate would be expected to pursue an independent research program and to participate in medical and graduate education. Candidates must have outstanding research credentials in cardiovascular and/or cell physiology. Application letters with curriculum vitae and three letters of recommendation should be sent to:

**Dr. D. Neil Granger
Department of Physiology
Louisiana State
University Medical Center
1501 Kings Highway
Shreveport, LA 71130-3932**

*An Affirmative Equal Opportunity Employer.
LSUMC*

RESEARCH OPPORTUNITIES

THE JACKSON LABORATORY, located on the coast of Maine on the fringe of Acadia National Park, is a world renowned center and resource for mammalian biology and genetics.

- **PROFESSIONAL ASSISTANT:** to carry out a program in mouse genetics using techniques of molecular biology. Program includes insertional mutagenesis, RFLP mapping, and analysis of developmental mutations. BS or MS with experience in molecular biology and strong interest in genetics required.

- **POSTDOCTORAL FELLOW:** to participate in the above program.

Openings are in the lab of Dr. Benjamin Taylor. Please contact:



The Jackson Laboratory

Attn: Harold R. Wheeler
Employment Manager
600 Main Street
Bar Harbor, ME 04609
207/288-3371

EOE/Affirmative Action Employer

Cardiac Electrophysiology Research

DuPont's Medical Products Department, Pharmaceuticals Division has an immediate opening for a laboratory scientist in its Cardiovascular group. The successful candidate will hold a BS/MS degree in Physiology, Pharmacology or related discipline with experience in *in vitro* electrophysiological techniques. The investigator will have the responsibility for evaluating drug effects on action potentials in cardiac muscle and ionic currents in single cells using patch clamp electrodes. Familiarity with computer-based graphics and statistical packages is also highly desirable.

At DuPont you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. Our Mid-Atlantic location offers a wide range of academic, cultural and recreational activities. We provide excellent compensation, benefits, and relocation assistance. Qualified candidates should send a curriculum vitae to: Dr. Barry S. Brown, c/o Professional Staffing Section, Employee Relations Department, Room X-51784, DuPont Company, Wilmington, DE 19898.



An Equal Opportunity Employer M/F/H/V
U.S. Citizenship or Permanent Visa Required
and meet other appropriate IRCA requirements

NATIONAL INSTITUTES OF HEALTH ANALYTICAL CHEMIST

The Laboratory of Neurosciences, National Institute on Aging, NIH, invites applicants for an Analytical Chemist position, to supervise the operation of a clinical pharmacokinetics laboratory and to develop analytical techniques in support of clinical and basic pharmacology programs. The Laboratory of Neurosciences conducts multidisciplinary research on brain function in healthy aging and dementia. The Unit on Pharmacology and Pharmacokinetics investigates basic brain functions and evaluates the therapeutic efficacy of drugs in dementias such as Alzheimer's disease, in inpatient and ambulatory settings.

This position is for a Senior Staff Fellow or Visiting Scientist, with a salary commensurate with experience. Applications are invited from qualified individuals having a Ph.D. degree or equivalent. Previous experience in biological analysis is desired. NIH is an equal opportunity employer, and applications from women and minorities are invited. Interested candidates should submit a curriculum vitae and a statement of research interests to:

Timothy T. Soncrant, M.D.
Chief, Unit on Pharmacology and Pharmacokinetics
Laboratory of Neurosciences
National Institute on Aging/NIH
Bldg. 10/6C103
9000 Rockville Pike
Bethesda, MD 20892

STAFF POSITIONS

DEPARTMENT OF CELL AND DEVELOPMENTAL BIOLOGY

ROCHE INSTITUTE OF MOLECULAR BIOLOGY



As part of a newly expanded program in developmental biology, applications are invited for two positions equivalent in rank to Assistant and Associate Professor. Candidates are sought who are applying contemporary experimental approaches to basic research in developmental biology. Institute staff enjoy total freedom and independence in their choice and pursuit of research problems, as well as full funding of their research programs, including postdoctoral fellows, by Hoffmann-La Roche. The Institute is located in a suburban setting only 10 miles west of New York City. Send curriculum vitae, names of three references, and summary of research interests to: **Dr. Paul Wassarman, Chairman, Department of Cell and Developmental Biology, Roche Institute of Molecular Biology, Nutley, New Jersey 07110.** We are an equal opportunity employer.



Roche Institute of Molecular Biology

Hoffmann-La Roche Inc.

POSITIONS OPEN

ENTOMOLOGISTS IPM, MEDICAL ENTOMOLOGY, AND INSECT PHYSIOLOGY

The Department of Entomology, Cornell University, invites applications for three positions:

INSECT PEST MANAGEMENT IN FIELD CROPS: 70% research/30% teaching. Responsibilities include developing management systems for major insect pests of field crops in close cooperation with entomology dairy/field crop extension program. Teaching includes a pest management course, upper level course in quantitative aspects of pest management, and contributions to other courses. Qualifications: Academic training and research experience in fundamental and applied aspects of pest management and insect population ecology. Training/experience in quantitative disciplines such as advanced statistics, sampling methodology, or systems analysis is essential. Available 1 April 1990.

MEDICAL ENTOMOLOGY: 70% research/30% teaching. Responsibilities include studies of the biology, ecology, and management of arthropods associated with humans and as vectors of human diseases. Interactions are expected with the extension associate responsible for problems related to medical entomology in New York State, the Department's veterinary entomology program, and colleagues in the Veterinary and Medical Colleges. Teaching includes an upper level course in medical and veterinary entomology, a graduate-level seminar in his/her area of expertise, and lectures in a parasitology course taught in the College of Veterinary Medicine. Qualifications: Training/research in medical entomology, parasitology, or microbiology. Available 1 April 1990.

INSECT PHYSIOLOGY: 70% research/30% teaching. Responsibilities include the development of a vigorous program in any aspect of insect physiology. Opportunities exist for collaboration in entomology, vertebrate and invertebrate physiology, and molecular biology. Teaching includes primary responsibility for an upper-level course in insect physiology, and a graduate level seminar in his/her area of expertise. Qualifications: Postdoctoral or similar experience desirable but not essential. Available 1 July 1990.

The above positions require a Ph.D. in entomology or a related discipline. These are 12-month, professorial, tenure-track positions in the Department of Entomology, New York State College of Agriculture and Life Sciences, Cornell University, Ithaca, New York. Appointments at the assistant professor level are expected, although in exceptional cases appointments at the associate professor level may be made. Full position descriptions available on request.

Application deadline is 1 October 1989. Applicants should forward: (i) letter describing qualifications and interest in position; (ii) curriculum vitae; (iii) list of publications (include reprints); (iv) transcripts (post-secondary education); and (v) names and addresses of three to five references. Send application to: **Dr. Quentin D. Wheeler, Chairman, Department of Entomology, Comstock Hall, Cornell University, Ithaca, NY 14853-0999.** Cornell University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN MOLECULAR GENETICS

The Wilmer Institute of The Johns Hopkins University, School of Medicine, invites applications for a full-time faculty position at the level of assistant professor, associate professor, or professor. We are particularly interested in established investigators in the field of molecular genetics of eye disease in human patients and in animal models. Scientists with a strong background in other aspects of molecular genetics or molecular biology, and who are willing to move into eye research, are also encouraged to apply. A detailed curriculum vitae, including a list of publications, and current grant support, a description of current research interests, and three letters of recommendation should be addressed to:

Ruben Adler, M.D.
Chairman, Search Committee
The Johns Hopkins University School of Medicine
The Wilmer Institute
Maumenee 519
600 North Wolfe Street
Baltimore, MD 21205

The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITION in visual system neurophysiology. The UCLA Psychology Department seeks a (tenure-track) faculty member engaged in research on central nervous system processing of visual information. Applicants must have a strong background in single unit electrophysiology and their research should be directed toward understanding the neural computations leading to perception and pattern recognition. Although we expect to hire a visual system physiologist, applicants working on other senses will be considered. Please send curriculum vitae and have three letters of reference sent to: **Physiological Search Committee (F. B. Krasne, Chair), Department of Psychology, UCLA, Los Angeles, CA 90024-1563.** A typical reprint would also be welcome. Deadline for receipt of applications and letters of reference is 1 January 1990. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION CARDIOVASCULAR CELL AND MOLECULAR BIOLOGY

The Department of Biology at San Diego State University invites applications for a tenure-track faculty position at the assistant, associate, or full professor level. We seek an individual to complement present faculty research and teaching interests in cardiovascular physiology, biochemistry, endocrinology, and pharmacology. Desirable areas of research expertise include molecular studies of (i) cardiac-specific gene expression and function, (ii) receptor and/or ion channel structure and function, (iii) intracellular messengers that regulate contraction, secretion, or gene expression, and (iv) excitation-contraction coupling mechanisms. Postdoctoral experience is required. The successful applicant is expected to develop, or continue, an externally funded research program and to participate in a flexible program of teaching and laboratory training of M.S. and Ph.D. students. Competitive start-up funds are available. By 15 October 1989 send curriculum vitae, selected reprints, a brief statement of professional goals and research interests, and names, addresses, and telephone numbers of three references to: **Chair, Cardiovascular Search Committee, Biology Department, San Diego State University, San Diego, CA 92182-0057.** Applications from women, ethnic minorities, and disabled individuals are especially encouraged. SDSU is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION IN ORGANIC OR INORGANIC CHEMISTRY. The Department of Chemistry at Washington University in St. Louis invites applications for a tenure-track position, beginning September 1990. While the particular area of focus within organic and inorganic chemistry is open, a research program with a substantial synthetic component is sought. Primary consideration will be given to applicants at the Assistant-Professor level, but candidates with distinguished records will be considered for higher level appointments. Candidates should submit, by 1 November 1989, curriculum vitae and a concise, specific statement of research plans, and arrange to have three letters of reference sent to: **Professor Peter P. Gaspar, Chairman: Organic-Inorganic Search Committee, Department of Chemistry, Washington University, St. Louis, MO 63130.** Washington University is an Equal Opportunity/Affirmative Action Employer, and employment eligibility verification will be required of the successful candidate.

DEPARTMENT OF BIOLOGICAL SCIENCES UNIVERSITY OF SOUTH CAROLINA FACULTY POSITION IN PLANT BIOLOGY

Applications are sought for a tenure-track position available in 1990. We are especially interested in individuals applying molecular and biochemical techniques to questions in plant biology, but the specific field of research is open. Applicants must demonstrate a productive, independent research program. Generous start-up funds will be provided. Academic rank is open. Please send curriculum vitae, description of research interests and letters from three references by 15 October 1989 to: **Dr. David Lincoln, Plant Biology Search Committee, Department of Biological Sciences, University of South Carolina, Columbia, SC 29208.**

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

POSITIONS OPEN

FACULTY POSITION BIOPHYSICS NORTH CAROLINA STATE UNIVERSITY

The Physics Department invites applications for a tenure-track assistant professor appointment in biophysics to begin fall 1990. The physics department is developing collaborative research programs with the biochemistry department, and preference will be given to applicants with postdoctoral experience involving spectroscopic characterization including NMR, ESR and related techniques, laser spectroscopy, and XAS. The successful candidate, aided by start-up funds, is expected to participate in an active research program and to have interest in teaching at both the graduate and undergraduate level. For full consideration applicants should submit by 15 November 1989 curriculum vitae, statement of research interests, and arrange to have at least three letters of recommendation sent to: **Professor A. W. Jenkins, Chairman Personnel Committee, Department of Physics, North Carolina State University, Raleigh, NC 27695-8202.** North Carolina State University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN IMMUNOLOGY

The Department of Biological Science, California State University, Fullerton, invites applications for a full-time, tenure-track appointment in immunology (assistant or associate rank) to begin in 1990 or 1991. Qualifications include a Ph.D. (not necessarily in immunology) and appropriate research experience (at least 1 year of postdoctoral work preferred).

The successful candidate will be working in modern aspects of cellular/molecular immunology and will be expected to establish a productive research program, to demonstrate a commitment to excellence in teaching undergraduate students, and to direct graduate student research at the Master's level. Teaching responsibilities will include an introductory immunology course and other courses in the candidate's area of expertise.

Applicants should submit: curriculum vitae; brief statements of teaching interests and research plans; and copies of recent publications. Additionally, three letters of recommendation should be forwarded separately to: **Immunology Search Committee, Department of Biological Science, California State University, Fullerton, CA 92634.** Deadline for receipt of applications is 17 November 1989, or until a suitable candidate is appointed. *Affirmative Action/Equal Opportunity Employer.*

FARMING SYSTEMS AGRONOMIST

The International Rice Research Institute (IRRI) seeks an experienced agronomist at its research center in Los Banos, Philippines, to conduct systems research in the irrigated and favorable rainfed lowland rice ecosystems in the tropics. This individual will identify crop sequences to increase crop diversification and enhance the sustainability of intensive farming systems in these ecosystems, develop direct-seeding methods to increase crop intensity and reduce production costs on small-scale rice farms, and develop procedures to quantify stability and sustainability of livelihood in irrigated systems. This scientist will participate in a multidisciplinary team at IRRI, and will collaborate closely with scientists in national programs. A Ph.D. in agronomy, soil science, or closely related discipline is required, with at least 2 years of relevant research experience. Salary and benefits are commensurate with similar international research institutions. Applicants should send curriculum vitae and the names and addresses of three professional referees before 31 October 1989 to: **Dr. Klaus Lampe, Director General, IRRI, P.O. Box 933, 1099 Manila, Philippines.**

FORENSIC SCIENTIST/DNA TRAINEE

The Genetics and IVF Institute, an internationally known genetics and reproductive medicine center located near Washington, D.C., is searching for an experienced forensic scientist to be trained in our molecular genetics unit for a supervisory position performing DNA-based identity testing. Master's level or advanced experience is required, but no DNA experience is necessary. Send résumé to: **Genetics and IVF Institute, Molecular Genetics Laboratory, 3020 Javier Road, Fairfax, VA 22031.**

Cell Biologist/ Biochemist

Monsanto's Central Research Laboratories is seeking a BS/MS Cell Biologist/Biochemist for their Cell Culture/Biochemistry Department.

This individual will conduct studies on the biological properties of tumor cell derived autocrine factors using in vitro models of tumorigenesis and metastasis. Experience in the areas of cell biology or tissue culture will be considered helpful though not essential. This will be a highly interactive position requiring effective communication and organizational skills.

Interested candidates should submit a letter of application, a curriculum vitae and the names of three individuals familiar with their academic qualifications and research, if applicable, from whom recommendation may be solicited. Please submit responses to: **Justin L. Ford; MONSANTO COMPANY; 800 N. Lindbergh Blvd.; Mail Zone 02H; St. Louis, MO 63167.** Equal Opportunity Employer M/F/H/V.

Careers for people with ideas

Monsanto

MOLECULAR BIOLOGY SEQUENCE ANALYSIS FACILITY

Division of Computer Research
and Technology
National Institutes of Health

Position available to organize and direct a new computational facility to manipulate, analyze, map, compare and manage both DNA and protein sequence data. Several commercial analysis codes, a CONVEX C220 (Unix), a multiple 3090-300VF utility, and numerous Unix workstations provide the technical work environment. The position involves close collaboration with the NIH scientific staff and provides an opportunity for independent research. Programming and operations support staff is available. Salary will be commensurate with experience. U.S. citizenship is required.

Qualified candidates should send Curriculum Vitae, and names and addresses of three references to:

A. W. Pratt, M.D.
Director, DCRT/NIH
Bldg. 12A/3033
9000 Rockville Pike
Bethesda, MD 20892
301-496-5703



NIH is an Equal Opportunity Employer

Environmental Compliance & Restoration

Lawrence Livermore National Laboratory located in the Livermore Valley, 45 minutes southeast of San Francisco, has a number of openings in its expanding Environmental Protection Department.

Openings are available for:

- Permit Specialists—RCRA, NESHAPS and NPDES permits
- Health Risk Assessor
- Environmental Monitoring Specialists
- Environmental Scientist—ground water and soil chemistry
- Hydrogeologists
- Chemical Process and Environmental Engineers

All positions require BS/MS degree in a technical field. Several years applied experience is desired. Successful applicants will have the opportunity to work in a creative and stimulating professional environment. LLNL offers a highly competitive salary and benefits package including 3 weeks vacation per year during your first ten years of employment. Interested applicants should send their resume to **Earl G. Morrell, Professional Employment, Lawrence Livermore National Laboratory, P.O. Box 808, L-725, Dept. KSC91902B, Livermore, CA 94551.** U.S. citizenship required. Equal Opportunity Employer.

University of California

 **Lawrence Livermore
National Laboratory**



Cardiovascular Research

Scientists

CIBA-GEIGY Pharmaceuticals Division is world renowned for developing innovative compounds to treat cardiovascular and other disorders. We have major challenges in the Cardiovascular Research Department at our 100-acre headquarters complex in Summit, New Jersey for Scientists with the following credentials:

In Vivo Research Postdoctoral

PhD in Cardiovascular Pharmacology or Physiology and experience with in vivo techniques is required. Will study mechanism/action of anti-hypertensive agents in rodents. Good oral and written communication skills are needed. Respond to Dept PDCV.

In Vivo Experiments BS or MS

Will conduct experiments using small animals. Responsibilities include performing surgery, recording hemodynamic parameters, summarizing and reporting data. BS/MS in Biology, Zoology, Physiology, Pharmacology, and 2-8 years related experience required. Respond to Dept 390.

We offer competitive salaries, excellent benefits, and state-of-the-art facilities. Please send resume with salary history and requirements, indicating department code to: **Al Aronson, Staffing Center, CIBA-GEIGY Corporation, Pharmaceuticals Division, 556 Morris Avenue, Summit, New Jersey 07901.** We Are An Equal Opportunity Employer M/F/H/V.

Science Serving Mankind

CIBA—GEIGY

POSITIONS OPEN

FACULTY POSITIONS DEPARTMENT OF CHEMISTRY COLLEGE OF LIBERAL ARTS

The Department of Chemistry, Wayne State University, is seeking to fill several faculty positions at various ranks.

BIOCHEMISTRY (JUNIOR LEVEL). Appointment will be at the assistant professor level. While research area is not specified, we are searching for a person who will complement rather than duplicate existing areas.

BIOCHEMISTRY (SENIOR LEVEL). Appointment will be at the associate or full professor level. We are seeking a person with an established research record who will assume a leadership role in a vigorous, young division of biochemistry.

BIO-RELATED. We are interested in a person with bio-systems research specialization in any of the bioanalytical, bioinorganic, bioorganic, or biophysical areas. Appointment will be made at the assistant or associate professor level. The actual research area is less important than how it complements existing research strengths.

EXPERIMENTAL PHYSICAL OR PHYSICAL/ANALYTICAL. Appointment will be made at the full, associate, or assistant professor level. We are interested in a person with a strong experimental research program. No area is specified, but it should be in a contemporary area of physical or physical/analytical chemistry.

Demonstrated excellence in research and a strong commitment to teaching at both graduate and undergraduate levels is essential. Candidates should send curriculum vitae, list of publications, and a brief description of research plans. Assistant professor applicants should arrange to have three letters of reference sent directly. Senior applicants will be consulted for letters of evaluation.

Applicants should respond by 13 October 1989. Review of candidates will be completed and interviews begin shortly thereafter. *We strongly encourage applications from minorities and women.* Respond to:

Professor Richard L. Lintvedt, Chair
123 Chemistry
Wayne State University
Detroit, MI 48202

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

HEAD DEPARTMENT OF FISHERIES AND WILDLIFE COLLEGE OF NATURAL RESOURCES UTAH STATE UNIVERSITY

Desired qualifications: An earned doctorate and record of scholarship in the biology and/or management of terrestrial or aquatic wild animal resources, or related field; a sense of the manifold values that modern society attaches to such resources, and the processes whereby those values are translated into policy; discriminating judgment in the quality of contemporary ecological science; and demonstrated effectiveness in administering teaching, research (including the role of extramural funding), extension, and international programs.

Applications: Please send cover letter, curriculum vitae, and names of four people willing to provide references to: **Frederic H. Wagner, Chair, Search Committee, Department of Fisheries and Wildlife, College of Natural Resources, Utah State University, Logan, UT 84322-5210.** Closing date: 1 October 1989 or until suitable applicant is found. *USU is an Affirmative Action/Equal Opportunity and IRCA Employer.*

ISOLATION CHEMIST

An exciting, start-up, venture-backed company focusing on pharmaceuticals from natural products is seeking senior scientists with experience in isolation/structural elucidation of compounds from natural products, particularly plants. Candidate must hold Ph.D., have expertise in HPLC, NMR, and MS and demonstrated past experience. Candidate must also have motivation and creativity suitable for innovative and dynamic start-up environment. Company located in Northern California and built around the research of world-class scientists. Compensation includes competitive salary and attractive stock option program. Please send curriculum vitae and three references to:

Shaman Pharmaceuticals, Inc.
P.O. Box 1618
Millbrae, CA 94030-5618

POSITIONS OPEN

FULL/ASSOCIATE PROFESSOR OF CONSERVATION BIOLOGY AND ECOSYSTEM MANAGEMENT. The University of Michigan, School of Natural Resources is seeking applicants for the position of Full/Associate Professor of Conservation Biology and Ecosystem Management. Nine-month, tenure-track research and teaching position with leadership responsibility of this new program. Position 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, national, and/or international recognition and experience in this field are required. Interdisciplinary program leadership is essential, 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 renewable natural resources, and on the training of practitioners and researchers seeking these ends. Send curriculum vitae, statement of research interest, list of publications, and names of three persons able to evaluate leadership, research, and teaching skills to: **Dr. James E. Crowfoot, Dean, The University of Michigan, School of Natural Resources, 3512 Dana Building, Ann Arbor, MI 48109-1115.** This position will remain open until filled. Closing date: 17 October 1989. This position is subject to availability of funds. *The University of Michigan is a non-discriminatory, Affirmative Action Employer.*

SEARCH REOPENED HEAD DEPARTMENT OF BIOLOGY COLLEGE OF ARTS AND SCIENCES VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Virginia Polytechnic Institute and State University invites applications for the position of Department Head in Biology, to begin 1 July 1990. The candidate must have a record of research achievement in any area of biology, be committed to the support of quality teaching at all levels, and have appropriate administrative experience. The Head will provide administrative leadership to build on established strengths in research and teaching in the land grant tradition. This diverse department has 43 faculty, 850 undergraduate majors, and 80 graduate students. It offers the B.S. in biology and the M.S. and Ph.D. in cellular and molecular biology, ecology, genetics, microbiology and immunology, physiology, and systematics and evolution. Submit application, curriculum vitae, and the names, addresses, and telephone numbers of four references by 15 October 1989 to: **Professor Duncan M. Porter, Biology Department, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0406.**

We are an Equal Opportunity/Affirmative Action Employer.

MICROBIAL PHYSIOLOGY: Tenure-track assistant professor position in multidisciplinary department beginning January or September 1990 to teach microbial physiology and to contribute to the Biological Sciences program. Interest in teaching microbial genetics and/or applied microbiology desirable. Ph.D. and postdoctoral experience required. Strong commitment to teaching and research expected. The University of Michigan-Dearborn offers B.S. degrees in biochemistry, biological sciences, chemistry, environmental science, microbiology and physics. Send curriculum vitae and names of three references to: **Microbial Physiology Search Secretary, Department of Natural Sciences, The University of Michigan-Dearborn, Dearborn, MI 48128-1491.** Review of applications will begin 16 October 1989. *The University of Michigan-Dearborn is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

MOLECULAR BIOLOGY

ASSISTANT PROFESSOR position is available in molecular biology for the study of the construction of chimeric genes and their expression. A competitive salary will be offered. Applicants should submit their curriculum vitae and the names and addresses of two references to: **Dr. Constantin Bona, Microbiology Department, Box 1124, The Mt. Sinai School of Medicine, One Gustave Levy Place, New York, NY 10029.**

POSITIONS OPEN

GROUP LEADER—CELL CULTURE

Bend Research, Inc., a leader in the research and development of synthetic membrane technology, seeks a senior scientist to build and direct an interdisciplinary group of scientists and engineers conducting cell culture research and development.

Requires a Ph.D. in cell biology, cell physiology, or developmental biology and 5 to 15 years of experience in the culturing of mammalian, insect, and/or plant cells. The successful candidate will be an innovative, highly motivated individual with a proven record of independent research accomplishments and a demonstrated ability to build and lead a research team. The candidate must also possess excellent communication and interpersonal skills, and have the ability and interest to expand his/her area of expertise.

Bend Research is located near Bend in Central Oregon, at the base of the majestic Cascade Mountains. We offer competitive salaries and benefits, as well as excellent opportunities for growth. Please send a résumé, list of publications, and list of professional references with telephone numbers to: **Sharon Maier, Bend Research, Inc., 64550 Research Road, Bend, OR 97701-8599.** *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

HOST-PARASITE MOLECULAR BIOLOGIST. The Department of Botany and Plant Pathology, at Michigan State University, invites applications for a 12-month, tenure-track position (80% research, 20% teaching). Major responsibility will be basic research on the molecular biology of the interaction of plants with eukaryotic or prokaryotic pathogens. The academic rank will be assistant/associate level depending on the qualifications and experience of the appointee. The candidate should have a demonstrated commitment to plant pathology with training in plant pathology and molecular or cell biology. Opportunities exist for collaboration with scientists in related disciplines. A Ph.D. is required and postdoctoral experience is desirable. Participation in the teaching program of the department is expected. Applicants should submit curriculum vitae, a thorough statement of research interests and goals, and arrange to have three letters of reference sent by 1 October 1989 to:

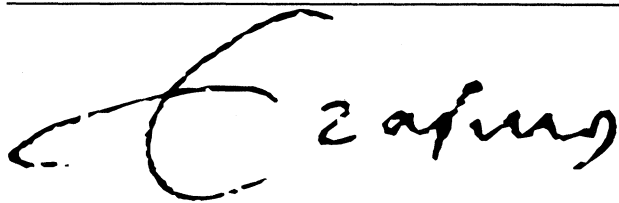
Dr. Raymond Hammerschmidt
Chair, Search Committee
Department of Botany and Plant Pathology
166 Plant Biology Laboratory
Michigan State University
East Lansing, MI 48824-1312

Michigan State University and the Department of Botany and Plant Pathology are Affirmative Action/Equal Opportunity Employers.

MOLECULAR CELL BIOLOGIST

FACULTY POSITIONS: The Department of Anatomy and Cell Biology at Emory University invites applications for tenure-track positions at the **ASSISTANT/ASSOCIATE PROFESSOR** level. Candidates must have a Ph.D. or M.D. degree, competitive research program and publication record, and be able to participate in team taught courses in cell biology. Individuals with demonstrated excellence in research with molecular and cellular approaches are especially encouraged to apply. Candidates should submit a letter of application, curriculum vitae, key reprints, brief description of research interests, and names and addresses of three references to: **Dr. W. S. Sale, Search Committee, Room 100, c/o Ms. M. Patterson-Roberts, Department of Anatomy and Cell Biology, Emory University School of Medicine, Atlanta, GA 30322.** *Emory University is an Equal Opportunity/Affirmative Action Employer.*

NEUROSCIENTIST. A position is available in the Physiology Department at the Armed Forces Radiobiology Research Institute (AFRRI) for a neuroscientist. Specific field is not critical; however, glial cell physiology, brain metabolism, second messenger systems and/or electrophysiology are areas of special interest. Applicants should have a Ph.D. and postdoctoral experience and be capable of establishing a strong research program. Send curriculum vitae, a statement of research interests, and SF 171 to: **Dr. Terry Pellmar, Chief, Neurophysiology Division, Physiology Department, AFRRI, Bethesda, MD 20814-5145.** Telephone: 301-295-1346. Please reference announcement number AFRRI #5/89. *U.S. citizenship is required. DNA is an Equal Opportunity Employer.*



ERASMUS UNIVERSITY OF ROTTERDAM

The Faculty of Medicine and Health Services at the
Erasmus University

chair of biochemical endocrinology

(full professorship)

Vacancy number: 89406001 SC.

The post of Department Head at the Department of Biochemistry II is vacant. The department has both a teaching and a research programme.

The research is concentrated on the biochemical aspects of the endocrine regulatory systems, particularly those related to the testis and androgen sensitive tissues. In view of increasing cooperation in the field of endocrinology within the Faculty the department research may, in the near future, be incorporated into the main research topic: the "Endocrinological Aspects of Reproduction". The other main topics in Endocrinology will be the "Effects and Usage of Growth Factors in Endocrinological and Non-endocrinological Diseases", and the "Endocrinological Aspects of Cancer, Autoimmunity, Atherosclerosis, and Ageing". The educational responsibility comprises the teaching of endocrine biochemistry to medical students.

The candidate should be a researcher of international repute and be willing to assume responsibility for both the scientific research and the teaching programmes, while fruitfully developing new initiatives in both areas. In addition to wide scientific experience the candidate should possess marked organizational, managerial and teaching qualities.

The salary will be within the range from Dfl. 6.957,00 to Dfl. 9.957,00 per month.

Applications plus C.V. or inquiries about the position should be directed to prof. dr. G. Hennemann, Chairman of the Search Committee, Department of Internal Medicine III, University Hospital Dijkzigt, Postbox 1738, 3000 DR Rotterdam, The Netherlands.

SCIENTISTS DRUG FORMULATION AND DELIVERY

Amgen has emerged as a leader in the discovery and development of human therapeutics through applied biotechnology. Continued advancements in product development have created opportunities for innovative Scientists at the Ph.D., MS and BS levels to contribute to our on-going research efforts in the development of novel drug formulations and delivery systems for protein and peptide pharmaceuticals.

RESEARCH SCIENTISTS

Candidates for the Research Scientist positions must have a Ph.D. and experience in drug formulation and delivery systems as indicated for the positions below:

BIOMATERIALS SCIENTIST

Dept. #416

Responsibilities will include the development and characterization of new polymeric materials and delivery systems for peptides and proteins.

PHARMACEUTICAL SCIENTIST

Dept. #417

Responsibilities will include the development of new formulations, particularly topical, for drugs now in clinical trials. Experience with proteins is desirable but not essential.

RESEARCH ASSOCIATES

Dept. #418

Several positions for Research Associates with a BS or MS degree in Chemistry or Biochemistry are available. Two or more years of industrial experience in lipids, emulsions, formulations or polymer chemistry is required. Experience with one or more of the following techniques - FTIR, Gel Electrophoresis, HPLC, light scattering, NMR and DSC - is desirable.

Amgen offers an excellent compensation and benefits package as well as the unique opportunity to contribute to the development of significant new human pharmaceuticals on the cutting edge of biotechnology. If you have the necessary qualifications and would like to be a part of a company that places a high priority on its human resources, please send a C.V. or resume, in confidence, to:

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Recruitment, Dept. # (please specify)
1900 Oak Terrace Lane
Thousand Oaks
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POSITIONS OPEN

MOLECULAR NEUROBIOLOGIST ALZHEIMER'S DISEASE RESEARCH

The Department of Pharmacology and Toxicology of the Medical College of Georgia invites applications for a tenure-track senior position (associate or full professor) for a molecular neurobiologist with strong interests in Alzheimer's Disease research. We seek an experienced investigator who will interact with both basic science and clinical investigators as part of an Alzheimer's Disease Research Center. The successful candidate will have a proven record of accomplishment. Substantial equipment and personnel support will be provided. The Alzheimer's Disease Research Center is a multi-disciplinary approach to the study of this disease which includes active researchers from several basic and clinical departments. Programs include new therapeutic approaches, novel diagnostic procedures and basic studies of etiology. The Clinical Research Division provides access to human tissue samples and autopsy materials; the Behavioral Research facility utilizes animal models including non-human primates. The candidate will also be expected to participate in Department teaching of programs, including medical and graduate students. Candidates should send curriculum vitae, description of research activities and the names of three references to: **Dr. Jerry J. Buccafusco, Chairman, Search Committee, Department of Pharmacology and Toxicology, Medical College of Georgia, Augusta, GA 30912-2300.** *Affirmative Action/Equal Opportunity Employer. Females and minorities are encouraged to apply.*

MOLECULAR PATHOGENESIS JUNIOR OR SENIOR FACULTY

The Department of Microbiology and Immunology in the College of Medicine at The University of Tennessee, Memphis, invites applications for a junior or senior level, tenure-track position focusing on significant problems in microbial pathogenesis using genetic and molecular approaches.

A large Center of Excellence grant has resulted in establishment of a Molecular Resource Center within the Department featuring state-of-the-art facilities for: oligonucleotide synthesis, peptide synthesis, monoclonal antibody production, amino acid analysis, protein sequencing, automated DNA sequencing, polymerase chain reaction, molecular graphics, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive.

Applications will be received until 1 October 1989, or until the position is filled thereafter. Applications should consist of curriculum vitae, copies of several recent publications, a brief statement of future research goals and three letters of reference to be sent to: **Dr. Terrance G. Cooper, Department of Microbiology and Immunology, The University of Tennessee, Memphis, 858 Madison Avenue, Room 801, Memphis, TN 38163.** *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

PHYSICIST—Ph.D. IN PHYSICS/CHEMISTRY.

Four years of experience as a researcher in theoretical atomic physics. Technical background and knowledge in various aspects of theoretical atomic and molecular physics, with experience in the conduct of basic research and the development of methods for analyzing elementary processes involved in the molecular actions of ionizing radiation on substances of interest to radiation chemistry, biology, and dosimetry. All of the above evidenced by publications in referred journals. Conduct research both independently and collaboratively, on the elementary molecular processes involved in the action of ionizing radiation on matter. The primary objectives of the studies are to determine cross sections for the interaction of electrons and other charged particles with molecules, to apply these findings to particle transport analyses, and to elucidate mechanisms of radiation action. Typical activities include: (i) develops methods for critical analysis or theoretical evaluation of cross sections for important elementary processes involved in radiation actions, e.g., electron interactions with molecules; (ii) interprets data using existing models or develops new methods for modeling, when necessary; (iii) reports the findings in publications and at scientific meetings. Salary: \$3,650 per month, 40 hours per week, 8:30 a.m. to 5:00 p.m. Send résumé to: **Illinois Department of Employment Security, 401 South State Street—3 South, Chicago, IL 60605. Attention: Connie M. Evans, Reference #V-IL-9137-E.** An employer-paid ad.

POSITIONS OPEN

MOLECULAR MODELING POSITION

We are seeking an individual to develop and manage a molecular modeling facility aimed at creating an interface between structural and molecular biology. The initial appointment is for 4 years. Responsibilities will include the integration of software packages for modeling and sequence analysis and the training of new users. The position will allow ample time for individual research. Qualifications include an advanced degree in chemistry, biochemistry or molecular biology and experience with modeling techniques. Salary will depend on experience but will be in the assistant professor range. Apply to either **Dr. Barry Honig or Dr. Wayne Hendrickson, Department of Biochemistry and Molecular Biophysics, Columbia University, 630 West 168th Street, New York, NY 10032.** *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

MULTILINGUAL ENGLISH SPEAKERS for position in Europe. Considerable experience living in Europe preferred. All academic fields considered. Mature attitude, excellent teaching ability, congenial personality, and professional presence necessary. We train you for intensive laboratory instruction of surgeons. Some travel required. Write for application information to: **Director, Midas Rex Institute, 2929 Race Street, Fort Worth, TX 76111.**

PLANT ECOLOGIST—assistant professor, Ph.D. required. An anticipated, tenure-track position is expected to be available 1 January 1990. Teaching duties include participation in a two-semester introductory biology course for majors, an upper division course in general ecology, and upper division/graduate level course(s) in plant ecology. The appointee will advise undergraduates and M.A. students and establish an active research program in plant ecology. Submit curriculum vitae, a statement of research interests, three letters of reference, and the names, addresses, and telephone numbers of at least two additional references to: **D. G. Dunlap, Search Committee, Department of Biology, University of South Dakota, Vermillion, SD 57069.** Preference given to applications received by 1 October 1989.

Equal Opportunity/Affirmative Action Employer.

The Department of Nutritional Sciences announces openings for **POSTDOCTORAL (M.D. or Ph.D.) AND PREDOCTORAL FELLOWS** on an NIH training grant in human nutrition. Training is available in diabetes (insulin secretion), perinatology (physiologic and biochemical aspects of intrauterine growth), or gastroenterology (carbohydrate digestion and absorption). Laboratory and clinical facilities are on the Berkeley campus and San Francisco General Hospital. Starting dates can be 1 October 1989, 31 December 1989, or 1 July 1990. *The fellowships are limited to U.S. citizens or permanent residents.*

Apply to: **Dr. Norman Kretschmer, Department of Nutritional Sciences, University of California, Berkeley, CA 94720. Telephone: 415-642-7870.** *An Affirmative Action/Equal Opportunity Employer.*

CANCER RESEARCH CENTER OF HAWAII

POSTDOCTORAL FELLOW in cell biology or biochemistry to study the role of protein phosphatases in signal transduction, cell division, and carcinogenesis. Salary: \$27,000 minimum. Available immediately. Send curriculum vitae, names, and telephone numbers of three references to: **Dr. A. L. Boynton, Cancer Center of Hawaii, 1236 Lauhala Street, Honolulu, HI 96813** or telephone 808-548-8563/2.

POSTDOCTORALS—

- (1) MOLECULAR GENETICS
 - (2) IN VIVO NMR SPECTROSCOPY
- CALIFORNIA INSTITUTE OF TECHNOLOGY

(1) **MOLECULAR GENETICS:** Position for Ph.D. with excellent skills in gene cloning and expression in bacteria and eukaryotic systems. Research on gene expression, metabolic manipulation. (2) **IN VIVO NMR SPECTROSCOPY:** Position for Ph.D. skilled in NMR spectroscopy applied to cell composition measurements. Research on metabolic regulation. Send curriculum vitae and three references to: **Professor J. E. Bailey, Caltech, 210-41, Pasadena, CA 91125.** (FAX No.: 818-568-8743).

POSITIONS OPEN

POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE: The Research Laboratory of St. Francis Hospital and Medical Center, University of Connecticut affiliated, in Hartford, is seeking a scientist to work on the role of growth factors in the regulation of bone growth. Research involves studies on the synthesis of growth factors derived from bone and their binding proteins. Experience in protein biochemistry or molecular biology is necessary. Forward résumé to: **Dr. Ernesto Canalis, 114 Woodland Street, Hartford, CT 06105.**

POSTDOCTORAL FELLOW-NEUROSCIENCE.

Available January 1990 or later in laboratory studying mechanisms of synaptic plasticity and transmitter action in mammalian CNS. Standard electrophysiological techniques including patch clamp are utilized. Collaboration with neurochemists/molecular biologists possible. Send curriculum vitae and names of three references to: **Dr. Robert Malenka, Department of Psychiatry and Physiology, LPP, Box F-0984, University of California, San Francisco, CA 94143-0984.** *UCSF is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL FELLOWSHIP available immediately to study **STRUCTURAL PROTEIN EXPRESSION IN EPIDERMAL DIFFERENTIATION.** Recent Ph.D. or M.D. with training in molecular biology, an interest in cell biology and a desire to apply skills to an excellent model for regulation of differentiation and gene expression with practical applications. Projects include expression of protein markers of epidermal differentiation in vitro and in vivo and transcriptional control of profilaggrin expression in keratinocytes from normal skin and skin from patients with inherited scaling skin disorders. Salary at NIH postdoctorate scale. Submit description of research background, curriculum vitae, and three letters of recommendation to: **Philip Fleckman, M.D., Dermatology, RM-14, University of Washington, Seattle, WA 98195.** *The University of Washington is an Affirmative Action, Equal Opportunity Employer.*

POSTDOCTORAL FELLOWSHIPS in gastroenterological research available for two or more years beginning 1990. Faculty employs multidisciplinary approach using biochemical, cell/molecular biological, immunological, physiological and electrophysiological techniques. Applicant may focus on clinical and/or basic studies. Applicants should have M.D. or Ph.D. Send curriculum vitae and names of three references to: **N. F. LaRusso, M.D., Program Director, NIH Training Grant, Mayo Clinic, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL INSECT ECOLOGIST—Broadly trained in population/community dynamics of terrestrial/arborescent arthropods and their interactions with plants and/or vertebrates, to collaborate with other ecologists in interdisciplinary study in temperate rainforest. Research scientist position (2-year renewable appointment) with USDA Forest Service, Pacific Northwest Research Station, Forestry Sciences Laboratory in Juneau, Alaska; salary \$34,580 plus 25% tax-free COLA (GS-12). Send curriculum vitae, representative reprints, names (address and telephone numbers) of three persons well acquainted with your work to: **M. F. Willson, Forestry Sciences Laboratory, P.O. Box 20909, Juneau, AK 99802.** Deadline: 15 October 1989. *We encourage female and minority persons to apply.*

POSTDOCTORAL POSITION available immediately for chemist, biochemist or biophysicist to study anesthetic-membrane interactions using calorimetry, IR spectroscopy and fluorometry. Salary up to \$24,000. Send curriculum vitae and names of three references to: **Dr. Timothy J. O'Leary, Chairman, Department of Cellular Pathology, AFIP, Washington, DC 20306-6000.**

POSTDOCTORAL POSITION to study protease involvement in degenerative structural changes in neurons using biochemical, immunochemical, and molecular techniques. Opportunity with innovative company focused on CNS diseases, with close collaborative ties to academic research teams. New state-of-the-art research facility in suburban Philadelphia. Please send curriculum vitae and names of three references to: **Dr. Robert Siman, Cephalon, Inc., 145 Brandywine Parkway, West Chester, PA 19380.**

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in situ Hybridization Technology Group

Formulate concepts and develop novel techniques using *in situ* hybridization to identify and localize disease markers. This position requires a Ph.D. with postdoctoral training in molecular or cellular biology. Experience with molecular biology techniques, biochemistry, and *in situ* hybridization is essential, along with strong communication and interpersonal skills.

Staff Scientist

Responsible for design, implementation and analysis of experiments to develop novel *in situ* hybridization techniques and applications. This position requires a Ph.D. in biology or biochemistry with experience in molecular biology, molecular genetics, and/or cytogenetics and practical experience with *in situ* hybridization.

Interested applicants should forward resume or CV to:

Mr. Richard L. Hotaling, Jr.
Personnel Manager, Dept. SB
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Molecular Diagnostics
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BIOCHEMISTS ENTOMOLOGISTS MOLECULAR BIOLOGISTS

Plant Science Research, Inc., a subsidiary of BioTechnica International, Inc., is an agricultural biotechnology company involved in developing improved varieties of important agricultural crops. Plant Science Research (formerly the plant research subsidiary of Molecular Genetics, Inc.) has been a leader in plant biotechnology and breeding for over 9 years and maintains state-of-the-art research facilities in the Minneapolis metropolitan area and a series of plant breeding stations throughout the Midwest. The company's products are marketed throughout BioTechnica Agriculture's commercial seed companies.

Plant Science Research is seeking candidates for current and upcoming positions in PLANT BIOCHEMISTRY to conduct biochemistry and cell culture related research for purposes of product and technology development; PLANT MOLECULAR BIOLOGY to conduct recombinant DNA manipulations, transformations of plants, and analyses of transgenic plants; and ENTOMOLOGY to develop and implement bioassays of potential insecticides and transgenic plants expressing insecticide genes.

Qualified applicants for these positions will have an M.S. or B.S. and must have several years of relevant research experience beyond the degree. Plant Science Research, Inc. offers a multidisciplinary research and development environment and a competitive salary and benefits package. Applicants should submit a resume and a list of 3 references to the attention of Human Resources at:



Plant Science Research
10320 Bren Road East
Minnetonka, MN 55343

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POSITIONS OPEN

POSTDOCTORAL POSITION immediately available for recent Ph.D. to study the role of calmodulin and other Ca^{2+} -binding proteins or of phospholipase A_2 in cell functions. Candidates with background in enzymology or protein chemistry are preferred. Salary starts at \$22,000 with excellent benefits. Send curriculum vitae and three letters of recommendation to: **Dr. Wai Yiu Cheung, Department of Biochemistry, St. Jude Children's Research Hospital, Memphis, TN 38101.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in neuropharmacology available immediately to study the biochemical and molecular mechanism involved in the CNS effects of ethanol and adenosine. Experience with in vivo, in vitro, HPLC, receptor assay, stereotaxic and microinjection techniques is desirable. Federal law requires proper documentation of identity and employability at the time of employment. It is requested that this documentation be included with your application. Applicants with Ph.D. in pharmacology or related area should send curriculum vitae and three letters of recommendation to: **Dr. M. Saeed Dar, Associate Professor, Department of Pharmacology, East Carolina University School of Medicine, Greenville, NC 27858.** An Affirmative Action/Equal Employment Employer.

POSTDOCTORAL POSITION

A postdoctoral position is available immediately to participate in a project utilizing mutational methods to study the mechanism of protein folding [see *Nature* 338, 127-132 (1989)]. An individual with a background in chemical or physical aspects of biochemistry would be particularly suited for this position. Applicants should send curriculum vitae and the names and addresses of three references to: **Dr. D. P. Goldenberg, Department of Biology, University of Utah, Salt Lake City, UT 84112.**

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

POSITIONS OPEN

POSTDOCTORAL POSITION FRED HUTCHINSON CANCER RESEARCH CENTER

A position is available immediately to study the cell and molecular biology of leukocyte-endothelial cell adhesion. Research in progress included the analysis of the structure and function of the murine CD44 and MEL-14 adhesion receptors and their ligands. Experience in molecular biology, immunology or cell biology is necessary. Please submit a letter describing your current and past research activities, your curriculum vitae, and two letters of recommendation to:

Tom St. John, Ph.D.
Division of Basic Sciences
Fred Hutchinson Cancer Research Center
1124 Columbia Street
Seattle, WA 98104
Telephone: 206-467-2871

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POSTDOCTORAL POSITION to clone, mutagenize, and express transferrins for structural studies. A Ph.D. and experience in cloning, site directed mutagenesis, and the expression and purification of recombinant proteins are required. Send curriculum vitae and three letters of reference to: **Dr. R. A. Ikeda, School of Chemistry, Georgia Institute of Technology, Atlanta, GA 30332.** Georgia Tech is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study insulin-induced translationally regulated changes in individual protein synthesis in both normal and aging tissues. Techniques include ultra-high resolution 2-D gels, protein microsequencing, protein-RNA interactions and PCR-based approaches in well-equipped brand-new facility. Send curriculum vitae, names of references and statement of research interests and laboratory skills to: **Dr. Richard Levenson, Department of Pathology and Center for Aging, Box 3897, Duke University Medical Center, Durham, NC 27701.** An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION UNIVERSITY OF CALIFORNIA SAN FRANCISCO, CALIFORNIA

A position is available for an individual with a background in molecular and cellular biology to study the downregulation of HLA antigens.

Salary is commensurate with experience and begins at \$23,196.

Send curriculum vitae together with names of three references to: **Sarla Purohit, Ph.D., Immunogenetics and Transplantation Laboratory, University of California, 513 Parnassus Avenue, Health Sciences East, Room 520, San Francisco, CA 94143.**

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

CANCER RESEARCH CENTER OF HAWAII

POSTDOCTORAL POSITION to study retinoid effects on PI, PC, and cAMP systems. Available 1 December 1989. Experience in lipid metabolism, patch clamping, protein phosphorylation/dephosphorylation, or Ca^{2+} measurement useful. Salary minimum: \$27,000. Send curriculum vitae, names and telephone number of three references to: **Drs. L. J. Mordan, and A. L. Boynton, Cancer Research Center of Hawaii, 1236 Lauhala Street, Honolulu, HI 96813, or telephone 808-548-8781.** An Equal Opportunity Employer.

POSTDOCTORAL POSITION IN RESPIRATORY NEUROPHYSIOLOGY

Position available for fall 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 microelectrophoresis and computer methods. Salary range \$18,000 to \$20,000. Send résumé and three letters of reference to: **Peter M. Lallely, Ph.D., Department of Physiology, University of Wisconsin, 470 North Charter Street, Madison, WI 53706.**

CHIEF, MOLECULAR MICROBIOLOGY BRANCH

National Institutes of Health

The Division of Microbiology and Infectious Diseases (DMID) of the National Institute of Allergy and Infectious Diseases, NIH, is currently recruiting for Chief of the Molecular Microbiology Branch. The incumbent plans and conducts research training grants, fellowships and career award programs in this area; coordinates various support programs and develops priorities within this scientific area; reviews and presents to the National Advisory Allergy and Infectious Diseases Council applications in this program area; and develops and maintains liaison with appropriate departments of universities, other institutions, other components of the NIH and Department of Health and Human Services, advisory bodies and other organizations.

Applicants for this position should possess the Ph.D. degree as well as research and grant experience and should have a track record demonstrating the ability to obtain research support.

Applicants for the Branch Chief position must qualify for a Health Scientist Administrator/Microbiologist/Biologist GS-14/15 rating with salary commensurate with experience or an appointment in the USPHS Commissioned Corps; salary to be consistent with appropriate rank.

For further information, please write directly to:

Dr. John R. La Montagne, Director, DMID, NIAID
Building 31, Room 7A-52
National Institutes of Health
9000 Rockville Pike
Bethesda, MD 20892

Applications must be received by October 15, 1989.

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UNIVERSITY OF CALIFORNIA, SANTA CRUZ BIOLOGY DEPARTMENT

The department is committed to a significant expansion of resources including two new research buildings to be occupied Fall 1989 and 1992-93, expanding graduate programs and further new faculty positions. Selected candidates will be expected to teach at the undergraduate and graduate level. Applications from women and ethnic minorities are strongly encouraged. Positions are effective Fall 1990.

If you are applying for more than one position, you may submit one application as long as you indicate which position(s) the application is for.

Assistant Professor in Molecular Cell Biology: Applicant will be expected to develop a vigorous externally funded research program that uses molecular approaches to address fundamental problems in the regulation of cell function, growth and development. Seeking a creative scientist without regard to specific area of interest, but applicants investigating retrovirology, cell communication, signal transduction and working on vertebrate systems are especially encouraged to apply. Ph.D. and at least two years postdoctoral experience required. **Closing Date: December 1, 1989.**

Assistant Professor in Plant Cell/Developmental/Molecular Biology: Applicants should use molecular and biochemical tools to study fundamental problems in plant growth and development. The successful candidate will be expected to develop a vigorous research program. Ph.D. and at least two years of postdoctoral experience required. **Closing Date: December 1, 1989.**

Associate Professor in Marine Vertebrate Physiological Ecology: Prefer specialization in marine mammals. Applicant must be able to apply modern experimental techniques, develop a strong laboratory-based research program at the Long Marine Laboratory, teach marine mammal and seabird bioenergetics and related courses. Ph.D., demonstrated record of scholarly research and University-level teaching required. **Closing Date: October 1, 1989.**

Send applications to:

Chair, Search Committee for
Molecular Cell Biologist #173-890
or Plant Cell/Developmental/Molecular Biologist #161-890
or Marine Vertebrate Physiological Ecologist #188-890
Department of Biology
University of California
Santa Cruz, CA 95064

UCSC is an Affirmative Action/Equal Opportunity Employer

Respiratory Infectious Disease Scientist

Procter & Gamble has an immediate entry-level opening in Cincinnati, Ohio, for a scientist with a Ph.D. in virology or microbiology and solid experience in preclinical models of infectious disease. Postdoctoral training is desirable but not essential. The successful candidate will be expected to identify points for therapeutic intervention, propose novel therapies, and design and execute strategies for evaluating various therapeutic approaches to treat nasal disorders. Responsibilities also include the development of *in vitro* and *in vivo* models to support research interests in the respiratory area.

Our sales are over \$20 billion, and our 1988-89 R&D budget is \$652 million. We offer unusually good opportunities for personal and professional growth, competitive salaries, and comprehensive benefits.

Applicants must be presently authorized to work in the U.S. on a full-time basis. Send resume and publication list to: Dr. T.J. Logan, Respiratory Diseases Position, THE PROCTER & GAMBLE COMPANY, P.O. Box 398707, Cincinnati, Ohio 45239-8707.

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

NMR Spectroscopists (2 Positions Available)

The Laboratory of Cellular and Molecular Biology at the Gerontology Research Center, National Institute on Aging, National Institutes of Health, PHS, DHHS is accepting applications for two available positions.

One position is for studies on the effect of aging on metabolic changes that occur during human exercise, as well as *in vivo* studies on animals using a Bruker Biospec 1.9 T/31 cm Spectrometer. The successful applicant for this position will bear primary responsibility for *in vivo* NMR operations in the laboratory, will collaborate on the ongoing programs, and will initiate other studies.

The second position is for collaborative studies on the mechanisms of RNA synthesis at the active site of RNA polymerase, being investigated using a Varian XL-200 NMR spectrometer, an IBM-200-D EPR spectrometer and a variety of other techniques.

Salary dependent on qualifications.

Other NMR instruments in the area are available for use in these studies.

A letter of application with a curriculum vitae and bibliography should be submitted to:

Dr. Gunther L. Eichhorn
Chief, Laboratory of Cellular and Molecular Biology
National Institute on Aging, Intramural Research Program
4940 Eastern Avenue
Baltimore, Maryland 21224



Further information can be obtained by contacting Dr. Eichhorn at (301) 550-1807.

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Dean of the School of Medicine and Vice President for Medicine The Johns Hopkins University Baltimore, Maryland

The Johns Hopkins University is seeking nominations and applications for the position of Dean of the School of Medicine and Vice President for Medicine. The School has a faculty of approximately 1000 and a student population of 470 medical students and 200 graduate students, as well as more than 600 post-doctoral fellows.

The Dean's responsibilities and authority cover the School's programs and budget within the context of a highly decentralized university. The Vice President's role extends to the close coordination of the School's activities with the Johns Hopkins Hospital and Health System; the Vice President is also a member of the University's Management Committee.

The School seeks an internationally recognized candidate to work with the faculty and the university to continue the institution's tradition of excellence in research, teaching, and medical care. The Search Committee will begin reviewing nominations and applications on September 1, 1989. The University expects to fill this position before September 1990.

Nominations and applications should be sent to:

Dr. John V. Lombardi
Chair, Search Committee, SOM
The Johns Hopkins University
34th and Charles Sts.
Garland Hall-Room 265
Baltimore, MD 21218

Equal Opportunity/Affirmative Action Employer



DNX is an advanced biotechnology company which develops and produces drug discovery and safety testing systems for the pharmaceutical and chemical industries and commercially superior breeding animals for the livestock production industry. Openings are available in our new Molecular Biology Center in Princeton, New Jersey. The location offers close working relationships with academic laboratories and an excellent living environment. The positions are in the following areas:

1. **GENOTOXICITY.** DNX is developing a new generation of bioassay systems for the detection of mutagens. The basis of the system is the use of transgenic rodents. We are looking for an expert in the area of mutagenesis and carcinogenesis to act as a group leader in the development of these animals. This individual will have a strong background in mutagen testing and analysis of tumor development. An understanding of the pathology and toxicology of chemicals *in vivo* would be desirable. Particularly relevant in this context would be a knowledge of the physiology of liver and skin. Additional experience in molecular biology would be beneficial. Ideally the candidate would have a Ph.D. and several years of relevant post-doctoral research experience, preferably at an independent level. Some familiarity with toxicology in an industry setting would also be an asset.

2. **GENE EXPRESSION.** Positions are available within this group at both the Ph.D. and MS/BS level. Experience in recombinant DNA technology, molecular genetics, protein chemistry or physiology is required. The relevant areas of research would be the study of gene expression in either yeast, viral or mammalian systems.

Applicants should send their curriculum vitae, a brief description of previous research accomplishments and the names, addresses and telephone numbers of three references to: John S. Logan, Ph.D., Director of Molecular and Cellular Biology, DNX, 303B College Road East, Princeton, NJ 08540, (609) 520-0300

FACULTY POSITION

Biotechnology and Biochemical Engineering Program Thayer School of Engineering, Dartmouth College

The Thayer School of Engineering, Dartmouth College, is committed to building an outstanding program in Biotechnology and Biochemical Engineering. The interdisciplinary character of the engineering school and the presence of a medical school as well as a life science department on campus provide unusual support for activities in the biotechnology area. The successful applicant will have, or show strong promise of developing, a vigorous and significant research program and a desire and aptitude for teaching. The focus of the program is on biocatalytic systems, and research interests involving recombinant cells within an engineering context are particularly desired. Both junior and senior candidates are encouraged to apply. A tenured position is a possibility for a strong senior candidate. A cover letter and the names of three references should be sent to the Biotechnology Search Committee, Thayer School of Engineering, Dartmouth College, Hanover, NH 03755. Preliminary inquiries are welcome. Review of applications will begin in January 1990. **Dartmouth College is an equal opportunity/affirmative action employer and encourages applications from women and minorities.**

DEPARTMENT HEAD DEPARTMENT OF GENETICS AND CELL BIOLOGY UNIVERSITY OF MINNESOTA, TWIN CITIES

The Department of Genetics and Cell Biology is seeking qualified candidates for the position of Department Head. This department of 27 faculty is a major research and teaching unit of the College of Biological Sciences. The department is responsible for the core undergraduate and graduate courses in genetics and cell biology for the entire Twin Cities campus. Major research efforts within the department encompass molecular and developmental genetics, population and quantitative genetics, cell biology, and developmental biology.

The Department Head to be selected will have a strong, continuing record of research accomplishment and will be expected to maintain a vigorous research program in an area that is appropriate to current departmental research efforts. She/he should also have a strong commitment to undergraduate and graduate education and to affirmative action programs. The major responsibility of the Head will be to provide leadership in the continuing development of a department committed to excellence in research and teaching. The appointment will be at the rank of Professor with tenure.

Nominations, applications, and expressions of interest are invited and should be communicated as soon as possible. Applications for this position should include a *curriculum vitae* and the names and addresses of three individuals who can be asked to provide letters of recommendation. **Applications must be received by October 23, 1989. Please address applications and nominations to Ms. Ellen W. Dahl; Administrator, Department of Genetics and Cell Biology; 1445 Gortner Avenue; The University of Minnesota; Saint Paul, Minnesota 55108; (Telephone 612/624-2240).**

The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

SENIOR RESEARCH BIOLOGIST

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The Sterling Research Group announces an opening in the expanding antiviral research program in the Virology and Oncopharmacology Department in Rensselaer, NY.

The successful candidate will possess a Ph.D. degree in molecular biology or virology with relevant postdoctoral experience. The scientist will be expected to apply current molecular techniques to analyze the regulation of viral gene expression and replication. Experience in the biology and regulation of the Human or Bovine Papillomaviruses or the Human Immunodeficiency viruses would be beneficial although not essential. Supervision of other scientific staff is expected and strong interpersonal and communication skills are required.

Located near Albany, NY, we offer an attractive salary and benefits package as well as opportunities for professional development in a dynamic environment utilizing a multidisciplinary approach to research. Interested scientists should send curriculum vitae in confidence to:

Jo Ann Fitzgerald
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Product Transfer Supervisor

San Francisco Bay Area

TRITON BIOSCIENCES INC., an emerging pharmaceutical and diagnostics company, is focused on pharmaceutical development opportunities in the areas of cancer, AIDS and other serious diseases. We currently have an excellent opportunity for a Product Transfer Supervisor.

You will be responsible for establishing and implementing validated commercial processes for the manufacture of Triton's diagnostic and research products via cGMPs. Specific areas of responsibility include immunodiagnostic solid phase coating processes, the commercialization of new research and IVD products, and the production of existing diagnostic products.

You should have a BS/MS in Chemistry, Biochemistry or a related field and 3-5 years of medical diagnostic industry experience. Demonstrated problem solving skills in a product commercialization environment and a working knowledge of cGMPs are required.

TRITON offers competitive salaries and benefits, including relocation assistance. For consideration, send your resume with cover letter, highlighting your skills and experience to TRITON BIOSCIENCES INC., Job #880RW, 1501 Harbor Bay Parkway, Alameda, CA 94501. EEO/AA employer.



Triton Biosciences Inc.

POSITIONS OPEN

POSTDOCTORAL POSITION

A postdoctoral position is immediately available to study the molecular biology of *Chlamydia trachomatis*. Relevant experience in recombinant DNA, immunology, and pathology is desirable. Send curriculum vitae and names and addresses of three references to: **Luis M. de la Maza, M.D., Ph.D., Professor, Department of Pathology, Medical Sciences I, University of California Irvine, Irvine, CA 92717. Equal Opportunity Employer.**

POSTDOCTORAL POSITION. Biochemist/enzymologist. Position available immediately for a recent Ph.D. with interest in phosphorylation as a regulatory mechanism. Project is a collaborative study on epidermal differentiation; phosphorylation/dephos. of a cytoskeletal intermediate filament associated protein and alterations in genetic disorders. Salary at or above NIH scale. Submit description of research background, curriculum vitae and three letters of recommendation to: **Dr. Beverly Dale, Oral Biology, SB-22, University of Washington, Seattle, WA 98195. The University of Washington is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately. Opportunity to develop innovative research program in the field of development and regulation of neuroendocrine-related genes. Areas of research: (i) Developmental aspects of gene expression in brain cell cultures with emphasis on regulation of peptidergic neuronal systems. (ii) Signal transduction and neuroendocrine regulation of peptide release in the brain (in vitro studies). (iii) Molecular biology of the copper transporter in the brain and regulation of copper-dependent enzymes in brain cultures. Salary competitive. Send curriculum vitae, state research interests, provide address and telephone number of three references to: **Dr. Ayalla Barnea, Department of Obstetrics and Gynecology, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9032. Telephone: 214-688-2643. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS: Two positions available to study: (i) the DNA affinity binding of potential chemopreventive agents and sequence specific DNA alkylating agents; and (ii) the relationship between localized DNA structure and susceptibility to nucleophilic attack by chemical carcinogens. Requirements are a recent Ph.D. in chemistry or biochemistry, and some previous experience in the areas of DNA alkylation, DNA affinity binding or DNA structure. Send curriculum vitae and three letters of reference to: **Dr. Barry Gold, Eppley Institute for Research in Cancer, University of Nebraska Medical Center, Omaha, NE 68105, Equal Opportunity Employer/Affirmative Action. Reference position #9-6139-40.**

POSTDOCTORAL POSITION in Harvard/MIT Joint Program at Deaconess Hospital. Project involves developing an immobilized enzyme reactor to reduce blood cholesterol. Background in chemical engineering or bioengineering desirable. Send curriculum vitae and names of three references to: **Dr. Robert S. Lees, Director of Medical Research, Deaconess Hospital, 110 Francis Street, Suite 7F, Boston, MA 02215, or Dr. Robert S. Langer, Department of Chemical Engineering, MIT, Cambridge, MA 02139. Equal Employment Opportunity/Affirmative Action.**

POSTDOCTORAL POSITIONS

Two postdoctoral positions are available 1 October 1989 with the United States Department of Agriculture, Agricultural Research Service at the Western Regional Research Center, USDA, Albany, California. These 3-year positions are in a fully-equipped plant molecular biology laboratory and are funded to study stable DNA transformation into rice. The research will investigate parameters that affect efficiency of creating and screening for transgenic plants and characterization of the strength of tissue specific monocot promoters. Experience in plant tissue culture, especially plant regeneration and transient assays of marker genes, or molecular biology/recombinant DNA technology desirable. Salaries dependent on experience. Full benefits. Contact: **Dr. Olin Anderson: 415-559-5773 or Dr. Ann Blechl: 415-559-5614. An Equal Opportunity Employment Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN PLANT MOLECULAR VIROLOGY is available immediately for in vivo studies of translational frameshifting, read-through and internal initiation in the gene expression of barley yellow dwarf virus. Experience in plant molecular biology and/or tissue culture methods is desirable. Starting salary: \$25,000. Send curriculum vitae and names of three references to: **Dr. W. Allen Miller, Plant Pathology Department, Iowa State University, Ames, IA 50011. Telephone: 515-294-2436. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION/REGULATION OF DIGESTIVE ENZYME SYNTHESIS: Position immediately available for a recent Ph.D. to study the effects of alcohol consumption on the transcriptional regulation of pancreatic digestive enzyme synthesis. The laboratory is well equipped and well funded and has a team of researchers with expertise in the areas of biochemistry, biophysics, physiology and pathology. Prior experience in the area of molecular biology is essential. Send curriculum vitae and names of three references to: **Dr. B. C. Ponnappa, Thomas Jefferson University, 271 Jefferson Alumni Hall, 1020 Locust Street, Philadelphia, PA 19107. Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS are available in the Clinical Biological and Molecular Pharmacology Laboratory of the Grace Cancer Drug Center and the Department of Experimental Therapeutics, Roswell Park Memorial Institute, Buffalo, New York. Specifically, this program offers the opportunity to investigate molecular and cellular determinants of drug sensitivity, resistance and selectivity. These studies will be conducted in in vitro and in vivo systems using preclinical and clinical materials. A new novel in vitro approach using an individual colony formation assay for the assessment of heterogeneity in cell growth and response to drugs will also be utilized. Application should be submitted to:

**Dr. Youcef M. Rustum
Deputy Director
Grace Cancer Drug Center
Roswell Park Memorial Institute
666 Elm Street
Buffalo, NY 14263**

Please include curriculum vitae and indicate two references. *An Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF LEICESTER DEPARTMENT OF BOTANY POSTDOCTORAL RESEARCH ASSISTANT AND TECHNICIAN IN PLANT MOLECULAR BIOLOGY

Applications are invited for the above posts to join an established team investigating anther development and the design of novel genetic methods for gene isolation in tobacco and *Arabidopsis*. The project will involve:

(1) Construction of a pollen-specific transposase gene to transactivate *Ds* element transposition in developing pollen grains of transgenic plants.

(2) The use of PCR techniques and the engineering of YAC vector sequences into *Ac* and *Ds* in order to rescue plant DNA sequences flanking transposable element inserts.

Suitable applicants should have experience in recombinant DNA technology and/or molecular biology. The appointments are tenable for 3 years starting on 1 October 1989 (or soon thereafter) and are on the research associate IA scale (£10,458 to £16,665) and the technician grade C scale (£7,479 to £8,645).

Informal enquiries and formal applications, including curriculum vitae and names of two referees to: **Dr. John Draper or Dr. Rod Scott, Botany Department, University of Leicester, Leicester LE1 7RH England. Telephone: (0533) 523392.**

POSTDOCTORAL RESEARCH SCIENTIST. Position available to do basic research on adenosine receptors. The objective is the purification, cloning and immunological and biochemical characterization of adenosine receptors. Candidates must have Ph.D. and previous training and experience in immunology and molecular biology. Salary is \$22,000 per year. Send curriculum vitae and the names of three references to: **Dr. Bernard F. Erlanger, Department of Microbiology, Columbia University, 701 West 168th Street, New York, NY 10032. An Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION: Study digestion and transport of peptides, polypeptides, and drugs by parenchymal and nonparenchymal liver cells in a multidisciplinary research unit. Applicants should be Ph.D. or M.D., Ph.D. with a strong background in cell biology. Send curriculum vitae, summary of research experience and goals, and names of three references to: **N. F. LaRusso, M.D., Mayo Medical School, Rochester, MN 55905. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION: Immediate opening for American citizen. Investigations of the role(s) of cloned T cells on viral infection in the mouse model. Prefer experience in cellular immunology or pathology. Send curriculum vitae and three recommendations, before 30 September 1989, directly to: **Dr. Carol S. Reiss, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.**

POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately for Ph.D. with strong background in mammalian cell biology/membrane biochemistry to join a research project investigating mammary epithelial cell differentiation, under the direction of **Dr. Karen Thompson.** Emphasis will be placed on determining if stage-specific markers for normal mammary epithelial cell development can be defined.

Send curriculum vitae with complete reference information to: **Children's Hospital Oakland—Research Institute, Human Resources Department T-5515, 747 52nd Street, Oakland, CA 94609. Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available in cell and molecular aspects of anticancer drug action, with emphasis on cisplatin. Specific projects include characterizing proteins and genes involved in drug resistance and cell death. Send résumé with names and telephone numbers of three references to: **Dr. Alan Eastman, Dartmouth Medical School, Hanover, NH 03756.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately in Vegetable Laboratory, USDA, Agricultural Research Center, Beltsville, Maryland, for research on Colorado potato beetle plant interactions with goal of developing synthetic diet for beetle and techniques to evaluate role of plant allelochemicals in affecting beetle behavior. Salary is \$28,852 or \$34,280 per year. Appointment for 1 to 2 years. Applicant should be recent Ph.D. with training in insect nutrition and/or behavior. Submit application (Form SF-171) and curriculum vitae to: **W. Cantelo, Vegetable Laboratory, USDA, ARS, B-470, BARC-East, Beltsville, MD 20705. Telephone: 301-344-2269. ARS is an Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE at University of California, Irvine, to conduct research in renal microvascular physiology (atherosclerosis, second messengers, eicosanoids, hypertension, etc.) at faculty level. Candidate should have Ph.D. in biochemistry, pharmacology, or physiology and 2 to 3 years of research experience. Qualified applicants should send résumé, statement of research experience and interests, and three letters of reference to: **Michael Kirschenbaum, M.D., Chief, Nephrology Section (111N), VA Medical Center, Long Beach, CA 90822.**

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE SOUTHERN FOREST EXPERIMENT STATION

PROJECT LEADER/SUPERVISORY RESEARCH ENTOMOLOGIST, RESEARCH FORESTER, RESEARCH ECOLOGIST, RESEARCH BIOLOGIST. USDA-FS, Southern Forest Experiment Station, is seeking a research entomologist, research forester, research ecologist, or research biologist to lead a team of researchers studying the population dynamics and interactions of the southern pine beetle, host trees, and stands to improve management of the pest and to develop practical means of control. Salary range is GM-13-15 (\$41,121 to \$57,158). Information concerning the position may be obtained from: **Personnel Management, Room T-10210, USPSB, 701 Loyola Avenue, New Orleans, LA 70113. Telephone: 504-589-3921. The USDA is an Equal Opportunity Employer.**

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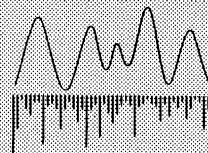
To intensify its innovative research on therapeutic peptides, **Biomeasure Inc.** is seeking a **Cell Biologist** to investigate post-receptor signal transduction mechanisms in tumor cells, and to relate such mechanisms to antiproliferative activity "in vitro" and "in vivo".

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- A proven ability to design, conduct and interpret "in vitro" and "in vivo" experiments as evidenced by publication records.
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Located near Boston, **Biomeasure Inc.** provides a supportive and stimulating research environment with excellent compensation and benefits package.

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POSITIONS OPEN

POSTDOCTORAL TRAINING IN CLINICAL CHEMISTRY. Positions available 1 July 1990, for basic scientists or physicians interested in career as laboratory director in academic Laboratory Medicine. Our two-year program provides practical experience in clinical chemistry laboratories and extends relevant basic scientific knowledge.

Deadline: 1 November 1989.
Write to:

Margaret Kenny, Ph.D.
Program Director
Department of Laboratory Medicine, SB-10
University of Washington
Seattle, WA 98195

An Equal Opportunity/Affirmative Action Employer.

POSTGRADUATE RESEARCH position for research in protein chemistry. Background in purification, isolation and characterization of structural proteins, RIA, ELISA, HPLC, amino acid and sequence analyses, monoclonal antibody production and assay, and electron microscopic experience (optional). Position for 2 to 3 years in established research laboratory. Prior publications desirable. Address résumé to: **Margie Zajonc, Department of Pathology (M-012), University of California, San Diego, La Jolla, CA 92093.** All applications received by 1 November 1989 will receive thorough consideration. Salary range is based on University of California pay-scale. *Equal Opportunity/Affirmative Action Employer.*

PROFESSOR AND CHAIRMAN, Department of Medical Technology. Position open 1 January 1990. Earned doctorate, established investigator with external grant record will direct departmental research activities. Administrative responsibility for both undergraduate and graduate academic programs. Submit by 1 December 1989 résumé, the names and address of three references to: **Search Committee, c/o Dean's Office, School of HRP, 435 Kimball Tower, State University of New York at Buffalo, Buffalo, NY 14214.** *Affirmative Action/Equal Opportunity Employer.*

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

The Agricultural Research Service is seeking a **RESEARCH ASSOCIATE** for a challenging position in biochemistry and biophysics at the Northern Regional Research Center, Peoria, Illinois. The position is available immediately with an initial appointment of 2 years.

The successful candidate serves as part of an expanding team investigating microbial and enzymatic interactions with carbohydrate polymers and will study microbial metabolism using state of the art spectroscopic techniques such as FTIR, photoacoustic, attenuated total reflectance and diffuse reflectance spectroscopy. Prior experience with these techniques is desirable. Knowledge of or experience in microbial physiology and biochemistry is required, Ph.D. or equivalent is desirable. Salary will be commensurate with experience (\$28,852 to \$34,580). For information on the research program and/or position contact:

Richard V. Greene
USDA/ARS/NRRC
1815 North University Street
Peoria, IL 61604
Telephone: 309-685-4011

For information on application procedures/forms contact: **Helen Sweeney, 309-685-4011.** Applications in response to this advertisement should be marked 9N031 and must be received by 9 November 1989.

Equal Opportunity Employer.

RESEARCH ASSOCIATE position available for studies on Ocular diseases. Applicant should have an M.D. degree with at least 3 years of experience in eye research including immunocytochemistry, immunoelectron microscopy, in situ hybridization, PCR, cell culture, biochemical assays and image analysis. \$27,000. Send curriculum vitae and three names of references to: **Dr. M. Rodrigues, Director of Eye Pathology, Rm 500-B, University of Maryland, 10 South Pine Street, Baltimore, MD 21201.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PROFESSOR—The Mary Babb Randolph Cancer Center and the Department of Microbiology and Immunology are seeking applications for a tenure-track position in the area of molecular virology. This position will play a lead role in developing the cancer center research programs. Submit curriculum vitae and three letters of recommendation to: **Dr. Fred R. Butcher, Director, Mary Babb Randolph Cancer Center, School of Medicine, West Virginia University, Morgantown, WV 26506.** *Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSOCIATE

Required: Medical degree with 4 years of training in Nuclear Medicine; experience in working with monoclonal antibodies. Responsibilities: pre-clinical testing and standardization of radiolabeled monoclonal antibodies; design and execution of clinical research with radiolabeled monoclonal antibodies. Salary: \$36,000 per annum. Apply to: **Laboratory of Human Cancer Immunology, MSKCC, 1275 York Avenue, New York, NY 10021.**

RESEARCH ASSOCIATE: Perform research in synthesis of active metabolites of carcinogenic polynuclear aromatic hydrocarbons and their aza-analogues. Forty hours per week, \$21,881 per year, Ph.D. in synthetic organic chemistry, 4 years of direct or related experience as chemist with experience in organic chemical synthesis and potential metabolites of polynuclear aromatic hydrocarbons and/or their aza-analogues. **JO #0106169, send résumé to: NYS Job Service, 68 West Huron Street, Buffalo, NY 14202.**

PROTEIN BIOCHEMIST—Proficient in purification and characterization of connective-tissue proteins using ion-exchange, gel exclusion and affinity chromatography, isoelectric focusing, hydroxyapatite chromatography, HPLC, electrophoresis, blot transfer, tissue culture. Knowledge of producing and characterizing monoclonal and polyclonal antibodies. Understand the molecular mechanisms of isolation of receptors for growth factors.

Requirements include a doctorate in biochemistry or biology and at least 2 years of postdoctoral and one year of practical experience involving protein biochemistry of protein purification. Forty hours per week: Salary negotiable. Position located at UCLA.

Résumé only to **Susan Wall, 1000 Veteran Avenue, Room A3-34, Los Angeles, CA 90024.**

RESEARCH SCIENTIST: Conduct research on the structure and function of a multicomponent particulate enzyme complex mammalian mitochondria, known as NADH: ubiquinone oxidoreductase. The research involves in-depth knowledge of mitochondrial biology, bioenergetics, various immunochemical techniques. Work with radioactive compounds, synthetic organic chemistry for development and use of special cross-linking reagents and radioactive affinity and photoaffinity labeling reagents, spectrophotometry, use of HPLC, FPLC and other chromatographic techniques, and enzymology in general. Must have knowledge of clinical and physical chemistry. Ph.D. in synthetic organic chemistry required. Salary \$25,000 per year. Job site and interview La Jolla, California. Send this ad and a résumé to: **Job# SS-7354, P.O. Box 9560, Sacramento, CA 95823-0560** not later than 16 September 1989.

RESEARCH SPECIALIST AND POSTDOCTORAL POSITIONS

A Research Specialist to perform mammalian tissue culture and molecular biology techniques. Incumbent must have a B.S. in biology, chemistry or biochemistry and 1 to 2 years of appropriate experience. Salary: \$23,000 to \$27,000.

A Postdoctoral Position on mechanisms of transcriptional control of the *c-myc* proto-oncogene mediated by nuclear factors. Send applications for either position to: **Professor Kenneth B. Marcu, Biochemistry Department, SUNY at Stony Brook, Stony Brook, NY 11794-5215.** *State University of New York at Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer.*

POSITIONS OPEN

RESEARCH ENGINEER

Design and conduct pilot/plant scale research related to wastewater treatment and air pollution control. Graduate degree in chemical, civil, environmental or sanitary engineering or equivalent field. EIT required. Valid drivers license with acceptable record required. Include transcript and EIT number.

Send résumé to, or obtain application from: **Metro-politan Waste Control Commission, 230 East 5th Street, 6th Floor, St. Paul, MN 55101.** *Equal Opportunity Employer/Affirmative Action.*

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF CHEMISTRY

As a part of a continuing development program, the Department of Chemistry at University of Pennsylvania plans to make a **SENIOR APPOINTMENT** in the area of organic chemistry. While all areas will be considered, candidates in the area of complex molecule synthesis as applied to the biomedical sciences would most complement the current faculty.

In addition, the Department plans to add three faculty members at the **ASSISTANT PROFESSOR** (tenure probationary) level beginning July 1990. The general areas of research are organic, inorganic, and materials chemistry. Although all areas will again be considered, candidates in the areas of complex molecule synthesis, bioorganic, bioinorganic, organometallic, polymer, and organic solid-state chemistry would most complement the current faculty. All applicants should send curriculum vitae, list of publications, and a description of research interests to: **Amos B. Smith, III, Chairman, Department of Chemistry, University of Pennsylvania, Philadelphia, PA 19104-6323** by 15 October 1989. In addition, assistant professor candidates should arrange for three letters of recommendation to be forwarded to the above address. *The University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer.*

SENIOR ASSOCIATE RESEARCH SCIENTIST. Design, research, and develop synthetic polymeric membranes for use in diagnostic and biotechnology products such as microporous films with immobilized enzymes, chemical reagents, and time controlled chemical release systems. Specific activities include: (i) synthesis of custom polymers based on urethane, amide or phosphazone chemistry; (ii) preparation of hydrogels and membrane structures utilizing thermal, irradiation and phase inversion methodologies; (iii) physical characterization of polymers and membranes using thermal analysis, rheological and electron microscopy techniques; (iv) chemical modification of polymeric structures (films, beads, etc.) for covalent immobilization or encapsulation of diagnostic reagents. Minimum requirements: Ph.D. in chemistry of which the subject of the Ph.D. thesis must be polymer synthesis and 2 years of experience in the offered position; or 2 years of experience as a research associate. The experience as a research associate must include research in polymer synthesis, membranes hydrogels and the immobilization of pharmaceuticals for controlled release systems. Must have also completed one course in each of the following: (i) polymer chemistry, (ii) polymerization engineering, (iii) advanced organic synthesis and (iv) organic mechanisms. Forty hours per week; 9:00 a.m. to 5:00 p.m.; \$41,500 per year. Send résumés with Social Security numbers to: **Indiana State Employment and Training Services, 10 North Senate Avenue, Indianapolis, IN 46204.** Attention: **W. F. Shepherd. I.D.3180419.**

SENIOR TECHNICAL EDITOR—*Laser Focus World*, top trade journal of the electro-optics industry, seeks an additional senior technical editor. Broad knowledge of electro-optical science and technology, plus superb editorial ability, and 5 years of technical trade-publishing experience or equivalent required. Industry experience a plus. Send résumé, salary history, and writing samples to: **Dr. Lewis M. Holmes, Editor in Chief, Laser Focus World, One Technology Park Drive, P.O. Box 989, Westford, MA 01886.** *Equal Opportunity Employer.*

DIRECTOR

Food and Nutrition Board

The Institute of Medicine of the National Academy of Sciences is seeking candidates for Director of its FOOD AND NUTRITION BOARD. Responsibilities include program development, fund raising, staff management, proposal preparation, assuring the preparation and quality of committee and staff products, and providing advice to the IOM executive staff on major policy and operational matters.

Requires a Ph.D. or equivalent in a health related science with emphasis on diet and nutrition, at least 8 years' experience with diet and nutrition issues, and 5 or more years in program management and development. Candidate must possess excellent written and oral communication skills, ability to evaluate scientific literature, develop contacts in public and private sectors, and ability to deal effectively with committees of leading experts.

The Academy offers a salary commensurate with experience and qualifications and a generous benefits program including paid relocation to the

Washington, D.C. area. Please send résumé in confidence to: **Institute of Medicine, NAS 325 (QB), 2101 Constitution Avenue, N.W., Washington, D.C. 20418.** An Equal Opportunity Employer.



NATIONAL INSTITUTE OF MENTAL HEALTH Alcohol, Drug Abuse and Mental Health Administration U.S. Public Health Service Deputy Office Director

The Office of Policy Analysis and Coordination (OPAC) has an immediate opening for a Supervisory Interdisciplinary Scientist (GM-15) to serve as Deputy Director of OPAC. The Office, which reports to the Director, NIMH, is the Institute's focal point for policy coordination, policy analyses, liaison with private sector and public organizations in the mental health field, as well as for relations with the appropriations and legislative committees of the Congress. The Office is comprised of two Branches and includes approximately 20 professional and clerical staff. The Deputy Director will be responsible for keeping abreast of governmental and scientific developments in the mental health field, for assessing the importance of such developments for NIMH, and recommending appropriate policy. He/she will initiate and develop a wide range of contacts among mental health policy makers in technical, scientific, political and Government circles as well as at technical and scientific meetings with mental health associations. Therefore, the ability to communicate orally and in writing is of utmost importance. The Deputy Director will assist the Director of OPAC with the planning and the management of the Office, and in the policy and programmatic issues relevant to the Institute and the broader field of mental health. Therefore, a broad knowledge in the scientific fields represented by the Institute's programs are essential. Applicants should possess an M.D. or a Ph.D. degree, or equivalent training, in a discipline such as: neurology, immunology, virology, epidemiology, psychology, psychiatry or psychiatric social work. Applicants should additionally have experience in research design, research program planning, or public health policy analysis, as well as an understanding of the legislative process. The position will be filled through the Civil Service or Commissioned Corps of the U.S. Public Health Service. The grade of the position is a GM-15, with a salary range from \$57,158 to \$75,500 per annum. Qualified women and minority candidates are especially invited to apply. Benefits include a retirement plan, health and life insurance, sick and annual leave. Relocation expenses may be paid. Duty Station is Rockville, MD. U.S. citizenship is required. Submit Applications for Federal Employment (SF 171) and curriculum vita to: Ms. Benesch, Division of Personnel Management, Room 15C-12, 5600 Fishers Lane, Rockville, MD 20857, (301) 443-5407. Applications must be postmarked no later than October 10, 1989.

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GEO-CENTERS, INC., a rapidly growing, professional services R&D firm specializing in chemical, materials, biological, and optical sciences, has immediate openings for a senior technical staff member, and support staff person.

MICROBIOLOGIST - Code 2137. This position incorporates the theories and techniques of microbiology, molecular biology, biochemistry, immunology, and rickettsiology for the purpose of conducting R&D on the role of cell wall antigens as components of sub unit vaccines. The successful candidate will possess a Ph.D. in Microbiology, Biology, or a related field, with 2-3 years of practical experience in the development of such technology. This hands-on laboratory position will also require in-depth knowledge of separation techniques for proteins and glycoproteins.

WOUND REPAIR SUPPORT STAFF - Code 2097. This position will require the candidate to assist in the evaluation of novel polypeptides, proteins, growth factors, and biopolymers for use in enhancing wound repair. This position involves the preparation of materials and models needed for the studies, and assistance in the evaluation of their effects on wound repair. The successful candidate will possess a B.S./M.S. in Biochemistry/Biology or a related field (with 1-3 years of practical experience), and a working knowledge of cellular mechanisms.

GEO-CENTERS, INC. offers competitive salaries, relocation assistance, and an outstanding benefits package. **U.S. CITIZENSHIP REQUIRED.** Qualified candidates are urged to send their resume, salary history/requirements, and professional references in confidence to: **GEO-CENTERS, INC., 10903 Indian Head Highway, Fort Washington, MD 20744, Attn: Deborah Hall-Greene/Code _____. Principals Only.**

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SENIOR NEUROBIOLOGIST/NEUROSCIENTIST

National Institute of Mental Health Intramural Research Program

The NIMH is accepting applications for a senior neurobiologist/neuroscientist with interests in studying basic brain mechanisms of behavior. Applicants must hold a doctoral degree or equivalent and be interested in joining an established research program involving behavioral neurophysiology, neuroanatomy, neuropsychology, developmental neurobiology, neuroethology and other disciplines. The laboratory facilities are located in a rural setting approximately 30 miles west of the main NIH Bethesda campus near the town of Poolesville, Maryland. Researchers in the fields of neurophysiology, neuroanatomy, experimental psychology (including physiological psychology), developmental neurobiology, and related fields in the brain and behavioral sciences are especially encouraged to apply. Excellent facilities exist for primate research. The successful candidate should have broad experience and established credentials in the neurosciences. Duties will include scientific leadership and administration of a laboratory, as well as conduct of an internationally-recognized research program. Salary will be commensurate with other NIMH researchers having similar responsibilities, approximately \$57,158 to \$75,500 plus full Federal benefits. Send C.V., bibliography, a statement of future research directions, and the names of three references to:

Steven M. Paul, M.D.
Acting Director, Intramural Research Program
National Institute of Mental Health
Building 10, Room 4N-224
9000 Rockville Pike
Bethesda, Maryland 20892



NIMH IS AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

SECTION LEADER MAMMALIAN PRODUCT R&D

Realignment of our Biological R&D team has created a need for a section leader of Mammalian Product R&D. This position reports directly to the Director of Biological R&D and will be located at our new facility in Minneapolis, Minnesota. The Mammalian Product R&D Section has responsibility for the development of all mammalian-related biological products.

Qualifications include a Ph.D. in a biological science, a minimum of 7 years of postdoctoral experience, outstanding interpersonal skills, experience leading a multi-disciplined staff, the ability to simultaneously manage multiple projects, and an outstanding product development track record.

Our compensation/benefit plans are highly competitive and reflect our commitment to the worldwide animal health business of our parent company, Solvay and Cie. For consideration, forward your résumé and salary history to: **The Director, Human Resources, Salsbury Laboratories, Inc., Charles City, IA 50616.**

We are an Equal Opportunity Employer.

TENURE-TRACK OPENING, Department of Biology, UCLA, plant cell/developmental biology at the molecular level. The position is in the Division of Molecular, Cell, and Developmental Biology in the department, and involves participation in the Interdepartmental Plant Molecular Biology Group. Potential research areas of interest include plant/microbe interactions, regulation of reproductive development, signal transduction mechanisms, and hormonal regulation of development, but other relevant areas will also be considered. Applicants should be committed to making a substantial contribution to teaching as well as to developing a strong and innovative research program.

Submit curriculum vitae, a statement of research and teaching interests, and have three letters of recommendation sent to: **Dr. E. M. Tobin, Chair, Search Committee, Biology Department, UCLA, Los Angeles, CA 90024** by 1 December 1989. *UCLA is an Equal Opportunity/Affirmative Action Employer, and we encourage applications from women and members of minority groups.*

TRANSGENIC MOUSE COLONY: A faculty position is available immediately for a qualified investigator to lead a transgenic mouse research and developmental program. The primary intent is to develop in vivo models for studying the microvascular complications of diabetes. Candidates must have experience in all aspects of transgene manipulations and a strong background in molecular biology. Although experience in diabetes-related research is an asset, it is not necessary.

The Whittier Institute for Diabetes and Endocrinology is a nonprofit research institute that has a solid foundation for basic research in islet transplantation, in studies on CNS and pituitary function, in reproductive biology, growth factor biochemistry and in angiogenesis. Send curriculum vitae with a brief statement of career goals to:

Andrew Baird
Chairman, Transgenic Core Search Committee
The Whittier Institute
9894 Genesee Avenue
La Jolla, CA 92037

VISITING ASSISTANT PROFESSOR. A non-tenure track position to be filled after 1 August 1989 and before 1 January 1990. Responsibilities will include teaching and participation in ongoing research with emphasis in either: (i) protein folding, (ii) mechanisms of protein stabilization, (iii) elementary events in enzyme catalyzed reactions. Facilities include: CD, DSC, microcalorimetry, wide-bore 300 MHz and narrow-bore 500-MHz NMR instruments. Teaching responsibilities will be one course each in the fall and spring semesters at the undergraduate and/or graduate level. Minimum qualifications are a Ph.D. degree and postdoctoral training. The position is renewable up to 3 years. Interested candidates should send curriculum vitae and three letters of reference preferably by 1 October 1989 to: **Dr. Wayne Bolen, Department of Chemistry and Biochemistry, Southern Illinois University at Carbondale, Carbondale, IL 62901.** Telephone: 618-453-5721. The position will remain open until filled. *Southern Illinois University at Carbondale is an Equal Opportunity/Affirmative Action Employer.*

AWARDS

GRADUATE STUDENT RESEARCH AWARDS ECOLOGY AND ENVIRONMENTAL POLICY

The Science Division of the National Audubon Society invites applications for graduate student research support in ecology and environmental policy. Candidates should be at an early stage in their doctoral program.

Applications in two general areas are especially encouraged:

1. Field work on ecological processes with broad relevance to the management of National Audubon Society sanctuaries and other managed lands, for example on hydrological cycles, nutrient limitation, prescribed burning, or grazing impacts on natural communities;
2. Policy analyses of emerging national environmental issues, for example on the role of electric vehicles in moderating global climate changes, implications of biotechnology for land-use, using the permit-review process as a conservation tool, or comparing the conservation implications of food irradiation vs. pesticides.

These grants are part of an opening effort to expand the Society's scientific scope, therefore, proposals for ornithological research are ineligible for funding under this program.

Approximately three grants of up to \$6000 apiece will be awarded. These grants will be renewable for a period of 2 to 3 years. In addition, a number of smaller, one-time grants may be awarded. Field research on Audubon sanctuaries may also be eligible for some on-site logistical support. Application guidelines may be obtained by writing:

Graduate Student Research Awards
National Audubon Society
950 Third Avenue
New York, NY 10022

Completed applications are due by 15 February 1990. Winners will be announced by early May.

THE HEISER PROGRAM FOR RESEARCH IN LEPROSY

Beginning **POSTDOCTORAL RESEARCH FELLOWSHIPS, RESEARCH GRANTS, and VISITING RESEARCH AWARDS** available in amounts up to \$25,000 per year, plus other allowances. Applicants should have M.D., Ph.D., or equivalent degree. Applications by 1 February 1990, for awards to be activated June to December, 1990. For information, write: **The Heiser Program, 450 East 63rd Street, New York, NY 10021.**

FELLOWSHIPS

ALEXANDER HOLLAENDER DISTINGUISHED POSTDOCTORAL FELLOWSHIP PROGRAM provides research opportunities in the life, biomedical, and environmental sciences. Fellowships are tenable at various Department of Energy and university laboratories with programs supportive of the Office of Health and Environmental Research. Stipend is \$35,000. A doctoral degree received after 1 April 1988 is required as is U.S. citizenship or PRA status. Deadline is 16 January 1990. For application materials contact: **Hollaender Postdoctoral Fellowships, Science/Engineering Education Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117.** Telephone: 615-576-3190.

FELLOWSHIPS

A limited number of postdoctoral and predoctoral fellowships are available from Sigma Delta Epsilon, Graduate Women in Science, Inc. Applications from women are particularly encouraged.

Fellowships are for \$1,000 to \$4,000. A total of \$14,000 is available.

Deadline is 1 December 1989.

For additional information and application forms:

Sigma Delta Epsilon
Graduate Women in Science, Inc.
P.O. Box 4748
Ithaca, NY 14852

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS IN NEUROSCIENCE

The Tarbox Parkinson's Disease Institute at Texas Tech University Health Sciences Center invites applications from individuals with a Ph.D. and/or M.D. degree for Tarbox Postdoctoral Fellowships beginning 1 September 1989 for a minimum of 2 years. A Tarbox Postdoctoral Fellow will receive a yearly stipend of \$24,000, a travel allowance of \$1,000, and \$5,000 initial research support. The aim of the Tarbox Institute Fellowship Program is to provide advanced training in the neurosciences broadly related to movement disorders and Parkinson's disease. Research programs in the Departments of Cell Biology and Anatomy, Neurology, Physiology and Pharmacology include: CNS neurochemistry (J. Lombardini, P. Carroll); membrane biophysics and cellular electrophysiology of neurotransmitters (R. Nathan, J. Pirch, J. Strahlendorf, H. Strahlendorf); sexual differentiation and development (P. Coates, A. Coquelin); neuroendocrine effects of stress (R. Norman); regulatory mechanisms of sleep and autonomic function (J. Orem, D. Davies, L. Lutherer, P. Doris); and effects of aging on cortical and motor function (J. T. Hutton). Collaborative interactions are encouraged. For additional information, applicants should send curriculum vitae, statement of research interests, and names of three references to: **Howard Strahlendorf, Ph.D., Chairman, Tarbox Fellowship Selection Committee, Department of Neurology, Texas Tech University Health Sciences Center, Lubbock, TX 79430.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH TRAINING PROGRAM IN CHILD PSYCHOPHARMACOLOGY—NIMH Institutional Training Grant Drs. M. Campbell, M. Goldstein, A. Friedhoff and E. Simon. A 2-year research training program for postdoctoral trainees is provided in order to develop research scientists in child psychiatry with a solid basis in biomedical sciences, psychopharmacology and behavioral sciences, necessary to conduct self-supported research. Basic scientists with Ph.D., psychologists and child psychiatrists are eligible, who are interested in basic science related to child psychiatry. Facilities for the trainees include laboratories of the Children's Psychopharmacology Unit at Bellevue Hospital; neurochemistry laboratories of the Mental Health Clinical Research Center (MHCRC) of the Department of Psychiatry; the Clinical Research Center (CRC) of the Department of Medicine; and the computer facilities of the Nathan S. Kline Institute for Psychiatric Research.

Our medical center provides a rich environment for a variety of research, and numerous opportunities for collaboration with renowned investigators from other departments, such as pediatrics, neuroradiology, neurology, biochemistry, pathology, pharmacology and medicine.

Send curriculum vitae and references to: **Dr. Magda Campbell, Department of Psychiatry, New York University Medical Center, 550 First Avenue, New York, NY 10016.** Telephone: 212-340-6205 or 212-340-6206.

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FACULTY OF MEDICINE, KUWAIT
Pre-clinical and Clinical Appointments**

Applications are invited for the following appointments in the Faculty of Medicine:

Anatomy:

Professor/Associate Professor (Gross Anatomy) : 1 post

Biochemistry:

Professor/Associate Professor (Molecular Biology) : 1 post

Associate Professor (Enzymology/Metabolism) : 1 post

Associate Professor (Membrane Biochemistry) : 1 post

Microbiology:

Associate/Assistant Professor (Molecular Virologist) : 1 post

Pathology:

Professor/Associate Professor (Clinical Chemistry) : 1 post

Professor (Cytology) : 1 post

Professor/Associate Professor (Cytology) : 1 post
(Broad experienced Histopathologist with major interest in Cytopathology specially in Fine Needle Aspiration Cytology)

Pharmacology:

Associate Professor (Neuropharmacology/General Pharmacology) : 1 post

Associate Professor (Toxicology or Cardiovascular Pharmacology) : 1 post

Physiology:

Associate/Assistant Professor (Gastro-intestinal Physiology) : 1 post

Associate/Assistant Professor (Endocrinology) : 1 post

Associate/Assistant Professor (Respiratory Physiology) : 1 post

Medicine:

Associate/Assistant Professor (Infectious Diseases) : 1 post

Associate/Assistant Professor (Hematology-Clinical) : 1 post

Organ Transplantation:

Associate/Assistant Professor (Transplant Surgeon) : 1 post

Assistant Professor (Experimental Surgeon) : 1 post

Associate Professor (Transplant Expert in the field of Bone Marrow Transplantation) : 1 post

Obstetrics and Gynaecology:

Professors (Feto maternal medicine) : 2 posts

Associate Professor (Gynaecological endocrinology and infertility) : 2 posts

Assistant Professors (General Obs. & Gynae.) : 2 posts

Pediatrics:

Associate/Assistant Professor (Neonatology) : 1 post

Associate/Assistant Professor (Gastroenterology) : 1 post

Assistant/Associate Professor (Clinical Geneticist with background in molecular genetics) : 1 post

Psychiatry:

Associate/Assistant Professors (Teaching and clinical services with Arabic speaking) : 2 posts

Radiology:

Professor/Associate Professor (US, CT, Neuroradiology-MRI) : 1 post

Associate/Assistant Professor (Chest Radiology, US, CT) : 1 post

Associate/Assistant Professor (Medical Physics) : 1 post

Surgery:

Professor/Associate Professor (Anaesthesia) : 1 post

Professor/Associate Professor (General Surgery) : 1 post

Professor (Urology) : 1 post

Associate/Assistant Professor (in Surgery for Accident/Emergency) : 1 post

Visiting Professor (Vascular Surgery) : 1 post

REQUIREMENTS FOR APPOINTMENT:

Qualifications: Applicants should possess a Ph.D or an equivalent high professional qualification i.e. FRCS/MRCP/MRCOG/MRCPath/MD/ American Board in their respective speciality and have conducted and published research in their field.

Experience: Professors – 14 years (4 as an Associate Professor)
Associate Professors – 9 years (4 as an Assistant Professor)

CONDITIONS OF APPOINTMENT:

Salaries: Total monthly salaries will be within the following scales according to qualifications and experience (1 KD = 2.3 St.Pound, US\$ 3.5 approximately). Increment per year KD. 20/-

– **PROFESSORS:**

With clinical appointments = KD. 1210-1370 (8 increments)

Medically qualified with a Ph.D. in medical science = KD. 1140-1300 (8 increments)

Non-medically qualified = KD. 1070-1230 (8 increments)

– **ASSOCIATE PROFESSORS:**

With clinical appointments = KD. 989-1149 (8 increments)

Medically qualified with a Ph.D in medical science = KD. 932-1092 (8 increments)

Non-medically qualified = KD. 875-1035 (8 increments)

– **ASSISTANT PROFESSORS:**

With clinical appointments = KD. 768-928 (8 increments)

Medically qualified with a Ph.D in medical science = KD. 724-884 (8 increments)

Non-medically qualified = KD. 680-840 (8 increments)

OTHER ALLOWANCES:

- Social allowance will be paid in addition to the monthly salary as per the University regulations.
- Clinical allowance from the Ministry of Public Health for 10 months a year for clinical service commitments as follows:

Professor and Chairman : KD. 450

Professor : KD. 400

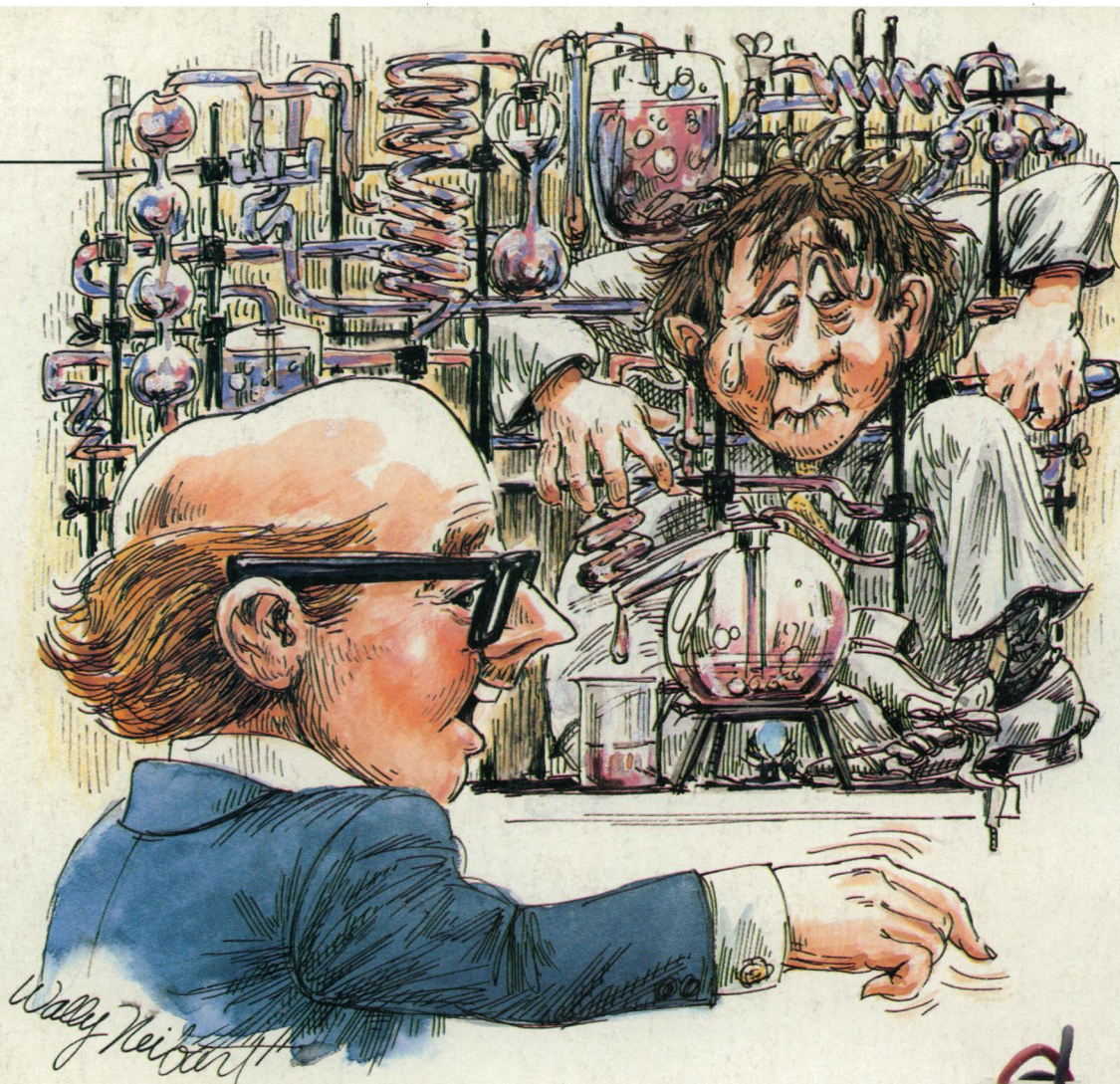
Associate Professor : KD. 300

Assistant Professor : KD. 200

OTHER BENEFITS:

Conference attendance. Gratuity. Furnished accommodation (electricity and water free of charge). Free medical treatment in Kuwait. Free annual roundtrip airtickets from Country of citizenship or permanent residence for self and family up to three dependent children. Baggage and freight allowance. Education fees for maximum three children in Kuwait from elementary through high school. No taxation. Currency is transferable without restriction. 60 days paid annual leave.

METHOD OF APPLICATION: Curriculum vitae in duplicate which should include the names of 3 referees; personal particulars; statement of country of citizenship; qualifications with dates; career history; teaching experience, research accomplishments and, where appropriate, clinical experience should be sent to the: THE VICE-DEAN ADMINISTRATION (RECRUITMENT OFFICE), FACULTY OF MEDICINE, UNIVERSITY OF KUWAIT, P.O. BOX 24923 SAFAT, 13110 SAFAT KUWAIT – to arrive NO LATER THAN 31st OCTOBER, 1989.



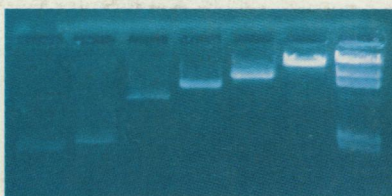
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