

rocks, contains two papers (one on the >3-billion-year-old sediments of southern Africa) that lose nothing in translation to Phanerozoic conditions and that have much to offer for investigators of younger strata.

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Some Other Books of Interest

Foundry Processes. Their Chemistry and Physics. SEYMOUR KATZ and CRAIG F. LANDEFELD, Eds. Plenum, New York, 1988. xii, 525 pp., illus. \$89.50. General Motors Research Laboratories Symposia Series. From a symposium, Warren, MI, Sept. 1986.

The Physical Properties of Liquid Metals. TAKAMICHI IDA and RODERICK I. L. GUTHRIE. Clarendon (Oxford University Press), New York, 1988. xviii, 288 pp., illus. \$75.

The ability to "handle great amounts of data by computational means, using new and more complicated treatments than we could deal with before" has made foundry processing into a "new science," Robert A. Frosch writes in his foreword to *Foundry Processes*. Hence the choice of this "subject with ancient beginnings" for a symposium in a series that has generally been focused on "new and emerging" areas of technology. The symposium brought together some 145 participants from universities and industry, including a few representatives from outside North America. In all, the proceedings volume consists of 16 long and 4 shorter papers on topics "carefully selected to address important issues." An opening set devoted to "fundamentals" includes a "critical overview" of foundry processing and discussions of physicochemical phenomena in iron casting, slags and their refining capacities, and the partition of alloying elements in cast iron. The remaining papers are presented in sections on the production of liquid metals (including processes in cupolas and ladles and the modeling thereof), on their purification, and on casting defects. (The subject of melt solidification was excluded from the symposium as too broad to be adequately treated in the time available.) The papers, which are clearly intended for those already knowledgeable about foundry processes, are each preceded by an abstract and followed by transcribed discussion from the symposium.

Also noting the recent advances in process metallurgy, the authors of *The Physical Properties of Liquid Metals* observe that, despite the importance of a knowledge of the physi-

cal chemistry of liquid metals in the manufacture of high-quality metallic materials, there has heretofore been no book on the subject intended specifically for materials engineers and metallurgists. Here they set out to provide such a book, assuming some elementary knowledge of statistical and quantum mechanics. They hope especially to provide guidance for hydrodynamical analyses, which "are playing an increasingly important role" but where "accurate theoretical predictions are still not available" for some parameters and "considerable discrepancies exist among experimental values," to provide an up-to-date account of continuum theory as applied to liquid metals, and more generally to demonstrate the importance of the microscopic approach to the processing of liquid metals. The authors present the subject in eight chapters, on general properties, structure, density, thermodynamic properties, surface tension, viscosity, diffusion, and electrical and thermal conductivity. The book also includes a list of symbols used, appendixes on the "application of some expressions to molten salts" and on SI units and physical constants, a list of references, and author and subject indexes.

—K.L.

Books Received

The Academic Life. Small Worlds, Different Worlds. Burton R. Clark. Carnegie Foundation, Princeton, NJ, 1987 (distributor, Princeton University Press, Princeton, NJ). xxx, 360 pp. \$28.40; paper, \$24.50. A Carnegie Foundation Special Report.

AIDS in Children, Adolescents and Heterosexual Adults. An Interdisciplinary Approach to Prevention. Raymond F. Schinazi and André J. Nahmias, Eds. Elsevier, New York, 1988. xxviii, 443 pp., illus. Paper, \$34.95. From a conference, Atlanta, GA, Feb. 1987.

Amber. The Golden Gem of the Ages. Patty C. Rice. 2nd ed. Kosciuszko Foundation, New York, 1987 (distributor, Geoscience Press, Prescott, AZ). xii, 289 pp., illus. \$29.95; paper, \$19.95.

American Education. The National Experience, 1783-1876. Lawrence A. Cremin. Harper and Row, New York, 1988. xiv, 607 pp. Paper, \$35. Reprint, 1980 ed.

Atomic Physics with Positrons. J. W. Humberston and E. A. G. Armour, Eds. Plenum, New York, 1987. xvi, 456 pp., illus. \$89.50. NATO Advanced Science Institutes Series B, vol. 169. From a workshop, London, U.K., July 1987.

Bacterial Endotoxins. Pathophysiological Effects, Clinical Significance, and Pharmacological Control. Jack Levin *et al.*, Eds. Liss, New York, 1988. xxii, 417 pp., illus. \$70. Progress in Clinical and Biological Research, vol. 272. From a conference, Amsterdam, the Netherlands, May 1987.

The Biochemical Pathology of Astrocytes. Michael D. Nornberg, Leif Hertz, and Arne Schousboe, Eds. Liss, New York, 1988. xxiv, 638 pp., illus. \$118. Neurology and Neurobiology, vol. 39. From a symposium, Miami, FL, May 1987.

Biological Control. Pacific Prospects. D. F. Waterhouse and K. R. Norris. Inkata, Melbourne, Australia, 1988 (U.S. distributor, International Specialized Book Services, Portland, OR). viii, 454 pp., illus. \$130.

Biological Organization. Macromolecular Interactions at High Resolution. Roger M. Burnett and Henry J. Vogel, Eds. Academic Press, San Diego, CA, 1987. xiv, 359 pp., illus. \$81.50. Based on a symposium, Harriman, NY, May-June 1985.

Biology of Isolated Adult Cardiac Myocytes. William A. Clark, Robert S. Docker, and Thomas K. Borg, Eds. Elsevier, New York, 1988. xii, 441 pp., illus. \$95. From a workshop, Pacific Grove, CA, Sept. 1987.

Brain Structure, Learning, and Memory. Joel L. Davis, Robert W. Newburgh, and Edward J. Wegman, Eds. Published for the American Association for the Advancement of Science by Westview, Boulder, CO, 1988. xvi, 301 pp., illus. Paper, \$35. AAAS Selected Symposium Series, vol. 105. Based on a symposium, New York, May 1984.

Catalog of Chromosome Aberrations in Cancer. Felix Mitelman. 3rd ed. Liss, New York, 1988. xxiv, 1146 pp., \$165.

Coastal-Offshore Ecosystem Interactions. Bengt-Owe Jansson, Ed. Springer-Verlag, New York, 1988. xvi, 367 pp., illus. Paper, \$41.80. Lecture Notes on Coastal and Estuarine Studies, vol. 22. From a symposium, Tiburon, CA, April 1986.

Color for Philosophers. Unweaving the Rainbow. C. L. Hardin. Hackett, Indianapolis, IN, 1988. xxiv, 243 pp., illus., + plates. \$32.50; paper, \$16.

Colorado Flora. William A. Weber. Colorado Associated University Press, Boulder, 1988. xviii, 530 pp., illus. Paper, \$14.50. Reprint, 1987 edition.

Comparative Invertebrate Neurochemistry. G. G. Lunt and R. W. Olsen, Eds. Cornell University Press, Ithaca, NY, 1988. viii, 327 pp., illus. \$52.

The Complex Analytic Theory of Teichmüller Spaces. Subhashis Nag. Wiley-Interscience, New York, 1988. xiv, 427 pp. \$54.95. Canadian Mathematical Society Series of Monographs and Advanced Texts.

Computation of Solution Equilibria. A Guide to Methods in Potentiometry, Extraction, and Spectrophotometry. M. Meloun, J. Havel, and E. Högföldt. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1988. xii, 297 pp., illus. \$69.95. Ellis Horwood Series in Analytical Chemistry.

Computer Simulation of Liquids. M. P. Allen and D. J. Tildesley. Clarendon (Oxford University Press), New York, 1988. xx, 385 pp., illus., + microfiche in pocket. \$95.

Concepts in Biochemistry. William K. Stephenson. 3rd ed. Wiley, New York, 1988. x, 229 pp., illus. Paper, \$19.40.

The Concepts of Science. From Newton to Einstein. Lloyd Motz and Jefferson Hane Weaver. Plenum, New York, 1988. x, 435 pp., \$23.50.

The Conquest of the Microchip. Hans Queisser. Harvard University Press, Cambridge, MA, 1988. xii, 200 pp., illus., + plates. \$24.95. Translated from the German edition (Munich, 1985) by Diane Crawford-Burkhardt.

Control of Head Movement. Barry W. Peterson and Frances J. Richmond. Oxford University Press, New York, 1988. xiv, 322 pp., illus. \$47.95.

Coping, Behavior, and Adaptation in Prison Inmates. Edward Zamble and Frank J. Porporino. Springer-Verlag, New York, 1988. xvi, 204 pp. \$40. Research in Criminology.

The Curse. A Cultural History of Menstruation. Janice Delaney, Mary Jane Lupton, and Emily Toth. 2nd ed. University of Illinois Press, Champaign, 1988. xvi, 334 pp. \$29.95; paper, \$10.95.

Darwinism and the Divine in America. Protestant Intellectuals and Organic Evolution, 1859-1900. Jon H. Roberts. University of Wisconsin Press, Madison, 1988. xviii, 339 pp. \$26.75. History of American Thought and Culture.

Design and Analysis of Integrated Manufacturing Systems. W. Dale Compton, Ed. National Academy Press, Washington, DC, 1988. viii, 239 pp., illus. \$29.50. Based on a conference, Washington, DC, Feb. 1987.

Dictionary of Effects and Phenomena in Physics. Descriptions, Applications, Tables. Joachim Schubert. VCH, New York, 1988. xiv, 140 pp. \$24.95.

The Diffusion of Medical Innovations. An Applied Network Analysis. Mary L. Fennell and Richard B. Warnecke. Plenum, New York, 1988. xiv, 285 pp. \$34.50. Environment, Development, and Public Policy.

Doctors. The Biography of Medicine. Sherwin B. Nuland. Knopf, New York, 1988. xxii, 519 pp., illus. \$24.95.

Eclipse. David and Carol Allen. Allen and Unwin, Winchester, MA, 1988. viii, 123 pp., illus. Paper, \$16.95.

Ecological Relationships of Plants and Animals. Henry F. Howe and Lynn C. Westley. Oxford University Press, New York, 1988. xiv, 273 pp., illus. \$29.95. Intended to be understandable to those "with only a good course in introductory biology."

The Ecology of Computation. B. A. Huberman, Ed. North-Holland (Elsevier), New York, 1988. vi, 342 pp., illus. \$84.25. Studies in Computer Science and Artificial Intelligence, vol. 2.

The Emergence of Life. Darwinian Evolution from the Inside. Sidney Fox. Basic Books, New York, 1988. x, 208 pp., illus. \$17.95.

The Emergence of Morality in Young Children. Jerome Kagan and Sharon Lamb, Eds. University of Chicago Press, Chicago, 1988. xx, 354 pp. \$24.95. Based on a conference, Cambridge, MA, Nov. 1984.

L'Esprit en Friche. Les Foisonnements de l'Intelligence Artificielle. Daniel Defays. Mardaga, Liège, 1988. 268 pp., illus. Paper, F169. Psychologie et Sciences Humaines, vol. 171.

Evolution and Adaptation of Terrestrial Arthropods. John L. Cloudsley-Thomson. Springer-Verlag, New York, 1988. x, 141 pp., illus. Paper, \$33.

Explaining Science. A Cognitive Approach. Ronald N. Giere. University of Chicago Press, Chicago, 1988. xxii, 321 pp., illus. \$34.95. Science and Its Conceptual Foundations.

Eye, Brain, and Vision. David H. Hubel. Freeman, New York, 1988. x, 240 pp., illus. \$32.95. Scientific American Library, vol. 22.

From First Words to Grammar. Individual Differences and Dissociable Mechanisms. Elizabeth Bates, Inge Bretherton, and Lynn Snyder. Cambridge University Press, New York, 1988. xii, 326 pp. \$34.50.

Frontiers of Particle Beams. M. Month and S. Turner, Eds. Springer-Verlag, New York, 1988. xii, 700 pp., illus. \$73. Lecture Notes in Physics, vol. 296. From a course, South Padre Island, TX, Oct. 1986.

Handbook of North American Birds. Diurnal Raptors. Ralph S. Palmer, Ed. Yale University Press, New Haven, 1988. Vol. 4, Part 1. viii, 433 pp., illus. Vol. 5, Part 2. vi, 465 pp., illus. The set, \$80.

History and Philosophy of Modern Mathematics. William Aspray and Philip Kitcher, Eds. University of Minnesota Press, Minneapolis, 1988. viii, 386 pp. \$35; paper, \$13.95. Minnesota Studies in the Philosophy of Science, vol. 11. Based on a conference, Minneapolis, MN, May 1985.

Infinite in All Directions. Freeman J. Dyson. Harper and Row, New York, 1988. viii, 321 pp. \$19.95. Based on a lecture series, Aberdeen, Scotland, April–Nov. 1985.

Inhibition in the Brain. Charles E. Ribak, Ed. Institute of Mind and Behavior, New York, 1987. xviii, 173 pp., illus. Paper, \$24. *The Journal of Mind and Behavior*, vol. 8, no. 4 (1987). From a symposium, Washington, DC, Nov. 1986.

Inorganic Reactions and Methods. Vol. 7, Formation of Bonds to N, P, As, Sb, Bi (Part 1). J. J. Zuckerman. VCH, New York, 1988. xxii, 387 pp. \$150.

Input Devices. Sol Sherr, Ed. Academic Press, San Diego, CA, 1988. xii, 301 pp., illus. \$54.95. Computer Graphics, vol. 1.

Integrated Pest Management. A. J. Burn, T. H. Coaker, and P. C. Jepson, Eds. Academic Press, San Diego, CA, 1987. xii, 474 pp., illus. \$89.50.

Libérer l'Adolescence. Introduction à la Psychologie des Adolescents et des Jeunes. Gérard Lutte. Mardaga, Liège, 1988. 345 pp. Paper, F 222. Psychologie et Sciences Humaines, vol. 170.

Mapping and Sequencing the Human Genome. National Research Council. National Academy Press, Washington, DC, 1988. xii, 116 pp. Paper, \$14.95.

The Molecular Biology of Receptors. Techniques and Applications of Receptor Research. A. D. Strosberg, Ed. Horwood, Chichester, U.K., and VCH, New York, 1988. 235 pp., illus. \$57. Ellis Horwood Series in Biomedicine.

Molecular Neuropathology of Aging. Peter Davies and Caleb E. Finch, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1987. xvi, 478 pp., illus. \$80. Banbury Report 27. From a meeting, Cold Spring Harbor, NY, Nov. 1986.

Molecular Photodissociation Dynamics. M. N. R. Ashfold and J. E. Baggott. Royal Society of Chemistry, London, 1987 (U.S. distributor, American Chemical Society, Washington, DC). xiv, 243 pp., illus. \$117. Advances in Gas-Phase Photochemistry and Kinetics.

Mortal Choices. Ethical Dilemmas in Modern Medicine. Ruth Macklin. Houghton Mifflin, Boston, 1988. x, 245 pp. Paper, \$8.95. Reprint, 1987 edition.

The Natural History and Behavior of North American Beewolves. Howard E. Evans and Kevin M. O'Neill. Comstock (Cornell University Press), Ithaca, NY, 1988. x, 278 pp., illus. \$45; paper, \$23.50.

Natural Obsessions. The Search for the Oncogene. Natalie Angier. Houghton Mifflin, Boston, 1988. xviii, 394 pp. \$19.95.

The Nature of Disease. Lawrie Reznek. Routledge and Kegan Paul (Methuen), New York, 1988. x, 227 pp. \$39.50. Philosophical Issues in Science.

The Neural Microenvironment. Alan A. Boulton, Glen B. Baker, and Wolfgang Walz, Eds. Humana, Clifton, NJ, 1988. xxvi, 732 pp., illus. \$94.50. Neuro-methods, vol. 9.

Nutritional Modulation of Neural Function. John E. Morley, M. Barry Sterman, and John H. Walsh, Eds. Academic Press, San Diego, CA, 1988. xviii, 325 pp., illus. \$43. UCLA Forum in Medical Sciences, no. 28. Based on a conference, Santa Barbara, CA, March 1986.

Oliver Heaviside: Sage in Solitude. The Life, Work, and Times of an Electrical Genius of the Victorian Age. Paul J. Nahin. IEEE Press, New York, 1988. xxiv, 320 pp., illus. \$57.95; to IEEE members, \$43.45.

One-Dimensional Conductors. S. Kagoshima, H. Nagaoka, and T. Sambongi. Springer-Verlag, New York, 1988. xii, 235 pp., illus. \$65. Springer Series in Solid-State Sciences, vol. 72. Translated from the Japanese edition (Tokyo, 1982).

PCBs, PCDDs and PCDFs. Prevention and Control of Accidental and Environmental Exposures. J. H. Rantanen *et al.*, Eds. World Health Organization, Copenhagen, 1987. xii, 227 pp. Paper. Environmental Health Series, vol. 23.

People of the Tropical Rain Forest. Julie Sloan Denslow and Christine Padoch, Eds. University of California Press, Berkeley, and Smithsonian Institution Traveling Exhibition Service, Washington, DC, 1988. 232 pp., illus. \$39.50; paper, \$19.95.

Personality. In Search of Individuality. Nathan Brody. Academic Press, San Diego, CA, 1988. xii, 270 pp., illus. \$35.

Poisonous and Venomous Marine Animals of the World. Bruce W. Halstead. 2nd ed. Darwin, Princeton, NJ, 1988. 1, 1168 pp., illus., + plates. \$250.

Pre-Hispanic Occupance in the Valley of Sonora, Mexico. Archaeological Confirmation of Early Spanish Reports. William E. Doolittle. University of Arizona Press, Tucson, 1988. viii, 87 pp., illus. Paper, \$24.95. Anthropological Papers of the University of Arizona, no. 48.

The Primate Ovary. Richard L. Stouffer, Ed. Plenum, New York, 1987. xii, 276 pp., illus. \$59.50. Sero Symposium, USA. From a symposium, Beaverton, OR, May 1987.

Problèmes de Psycholinguistique. Jean A. Rondal and Jean-Pierre Thibaut, Eds. Mardaga, Liège, 1987. 557 pp. Paper, F 283. Psychologie et Sciences Humaines, vol. 165.

Proceedings of the Adriatic Research Conference on High Temperature Superconductors. (Trieste, Italy, July 1987.) S. Lundqvist *et al.*, Eds. World Scientific, Teaneck, NJ, 1987. xx, 508 pp., illus. \$83. Series on Progress in High Temperature Superconductivity, vol. 1.

Proceedings of the Stock Identification Workshop. (Panama City Beach, FL, Nov. 1985.) Herman E. Kumpf *et al.*, Eds. National Marine Fisheries Service, Panama City, FL, 1987. vi, 228 pp., illus. Paper. NOAA Technical Memorandum NMFS-SEFC-199.

Psychological and Neural Mechanisms of Pain. Donald D. Price. Raven, New York, 1988. xii, 241 pp., illus. \$68.

Ramanujan Revisited. George E. Andrews *et al.*, Eds. Academic Press, San Diego, CA, 1988. xx, 609 pp. \$49.50. From a conference, Urbana-Champaign, IL, June 1987.

Representations of *-Algebras, Locally Compact Groups, and Banach *-Algebraic Bundles. J. M. G. Fell and R. S. Doran. Academic Press, San Diego, CA, 1988. Two volumes. Vol 1, Basic Representation Theory of Groups and Algebras. xviii + pp. 1–746. \$99. Vol. 2, Banach *-Algebraic Bundles, Induced Representations, and the Generalized Mackey Analysis. viii + pp. 747–1486. \$99. Pure and Applied Mathematics, vol. 126.

Revolution at the Table. The Transformation of the American Diet. Harvey A. Levenstein. Oxford University Press, New York, 1988. xii, 275 pp. + plates. \$21.95.

Risk Assessment for Deliberate Releases. The Possible Impact of Genetically Engineered Microorganisms on the Environment. Walter Klingmüller, Ed. Springer-Verlag, New York, 1988. xiv, 193 pp., illus. \$47.90.

Saline Lakes. John M. Melack, Ed. Junk, Dordrecht, 1988 (U.S. distributor, Kluwer, Norwell, MA). x, 316 pp., illus. Developments in Hydrobiology, vol. 44. From a symposium, Nairobi, Kenya, Aug. 1985.

Saving America's Wildlife. Thomas R. Dunlap. Princeton University Press, Princeton, NJ, 1988. xvi, 222 pp. \$24.95.

Scattering from Black Holes. J. A. H. Futterman,

F. A. Hander, and R. A. Matzner. Cambridge University Press, New York, 1988. x, 192 pp., illus. \$44.50. Cambridge Monographs on Mathematical Physics.

Science and Technology in France and Belgium. E. Walter Kellermann. Longman, Harlow, U.K., 1988 (U.S. distributor, Gale, Detroit, MI). viii, 131 pp., illus. \$100. Longman Guide to World Science and Technology, vol. 7.

Science and Technology in the USSR. Michael J. Berry, Ed. Longman, Harlow, U.K., 1988 (U.S. distributor, Gale, Detroit, MI). xviii, 405 pp. \$95. Longman Guide to World Science and Technology, vol. 6.

The Search for Extraterrestrial Intelligence. Listening for Life in the Cosmos. Thomas R. McDonough. Wiley, New York, 1988. xii, 244 pp., illus. Paper, \$14.95. Wiley Science Editions.

Semiconductor Materials and Process Technology Handbook for Very Large Scale Integration (VLSI) and Ultra Large Scale Integration (ULSI). Gary E. McGuire, Ed. Noyes, Park Ridge, NJ, 1988. xiv, 675 pp. illus. \$92. Materials Science and Process Technology.

Shaping Science and Industry. A History of Australia's Council for Scientific and Industrial Research, 1926–49. C. B. Schedvin. Unwin Hyman, Winchester, MA, 1988. xx, 374 pp., illus. \$45.

Technology and Women's Voices. Keeping in Touch. Cheris Kramarae, Ed. Routledge and Kegan Paul (Methuen), NY, 1988. xii, 246 pp., illus. Paper, \$13.95.

Theory of Particulate Processes. Analysis and Techniques of Continuous Crystallization. Alan D. Randolph and Maurice A. Larson. 2nd ed. Academic Press, San Diego, CA, 1988. xvi, 369 pp., illus. \$55.

Theory and Applications of Inverse Problems. H. Haario, Ed. Longman Scientific, Harlow, U.K., and Wiley, New York, 1988. xiv, 159 pp., illus. Paper, \$46.95. Pitman Research Notes in Mathematics, vol. 167. From a symposium, Helsinki, Finland, Sept. 1985.

Theory and Experiment. Recent Insights and New Perspectives on Their Relation. Diderik Batens and Jean Paul van Bendegem, Eds. Reidel, Dordrecht, 1988 (U.S. distributor, Kluwer, Norwell, MA). xii, 283 pp. \$64. Synthese Library, vol. 195. Based on a conference, Ghent and Brussels, Belgium, 1986.

Theory of Difference Equations. Numerical Methods and Applications. V. Lakshmikantham and D. Trigiante. Academic Press, San Diego, CA, 1988. x, 242 pp. \$49.95. Mathematics in Science and Engineering, vol. 181.

Thermodynamics and Electrodynamics of Superconductivity. V. L. Ginzburg, Ed. Nova Science, Commack, NY, 1988, viii, 294 pp., illus. \$96. Proceedings of the Lebedev Physics Institute of the Academy of Sciences of the USSR, vol. 174, supplemental vol. 1. Translated from the Russian edition (Moscow, 1983) by Kevin S. Hendzel.

Thermotropic Liquid Crystals, Fundamentals. G. Vertogen and W. H. de Jeu. Springer-Verlag, New York, 1988. xii, 324 pp., illus. \$76.50. Springer Series in Chemical Physics, vol. 45.

Tide-Influenced Sedimentary Environments and Facies. P. L. de Boer, A. van Gelder, and S. D. Nio, Eds. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). x, 530 pp., illus. \$89. Sedimentology and Petroleum Geology. Based on a symposium, Utrecht, the Netherlands, Aug. 1985.

Tiger Moon. Fiona Sunquist and Mel Sunquist. University of Chicago Press, Chicago, 1988. xii, 187 pp., illus. \$24.95.

Topics in Micrometeorology. A Festschrift for Arch Dyer. Bruce B. Hicks, Ed. Reidel, Dordrecht, 1988 (U.S. distributor, Kluwer, Norwell, MA). iv, 151 pp., illus. \$69. Reprinted from *Boundary-Layer Meteorology*, vol. 42, nos. 1–2 (1988).

Toxic Contaminants and Ecosystem Health. A Great Lakes Focus. Marlee S. Evans, Ed. Wiley-Interscience, New York, 1988. xxii, 602 pp., illus. \$99.95. Advances in Environmental Science and Technology, vol. 21.

Toxicology. A Primer on Toxicology Principles and Applications. Michael A. Kamrin. Lewis, Chelsea, MI, 1988. xiv, 145 pp., illus. \$27.50.

Transplantation in New York State. The Procurement and Distribution of Organs and Tissues. New York State Task Force on Life and the Law, New York, 1988. xii, 164 pp., illus. Paper, \$8.

Tree Mycoplasmas and Mycoplasma Diseases. C. Hiruki, Ed. University of Alberta Press, Edmonton, 1988. xvi, 245 pp., illus. \$40. Based on a meeting, Edmonton, Alberta, 1984.

Universe. An Evolutionary Approach to Astronomy. Eric Chaisson. Prentice-Hall, Englewood Cliffs, NJ, 1988. xx, 572 pp., illus., + plates. \$43.

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Position available in 1989 for an independent investigator to complement a broad spectrum departmental research program in the Department of Pharmacology and Toxicology in the School of Pharmacy, University of Maryland at Baltimore. Applicants should send curriculum vitae, a statement of research plans, and three letters of reference to: **Dr. Esam El-Fakahany, Chairman of Search Committee, Department of Pharmacology and Toxicology, University of Maryland School of Pharmacy, 20 North Pine Street, Baltimore, MD 21201.** *The University of Maryland at Baltimore is an Equal Opportunity/Affirmative Action Employer.*

DEPARTMENT OF ANATOMY

The Department of Anatomy at the Northeastern Ohio Universities College of Medicine invites applications for a tenure-track position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Individuals with research experience and expertise in molecular and cell biology are encouraged to apply. Current departmental research interests include muscle biology and neuroendocrinology. Teaching responsibilities are in gross anatomy. The successful candidate should have, (i) teaching experience in gross anatomy; (ii) publications; and (iii) a demonstrable potential for, or a proven record of, extramural funding. The Department is well equipped and there is excellent administrative support for research and teaching. Send curriculum vitae, bibliography, statement of teaching and research goals, research funding (past and present), and the names of at least three references no later than 15 November 1988, to: **Norman Taslitz, Ph.D., c/o The Office of Human Resources, Northeastern Ohio Universities College of Medicine, Rootstown, OH 44272.**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ANATOMY, PROFESSOR AND CHAIRMAN

The Indiana University School of Medicine invites applications or nominations for the Chair of the Department of Anatomy. The Department has responsibility for professional and graduate education in anatomy and research programs within the department. The successful candidate will be expected to provide leadership in all phases of the department and in collaboration with programs throughout Indiana University. We are particularly interested in candidates who have an outstanding and active research program, who are committed to modern approaches to teaching anatomical sciences, and who have administrative strengths. Research areas of interest are neurobiology, developmental biology and molecular/cellular biology. However, candidates specializing in other areas will be considered. Candidates are requested to submit curriculum vitae and names and addresses of three references to: **Rodney A. Rhoades, Ph.D., Chairman, Anatomy Search Committee, Fesler Hall 302, 1120 South Drive, Indiana University School of Medicine, Indianapolis, IN 46223.** Inquiries or nominations may also be made by telephone: 317-274-7772. This is a tenured/tenure-track position depending on the candidate's qualifications. Screening of applications will begin 1 November 1988.

Indiana University is an Equal Opportunity Employer, M/F.

ASSISTANT PROFESSORS; the Department of Biological Chemistry and Molecular Pharmacology Harvard Medical School intends to make two appointments at the assistant professor level in 1989. We are actively seeking applicants with strong research backgrounds in molecular biology, biochemistry, and molecular pharmacology, including membrane biology, structural biology, and gene regulation. Applicants are invited to send curriculum vitae, bibliography, statement of research plans and list of three to four referees to: **Professor Christopher Walsh, Chairman, Biological Chemistry and Molecular Pharmacology Search Committee, Harvard Medical School, 45 Shattuck Street, Room 301, Boston, MA 02115.** *Women and minorities are encouraged to apply. Harvard University is an Equal Opportunity Employer.*

The Orthopaedic Research Laboratory of Thomas Jefferson University is established for studies on calcium metabolism and transport, bone and cartilage development, and other orthopaedic research topics. The 5000-square-foot laboratory is equipped for modern, cellular and molecular studies. To further expand the scope of the laboratory, qualified candidates are sought for the following positions: (i) **ASSISTANT PROFESSOR.** Research experience in cell and molecular biology, e.g. membrane transport, cytoskeletal organization, hormonal regulation of gene expression, cell-extracellular matrix interactions, etc., and interest in problems associated with skeletal connective tissues. The applicant, Ph.D. or M.D. with postdoctoral experience, is expected to establish an independent research program. (ii) **POSTDOCTORAL RESEARCH FELLOW.** Recent Ph.D./M.D. to participate in research on calcium regulated cell functions, cell differentiation and morphogenesis using an integrated approach, combining cellular, ultrastructural, molecular, and biochemical methodologies.

Send curriculum vitae, representative reprints and three letters of reference to: **Dr. Rocky S. Tuan, Director of Orthopaedic Research, Department of Orthopaedic Surgery, Thomas Jefferson University, Philadelphia, PA 19107.**

ASSISTANT/ASSOCIATE PROFESSOR OF BIOLOGY

Tenure-track position, to teach microbiology or immunology and develop a viable research program in such areas as immunology, microbial genetics, or radiation biology. Ph.D. required, postdoctoral experience preferred. Research specialty must be compatible with existing Ph.D. programs in molecular biology and radiation biology. Appointment effective 1 January or 1 September 1989. Send application, curriculum vitae, transcripts, and names, addresses, and telephone numbers of at least three references to: **Dr. F. Schwalm, Department of Biology, P.O. Box 23971, Denton, TX 76204.** Screening of applications will begin 1 November 1988 and continue until position is filled.

Texas Woman's University is a State-supported University and is an Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR: Applications are invited for a state-funded position in cellular/molecular neurobiology. Preference will be given to applicants who have demonstrated expertise in cellular and/or molecular aspects of developmental neurobiology, and who have potential to develop a strong research program. The successful applicant's research interest should be compatible with a group interested in interdisciplinary approaches to the genetic and epigenetic factors influencing nervous system development. Submit curriculum vitae, description of research interests, and the names of three references to:

Dr. A. T. Campagnoni
Developmental Biology Group
UCLA Mental Retardation Research Center
760 Westwood Plaza
Los Angeles, CA 90024
By 1 December 1988
UCLA is an Affirmative Action/
Equal Opportunity Employer

ASSISTANT PROFESSOR OF BIOCHEMISTRY—UNIVERSITY OF WASHINGTON

Applicants for this tenure-track position should have demonstrated the ability to develop a strong and creative research program in modern biochemistry, including cell, developmental, neurobiology, molecular biophysics or biophysical chemistry. Candidates should be interested in and capable of teaching biochemistry at the undergraduate and graduate levels. Submit curriculum vitae, representative papers, a succinct statement of research interests, and have three letters of recommendation sent to:

Search Committee
Department of Biochemistry
University Washington
Seattle, WA 98195
FAX Number: 206-545-1792

Application deadline: 15 November 1988.

The University of Washington is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify women and minority persons with appropriate qualifications.

ASSISTANT PROFESSOR, PHYSICAL/BIOPHYSICAL CHEMISTRY

Lawrence University, a private liberal arts college, seeks an experimentalist with a Ph.D. in chemistry or biochemistry, committed to excellent undergraduate teaching and research, for a tenure-track appointment to begin 1 September 1989. Primary teaching responsibilities include physical and general chemistry; biochemistry, biophysical chemistry, or other specialized courses also possible. Establishment of a vigorous research program involving undergraduates is expected. A biophysical interest is strongly preferred; other specialties will be considered. *Applications from women and members of minority groups are especially invited.* Curriculum vitae, graduate and undergraduate transcripts, description of teaching and research interests (including instrumentation needs), and three letters of recommendation should be sent by 31 October 1988 to: Professor J. P. Lokensgard, Chair, Chemistry Department, Lawrence University, Box 599, Appleton, WI 54912. *Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSORS

One, possibly two, faculty positions are available at the Hormel Institute, a research division of the University of Minnesota. The Hormel Institute is an internationally recognized center for basic research on the physicochemical behavior, metabolism and biological functions of lipids and lipid-related proteins. We seek talented investigators who can establish independent, high quality research programs which will complement those of our current faculty. Doctorate and 2 years of research experience required, more is desirable. Please submit curriculum vitae, publication list, a brief description of research interests, and the names of three references to: Dr. Howard L. Brockman, Chairman of the Search Committee, The Hormel Institute, University of Minnesota, 801 16th Avenue N.E., Austin, MN 55912. Telephone: 507-437-9620. Application deadline is 18 November 1988. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

PHARMACOLOGISTS

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For more than 100 years Burroughs Wellcome Co. has been dedicated to the idea of progress...as a Company and for our employees. The ability to use your own individual skills to the utmost is one of the many advantages of working for Burroughs Wellcome Co. We currently have the following opportunities available in the Division of Pharmacology:

Research Pharmacologist (#1632-4)

In this senior scientist position, you will initiate novel CNS research programs leading to the development of agents useful in the treatment of mental and neurological disorders. A major emphasis will be on experience in areas of Neuropharmacology and the study of neurochemical mechanisms in animal models of psychosis. Background should include: Ph.D. or equivalent in Neuropharmacology, Neurobiology or Neurophysiology and preferably 1-3 years of postdoctoral experience in appropriate areas; experience in common laboratory techniques for the field. Knowledge and experience with electrophysiology helpful.

Jr. Research Pharmacologist (#1226-4) (Pulmonary)

Your skills will be used in studies relating to the development of potential anti-asthmatic agents. Your background should include: Bachelor's degree in a life science with two years' experience in a biomedical research laboratory OR master's degree in a life science; knowledge and experience in laboratory procedures appropriate for assessing pulmonary function *in vivo* are required.

Jr. Research Pharmacologist (#60521-4)

This position offers you the opportunity to develop and perform qualitative and quantitative HPLC assays of endogenous substances and test compounds in biological tissues and fluids. Your background should include: BS degree in biology, biochemistry, chemistry or pharmacology with 3 years HPLC experience OR an MS degree and 2 years HPLC experience; two years *in vivo* pharmacology or drug metabolism experience. Additional experience with analytical procedures would be a plus; general experience using computers for data acquisition and analysis preferred.

Burroughs Wellcome Fellow (#1411-4) (Postdoctoral)

This Fellow position will give you the opportunity to participate in cardiovascular research to discover new agents with receptor and site selective actions and to interact with a multi-disciplinary group of scientists. Background should include: Ph.D. in cardiovascular/autonomic pharmacology; experience in *in vivo* techniques to study mechanisms of actions of cardiovascular drugs with special emphasis in hypertension. Familiarity with *in vitro* techniques is highly desirable.

Burroughs Wellcome Fellow (#60594-4) (Postdoctoral)

As a Postdoctoral Fellow, you will study biogenic amine and/or neuropeptide receptor distribution and changes in CNS neuronal pathways associated with the mechanism of action of antipsychotics and/or anxiolytics. Emphasis will be placed on detecting differences between *in vivo* and *in vitro* receptor binding results. Background should include: Ph.D. in pharmacology, neurochemistry, biochemistry or related field (e.g. anatomy, physiology); experience with autoradiography, histology and/or immunohistochemistry; knowledge in neuroanatomy. Computer experience and familiarity with stereotaxic procedures are highly desirable. Publication strongly encouraged.

Postdoctoral Fellows are initially appointed for one year with renewal for a second year upon the mutual agreement of the employee and the Company.

Burroughs Wellcome Co. offers competitive salary and the best overall benefits program in the industry including top pension, health, dental, and savings plans, and more. The Research Triangle Park area offers an excellent environment for living, recreation, cultural activities and academics. For consideration, send curriculum vitae, indicating position number, to: **Burroughs Wellcome Co., Recruiting and Staffing Administrator, 3030 Cornwallis Rd., Research Triangle Park, NC 27709.** Deadline for applications is November 1, 1988.



BURROUGHS WELLCOME CO

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POSITIONS OPEN

Cornell University. The Department of Chemistry has a tenure-track, **ASSISTANT PROFESSOR** position available. Outstanding candidates in the areas of biophysical, bio- or physical inorganic or organic chemistry will be considered. Postdoctoral experience highly desirable. Applicants should submit curriculum vitae, publication list, summary of predoctoral and postdoctoral research, graduate transcript, and a brief statement of research plans. These materials and three letters of recommendation should be sent by 1 December, 1988 to: **Chairman, Faculty Search Committee, Department of Chemistry, Baker Laboratory, Cornell University, Ithaca, NY 14853-1301.** Cornell University is an Affirmative Action/Equal Opportunity Employer.

BIOCHEMIST/BIOPHYSICIST

Associate professor or professor in newly organized School of Basic Life Sciences. The successful candidate must have a strong research program with evidence of independent support in an area of research in molecular recognition. It is expected that this individual will complement or extend ongoing activity in protein chemistry, molecular structure, membranes, protein processing, mutagenesis, and molecular neurobiology. The candidate must have academic experience and a demonstrated commitment to effective teaching at the postgraduate level.

Salaries and benefits at competitive levels. Applications, including curriculum vitae, brief statement of research interests, and names and addresses of three references should be submitted to:

Dr. M. Martinez-Carrion
Dean
School of Basic Life Sciences
University of Missouri-Kansas City
Kansas City, MO 64110

Applications and nominations will be screened beginning 1 November 1988, and will remain open until the position is filled. *An Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTRY FACULTY POSITIONS

The Department of Biochemistry at the University of Tennessee, Memphis invites applications for several tenure-track positions at all academic ranks. Postdoctoral experience is required. Candidates with research interests in all areas of modern biochemistry are encouraged to apply. Applicants will be expected to perform independent research, obtain extramural funding, and participate in the teaching of biochemistry to professional and graduate students. Salaries and start-up funds will be competitive. The University of Tennessee, Memphis is located within one of the largest Health Science Centers in the United States and is in a major growth phase. Part of this growth includes newly renovated laboratory space for all faculty. Applicants should send curriculum vitae, summary of research plans, three letters of recommendation, and three most significant representative reprints to:

John N. Fain, Ph.D.
Van Vleet Professor and Chairman
Department of Biochemistry, College of Medicine
University of Tennessee, Memphis
800 Madison Avenue, Memphis, TN 38163
Attention: Cheryl M. Colson

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

BIOCHEMISTRY/MOLECULAR BIOLOGY

A tenure-track **ASSISTANT PROFESSORSHIP** in biochemistry is available at the University of Maine. The appointee will share newly-constructed research facilities with biochemists, molecular biologists, and immunologists working with a variety of plant, animal and microbial systems and will participate in the graduate and undergraduate teaching programs of the Department. No specific requirements are placed on the research area other than that it address significant questions in biochemistry, molecular biology or cell biology, that it complement existing programs within the Department and University and that it employ experimental approaches appropriate to the discipline of biochemistry. Apply with curriculum vitae, detailed description of proposed research, and minimum of three references to: **Dr. Robert Roxby, Chairman, Biochemistry Department, University of Maine, Orono, ME 04469.**

POSITIONS OPEN

ASSISTANT PROFESSOR IN CRANIOFACIAL DEVELOPMENT

The Department of Plastic Surgery and Division of Craniofacial Surgery at the University of Virginia in Charlottesville, Virginia, is seeking an individual with experience and training in craniofacial skeletal development. Optimally, the individual will have had experience in research related to cell biology, collagen chemistry or glycosaminoglycan research. The opening for this academic position is 1 January 1989. Salary is negotiable depending upon the experience and qualifications of the individual. The qualified individual will have postdoctoral research experience and have the ability to conduct independent research. The research effort in craniofacial biology at the University of Virginia is expected to be an expanding effort involving multiple disciplines over the course of the next 5 to 10 years. It is expected that the individual will be capable of coordinating a full range of research activities, and collaborate with individuals already present in the University community.

Applications should be received by 15 December 1988. Please send curriculum vitae, reprints of previous publications, plus the names, addresses, and telephone numbers of three references to:

Dr. John A. Persing
Division of Craniofacial Surgery
Department of Plastic Surgery
Box 376
University of Virginia
Health Sciences Center
Charlottesville, VA 22908

The University of Virginia is an Equal Opportunity Employer.

BAYLOR UNIVERSITY BIOLOGY FACULTY TENURE-TRACK POSITIONS

(i) Plant Systematist: A Ph.D. is required. Rank is open. The successful candidate must document research experience in either cryptogamic or vascular plant systematics. Responsibilities include: teaching a senior-graduate level course in principles of plant systematics and other mutually agreed upon courses, supervising student research, and supervising curation of the herbarium. (ii) Microbiologist/bacteriologist: A Ph.D. is required. Rank is open. The successful candidate must document research experience in microbiology/bacteriology. Responsibilities include: teaching microbiology, a senior-graduate level course in bacteriology and other mutually agreed upon courses, and supervising student research. (iii) Electron Microscopist: A Ph.D. is required. Rank is open. The successful candidate must document experience with both TEM and SEM. Responsibilities include: Teaching electron microscopy, general biology for majors and other mutually agreed upon courses, and supervising student research. Application deadline: 1 November 1988. Positions to start summer or fall 1989. Submit letter of application specifying position applying for, a statement of current and future research interests, curriculum vitae, and the names of three referees to: **Dr. W. Keith Hartberg, Chairman, Department of Biology, Baylor University, Waco, TX 76798-7388.** Baylor University is an Equal Opportunity/Affirmative Action Employer and is under the patronage and general direction of the Baptist General Convention of Texas.

BOTANIST— PHYSIOLOGICAL ECOLOGY ASSISTANT PROFESSOR

The Department of Biology, Hamilton College, invites application for a tenure-track position at the assistant professor level in botany, effective 1 July 1989. Applicants must have a Ph.D. degree and postdoctoral experience. The successful applicant will be expected to collaborate in the teaching of the introductory biology sequence, develop a course in general botany and a course, or courses, in the specialty. Applicants should have a strong commitment to both teaching and scholarship and the successful applicant will be expected to develop an ongoing research program involving highly-qualified undergraduate students. Interested individuals should send curriculum vitae and the names of three references to: **Tom Brady, Chairman, Biology Department, Hamilton College, Clinton, NY 13323.** Deadline for receipt of applications is 15 November 1988. *Hamilton College is an Equal Opportunity Employer. Women and minorities are strongly encouraged to apply.*

POSITIONS OPEN

BIOLOGY: Full-time, tenure-track, **ASSISTANT PROFESSOR** level position to teach embryology and one of the following courses: ornithology, genetics, anatomy and physiology, comparative anatomy or mammalian physiology. Preference given to candidate with teaching and research experience in embryology. Ph.D. required. Salary negotiable. Available January 1989. Applications should be received by 17 October 1988. Please send résumé, relevant reprints and three references to: **Dr. Mohammed Farooqui, Chairman Search Committee, Department of Biology, Pan American University, Edinburg, TX 78539.**

Federal Law requires compliance with the Immigration Reform Control Act of 1986. PAU is an Equal Employment Opportunity/Affirmative Action.

BIOLOGY: PLANT SYSTEMATIST/HERBARIUM CURATOR: Assistant professor, tenure-track position for fall, 1989. Contingent upon budgetary approval. Will teach systematic botany, flora of New Mexico (within 2 years), and a course in their specialty, and will serve as Curator of the Herbarium in the Museum of Southwestern Biology, a division of the Department of Biology. Will be expected to maintain and to build upon a modern herbarium, to pursue a vigorous research program using any of the common techniques in systematic botany, and to interact with a large and active group of ecologists and evolutionary biologists, and with the personnel of the Castetter Laboratory of Ethnobotanical Studies. Send curriculum vitae, statement of research goals, reprints, and three letters of recommendation before 21 October 1988, to: **Dr. James S. Findley, Biology Department, University of New Mexico, Albuquerque, NM 87131.** *Affirmative Action/Equal Opportunity Employer.*

CHAIR—DEPARTMENT OF BIOLOGY

The University of Nevada-Reno solicits applications and nominations for the position of chair of the Department of Biology. A doctorate in the biological sciences is required. The successful candidate will have a nationally recognized reputation with an excellent record of research and extramural funding, a demonstrated commitment to undergraduate and graduate education, and evidence of outstanding leadership and administrative abilities. Experience in collaborating with individuals outside of the candidate's area of specialty is desirable. Send a letter of interest, a current curriculum vitae, a statement of administrative philosophy, and the names, addresses, and telephone numbers of five references by 16 November 1988, to: **Biology Search Committee, c/o Barb Glazner, College of Arts and Science, University of Nevada-Reno, Reno, NV 89557.** *UNR is an Affirmative Action/Equal Opportunity Institution and employs only U.S. citizens and aliens lawfully authorized to work in the United States.*

CHAIR, DEPARTMENT OF PHYSIOLOGY DARTMOUTH MEDICAL SCHOOL

Applications or nominations are invited for the Chair of the Department of Physiology at Dartmouth Medical School. An excellent opportunity exists for an individual to guide a department with established strengths in renal, respiratory and endocrine physiology. In particular, the committee seeks an individual who will continue the tradition of excellence in research and teaching established by the previous Chairs. Equally important, the new Chair must maintain strong interpersonal and democratic relationships, while, at the same time, guide the department in an increasingly competitive and changing scientific climate.

Candidates should have proven leadership ability and must be nationally recognized for their scientific contributions in physiology or a closely allied field. Responsibilities include administration of professional and graduate teaching and of research programs within the department. Active support of interdisciplinary programs is also expected.

Each application should be accompanied by curriculum vitae and the names of four references. Deadline for submission is 1 November 1988. Applications and nominations should be addressed to: **Dr. Michael W. Fanger, Department of Microbiology, Dartmouth Medical School, Hanover, NH 03756.** *Dartmouth is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIP

Merrell Dow Research Institute, located in suburban Cincinnati, has a postdoctoral fellowship position available immediately for a scientist to conduct research on inhibitors of protein kinase C and the role of this enzyme in vascular smooth muscle cell function. Candidate should have a Ph.D. in biochemistry, biochemical pharmacology or equivalent.

Please send your resume and names of three references to:

Personnel Services Manager
Refer to Job Code RCD

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RESEARCH ASSOCIATE ANALYTICAL CHEMISTRY

Amgen is a dynamic and growing organization producing products for a variety of applications, including human health care, through applied biotechnology. Our leadership in the development of Erythropoietin has placed us among the industry frontrunners. As a result of our continued growth, we have an immediate need for a Research Associate in our Analytical Chemistry group to assist in the development and implementation of new analytical methods for in-process materials.

Qualified candidates must have a BS or MS degree in Chemistry, or a related discipline, and experience in isolation and derivatization techniques as well as familiarity with HPLC, GC, GC-MS and quantitative methodology.

Amgen offers a stimulating and challenging research environment as well as an excellent compensation and benefits package. Our location in the scenic Conejo Valley offers the best in Southern California living.

Qualified candidates should send a resume, including references, in confidence to:

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Director Molecular Biology Program University of Missouri-Columbia

The University of Missouri-Columbia is seeking a Director for its Program in Molecular Biology. The faculty and administration of the Columbia campus recently established two permanent programs, Molecular Biology and Food for the 21st Century, which are expected to attain international prominence. The Molecular Biology Program is the focus of a large interactive group of molecular biologists and funds activities in four Colleges: Agriculture, Arts and Sciences, Medicine and Veterinary Medicine.

The Program funds hiring new faculty - four faculty have been hired in the last year; Recruits and sponsors graduate trainees and postdoctoral fellows - 20 individuals are currently supported; Funds core facilities for molecular technologies - DNA Synthesis, Protein Purification and Sequencing, and Monoclonal Antibody Production and Screening, each with a permanent director; Sponsors seminars, symposia and workshops.

The Director will guide the development and expansion of the program, which will double in size over the next year. The Director will be expected to develop ties between the University and Industry. Candidates should be internationally recognized scientists with vigorous and well-funded research programs, and will be appointed to the faculty of the University of Missouri-Columbia at the rank of full professor in an appropriate academic unit.

Nominations and applications should be submitted before December 1, 1988 to:

Molecular Biology Program
c/o Vice Provost for Research
University of Missouri-Columbia
202 Jesse Hall
Columbia, Missouri 65211

University
of Missouri
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1839 - 1989

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

POSITIONS OPEN

CHAIRPERSON NUTRITION AND FOOD SCIENCE UNIVERSITY OF KENTUCKY

Available 1 July 1989. A 12-month, tenure-track position. Applicants should have established record in teaching and research, and be able to provide leadership for departmental undergraduate and graduate teaching, research and extension programs. Faculty research interests include nutritional oncology/toxicology, gerontology, cardiovascular disease, dietary antioxidants, and trace minerals. Nominations invited. Send letter of application, curriculum vitae, and names of three references by 15 January 1989 to: **Dr. Linda Chen, NFS Search Chair, 212 Funkhouser Building, Lexington, KY 40506-0054; telephone: 606-257-1675.**

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CHEMICAL ENGINEER

Cryopharm Corporation, a growing biomedical company, seeks a chemical engineer with industry experience in aseptic packaging of pharmaceuticals and lyophilization technology, to direct initial product formulation and scale-up efforts. Applicants should have at least 5 years of relevant industry experience. Familiarity with the blood products industry desirable. Excellent communication skills and problem-solving abilities are vital. The successful candidate will have a unique opportunity to take on significant responsibilities and grow with a dynamic company that is developing an exciting new technology. Applicants should contact: **Neil Diver, Cryopharm Corporation, 2585 Nina Street, Pasadena, CA 91107. Telephone: 818-793-1040.**

CHEMICAL ENGINEERING RESEARCH ASSOCIATE—Ph.D. chemical engineering. Experience/research/education in heterogeneous catalysis, reactor design, aircraft fuels, catalyst design and synthesis, GC, HPLC, vacuum, surface OH analysis, spectroscopies; EXAFS (Rigaku unit), FTIR, ESR, MAS, NMR, AA, TEM, XDR, TPD, TPR, PC-interfacing and Nexpert Shell. Salary: \$19,000 per year; 40 hours per week. Newark, Delaware area. Send résumés to: P.O. Box 4503, Newark, DE 19715-4503.

COASTAL TOXICOLOGY PROGRAM

POSTDOCTORAL POSITION available to characterize the petroleum hydrocarbons present in seawater, surficial sediments, and fauna, and their environmental fate. The position begins 1 November 1988 through 31 October 1989, with strong possibility of extension contingent upon renewal of funding. Applicants should have a Ph.D. in either analytical, organic, or physical chemistry, and experience with basic GC-MS and analytical methodology. Familiarity with sector and high-resolution MS desirable. Please send curriculum vitae and three letters of recommendation by 14 October 1988 to: **Postdoctoral Search Committee, Institute of Marine Sciences, 272 Applied Sciences Building, University of California, Santa Cruz, CA 95064.** UCSC is an Equal Employment Opportunity/Affirmative Action IRCA Employer.

CURATOR OF FISHES

The Smithsonian Institution seeks applications for a curatorial position in ichthyology (MPA #88 634-F). Candidates must be United States citizens and ichthyologists with: curatorial experience, a vigorous collection-based research program in systematic ichthyology, and a strong publication record. Position level will be GS-11 to 13 (starting salary: \$27,716 to \$39,501), based on candidate's qualifications. Send curriculum vitae, bibliography, Standard Form 171 (Personal Qualifications Statement, available at any federal personnel office), narrative statement of qualifications and career objectives, and names of three references (letters not desired at this time) by 15 November 1988 to: **G. David Johnson, Chairman, Search Committee, Division of Fishes, National Museum of Natural History, Washington, D.C. 20560. Telephone: 202-357-4140.** The Smithsonian Institution is an Equal Opportunity Employer.

PhD Biological Scientists Atherosclerosis Research



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Pfizer Central Research has openings for PhD scientists in its Metabolic Diseases Drug Discovery program. You will join a multidisciplinary team seeking novel therapeutic agents for the treatment of atherosclerosis.

Physiologist/Morphologist

Requires expertise in animal models of atherosclerosis. Experience in the areas of vessel wall morphology/histology, lipoprotein metabolism, and small animal surgery are desirable.

Cell Biologist

Requires a background in lipoprotein metabolism and/or reverse cholesterol transport. Experience in the areas of cell culture, lipoprotein/apolipoprotein synthesis and secretion, and immunological methodologies are desirable.

Individuals with strong postdoctoral training and the creativity necessary to carry out innovative research focused on elucidating new pharmacological approaches for the treatment of atherosclerosis are encouraged to apply.

These positions offer a stimulating intellectual environment with potential for professional growth. We also offer a competitive compensation/benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and description of research accomplishments to: **Dr. Jerry K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.**

DEPARTMENT HEAD

Department of Biochemistry

T

he Roche Institute of Molecular Biology invites applications and nominations for Head—Department of Biochemistry. This department is one of four in the Institute; the others are Neurosciences, Cell and Developmental Biology and Molecular Oncology. When fully staffed, this department will consist of 9 independent investigators, 25 postdoctoral fellows and a support staff of approximately 15.

Applicants should have internationally recognized research programs, preferably in areas such as eukaryotic gene expression or membrane biochemistry. The major role of this individual is to carry on a vigorous and meritorious research program. This will be fully supported by the Institute, including laboratory assistants and several postdoctoral fellows. As Department Head, the individual will also be responsible for the administrative affairs of the Department. The position is ideally suited for a scientist whose primary goal is to carry out innovative research in a stimulating environment with minimal administrative duties and no grant or teaching responsibilities.

Our convenient location facilitates participation in New York City's rich cultural and intellectual life. Adjunct appointments at metropolitan area universities and participation in their graduate programs are encouraged. For consideration, please submit your curriculum vitae and bibliography, statement of research interests and names of three professional references to: **Dr. Nathan Brot, Biochemistry Search Committee, Roche Institute of Molecular Biology, Nutley, New Jersey 07110.** We are an equal opportunity employer.



Roche Institute of Molecular Biology

Hoffmann-La Roche Inc.

POSTDOCTORAL RESEARCH ASSOCIATES

TUMOR IMMUNOLOGY AND IMMUNOCHEMISTRY

Positions are available in various aspects of cancer research including: 1) LAK cell therapy: basic characterization of cell types and mechanisms as well as clinical application. 2) Radioimmunotherapy: protein and radiochemistry for development of radiolabeling methodology. 3) Radioimmunotherapy: *in vivo* animal experimentation. A strong background in cellular immunology, protein chemistry, radiochemistry, pharmacology or toxicology is desired. Applicants should send curriculum vitae, a short description of research interests and the names of three references to:

Dr. David V. Gold
Center for Molecular Medicine
and Immunology
at the
University of Medicine and Dentistry
of New Jersey
1 Bruce Street
Newark, NJ 07103

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Working out of either the Midwest or West Coast region, you will demonstrate our product, conduct technical seminars, in-service new instrumentation, and support distributor sales for our instrument line and contract services. Some travel is required.

Qualified candidates are aggressive, energetic individuals with outstanding interpersonal skills. B.S. or M.S. in biological science, with 2 or more years' electron microscopy laboratory and/or sales experience, are required.

We offer an excellent salary with a commission schedule and complete benefits package. If you are ready for our challenging, highly rewarding environment, please send your resume, including salary requirements, in confidence to: **Personnel Director, LifeCell Corporation, 3606-A Research Forest Drive, The Woodlands, TX 77381.**

LifeCell®

BIOCHEMIST

The Department of Biochemical Regulation of Merck Sharp and Dohme Research Laboratories has an opening at the level of Senior Research Biochemist. Candidates will have Ph.D degree in biochemistry and two (2) years post doctoral experience in the study of regulation of lipoprotein metabolism, cholesterol synthesis or interaction of serum lipoprotein with arterial walls. The successful candidate will work in a multidisciplinary atmosphere and develop a research program aimed at lowering plasma cholesterol levels in man.

Merck Sharp and Dohme Research Laboratories is located in Rahway, New Jersey, approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Please send resume with salary history to **Ms. Jacqueline A. Eiermann, P.O. Box 2000, Rahway, New Jersey 07065.**

EQUAL OPPORTUNITY EMPLOYER



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National Institutes of Health National Institute of Environmental Health Sciences Intramural Research Training Award Program

Post-doctoral fellowships are available in the Division of Intramural Research (DIR), NIEHS for training and practical research experience in various scientific fields. Successful candidates are awarded training fellowships to engage in research studies under the guidance of Institute scientists. Selectees will apply their newly gained knowledge and enhance their research skills through participation in ongoing research investigations. Training awards are available in the following areas:

Mutagenesis: Research involves cloning and sequencing of mutant *E. coli* genes and development of *in vitro* mutagenesis systems; Position located in the Laboratory of Molecular Genetics, Mutagenesis Section, Dr. Roel M. Schaaper.

DNA damage processing: Research involves the use of cell culture and *in vitro* systems to study mechanisms of lesion bypass and repair in mammalian cells; Position located in the Laboratory of Molecular Genetics, Mutagenesis Section, Dr. James M. Clark.

Gene regulation in *Drosophila*: Research involves the identification of the suppressor of sable gene product and the mechanisms by which this gene product controls the expression of *Drosophila* genes; Position located in the Laboratory of Molecular Genetics, Eukaryotic Gene Structure and Function Section, Dr. Robert A. Voelker.

The successful candidates must possess a Ph.D. or equivalent degree and 3 years or fewer of professional level, relevant post-doctoral research experience. Candidates must be U.S. citizens or permanent residents. Salary depends on experience, starting at \$24,000 per annum with annual increase. For prompt consideration, send cover letter indicating area of interest, curriculum vitae, bibliography and three letters of reference to:

Bruce Wiggins
NIEHS Personnel Office, PO Box 12233
Research Triangle Park, NC 27709

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POSITIONS OPEN

CURATORIAL POSITION IN ORNITHOLOGY AMERICAN MUSEUM OF NATURAL HISTORY

The Department of Ornithology invites applications from ornithologists with Ph.D.'s for a tenure-track curatorial position. Research and training should involve evolution and systematics of birds; interest in museum specimens is desirable. The Department maintains large worldwide collections of all avian taxa. The primary responsibility of the successful applicant will be to conduct an active research program. Other responsibilities will include curation of the collection, assistance with the preparation of exhibits and with educational programs of the Museum, administration, and other Departmental duties. Rank and salary will be determined on the basis of qualifications. Full Museum benefits apply. Interested applicants must submit the following information: (i) curriculum vitae, (ii) statement of long-term research objectives, (iii) complete bibliography and sample publications, and (iv) letters of recommendation from at least three professionals acquainted with the applicant's qualifications and accomplishments. Submit to:

Dr. Francois Vuilleumier
Chairman, Search Committee
Department of Ornithology (S)
American Museum of Natural History
Central Park West at 79th Street
New York, NY 10024

An Equal Opportunity Employer

DIRECTOR McDONALD OBSERVATORY UNIVERSITY OF TEXAS AT AUSTIN

The University of Texas at Austin seeks a Director of McDonald Observatory, beginning 1 September 1989. The Director oversees the operation and directs the future growth of McDonald Observatory. The Observatory includes the facilities on Mt. Locke in the Davis Mountains and its support staff and facilities in Austin. Current optical telescopes on Mt. Locke include the 2.7m, 2.1m, 0.9m, and 0.8m general purpose telescopes, and a 0.8m dedicated to lunar and satellite laser ranging.

Candidates for this position should have an outstanding research record in astronomy, strong demonstrated management capabilities, and meet the standards for appointment to the rank of Professor with tenure in the Department of Astronomy.

The Search Committee will begin to review applications in late December. Applications will be accepted until 31 December 1988. After this date, the Committee may request and consider credentials from candidates nominated by responsible sources. Nominations and letters of application, accompanied by curriculum vitae, references, and other supporting materials should be mailed to:

Dr. J. Craig Wheeler, Chairman
McDonald Observatory Director Consultative
Committee
Department of Astronomy
RLM 15.308
The University of Texas at Austin
Austin, TX 78712-1083

The University of Texas at Austin is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION IN ANALYTICAL CHEMISTRY—Seton Hall University. The Chemistry Department of Seton Hall University invites applications at the assistant professor level for a tenure-track position beginning either January or September, 1989. The successful candidate will teach at the graduate and undergraduate levels and conduct analytical chemistry research with B.S., M.S., and Ph.D. candidates. All areas of analytical chemistry will be considered. Demonstrated research excellence and a commitment to teaching at the graduate and undergraduate levels are required. Applicants should send a résumé, brief description of future research plans, three letters of recommendation and an indication of anticipated availability to: **Faculty Search Committee, Department of Chemistry, Seton Hall University, South Orange, NJ 07079.** Evaluation of applications will begin 1 November 1988. *Seton Hall is an Equal Opportunity/Affirmative Action Employer. Seton Hall is the Catholic University in New Jersey, founded in 1856.*

POSITIONS OPEN

ENVIRONMENTAL TOXICOLOGIST

Exxon Biomedical Sciences, Inc. has an immediate opening for a qualified individual specializing in environmental impact and hazard assessment. The successful candidate will have a Ph.D. in environmental chemistry, toxicology, or a related field. One to 3 years of practical experience in exposure assessment, fate prediction/modeling, waste and contaminated site evaluations is desired. In addition, the applicant should have a strong background in environmental chemistry. Exxon Biomedical Sciences, Inc. performs both consulting and laboratory toxicology for affiliates around the world. Its resources include state of the art aquatic toxicology, environmental chemistry and mammalian toxicology laboratories. The candidate will be consulting directly with our affiliates on matters pertaining to the assessment of potential environmental hazards associated with products, effluents, hazardous wastes, etc. Client interactions are an important aspect of our work, and thus, we are seeking an individual who has excellent communication skills. Please forward résumé to: **Human Resources:**

EXXON BIOMEDICAL SCIENCES, INC.
CN 2350, Mettlers Road
East Millstone, NJ 08875-2350
Equal Opportunity Employer M/F/H/V

FACULTY POSITION DEPARTMENT OF MICROBIOLOGY UCLA

The Department of Microbiology, College of Letters and Science, University of California, Los Angeles (UCLA), invites applications for a tenure-track faculty position. Applicants should have strong training and research experience in the area of microbial development, symbiosis, diversity, cell-cell interactions, or microbial behavior. Emphasis must be at the molecular level. Candidates must be motivated toward excellence in teaching and basic research. They should have a Ph.D. or equivalent degree, plus several years of postdoctoral experience. Please submit curriculum vitae, brief description of research goals, and the names of at least three references, by 15 October 1988, to: **Dr. Robert P. Gunsalus, Chairman of Search Committee, Department of Microbiology, University of California, Los Angeles, CA 90024.** *UCLA is an Equal Opportunity/Affirmative Action Employer.*

Seton Hall University—FACULTY POSITION IN BIOCHEMISTRY (search reopened). The Chemistry Department of Seton Hall University invites applications at the assistant professor level for a tenure-track position beginning either January or September, 1989. The successful candidate will teach at the graduate and undergraduate levels and conduct biochemical research with B.S., M.S., and Ph.D. candidates. All areas of biochemistry will be considered but preference will be given to applicants whose research emphasizes chemical approaches to metabolic or nucleic acid biochemistry. Demonstrated research excellence and a commitment to teaching at the graduate and undergraduate levels are required. Applicants should send a résumé, brief description of future research plans, three letters of recommendation, and an indication of anticipated availability to: **Biochemistry Faculty Search Committee, Department of Chemistry, Seton Hall University, South Orange, NJ 07079.** Evaluation of applications will begin 1 November 1988. *Seton Hall is an Equal Opportunity/Affirmative Action Employer. Seton Hall is the Catholic University in New Jersey, founded in 1856.*

FACULTY POSITION IN NEUROPATHOLOGY—The Department of Pathology, Oregon Health Sciences University invites applications for a full-time tenure-track position in neuropathology. The successful applicant will have Board certification in Neuropathology and the potential to conduct an independent research program. An interest in Alzheimer's disease, neurotoxicology, or cerebrovascular diseases, and experience with brain tissue banking is desirable. Responsibilities include active participation in diagnostic neuropathology, postgraduate education and teaching medical and graduate students. Eligibility for an Oregon medical license is required. Please submit curriculum vitae to: **Dr. G. Colin Buchan, Oregon Health Sciences University, Department of Pathology, L 113, 3181 SW Sam Jackson Park Road, Portland, OR 97201.** *The Oregon Health Sciences University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

EVOLUTION—POPULATION BIOLOGY

The Department of Biology at the University of Oregon is expanding its program in population biology through the addition of several new faculty lines. Candidates with interdisciplinary interests in evolution, ecology, and genetics are especially encouraged to apply, as are individuals with strong quantitative skills. The specific areas of recruitment are open, but the highest initial priority will be in the areas of molecular evolution and plant population biology. With respect to the molecular evolution position, candidates whose primary interests are in mechanisms of evolution, rather than phylogeny reconstruction, will be favored. It is anticipated that positions will be filled at the **ASSISTANT PROFESSOR** level, but strong candidates at all levels will be considered. Applicants should forward curriculum vitae, a brief description of research and teaching interests, recent publications, and three letters of reference to: **Evolution Search Committee, Department of Biology, University of Oregon, Eugene, OR 97403.** More information may be obtained by calling: **Michael Lynch, 503-686-4526.** Closing date: 1 December 1988.

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

FACULTY POSITION—IMMUNOLOGY. The Department of Microbiology, University of Texas Health Science Center at San Antonio, has a tenure-track faculty position (assistant to full professor) for a person with interest and training in immunology. Areas of preference include molecular immunology, antigen presentation, T cell biology, and lymphokine research. Candidates with a strong record of research achievement are encouraged to apply. Successful candidates are expected to develop/maintain innovative research programs and to participate in departmental teaching activities. This is an exceptional opportunity to join our expanding department committed to excellence in research and teaching and located in a desirable academic-geographic setting. Applicants should mail curriculum vitae, a statement of current and future research goals, and arrange to send three letters of reference by 31 December 1988 to: **Dr. Judy M. Teale, Immunology Search Committee, Department of Microbiology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7758.** *UTHSCSA is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN DEVELOPMENTAL BIOLOGY

Applications are invited for a tenure-track position in the field of developmental biology within the Department of Biological Sciences at Carnegie Mellon University. The level of the appointment will be commensurate with the qualifications of the candidate. To apply, send curriculum vitae and a concise description of research interests (no more than three pages) and, in addition, have three letters of recommendation sent to:

Dr. D. Lansing Taylor, Search Committee
Department of Biological Sciences
Carnegie Mellon University
4400 Fifth Avenue
Pittsburgh, PA 15213

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FACULTY POSITION IN PHYSICAL CHEMISTRY: Applications are being accepted for a tenure-track position in physical chemistry at the University of Virginia for September, 1989. The appointment is expected to be made at the assistant professor level, although more senior applicants will be considered. Preference will be given to outstanding individuals with a commitment to excellence in research and teaching. Applicants in any area of physical or biophysical chemistry will be considered; however, preference will be given to exceptional individuals who add to current strengths in the department. Curriculum vitae, including a list of publications and a brief description of proposed research should be sent to: **Robert E. Ireland, Chairman, Department of Chemistry, McCormick Road, University of Virginia, Charlottesville, VA 22901.** *The University of Virginia is an Equal Opportunity/Affirmative Action Employer.*

Inter American University of Puerto Rico

The Inter American University of Puerto Rico, a Non-Profit Private Higher Education Institution enrolling approximately 39,000 students invites applications for the following positions:

1) Chemistry

- a) Five (5) Full Time Assistant Professor of Chemistry Positions for undergraduate teaching in Spanish.

The candidates must have Ph.D in Chemistry and have college level teaching experience of two years minimum. Teaching load will be 15 credit-hours weekly. Starting salary of \$21,420.00. Deadline for applications will be one (1) month after publications. Send resume and academic credentials to: Mr. John P. Bartemes, Dean of Academic Affairs, Regional Colleges Administration, G.P.O. Box 4927, San Juan, Puerto Rico 00936.

- b) One Full Time Instructor of Chemistry Position for undergraduate teaching in Spanish.

The candidate must have a M.S. in Chemistry and have college level teaching experience of three (3) years minimum. Teaching load will be 15 credit-hours weekly. Starting salary \$16,650.00. Deadline for applications will be one month after publication. Send resume and academic credentials to: Mr. John P. Bartemes, Dean of Academic Affairs, Regional Colleges Administration, G.P.O. Box 4927, San Juan, Puerto Rico 00936.

2) Mathematics

- a) Five (5) Instructors of Mathematics Positions for undergraduate teaching in Spanish.

Candidates must have a M.S. in Mathematics and college level teaching experience of three years minimum. Teaching load will be 15 credit-hours weekly. Starting salary will be \$16,560.00. Deadline for applications will be one month after publication. Send resume and academic credentials to: Mr. John P. Bartemes, Dean of Academic Affairs, Regional Colleges Administration, G.P.O. Box 4927, San Juan, Puerto Rico 00936.

- b) One Full Time Assistant Professor of Mathematics for undergraduate teaching in Spanish.

Candidate must have a Ph.D in Mathematics and three years college level teaching experience. Teaching load will be 15 credit-hours weekly. Starting salary will be \$21,420.00. Deadline for applications will be one month after publication. Send resume and academic credentials to: Dr. Federico Mathew, Chancellor, San Germán Campus, Luna St., San Germán, Puerto Rico 00753.

3) Electronics

- a) One Full Time Visiting Professor of Electronics Position for undergraduate teaching in Spanish.

Candidate must have a M.S. in Electronics and three years of college level teaching experience minimum. Teaching load will be 15 credit-hours weekly. Starting salary will be \$18,000.00. Deadline for applications will be one month after publication. Send resume and academic credentials to: John P. Bartemes, Dean of Academic Affairs, Regional Colleges Administration, G.P.O. Box 4927, San Juan, Puerto Rico 00936.

4) Biology

- a) One Full Time Assistant Professor of Biology Position for undergraduate teaching in Spanish.

Candidates must have a Ph.D in Marine Sciences or equivalent and three years of college level teaching experience maximum. Teaching load of 15 credit-hours weekly. Starting salary of \$21,420.00. Deadline for application will be one month after publication. Send resume and academic credentials to: Mr. John P. Bartemes, Dean of Academic Affairs, Regional Colleges Administration, G.P.O. Box 4927, San Juan, Puerto Rico 00936.



**Inter American
University of Puerto Rico**
Regional Colleges Administration

POSITIONS OPEN

FACULTY POSITIONS. As a part of a major development program the University of Pennsylvania, Department of Chemistry, plans to add two faculty members at the assistant professor (tenure-probationary) level beginning September 1989. Candidates at a more senior level may also be considered. The general areas of research interests are organic and inorganic chemistry. While all areas will be considered, candidates in the areas of bioorganic, bioinorganic, materials and organometallic chemistry would most complement the current faculty. Applicants should send curriculum vitae, list of publications, a description of research interests, and in addition have a minimum of three letters of recommendation sent to: **Amos B. Smith, III, Chairman, Department of Chemistry, University of Pennsylvania, Philadelphia, PA 19104-6323**, by 1 November 1988. *The University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer.*

JUNIOR AND SENIOR FACULTY POSITIONS MOLECULAR BIOLOGY OF THE IMMUNE SYSTEM

The Department of Microbiology and Immunology invites applications for junior and senior level, tenure-track positions focusing on the molecular analysis of significant problems in immunology. Senior candidates should have strong records of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop high quality, independent research programs with long-term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental, and graduate students. 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, hybridoma antibody production, amino acid analysis, protein sequencing, molecular graphics, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive. 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, University of Tennessee, Memphis, 858 Madison Avenue, Memphis, TN 38163**. Applications will be received until 15 October 1988 or until the positions are filled thereafter. *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

JUNIOR AND SENIOR FACULTY POSITIONS EUKARYOTIC CELL AND MOLECULAR BIOLOGY

The Department of Microbiology and Immunology in the College of Medicine at The University of Tennessee, Memphis, invites applications for junior and senior level, tenure-track positions focusing on the molecular analysis of significant problems in eucaryotic cell and molecular biology. Senior candidates should have a strong record of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop a high quality, independent research program with long term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental, and graduate students. 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, molecular graphics, polymerase chain reaction, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive. 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, Memphis, TN 38163**. Applications will be received until 1 November 1988 or until the positions are filled thereafter. *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

Our Spirit Of Teamwork Fosters A Winning Attitude

American Cyanamid Company's Agricultural Research Division has a long-standing and highly successful commitment to the discovery and development of products to improve worldwide crop and livestock production. We are growing rapidly and currently have the following opportunity at our laboratory and experimental farm complex ideally located near Princeton, New Jersey.

PhD Research Chemist

The Plant Directed Basic Research Group has a position available for a research chemist. The individual will be a member of a multidiscipline basic research group involved in the mode of action of herbicides and plant growth regulants. The applicant should have a solid background in modern organic synthesis, spectroscopy and separation techniques as well as a desire to apply chemistry to biological problems. Responsibilities will include radiolabelled synthesis of experimental chemicals, identification of plant metabolites and mode of action of experimental compounds. Collaboration with other chemists and biologists and professional growth are encouraged and expected.

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



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Agricultural Research Division

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Senior Toxicologist

Genentech, Inc., a successful pharmaceutical company that utilizes recombinant DNA technology, is seeking an individual to be responsible for designing, conducting and evaluating Safety Assessment Studies conducted in animals or appropriate alternative test systems, in support of U.S. and international marketing applications. The successful candidate will be expected to independently prepare comprehensive preclinical safety assessments in support of these applications, and present and defend the data to regulatory authorities. You will also play a key role in developing and structuring our in-house testing capability as the Toxicology Department expands.

Minimum requirements include a PhD or equivalent in Toxicology with specialization in a major area, and at least seven years of experience in the pharmaceuticals industry. Board Certification in Toxicology is also required.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to: Eric Mankuta, Human Resources Department 1683, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. We actively support affirmative action and equal employment opportunity. Women and minorities are encouraged to apply.

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ENDOWED FACULTY POSITION AT THE OHIO STATE UNIVERSITY

Biological Macromolecular Structure Determination:

The Department of Chemistry at The Ohio State University invites nominations and applications for a full Professorship, fully endowed as an Ohio Eminent Scholar. The preferred research area is X-ray crystallography of biological macromolecules. We will also consider persons who study structure determination of large biological molecules by nuclear magnetic resonance.

The position is part of the Department's effort to enhance its excellence in research and teaching in all areas of chemistry. Approximately one-half of the Faculty has NIH funding and research interests in biological areas of chemistry. Significant biochemical research programs exist in enzymology and model systems, membranes, physical biochemistry, polysaccharide structure, and molecular biology.

This new Ohio Eminent Scholar chair was awarded to the Chemistry Department on the basis of a state-wide competition; the position will also be associated with the Ohio State Biotechnology Center, which will provide newly remodeled space and other important resources to the program. The successful candidate must have an established reputation in the field, and be able to continue a strong research program at Ohio State. Significant equipment, space, and staff resources will be provided to help establish this program.

A completed file will require a detailed resume and a summary of future research plans. After consulting with the candidate, we will solicit letters of evaluation directly from the list of references. Review of applications will begin **November 1, 1988**, and continue until the search is successful. Nominations and application materials should be sent to: Professor Robert Mayer, Chairman, Search Committee, Department of Chemistry, The Ohio State University, 120 W. 18th Avenue, Columbus, OH 43210.

The Ohio State University is an equal-opportunity, affirmative-action employer, which specifically invites and encourages applications from women and minorities.

Department of Chemistry
120 West 18th Avenue
Columbus, OH 43210-1173



POSTDOCTORAL RESEARCH ASSOCIATE

SANDOZ RESEARCH INSTITUTE

Sandoz Pharmaceuticals Corporation is responsible for products that improve the quality of life. Our developments are the result of research conducted by professionals who specialize in many different fields.

The Department of Lipid and Lipoprotein Metabolism, SANDOZ RESEARCH INSTITUTE, seeks a recent graduate (0-3 years') with a Ph.D. degree in the life sciences for postdoctoral training on a project related to the enzymatic regulation of cholesterol biosynthesis. The successful candidate will be an energetic, aggressive scientist, with a background in the purification and characterization of enzymes. Research opportunities will extend into the areas of immunology and molecular biology. This position carries an attractive stipend and an appointment of up to 3 years. It offers the outstanding candidate the freedom to learn, work and publish as part of an interdisciplinary team of chemists, biochemists, and molecular biologists, in an exciting and well-supported research environment.

Positions at Sandoz offer personal satisfaction, professional opportunity/challenge and an excellent benefits package. Our campus-like facilities are conveniently located in a residential community of northern New Jersey, approximately 30 miles from New York City.

For prompt consideration, please send a curriculum vitae, a list of professional references and a brief summary of prior research experience to position #444:



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Manager, Staffing Department (#122-3)
SANDOZ PHARMACEUTICALS CORP.
East Hanover, New Jersey 07936

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Electrophysiologist

The Department of Biochemical Parasitology at Merck and Co., Inc. in Rahway, New Jersey, is seeking an Electrophysiologist to study the invertebrate nervous system, with special reference to the mechanism of action of the avermectins.

The successful candidate should have a Ph. D. degree in a relevant field. He/She will join a team working on novel approaches to the generation of new anthelmintics.

Salary and benefits are excellent. Our location is Rahway, New Jersey, 25 miles from New York City. Interested applicants should submit a curriculum vitae to **Ms. Dolores L. Barefield, Merck Sharp & Dohme Research Laboratories, P.O. Box 2000, WBD-362, Rahway, New Jersey 07065.**

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Immunology Research



An equal opportunity employer

Pfizer Central Research is inviting applications from immunologists to take part in the development of a new research program. Working with a strong multidisciplinary project team, you will apply your basic research skills to conceptualizing new strategies for the discovery of immune modulating agents for animal health applications.

You must possess a PhD and at least one year of post-doctoral experience in Microbial Immunology. While specific experience with assays for cytokines and immune cell functions will be considered an asset, educational training, intellectual capabilities and leadership traits are most important. Prior experience in drug discovery is not required.

This position offers an excellent opportunity for professional recognition and growth. We also offer an excellent salary, benefit and relocation package plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume, a brief description of research accomplishments, and the names, addresses and phone numbers of three professional references to: Mr. Donald R. Nelson, Manager of Employee Relations, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.

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Information and applications



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Deadline January 17, 1989

RESEARCH SCIENTISTS

BIOSOURCE GENETICS CORPORATION, headquartered in Vacaville, CA near San Francisco and the University of California at Davis, is a rapidly growing biotechnology company specializing in the production of biopolymers for the cosmetic, pharmaceutical and food industries and genetic systems for the enhancement of plant performance.

Biosource is currently seeking qualified scientists to work in multidisciplinary research programs.

BIOCHEMIST: Must have a Ph.D. in biochemistry with two years industrial experience preferred. Research involving biochemical pathways for biopolymer production in plants and bacteria preferred.

MOLECULAR BIOLOGIST: Must have a Ph.D. in molecular biology or related field with at least one year postdoctoral or industrial experience. Research experience involving RNA isolation and cloning from plants and bacteria needed.

BIOREACTOR SPECIALIST: Must have at least a B.S. with two to four years experience in industrial applications of bioreactors. Scale up experience to pilot plant desirable.

Resume, including publications list and names of at least three references, and salary history should be directed to:

Dr. David R. McGee
Vice President & Chief Operating Officer
Biosource Genetics Corporation
3333 Vaca Valley Parkway, Suite 1000
Vacaville, CA 95688

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Research Support Grants

Immunex Corporation, a leading Seattle-based biotechnology company, is interested in offering significant Research Support Grants for studies in the area of Immune Regulation.

Under this broad heading, we are particularly interested in supporting research in the following areas:

- Growth factors and their antagonists; particularly those involved in lymphopoiesis and, more generally, hematopoiesis;
- Basic studies in autoimmune diseases which identify avenues of potential product development;
- Immune suppression, including proteins and peptides with immunoregulatory activities;
- Allergic diseases, including factors which regulate kinin release;
- Proprietary drug delivery technology;
- Studies in DNA transfer to somatic cells.

Please send a brief (1-2 pages) description of your on-going research activities and of the work you propose to: **Christopher S. Henney, PhD, Scientific Director, Immunex Corporation, 51 University St., Seattle, WA 98101.** Immunex is an equal opportunity employer.

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HEALTH SCIENTIST ADMINISTRATION TRAINING AT THE NATIONAL INSTITUTES OF HEALTH THROUGH THE GRANTS ASSOCIATES PROGRAM

Scientists in biomedical or behavioral research interested in an administrative career with federal programs supporting research and training in health related fields may wish to consider the Grants Associates Program in the U.S. Public Health Service. This program is governed by the Grants Associates Board and is administered by the Office of Extramural Programs in the Office of the Director, National Institutes of Health.

The program offers a limited number of full-time permanent positions per year on a highly selective basis, that prepare each associate for a leading role in health science administration. For a twelve-month period, Grants Associates participate in individually structured training experiences including on-the-job assignments, courses and seminars. The Program provides opportunities for participation in the development and administration of federally supported research programs in the fundamentals of effective management, in the peer review process and in other related areas of health science administration. The Program also attempts to develop a sensitivity to the consequences of program decisions on other federal health programs, research institutions, and national health needs.

Admission to the Program is highly competitive for the few positions available. Motivation for a career in science administration, good interpersonal skills, and evidence of executive potential are important. If you are a U.S. citizen and hold a doctorate or equivalent in a discipline related to the biomedical or behavioral sciences, have significant independent research experience beyond the doctorate and are attracted to health science administration as a profession, you should inquire about the Grants Associates Program.

Grants Associates may be appointed either in the U.S. Civil Service with a salary range of \$33,218 to \$46,679 (General Schedule levels 12-14) depending on experience or in the Commissioned Corps of the U.S. Public Health Service at ranks beginning with senior grade (03 Lieutenant) salary dependent on prior military experience, but beginning at \$21,769.20 basic pay.

For further information write to:

Director, Health Scientist Administrator
Development Programs
Office of Extramural Programs
Office of the Director
National Institutes of Health
9000 Rockville Pike
Building 31, Room 1B-625
Bethesda, MD 20892



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RESEARCH POSITIONS

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

RESEARCH ANALYST

- Responsibilities include writing and editing reports/proposals, data analysis and presentation, literature searching on computerized databases. Qualifications: BA/BS in a biological or chemical science with an understanding of molecular biology and excellent verbal and written communication skills.

RESEARCH ASSOCIATES

- Purification and characterization of products produced in fermentation by recombinant organisms. Qualifications: BS/MS, purification of peptides, proteins and enzymes, analysis by HPLC and spectrophotometry.
- General molecular biology, restriction mapping, plasmid and vector construction, yeast transformation, culturing yeast cells, analysis of gene expression, Northern and Western blots, and preparation of cell extracts. Qualifications: BA/BS in Biology or Chemistry.
- Conduct microbiological experiments on biofilms, analytical experiments on inhibition of sulfate-reducing bacteria in biofilms. Qualifications: MS, experience in microbial physiology or microbiology (preferably with anaerobe background). HPLC and capillary GC useful.
- Retroviral expression vector construction and testing. Qualifications: BA/BS/MS and recombinant DNA techniques.
- cDNA and genomic cloning, growth of bacteriophage, preparation of bacteriophage and plasmid DNA, DNA sequencing, *in vitro* transcription and translation, gel electrophoresis of DNA, RNA, and protein. Qualifications: BS/MS in Molecular Biology or Biochemistry. Knowledge of protein purification methods and enzyme assays, plant systems (especially transgenic plants) a plus.

POST DOCTORAL

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

We offer a comprehensive benefits package and competitive salaries. For confidential consideration, please submit your curriculum vitae, a statement of research interests and goals, and the names of three professional references to: **SIBIA, Department 4161, 505 Coast Boulevard South, La Jolla, CA 92037.**

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POSITIONS OPEN

FACULTY POSITION FOR A MOLECULAR ENDOCRINE PHYSIOLOGIST

Qualified applicants are invited to apply for a tenure-track position in the Department of Physiology at the University of Texas Health Science Center at San Antonio. The position is for a molecular endocrinologist who is capable of teaching reproductive physiology to medical and graduate students. The successful candidate is expected to have a vigorous, independent research program and to interact with physiology faculty on molecular biology-related research problems. The department has excellent facilities for research and a 19-member faculty with varied research interests. The rank is open and depends on the qualifications and experience of the successful candidate. Interested applicants should send their curriculum vitae and list of references by 1 December 1988 to: **Dike N. Kalu, Ph.D., Chair, Faculty Search Committee, Department of Physiology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7756.**

The University of Texas Health Science Center is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION—MOLECULAR GENETICS. The Department of Microbiology, University of Texas Health Science Center at San Antonio, seeks to hire a tenure-track faculty member (junior-to-senior appointment) with interests in the regulation of biological processes at the molecular level. Quality of research accomplishments will be the prime determinant in the selection process. Potential candidates with strong records of research achievement in the molecular biology/genetics of any microbial system (prokaryotic, eukaryotic or especially viral) are encouraged to apply. The successful candidate is expected to develop/maintain innovative research programs and to participate in departmental teaching activities. This is an opportunity for an individual to develop a significant research program in a young and supportive department with excellent facilities. Applicants should mail curriculum vitae, a statement of current and future research goals, and arrange to send three letters of reference by 31 December 1988 to: **Dr. W. G. Haldenwang, Microbial Genetics Search Committee, Department of Microbiology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284.** UTHSCSA is an Equal Opportunity/Affirmative Action Employer.

QUEEN'S UNIVERSITY KINGSTON, ONTARIO FACULTY POSITION IN VIROLOGY

The Department of Microbiology and Immunology invites applications for a faculty position at the assistant or associate professor level. Candidates should have a strong commitment to research and undergraduate and graduate teaching. Those with interests in viral gene expression, viruses as expression vectors or biopesticides will be given priority. This is a bridging position to a tenure-track appointment.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. Candidates of both sexes are equally encouraged to apply.

Send curriculum vitae and names of three references to:

**Dr. H. Pross
Professor and Head
Department of Microbiology and Immunology
Queen's University
Kingston, Ontario
K7L 3N6**

Closing date for applications is 1 November 1988.

GENETICIST— VISITING ASSISTANT PROFESSOR

The Department of Biology, Hamilton College, announces a 1-year visiting assistant professorship in genetics to assist in the teaching of the introductory sequence, to teach a course in general genetics and an upper-level course in some aspect of genetics. Applicants should send curriculum vitae and three letters of reference by 15 December 1988, to: **Tom Brady, Chairman, Biology Department, Hamilton College, Clinton, NY 13323.** Hamilton College is an Equal Opportunity Employer. Women and minorities are strongly encouraged to apply.

POSITIONS OPEN

SYRACUSE UNIVERSITY DEPARTMENT OF BIOLOGY FACULTY POSITIONS IN MOLECULAR BIOLOGY

Applications for two tenure-track positions are invited from individuals with doctoral training and postdoctoral research experience in molecular biology or closely allied areas of modern biology. These appointments are most likely to be made at the assistant professor level, but more senior candidates are also welcome to apply. Successful candidates will carry out an independent research program and participate in the teaching of undergraduate and graduate students. Applications should include curriculum vitae (with publications and grant support), a statement of a proposed research plan, and the names of three scientists willing to write letters of recommendation. Applications should be sent by 15 December 1988, to: **Dr. Philip Dunham, Department of Biology, Syracuse University, Syracuse, NY 13244-1220**

Syracuse University is an Affirmative Action/Equal Opportunity Employer.

GENETICISTS/MOLECULAR BIOLOGISTS

The Department of Botany and Plant Sciences, University of California, Riverside, announces two positions in plant genetics available 1 July 1989. The positions are tenure-track, 11-month appointments in the College of Natural and Agricultural Sciences and in the Agricultural Experiment Station. Appointment will be at the assistant professor level; depending upon the experience of the successful candidates, appointment at the associate or full professor level can be considered for one of the positions. A Ph.D. degree with a research specialization in genetics, molecular biology or plant physiology is required and postdoctoral experience is preferred. The appointees will be expected to develop a vigorous, innovative and independent research program in either the manipulation of gene expression in crop improvement or the genetic basis of tolerance to environmental stresses and its application to the improvement of crop germplasm. Research goals and objectives must be consistent with those of the Agricultural Experiment Station. The successful candidates will be expected to contribute to the departmental undergraduate teaching program and to offer graduate-level instruction in their areas of specialization. The candidates must be willing to serve as major professors to graduate students and to participate in the graduate program. A technician and start-up funding will be provided with both positions.

Send relevant information, including curriculum vitae, and arrange to have at least three confidential letters of recommendation sent to: **Dr. Gary E. Jones, Chairman, Search Committee, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521.** Application deadline is 16 December 1988.

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

HEALTH SCIENTIST (SEARCH RE-OPENED)

Hampshire College seeks a scientist working in a discipline related to human health, such as nutritional biochemistry, epidemiology, or immunology. The new appointee will contribute to the curriculum in areas of women's health and/or Third World health issues as well as to more traditional curriculum areas in biology. Hampshire College offers a stimulating and supportive environment for interdisciplinary teaching and research and has active Third World and Women in Science programs. Faculty at Hampshire are expected to develop science courses and seminars and to supervise and evaluate a variety of student projects. *Hampshire College is an Equal Opportunity Employer and has embarked upon a vigorous Affirmative Action program. Minorities and women are especially encouraged to apply.* Appointment will be at assistant professor level. The committee will begin reviewing applications immediately for an appointment for September 1989. Send curriculum vitae, the names of three references and a letter of application to:

**Ms. Laurie Dushion
Health Search Committee
School of Natural Science
Hampshire College
Amherst, MA 01002**

POSITIONS OPEN

GENETICIST. Lecturer/Senior lecturer. Tenure-track position. Open October 1989. Ph.D. in genetics. Lecture basic, advanced genetics courses. Research opportunities. Fluent Hebrew, high priority for Israeli citizens. Reply to: **Professor D. Gershon, Department of Biology, Technion—Israel Institute of Technology, Haifa, Israel 32000.** Telephone: 972-4-293726.

HEAD DEPARTMENT OF BIOCHEMISTRY

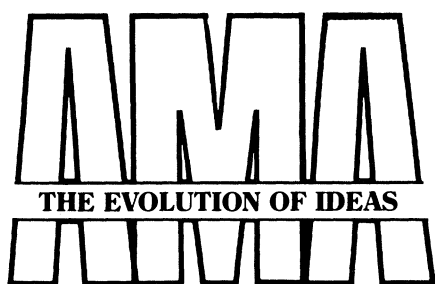
Kansas State University, a comprehensive land grant University, is seeking an established scientist to head the Department of Biochemistry in the College of Arts and Sciences. The department has major support from the Agricultural Experiment Station and has academic and research programs with Agriculture and Veterinary Medicine. The Head will have documented excellence and leadership in research, and will aggressively encourage excellence in research and in undergraduate and graduate education. The successful candidate should qualify for appointment as a tenured Professor. The Department currently has 14 faculty positions, four of which will be filled after the new Head is appointed. Currently there are about 30 predoctoral students and ten postdoctoral associates. Extramural funding approaches \$1 million from NIH, NSF, USDA, BARD, The Rockefeller Foundation, and other agencies. The Department has substantial research and teaching space in a new biochemistry/chemistry building with additional space planned for the near future. Nominations and applications, the latter including a letter of application, curriculum vitae, a description of present and future research interests, and names of three references should be forwarded to: **Dr. Dolores Takemoto, Chair, Search Committee, Department of Biochemistry, Willard Hall, Kansas State University, Manhattan, KS 66506.** The position will be available 1 July 1989. Applications will be reviewed beginning 1 November 1988. The position will remain open until the successful candidate has been identified.

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

MOLECULAR NEUROBIOLOGY RESEARCH. Postdoctoral research position available in molecular neurobiology to study voltage gated ion channels. A multidisciplinary approach including electrophysiology, protein purification and recombinant DNA techniques will be used. A highly motivated individual who is willing to work with other scientists and has a background in molecular biology or biochemistry is preferred. Please send résumé and names of three references to: **Dr. A. Blume, Molecular Neurobiology, c/o Maureen Quigley, Professional Employment Representative, Lederle Laboratories, American Cyanamid Company, Pearl River, NY 10965.** Equal Opportunity Employer.

NUTRITION—ASSISTANT PROFESSOR (SEARCH EXTENDED)

Assistant professor of nutrition (tenure-track, academic year) with special interest in exercise science and/or endocrine metabolism (50% teaching; 50% research). Teaching duties: Each year, teach upper level course in either normal or clinical nutrition and graduate level course in area of expertise. Research: Develop program in nutrition with emphasis on exercise science, endocrine function, or lipid or energy metabolism that will attract external funding. Collaborate with other faculty in ongoing research in exercise physiology and endocrine or lipid metabolism. Qualifications: Doctorate in nutrition or other related discipline; postdoctoral experience preferred but not essential; teaching experience important. Salary commensurate with qualifications and experience. Ideal location near ocean inlet, scenic semi-rural area. Department has 25 faculty, 20 graduate students and 300 undergraduate majors. Send letter of application (non-citizens must include current visa status), curriculum vitae, all academic transcripts and three letters of recommendation by 15 December 1988 to: **Dr. Anthony Tagliaferro, Search Committee Chair, Human Nutrition Center, University of New Hampshire, Durham, NH 03824.** Women and minorities encouraged to apply. UNH is an Affirmative Action/Equal Employment Opportunity Employer.



Since its founding, the American Medical Association has consistently earned a position of leadership in the campaign to promote the science of medicine and better public health. Help meet this continuing challenge in our progressive Division of Drugs & Toxicology by contributing your expertise in the following professional capacities.

Two positions are available:

- Senior Scientist
- Scientist

Both of the successful candidates will review and evaluate pertinent literature, consult with various experts and organize and present acquired medical knowledge for the AMA's Drug Evaluations. They will also serve as AMA topical resource professionals, represent the Division of Drugs at national meetings, and help develop AMA drug legislation positions.

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

In addition to the challenge of these responsible positions, the AMA can offer the high visibility of a national leader and excellent compensation/benefits packages. Please send resume along with salary expectations to:



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Microbiologists/ Veterinary Medical Officers

Plum Island Animal Disease Center

The Center intends to establish new research programs for control of foreign animal diseases, including development of novel vaccines and diagnostic methods, design of antiviral drugs, and development of transgenic disease resistant animals. Four leadership positions are immediately available for scientists who want to develop research teams of international stature and to work with the most important diseases of livestock worldwide, including: foot-and-mouth disease, African swine fever, hog cholera, African horsesickness, African heartwater, Rift Valley fever, Venezuelan equine encephalitis and rinderpest. Leaders will have broad research opportunities and will recruit their own teams to work in well funded programs with fully equipped laboratories and excellent experimental animal biocontainment facilities. An extensive program of new construction and facilities remodeling is in progress.

Supervisory Microbiologist (GM 14/15)

Supervisory Veterinary Medical Officer (GM 14/15)

Microbiology Research Unit

As Research Leader in Microbiology, the appointee will direct comprehensive programs of research on African swine fever and hog cholera with the goals of understanding molecular pathogenesis of disease and devising new control strategies. This will require knowledge of virology, molecular biology, biochemistry, immunology, pathology and veterinary medicine. In addition, the appointee will develop a personal research program on African swine fever in an area of individual expertise. Applications must be marked 8N034.

Microbiologist (GM 13/14)

Veterinary Medical Officer (GM 13/14)

Microbiology Research Unit

As Lead Scientist, the appointee will be responsible for a broad research program on hog cholera directed towards development of a subunit vaccine. Individual research will be on molecular virology of the disease agent. Knowledge of virology, biochemistry, molecular biology, immunology and tissue culture techniques is essential. Applications must be marked 8N035.

Veterinary Medical Officer (GM 13/14)

Molecular Pathology Research Unit

As Head of the Molecular Pathology Unit, the appointee is responsible for technical veterinary pathology support to other Center units and for direction of biochemistry, physiology and image analysis support laboratories. Individual research will be on the molecular pathogenesis of foreign animal disease agents, especially immunoinflammatory responses to viral infections of mucosal surfaces. Knowledge of veterinary medicine, veterinary pathology, cardiopulmonary physiology, biochemistry, immunology and image analysis is required. Applications must be marked 8N036.

Supervisory Microbiologist (GM 14/15)

Supervisory Veterinary Medical Officer (GM 14/15)

Immunobiology Research Unit

As Immunobiology Research Leader, the appointee will direct the Center's research into immunopathogenesis and protective immunity in infectious foreign animal diseases. The appointee will lead a group of scientists involved in individual and collaborative multidisciplinary research and will have a personal research program on fundamental mechanisms of immunity to one or more disease agents under study in the Center. Applications must be marked 8N037.

Must be US citizen. Must have DVM or equivalent degree for Veterinary Medical Officer positions. PhD degree is desirable for all positions. Must have demonstrated research accomplishments in infectious diseases. Salary commensurate with experience. Further details from the Center Director, Dr. R.G. Breeze, Plum Island Animal Disease Center, P.O. Box 848, Greenport, NY 11944, Telephone (516) 323-2500, Ext. 202. For information on application procedures, contact Alice MacNamara, Telephone (301) 344-8580. Applications in response to this advertisement should be marked appropriately and sent to: Alice MacNamara, USDA-ARS-PD, Bldg. 419, BARC-East, Beltsville, MD 20705. Applications must be received by October 14, 1988.

Salary Range: GM-13—\$39,501 to \$51,354
GM-14—\$46,679 to \$60,683
GM-15—\$54,907 to \$71,377

ARS IS AN EQUAL OPPORTUNITY EMPLOYER.
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DEAN—SCHOOL OF FISHERIES AND OCEAN SCIENCES

Nominations and applications are sought for Dean of the newly created School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. The School, with an annual budget of \$13 million and about 50 faculty, includes the Institute of Marine Science in Fairbanks and Seward, the Juneau Center for Fisheries and Ocean Sciences, the Fishery Industrial Technology Center in Kodiak, the Marine Advisory Program, and the Alaska Sea Grant College Program. The Institute of Marine Science operates the R/V Alpha Helix.

The University seeks a leader with broad knowledge, experience and appreciation of how interdisciplinary approaches in marine and fisheries science can lead to understanding ocean and freshwater systems and human interaction with those systems. Candidates should have significant experience in academic, research, and public service areas appropriate to fisheries and ocean sciences, including a strong publication record and administrative background. The person selected must be tenurable as a Professor within the School.

Candidates should submit: a resume; letter of interest indicating experience, ideas, and agenda that will be brought to the job; a brief statement indicating recent relevant accomplishments; and names of three references. The complete application and all inquiries should be referred to: **Dean Michael Rice, School of Management, Chair, SFOS Dean Search Committee, 107 Bunnell, UAF, Fairbanks, AK 99775-1070.**

Completed applications must be postmarked by November 1, 1988. Screening of candidates will begin October 1, 1988.

THE UNIVERSITY OF ALASKA FAIRBANKS IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER AND EDUCATIONAL INSTITUTION. YOUR APPLICATION FOR EMPLOYMENT WITH THE UNIVERSITY OF ALASKA MAY BE SUBJECT TO PUBLIC DISCLOSURE IF YOU ARE SELECTED AS A FINALIST.

SCIENTIST Drug Metabolism

The Animal Drug Metabolism Department at Merck Sharp & Dohme Laboratories has a position for a chemist/biochemist who is interested in pursuing a career in drug metabolism. The successful candidate will participate in studies of in vitro metabolism as well as absorption, distribution metabolism, and excretion of drugs in vivo. The candidate should have some knowledge of drug metabolism with demonstrated strength in modern analytical techniques, such as HPLC or RIA. Other desirable qualifications include:

B.S. degree with 3-5 years experience or M.S. degree with 1-2 years experience in chemistry/biochemistry/pharmacology or related areas.

Experience in the isolation, purification and characterization of metabolites from biological fluids.

Knowledge in data interpretation of NMR Spectroscopy or Mass Spectrometry.

Experience in handling of radiolabeled chemicals.
Skills in cell or organ culture perfusion or small animal handling techniques.

Merck Sharp and Dohme Research Laboratories is located in Rahway, New Jersey, approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Please send resume with salary history to **Ms. Jacqueline A. Eiermann, P.O. Box 2000, Rahway, New Jersey 07065.**

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DIRECTOR, OCEAN BIOLOGY/OPTICS/CHEMISTRY DIVISION

The Office of Naval Research (ONR) is seeking an outstanding individual to serve in this Civil Service position in the Senior Executive Service. Salary range is \$64,700 to \$73,400, depending on qualifications. In addition to salary, career SES appointees are eligible to compete for performance awards and bonuses.

The Director, Ocean Biology/Optics/Chemistry Division is responsible for providing leadership, coordination and direction for ONR's \$12M fundamental and applied research programs in biological, optical and chemical oceanography. The Division Director is the scientific administrator of ONR R&D activity in the described fields with full responsibility for staffing his/her program, establishing overall priorities and procedures, and recommending changes in program objectives and policies to the Director, Ocean Sciences Directorate. The Division Director serves as the principal consultant to the Navy on developing naval applications in biological, optical and chemical oceanography and related fields.

Candidates should possess a Ph.D. or equivalent in oceanography with significant experience in biological, optical and/or chemical oceanography. Considerable experience in fiscal and program administration, plus management and performance of research and its application to development is also required.

Interested persons should submit a Standard Form 171, Application for Federal Employment (available at Federal Job Information Centers or from the address below) and a resume, including a list of publications, to:

Office of the Chief of Naval Research

Civilian Personnel Division, Code 01242P
Attn: Announcement #88-50 (S)
800 North Quincy Street
Arlington, VA 22217-5000

Applications will be accepted through 31 October 1988 and must be received by that date. Applicants are requested to complete the appropriate supplemental forms. For further information and supplemental forms, please call (202) 696-4705.

POSITIONS OPEN

MOLECULAR BIOLOGISTS

The American Registry of Pathology is recruiting molecular/cellular biologists at the B.S., M.S., and Ph.D. levels to develop and implement diagnostic methods for use in pathology and to conduct research on molecular biology of human disease. Work will be conducted at the Armed Forces Institute of Pathology, the world's largest pathology research and consultation organization.

Salary ranges from \$23,000 to \$46,500 per year, depending on training and experience.

Send curriculum vitae and names of three references to: **Timothy J. O'Leary, M.D., Department of Cellular Pathology, Armed Forces Institute of Pathology, Washington, DC 20306-6000.**

MOLECULAR GENETICIST. The Laboratory of Dyslipidemias and Atherosclerosis Research of the Clinical Research Institute of Montreal (IRCM) is searching for a highly motivated individual to join our research team in 1989, to direct a small group currently studying genetic variation affecting lipid levels in health and disease. The preferred candidate will be an innovative scientist with experience in molecular and genetic research approaches. Fluency in French would be considered an asset. *Applications are invited from all, although in accordance with Canadian immigration regulations, applications from Canadian citizens or permanent residents will be considered first.* Send curriculum vitae, statement of research interests and goals, representative reprints and names, addresses and phone numbers of three references to: **Dr. Jean Davignon, Director, Lipid Metabolism and Atherosclerosis Research, Institut de Recherches Cliniques de Montréal, 110 Pine Avenue West, Montreal, Quebec, Canada H2W 1R7.**

PHARMACOLOGY AND TOXICOLOGY FACULTY POSITION

The Department of Pharmacology and Toxicology at the Medical College of Virginia invites applications for a tenurable faculty position at the rank of assistant professor. A doctorate in biochemistry or pharmacology, 3 years of postdoctoral experience are required and evidence of research productivity is preferred. We are seeking an outstanding scientist studying the biochemical or molecular pharmacology of drug or toxicants capable of establishing an independent research program and contributing to the teaching of graduate and professional students in the area of pharmacology or toxicology. The primary focus of the search is for an individual with an interest in using methods of modern molecular biology or cellular electrophysiology to study basic mechanisms of cell function and/or drug action, although individuals with other areas of interest in biochemical or molecular pharmacology will be considered. Send curriculum vitae and the names and addresses of three references by 15 October 1988 to: **Dr. Louis S. Harris, Chairman, Department of Pharmacology and Toxicology, Medical College of Virginia, Virginia Commonwealth University, Box 613—MCV Station, Richmond, VA 23298-0613.** A complete job description and qualifications will be sent on request. *Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer.*

Ph.D. MOLECULAR BIOLOGIST/SUPERVISOR POSITION

Aloka Company Ltd., the leading Japanese manufacturer of the liquid scintillation counter and other analytical equipment, as well as the sole distributor of the Du Pont Company's molecular genetics instruments in Japan, is seeking a molecular biologist with 1 to 3 years of experience in DNA sequencing. This challenging, Tokyo-based position involves supervising the Technical Support Group for the GENESIS™ 2000 automated DNA analysis system and CODER® 300 DNA synthesizer in Japan. The successful candidate will have responsibility for the installation, demonstration and training of Du Pont's current line of state-of-the-art instruments and new leading edge instruments as they become commercialized. Candidates must be fluent in Japanese, with the ability to communicate in English. Advanced knowledge of gel electrophoresis and automated molecular biology instruments is desirable.

Aloka offers a competitive salary and benefits package. For confidential consideration, please send curriculum vitae and a list of references to: **K. Kawashiro, Aloka Co., Ltd., 6-22-2 Mure, Mitaka-SHT, Tokyo 181, Japan.**

POSITIONS OPEN

OCEAN ACOUSTICS AND MICRO-HYDRO-DYNAMICS—FACULTY POSITIONS—The Applied Ocean Science Program at the University of Delaware's College of Marine Studies invites applications for tenure-track faculty positions to start any time between 1 December 1988 and 1 September 1989. Successful candidates for both positions are expected to teach at the graduate level and develop independent, funded research programs involving graduate students. A Ph.D. in physical science or engineering with at least 3 years of experience required. Experience in both theoretical and experimental work desirable. Address inquiries to: **Dr. Stephen C. Dexter, Chairman, ADS Search Committee, College of Marine Studies, University of Delaware, Lewes, DE 19958.** *The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.*

The Department of Chemistry at the University of Virginia is seeking an outstanding individual for a position in **ORGANIC/BIOORGANIC CHEMISTRY**. This appointment is expected to be made at the **ASSISTANT PROFESSOR** level (tenure-track), though exceptional senior applications will be considered. All areas of organic/bioorganic chemistry will be considered, including organometallic chemistry. Candidates with a commitment to excellence in research and teaching are encouraged to send curriculum vitae containing a list of publications, a concise outline of research plans, and arrange to have three letters of recommendations sent to: **Robert E. Ireland, Chairman, Department of Chemistry, University of Virginia, McCormick Road, Charlottesville, VA 22901.** *The University of Virginia is an Equal Opportunity/Affirmative Action Employer.*

PLANT BIOCHEMIST PLANT SCIENCE INSTITUTE DEPARTMENT OF BIOLOGY UNIVERSITY OF PENNSYLVANIA

The Department of Biology, University of Pennsylvania is requesting applications for a tenure-track position affiliated with the Plant Science Institute. The ideal candidate will have a strong background in biochemistry and molecular biology. Excellence in research and teaching will be considered more important than the candidate's particular interests, which should involve some aspect of plant biochemistry, cell and developmental biology, or physiology. Applicants should submit by 1 December 1988, curriculum vitae, recent reprints, a statement of professional goals and research interests, and have three letters of recommendation sent to:

**Dr. Anthony Cashmore
Director, Plant Science Institute
Department of Biology
University of Pennsylvania
Philadelphia, PA 19104-6018**

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

PLANT MOLECULAR GENETICIST: The Department of Agronomy and Range Science, University of California, Davis, seeks a plant molecular geneticist to fill an 11-month, tenure-track position as assistant/associate professor and assistant/associate geneticist in the agricultural experiment station. A complementary position in whole-plant genetics of cotton will be filled concurrently.

The plant molecular geneticist will utilize molecular methods to understand genetic bases for improving cotton. The appointee will cooperate with others to provide genetic solutions to important issues facing the California cotton industry. The individual will participate in teaching and advising students, and teach a course in the area of plant molecular genetics. A Ph.D. in genetics or a closely related field is required. Submit curriculum vitae with list of publications, official undergraduate and graduate transcripts (if within 7 years since completion of Ph.D.), a succinct statement of research and teaching interests, and names with addresses of three references to: **Plant Molecular Geneticist Search Committee, Department of Agronomy and Range Science, University of California, Davis, CA 95616.** Applications will be accepted until 15 December 1988. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

PEPTIDE CHEMIST

Will be responsible for the synthesis, purification, and characterization of peptides. Qualified candidate will have a B.S. degree in chemistry or biochemistry, and a minimum of 4 years of relevant experience. Organizational and communication skills, and the ability to work independently are paramount.

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For confidential consideration submit your résumé to:

**Jeff Jones
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PLANT GENETICIST: The Department of Agronomy and Range Science, University of California, Davis, seeks a plant geneticist to fill an 11-month, tenure-track position as assistant professor and assistant geneticist in the Agricultural Experiment Station. A complementary position in molecular genetics of cotton will be filled concurrently.

The individual will utilize appropriate modern approaches to understand and improve agronomic traits of cotton. The appointee will cooperate with others to provide genetic solutions to important issues facing the California cotton industry. The individual will participate in teaching and advising students, and teach a course relating to crop improvement. A Ph.D. in genetics or a closely related field is required. Submit curriculum vitae with list of publications, official undergraduate and graduate transcripts (if within 7 years since completion of Ph.D.), a succinct statement of research and teaching interests, and names with addresses of three references to: **Plant Geneticist Search Committee, Department of Agronomy and Range Science, University of California, Davis, CA 95616.** Applications will be accepted until 15 December 1988. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATES IN PLANT MOLECULAR BIOLOGY CORNELL PLANT SCIENCE CENTER

Two-year postdoctoral positions available 1 October 1988 or thereafter, to carry out research in collaboration with one or more of the following scientists associated with the Cornell Biotechnology Program: **Elizabeth Earle, Maureen Hanson, Karen Kindle, Elizabeth Keller, Andre Jagendorf, John Sanford, Steven Tanksley, and Ray Wu.** Contact the Biotechnology Program for further information on research projects concerning the isolation, analysis, and transfer of plant genes. To apply, send curriculum vitae and three letters of reference to: **Plant Science Center, Biotechnology Program, 130 Biotechnology Building, Cornell University, Ithaca, NY 14853-2703.** *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

NEPHROLOGY RESEARCH—A POSTDOCTORAL FELLOWSHIP is available beginning 1 October 1988 in the Nephrology Research and Training Center at the University of Alabama at Birmingham. The applicant should be familiar with protein purification and separation, and with immunoprecipitation techniques. The focus of the project is on the identification and purification of membrane transport proteins, especially the Na/H exchanger. Send curriculum vitae and three letters of recommendation to: **David G. Warnock, M.D., Director, Division of Nephrology and the Nephrology Research and Training Center, University of Alabama at Birmingham, University Station, Birmingham, AL 35294.** *UAB is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS to investigate the biochemistry and genetics of antibiotic production by *Streptomyces* and related bacteria with the aim of unraveling novel enzymology and producing new drugs. Extensive experience with rDNA methods, especially DNA sequence and transcriptional analysis, and microbial genetics; or enzyme purification and protein biochemistry required. Available after 1 November 1988 for a period of 2 years. Salary \$20,000 to \$22,000 per year, depending on qualifications. Apply to: **C. Richard Hutchinson, University of Wisconsin, Madison, WI 53706 (Telephone: 608-262-7582)** with résumé and two references.

**THE AUSTRALIAN NATIONAL
UNIVERSITY**

**THE JOHN CURTIN SCHOOL OF
MEDICAL RESEARCH**

**PROFESSOR AND HEAD OF DIVISION OF
BIOCHEMISTRY AND MOLECULAR BIOLOGY**

This position is available from the beginning of 1989, following the retirement of Professor F. Gibson and the restructuring of the School into four Divisions. The Professor to be appointed will be expected to have an international reputation in research in biochemistry and/or molecular biology and may wish to develop a major group undertaking scientific work in a field related to or complementary to those which already exist in the Division. The principal fields of investigation in the Division at present encompass medical molecular biology, membrane protein biochemistry, protein chemistry, and enzymology. A recent review identified membrane protein biochemistry, the molecular biology of lymphokines and protein structure and function as major areas for continued development. The University's recently established Protein/DNA Facility is also located within this Division. The successful applicant will be appointed as Professor in The John Curtin School of Medical Research, and will head the Division of Biochemistry and Molecular Biology for a five year term initially. Further particulars may be obtained from The Registrar. Closing date: 21 October 1988. Ref. JC 25.8.2. SALARY: AU\$65,349 p.a. A clinical loading for medically qualified appointees is payable as follows: AU\$10,850 p.a. for a person having responsibilities for patient care, AU\$5,432 p.a. for a person not having responsibilities for patient care. APPOINTMENT to retiring age 65. APPLICATIONS should be submitted in duplicate to the Registrar, The Australian National University, GPO Box 4, Canberra ACT 2601, quoting reference number and including curriculum vitae, list of publications and names of at least three referees. The University reserves the right not to make an appointment or to appoint by invitation at any time.

THE UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER

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Cell Culture/Biology**

**Research Associates/
Assistants**

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LifeCell, a dynamic Houston-based biotechnology company, developing new technologies for cryobiology, electron microscopy and tissue preservation, is seeking dedicated professionals for exciting career opportunities.

Management of tissue culture, animal and human cell lines and virus stocks. Familiarity with growth characteristics of ATCC cell lines, knowledge of cell viability assays, chromosome karyotyping techniques and some biochemistry necessary. Requires Ph.D. in Cell Biology or equivalent and 2 years' related experience. Cryobiology experience a plus.

Assist Research Scientist, Electron Microscopy. Strong sample preparation and microtome skills, a B.S. or M.S. in relevant biological discipline and 2 years' experience required.

Assist Research Scientist, Cell Culture/Biology. Maintain animal and human cell lines and viruses. Requires knowledge of sterile techniques, cell viability, assays, and media preparation. A B.S. in Cell Biology or equivalent area of study and 2 years' related experience is required.

We offer an excellent salary and benefits package, as well as the chance to excel with a fast-growing industry leader. Please send your resume in confidence to: LifeCell Corporation, S. Randolph May, Ph.D., Vice President, Research & Development, 3606-A Research Forest Drive, The Woodlands, Texas 77381.

**National Institute of
Arthritis and
Musculoskeletal and Skin
Diseases (NIAMS)
National Institutes of Health,
Public Health Service**

The Section on Cellular Immunology of the Arthritis and Rheumatism Branch is seeking a well-qualified post-doctoral fellow with a Ph.D. or M.D. or equivalent interested in molecular approaches to immunology and immune-mediated disorders. Ongoing studies include isolation of genes which induce autoimmune diseases, study of new endogenous (not infectious) retroviral transcripts associated with murine lupus, immune regulation, B cell activation and gene expression in systemic lupus. The Branch is part of the intramural program of NIAMS with major interests in autoimmunity, chronic inflammation and clinical investigations in autoimmune diseases. The position which will be open around July 1, 1989 offers a starting salary for staff fellows ranging from \$24,000 to \$50,744. Applicants should send a curriculum vitae, bibliography, a short statement of research interests, as well as the names of three references to Alfred D. Steinberg, M.D., Chief, Cellular Immunology Section, ARB, NIAMS, 9000 Rockville Pike, Building 10, Room 9N-218, NIH, Bethesda, MD 20892 (301) 496-1961. U.S. Citizenship Required.

AN EQUAL OPPORTUNITY EMPLOYER

**Research
Opportunities
At Pfizer**



An equal opportunity employer

Pfizer, a U.S. based multinational pharmaceutical company, is seeking qualified scientists to join our Central Research facility in Groton, Connecticut. Immediate openings are available in the diabetes/obesity area.

You will participate in multidisciplinary approaches to therapy for Type II diabetes and obesity. You should possess an MS or BS degree in Biochemistry, Physiology or Cell Biology with relevant laboratory research experience. In addition, you should have experience in one or more of the following areas:

- *in vivo* and *in vitro* techniques for studying lipid and carbohydrate metabolism
- cell isolate and subcellular fractionation
- tissue culture

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

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to join research team studying **MULTIDRUG RESISTANCE (MDR)** in human tumors. Areas involve the molecular biology, enzymology and pharmacology of "atypical" MDR, associated with alterations in topoisomerase II activity. St. Jude Children's Research Hospital is a multidisciplinary biomedical research center with many opportunities for scientific interactions. Annual salaries are commensurate with experience, and begin at \$22,000. Send curriculum vitae and names of three references to: **William T. Beck, Ph.D., Department of Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.**

St. Jude Children's Research Hospital is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available for up to 3 years to study the molecular mechanisms of transcriptional regulation of the lactose regulation in yeast or to study yeast sphingolipid function and biosynthesis using molecular genetic approaches. Experience in recombinant DNA techniques desirable. Salary: \$24,000. Send résumé and three reference letters to: **Dr. Robert Dixon, Department of Biochemistry, University of Kentucky, Lexington, KY 40536.**

Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS. The newly established Center for the Study of Early Events in Photosynthesis at Arizona State University has several openings for postdoctoral associates to work with Center faculty. Research areas include biochemistry, biophysics and molecular genetics of photosynthetic organisms, organic synthesis of photosynthetic model systems, theoretical chemistry, electrochemistry, picosecond laser spectroscopy, and nuclear magnetic resonance spectroscopy. Please send résumé and three letters of recommendation to: **Robert E. Blankenship, Director, Center for the Study of Early Events in Photosynthesis, Department of Chemistry, Arizona State University, Tempe, AZ 85287-1604.** ASU is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available for neuropharmacologist/physiologist to study neuroimmunoregulation of gastrointestinal motility and transport in a productive research laboratory at **USUHS School of Medicine, Bethesda, and Walter Reed Army Institute of Research, Washington, D.C.** Experience with in vivo techniques or in vitro muscle strips desirable. Salary is \$24,000 to \$28,000 commensurate with qualifications. Position available September 1988. Initial appointment is for 1 year and is renewable subject to availability of funding. Send curriculum vitae and names of three references to: **USUHS School of Medicine, Civilian Personnel, Attention: Dr. Robert Sjogren, 4301 Jones Bridge Road, Bethesda, MD 20814.**

POSTDOCTORAL POSITION

An opening is available immediately to study molecular mechanisms of tumor promoter action. Genetic, biochemical, and molecular approaches are being used to identify and characterize membrane targets of protein kinase C in parental and promoter-nonresponsive 3T3 cells [*J. Cell Biol.* **101**, 2316 (1987)] and in intact epithelia [*Am. J. Physiol.* **252**, C173 (1987)]. Ph.D. required with experience in biochemistry or molecular biology. Please send curriculum vitae, a summary of research accomplishments, and the names of three references to: **Dr. Thomas G. O'Brien, The Wistar Institute, 36th and Spruce Streets, Philadelphia, PA 19104.** Equal Opportunity Employer, M/F.

POSTDOCTORAL POSITIONS (two). Postdoctoral fellowships are available for the study of plant photoreceptor (phytochrome for light regulation of genes) and protozoan photoreceptor (stentorin for photosensory responses in Stentor). Annual stipend is \$18,000, depending on qualifications and experience in the area of protein and/or membrane biochemistry. Please send curriculum vitae and arrange to send letters of recommendation by 1 November to: **Dr. Pill-Soon Song, Chairman, Department of Chemistry, University of Nebraska-Lincoln, NE 68588-0304.** Telephone: 402-472-3501. Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

A **POSTDOCTORAL POSITION** is available immediately for biochemist, biophysicist, or molecular biologist to study the role of metal in the regulation and mechanism of gene expression in both prokaryotes and eukaryotes, particularly in BNA Polymerase and Metallothioneins. Experience in CD, EPR and NMR techniques is desirable. Send curriculum vitae and three letters of recommendation to: **Professor Felicia Wu, Department of Pharmacological Sciences, HSC, SUNY Stony Brook, Stony Brook, NY 11794-8651.** SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK #252.

POSTDOCTORAL POSITION available immediately to study the synthesis and regulation of fibrocartilage proteoglycan core protein. A background in cell biology or molecular biology is required. Experience in recombinant DNA techniques is desirable. Send curriculum vitae and three references to:

**Richard J. Webber, Ph.D.
Director, The Center For
Musculoskeletal Research
Slot 517**

**University of Arkansas For Medical Sciences
4301 West Markham Street
Little Rock, AR 72205**

POSTDOCTORAL POSITION for research on transgenic mice carrying new genes which modify germ cells and embryo development. Apply with curriculum vitae to: **Dr. R. L. Brinster, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA 19104.**

POSTDOCTORAL POSITIONS in neuroimmunology/neuro-oncology in the Division of Neurology, Harvard Medical School. A multidisciplinary approach is used to understand and manipulate the immune response to neural antigens. Focus is on neural tumors and autoimmune disorders. Send résumé with reprints and names of references to: **Dr. Lois Lampson, Center for Neurologic Diseases, Biosciences Research Building, Brigham and Women's Hospital, Boston, MA 02115.** An Equal Opportunity Employer.

Ph.D. SCIENTIST MOLECULAR IMMUNOLOGY

WYETH-AYERST RESEARCH, a subsidiary of Fortune 100 American Home Products Corporation, has an opening for a Ph.D. Scientist in the Experimental Therapeutics Division of its expanding Princeton, NJ research facility.

The successful candidate will be involved in the drug discovery program in the section of Molecular Immunology. The primary responsibility of this position will be to investigate the role of cytokines and growth factors as potential pharmacological targets for arthritis. The candidate should have a Ph.D. with 0-5 years experience and a strong interest in immunology and molecular biology. Applicable experience would include cytokine receptors and receptor binding assays, signal transduction, southern and western blots, immunological and biochemical markers of experimental arthritis, and an appreciation of *in vivo* procedures.

Wyeth-Ayerst offers an excellent salary and benefits package plus opportunity for career advancement along with an ultra modern research facility. Interested candidates should send resume and salary history to:

Personnel Manager, Dept. SNS



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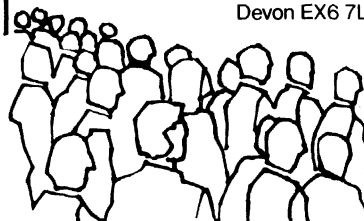
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We have exciting opportunities for creative, motivated individuals with laboratory experience and excellent conceptual understanding in at least one of the following areas:

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Biochemistry

Protein purification, enzymology, assay development, peptide isolation, immunoblotting, metabolic pathways

Natural Products Chemistry

Isolation and analysis of microbial products, HPLC/FPLC

Panlabs is a growing international company that has provided R&D services to major pharmaceutical and fermentation industries worldwide for nearly 20 years. The company creates and improves industrial microorganisms by employing the full range of molecular genetic and biochemical technologies. Our cooperative system of technical training and in-house education gives a broad base of experience and allows advancement not limited by higher academic degrees.

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RESEARCH CHEMIST NATURAL PRODUCTS

The Squibb Institute for Medical Research is recognized internationally as a leader in the research and development of novel pharmaceuticals. We currently have an exceptional opportunity available for an experienced Chemist to join our Department of Chemistry/Infectious and Metabolic Diseases.

You will be responsible for the isolation, structure determination and synthesis of natural products expressing biological activity in a variety of chemotherapeutic areas. The use of a broad array of chromatographic techniques (TLC, ion exchange, HPLC, counter current chromatography, etc.) is required. The position also requires competence in the use of biological and radiochemical assay methods and facility in the use and interpretation of NMR, MS and other spectroscopic methods. Skills in synthetic organic chemistry are required for chemical modification, degradation, synthesis and preparation of analogs of interesting natural products.

Qualified candidates should have an MS degree in Organic Chemistry and a minimum of 2 years related research experience.

In addition to an excellent salary and comprehensive benefits package, we offer the opportunity to pursue a rewarding and stimulating career. For consideration, please submit your resume to: **The Squibb Institute for Medical Research, Human Resources Department 77, PO Box 4000, Princeton, NJ 08543.** An equal opportunity employer.



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POSITION ANNOUNCEMENT CELL AND MOLECULAR BIOLOGISTS

The Department of Cell and Structural Biology at the University of Illinois, Urbana-Champaign, is continuing the expansion of its faculty. Several new tenure-track faculty will be recruited over the next few years at the Assistant Professor level. One position is available for the 1989-1990 academic year, with a starting date of August 21, 1989. Applicants should hold the Ph.D. degree or equivalent, and show exceptional promise in research, which preferably should address molecular issues in developmental, neural, or cell biology. Salary will be commensurate with rank and experience. Duties will include participating in the teaching of eukaryotic cell and molecular biology. Substantial start-up funds and laboratory facilities will be available to initiate new faculty research programs, for which the UIUC offers exceptional and broad-based supporting resources. These resources include the Center for Electron Microscopy, with state-of-the-art instrumentation; the Center for Biotechnology, which includes facilities for molecular cloning and DNA and protein synthesis and sequencing; the Cell Science Center, which houses and staffs a hybridoma facility and flow cytometry unit; School of Life Sciences-subsidized shops; and a superb university library system, the third largest in the nation. The UIUC is a National Center for Supercomputing Applications, and is home to the Beckman Institute for Advanced Science and Technology, which combines research in the physical and biological sciences. Many other units within the Schools of Life Sciences and Chemical Sciences, and the Colleges of Medicine and Engineering offer opportunities for interactions in the cellular and molecular sciences. Urbana-Champaign combines the residential advantages of a medium-sized city (population 120,000) with outstanding cultural amenities within the University, and its location in east-central Illinois gives easy access to the cities of Chicago and St. Louis. Applicants are requested to send a curriculum vita, a summary of research interests, and three letters of reference to:

David L. Stocum, Search Committee Chairman
Department of Cell and Structural Biology
University of Illinois
506 Morrill Hall
505 South Goodwin Avenue
Urbana, Illinois 61801
Telephone: (217) 333-6118

In order to ensure full consideration, applications should be received by January 15, 1989. Interviews may be conducted before January 15, 1989, but all applications received by that date will receive full consideration and the final selection will not be made until after that date. The University of Illinois is an Affirmative Action, Equal Opportunity Employer.



RIA Methods Development/ Analytical Chemistry Scientists

At the Ardsley, N.Y. facility of CIBA-GEIGY Pharmaceuticals Division, a team of scientists conducts research and development activities in advanced drug delivery systems, preclinical drug metabolism, and clinical pharmacokinetics and disposition. We are seeking professionals to participate in developing radio and enzyme immunoassays for drugs in biological fluids. You will also develop analytical methods for *in vitro* and *in vivo* drug testing within our novel drug delivery group.

In addition, another position requiring HPLC and GC experience is also available. These positions require 1-5 years experience in analytical chemistry or RIA methods development, as well as a BS/MS in Chemistry or Biochemistry or equivalent experience. Applicants must have good communications, analytical, organizational, decision-making and technical skills.

As a global leader in drug development, we offer exceptional career potential. Salaries are commensurate with credentials and experience and we provide a full range of benefits. Please send resume with salary history and requirements to: **Patricia A. Garrett, Department E204-20, CIBA-GEIGY Corporation, Pharmaceuticals Division, 444 Saw Mill River Road, Ardsley, NY 10502-2699.** We Are An Equal Opportunity Employer M/F/H/V.

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POSITIONS OPEN

POSTDOCTORAL POSITION for work on molecular biology of hormone receptors. Send résumé, names of three references and description of future plans to: **Dr. Gerald Litwack, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION IN DEVELOPMENTAL BIOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

A postdoctoral position is available for study in the following areas:

- 1) Molecular aspects of oogenesis and regulation of the translation of maternal mRNA.
- 2) Mechanism of action of steroid hormones in the induction of oocyte maturation.

Applicants should submit curriculum vitae and letters of reference to: **Dr. L. Dennis Smith, Department of Developmental and Cell Biology, University of California, Irvine, CA 92717.** The University of California is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF MINNESOTA DEPARTMENT OF PHARMACOLOGY POSTDOCTORAL AND RESEARCH ASSOCIATE POSITIONS

The Department of Pharmacology at the Medical School of the University of Minnesota has postdoctoral and research associate positions available in several different areas. The Department has a number of highly established faculty members who are well funded and carry strong multidisciplinary research programs. Postdoctoral positions are available for applicants upon receiving their Ph.D. degree. Research associate positions are available for graduates with 1 year postdoctoral experience. Areas of emphasis and projects include:

BIOCHEMISTRY, molecular biology, immunology, and neurobiology-neurochemistry. Projects include research to purify and characterize opioid receptors.

INTRACELLULAR ELECTROPHYSIOLOGY. Projects to include xenopus oocyte M-RNA expression, dissociated spinal cord whole cell patch clamp and spinal cord slice experiments.

SINGLE AND/OR MULTIPLE UNIT RECORDING in conscious rodents. Projects to include work which combines state of the art telemetry for data acquisition/reduction—studying effects of febrile seizures and early exposure to drugs of abuse/withdrawal.

BIOCHEMICAL/MOLECULAR PHARMACOLOGY. Projects to include working as part of a team studying effects of CNS toxic insult or early (neurochemical/behavioral) drug exposure and undernutrition on CNS function.

CANCER CHEMOTHERAPY, immunopharmacology, drug metabolism, enzymology, protein purification and toxicology. Projects to include studying various aspects of mammalian aldehyde dehydrogenase enzymology and regulation in relation to the biotransformation of drugs and other agents (especially those used in cancer chemotherapy and that facilitate cellular differentiation).

Applicants should send curriculum vitae, statement of research interests, identification of which of the above areas you are interested in, and names of three references to: **James Burak, Department of Pharmacology, 3-249 Millard Hall, University of Minnesota, Minneapolis, MN 55455.** Postdoctoral applicants should state citizenship or residency status since several of these positions are limited to U.S. citizens or permanent residents. Applications should be received no later than 15 November 1988.

The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

POSTDOCTORAL RESEARCH POSITION funded by 4-year NIMH grant: Functional Mapping of Associative Learning in Rat Brain. Research applies 2-deoxyglucose method with behavioral and electrophysiological techniques. Seeking neuroscientist familiar with rat neuroanatomy, computers and laboratory instruments. Minorities are encouraged to apply. Send curriculum vitae, names of references, and reprint to: **Dr. F. Gonzalez-Lima, Department of Anatomy, College of Medicine, Texas A&M University, College Station, TX 77843.** Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITIONS AVAILABLE IN EXPERIMENTAL PATHOLOGY

Positions available beginning January 1989 for a Ph.D. or M.D. with training in carcinogenesis or cell and molecular biology to pursue studies in carcinogenesis, growth regulation, and developmental changes in bile ductular epithelium from rodent and human livers. Send curriculum vitae, graduate transcripts, and three letters of recommendation to: **Dr. Alphonse F. Sirica, Director, Program in Carcinogenesis and Experimental Tumor Biology, Department of Pathology, Box 662 MCV Station, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298.** Competitive salaries. Women and Minorities are encouraged to apply. An Equal Opportunity/Affirmative Action Employer.

PROFESSORSHIP AT UCLA MICROBIOLOGY OF ORGANISMS FROM EXTREME HABITATS DEPARTMENT OF MICROBIOLOGY AND CENTER FOR THE STUDY OF LIFE IN EXTREME ENVIRONMENT (CSLEE)

University of California, Los Angeles (UCLA) is recruiting a general bacteriologist with an established research program in the areas of molecular genetics, evolutionary biology or physiology of organisms which thrive under and require extremes of temperature, pH or salinity. This appointment can be made at any level from assistant professor to professor. There is special interest in candidates whose research focus is on sulfur respiring, chemolithotrophic anaerobes.

Teaching responsibilities within the Department will be in the candidates' area of research interest.

The professor will have the opportunity to interact with investigators from the Departments of Chemistry, Biochemistry, Chemical Engineering, Geology, and Biology and from the MBI in the newly formed Center for Study of Life in Extreme Environments. UCLA has committed substantial resources to the Center to create a facility for scale-up fermentation of "extremophiles" to facilitate study of their cellular processes and macromolecules.

Please submit curriculum vitae, brief description of research goals, and the names of at least three references, by 15 November 1988 to: **Dr. C. Fred Fox, Chairman of Search Committee, Department of Microbiology, University of California, Los Angeles, CA 90024.** UCLA is an Equal Opportunity/Affirmative Action Employer.

This position is independent of another opening for a Symbiosis/Developmental Bacteriologist (see *Science*, 9 and 30 September 1988).

TENURE-TRACK FACULTY POSITION IN MOLECULAR PHARMACOLOGY THE UNIVERSITY OF MINNESOTA

Applications are invited for positions of assistant professor in the Department of Pharmacology, School of Medicine. Successful candidates are expected to establish an outstanding independent research program in the area of molecular neuropharmacology and to participate in departmental teaching responsibilities. Requirements include a Ph.D. in pharmacology, biochemistry, or related field, or an M.D., and have 2 years of postdoctoral experience. Candidates with a strong research background and experience using recombinant DNA technology for studying pharmacological problems and molecular biology of the CNS are preferred. Applicants must have demonstrated involvement in quality research published in peer-reviewed journals.

Salary and start-up funds are competitive. Appointment as associate professor may be considered for applicants with professional distinction in published research and ability to attract extramural grant support, and who have demonstrated effectiveness in teaching and advising.

Applicants should send curriculum vitae, significant reprints, a statement of research plans, and three names for reference purposes to: **Dr. J. W. Miller, Professor and Chairperson of Search Committee, Department of Pharmacology, 3-249 Millard Hall, 435 Delaware Street S.E., University of Minnesota, Minneapolis, MN 55455.** Deadline for receipt of applications is 15 December 1988.

The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages application from women and minorities.

POSITIONS OPEN

RESEARCH ASSOCIATE/ POSTDOCTORAL FELLOW DEPARTMENT OF MOLECULAR BIOLOGY CLEVELAND CLINIC FOUNDATION

In this newly formed Department several positions are immediately available for research associates, postdoctoral fellows, and technical assistants in the following research groups.

A. K. Banerjee: RNA virus gene structure, function, and replication. **M. S. Galinski:** Paramyxovirus gene expression/molecular mechanism of host-virus interaction. **M. L. Harter:** Adenovirus E1a and E1b proteins. **G. C. Sen:** Expression and functions of interferon inducible genes/tissue-specific expression of hypertension regulating genes. **D. W. Stacey:** Biological functions of protooncogenes in normal and tumor cells.

Advancement opportunities exist for outstanding individuals at all levels. Excellent compensation and benefits are available for every position.

Please address all applications or inquiries including curriculum vitae and names of references to: **Dennis W. Stacey, Department of Molecular Biology, The Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH 44195-5178.**

SENIOR RESEARCH ASSISTANT/ASSOCIATE DUKE UNIVERSITY

A position is available for an individual with a strong background in molecular biology to clone and sequence genes coding for membrane structural proteins. The focus for the next few years will be on ankyrin in erythrocytes and brain. Academic preparation should include a B.S. degree in chemistry or biology; a Ph.D. or equivalent in experience is desirable. This is an excellent opportunity for independent research with authorship on papers and travel to scientific meetings. The position would be within the Howard Hughes Medical Institute and would include a competitive salary and benefits. Please send curriculum vitae and names and telephone numbers of three references to: **Vann Bennett, Investigator, Howard Hughes Medical Institute, Duke University Medical Center, Box 3892, Durham, NC 27710.**

SENIOR RESEARCH ASSOCIATE, PENN STATE—Research on the chemical and physical behavior of molecules in polymers and adhesives, and the compatibility of matrix materials. Application to the development and characterization of topical formulations and systems for transdermal delivery of drugs. Candidate should possess good communication skills. Participation in scale-up for production, and coordination with bioavailability and clinical testing programs. Minimum requirements: Ph.D., or equivalent, in chemistry or physics; proven record of interdisciplinary research in related fields, and experience in the following areas: polymers and adhesives, coating and lamination, radio-isotope experimentation, analytical methodology, animal experimentation, manufacturing scale-up, computer programming, and project management. Salary \$30,000 to \$50,000 per year. Benefits, standard University package. Reply, by 28 October 1988, to: **Dr. Wallace Snipes, 417 Wartik Laboratory, The Pennsylvania State University, University Park, PA 16802.** An Affirmative Action/Equal Opportunity Employer. Women and Minorities Encouraged to Apply.

TERRESTRIAL ECOLOGIST/ WILDLIFE BIOLOGIST

Envirosphere Company is seeking a terrestrial ecologist/wildlife biologist with experience in field surveys for vertebrates, small mammal trapping studies and avi and herpeto faunal studies. Quantitative skills and previous experience with impact assessment (EIS) preparation desirable. Good oral and written skills essential. Advanced degree preferred. Envirosphere offers excellent growth opportunities as well as competitive salaries and a comprehensive benefits package. Please send résumé to: **T. A. Caparo, EBASCO SERVICES INC., 160 Chubb Avenue Lyndhurst, NJ 07071.** Equal Opportunity Employer, M/F/H/V.



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For information about available positions, contact Denise Pringle at: Syva, Professional Staffing, Dept. SC9, P.O. Box 10058, Palo Alto, CA 94303. We're an equal opportunity employer.

POSITIONS OPEN

SCIENTIFIC DIRECTOR—Responsible for the development of novel polymeric electrochromic and electroluminescent materials for display application. Supervises and directs research team in the electrode surface confinement of these materials, or patterning using conventional photolithographic techniques and evaluation of these materials' stability and durability. Also responsible for the development of complimentary counter-electrode technology and the associated electronics of multiplexing.

Requirements include a doctorate degree in photochemistry and at least 2 years of postdoctoral research experience in the following: Design, synthesis and spectroscopic characterization (nmr, ms, IR, UV-VIS, and emission spectro-photometry) of organic, organometallic and coordination compounds with predictable optical properties; electro-deposition of polymers; microfabrication technology and surface confinement of materials using conventional VLSI photo-lithographic technology; and characterization of surface confined materials by surface analysis techniques (auger, XPS, RBS and SIMS).

Position located in Rockville, Maryland. Forty hours per week; \$3,750 per month. Send résumé and copy of ad to: Job Order #7009627, MD. D.E.E.D., Room 212, 1123 North Eutaw Street, Baltimore, MD 21201. Legal right to work in U.S. required.

WEED PHYSIOLOGIST UNIVERSITY OF NEBRASKA-LINCOLN

Nine-month academic year tenure-leading assistant professor position (75% research, 25% teaching) in agronomy with weed physiology emphasis. Research will include laboratory, greenhouse and field studies on herbicide absorption, translocation, metabolism and mechanisms of action in plants. Attention will be on physiological aspects of weed/crop ecology such as factors influencing bud and seed dormancy and plant allelopathy. Emphasis on perennial weeds such as leafy spurge. Teaching responsibilities will include graduate level herbicide mode of action and advanced weed science courses. Serve as graduate adviser. Requires Ph.D. in weed science with emphasis on weed physiology. Must have interest in graduate teaching. Familiarity with modern analytical methods and plant cell culture desired. Remit letter of application, résumé, transcripts and names/addresses of three references by 30 October 1988 (or until suitable candidate is identified thereafter) to:

Dr. Darrell W. Nelson, Head
Department of Agronomy, IANR
University of Nebraska-Lincoln
Lincoln, NE 68583-0915
Telephone: 402-472-1555

Affirmative Action/Equal Opportunity Employer

CONFERENCES

**CELL AND MOLECULAR BIOLOGISTS
ONCOLOGISTS
MATHEMATICIANS**
2nd INTERNATIONAL CONFERENCE ON
MATHEMATICAL POPULATION DYNAMICS
17 to 20 May 1989
Rutgers, The State University of New Jersey
New Brunswick, New Jersey

The conference will be an interdisciplinary forum for an exchange of views and experiences between biologists and mathematicians interested in modeling. Quantitative aspects of cell and molecular biology, epidemiology, and cancer research, will be emphasized. Biologists and clinicians, as well as mathematicians, are encouraged to participate. For further information contact: Dr. Marek Kimmel, Department of Pathology, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021. Telephone: 212-794-6006.

PESTICIDE RESEARCH CONFERENCE Richmond, Virginia, 11 to 12 May 1989

Topics: monitoring techniques and case studies; chemical and analytical methods; environmental effects; risk assessment; residues in water supplies and wastewater; nonpoint source control; disposal techniques; cost-benefit studies; policy issues. Abstracts (300 to 500 words) due 1 December 1988. Please write to: Water Resources Research Center, Virginia Polytechnic Institute, 617 North Main Street, Blacksburg, VA 24060.

COURSE

**THE JAMES S. McDONNELL FOUNDATION
SUMMER INSTITUTE IN COGNITIVE NEUROSCIENCE.** The second annual Summer Institute will be held at Dartmouth College, 26 June-7 July 1989. The course will examine how information about the brain bears on issues in cognitive science, and how approaches in cognitive science apply to neuroscience research. A distinguished faculty will lecture on current topics in vision and memory; laboratories and demonstrations will provide practical experience with cognitive neuropsychology experiments, connectionist/computational modeling, and neuroimaging techniques. At every stage, the relationship between cognitive issues and underlying neural circuits will be explored.

The Institute directors will be Ira Black, Michael Gazzaniga, Steven Hillyard, Ralph Linsker, and Gordon Shepherd. Applications are invited from beginning and established researchers. The Foundation will provide limited support for travel expenses and room/board. For further information and applications please write to:

McDonnell Institute in Cognitive Neuroscience
Michael S. Gazzaniga, Ph.D.
HB 7915-A
Dartmouth-Hitchcock Medical Center
Hanover, NH 03756

PROGRAM

CAREER CHANGE OPPORTUNITY

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

WORKSHOP

**INFERRING CARCINOGENIC EFFECTS
IN ONE SPECIES FROM DATA
ON A DIFFERENT SPECIES**
Workshop on 29 to 30 October 1988
At the International Hotel
Baltimore-Washington International Airport

Deadline for poster abstracts: 24 October 1988.
Extrapolation models and risk assessment
Animal bioassay and human epidemiology data
Pharmacokinetics and delivered dose
DNA alkylation and repair
Tissue sensitivity and transformation efficiency
Cell proliferation and tumor progression
Research needs

Registration, including lunches and reception, costs \$120. For more information, abstract forms or registration contact: Alexandra Ventura, American College of Toxicology, 9650 Rockville Pike, Bethesda, MD 20814. Telephone: 301-571-1840.

For hotel accommodations (special rate \$60.00) contact: The International Hotel at 1-800-638-5858.

Jointly sponsored by the Society for Risk Analysis and American College of Toxicology.

FELLOWSHIPS

**THE HEBREW UNIVERSITY
OF JERUSALEM
Jerusalem, Israel
THE GOLDA MEIR
FELLOWSHIP FUND**

The Hebrew University of Jerusalem offers a number of postdoctoral fellowships for the 1989-1990 academic year in the humanities, social sciences, natural sciences, agriculture and medicine.

Candidates may apply at an early stage of their professional career (not later than 3 years after completion of their doctoral dissertation).

Requests for application forms should be addressed to: The Fellowship Fund, P.O. Box 1255, Jerusalem 91904, Israel.

Completed application forms must be returned by 1 December 1988.

FELLOWSHIPS

**THE HEBREW UNIVERSITY
OF JERUSALEM
Jerusalem, Israel
THE GOLDA MEIR
FELLOWSHIP FUND
THE BERMAN FELLOWSHIP
AND SCHOLARSHIP PROGRAM
THE FORCHHEIMER
FOUNDATION FELLOWSHIPS**

The Hebrew University of Jerusalem offers a number of postdoctoral fellowships for the 1989-1990 academic year in the humanities, social sciences, natural sciences, agriculture and medicine.

Candidates may apply at an early stage of their professional career (not later than 3 years after completion of their doctoral dissertation). Every application is considered for all Funds.

Requests for application forms should be addressed to: The Fellowship Fund, P.O. Box 1255, Jerusalem 91904, Israel.

Completed application forms must be returned by 1 December 1988.

Ph.D. DOCTORAL FELLOWSHIPS in the area of food science or human nutrition. Stipend: \$15,000 per year for 3 years. Minimum requirements: M.S. degree, 1200 GRE, 3.5 GPA. Send curriculum vitae, transcripts, and three letters of recommendations to: Dr. Lynn Bailey, Food Science and Human Nutrition Department, IFAS, University of Florida, Gainesville, FL 32611. Deadline: 1 February 1989.

POSTDOCTORAL RESEARCH

A 2-year fellowship is offered at \$19,000 yearly to work on the kinetics of macromolecular transport in the isolated lung. Candidates need good written communication skills and competence in small animal surgery. Backgrounds in physiology, zoology, pharmacology, biophysics, or equivalents are suitable. Send curriculum vitae and two references by 10 November 1988 to: Dr. P. R. Byron, Department of Pharmacy and Pharmaceutics, Box 581, Medical College of Virginia, VCU, Richmond, VA 23298-0001. Telephone: 804-786-6028.

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

HERBERT H. JASPER POSTDOCTORAL RESEARCH FELLOWSHIP IN NEUROSCIENCE available. Position provides 1 year's salary and use of the exceptional facilities of the Center for Research in Neurological Sciences. Recipient works closely with investigator of choice, within a large group currently studying a wide range of topics in the vertebrate nervous system. Further information and application forms available from: Fellowship Committee, Centre de recherche en sciences neurologiques, Faculté de médecine, Université de Montréal, C.P. 6128, Succ. A, Montréal, Québec, Canada H3C 3J7. Deadline: 31 December 1988.

PRE- AND POSTDOCTORAL FELLOWSHIPS IN MOLECULAR PLANT-MICROBE INTERACTIONS THE OHIO STATE BIOTECHNOLOGY CENTER

Several positions are available on a competitive basis. Investigators include:

David M. Bisaro: geminivirus molecular biology, plant DNA methylation and repair.

Robert C. Garber: molecular genetics of plant-fungus interactions.

P. E. Kolattukudy: gene expression in plant-fungus interactions, genes involved in lipid biosynthesis.

N. Kent Peters: plant signals in Rhizobium-legume interactions.

Mary L. Tierney: cell wall proteins, molecular analysis of maize embryo development.

Desh Pal S. Verma: function and regulation of node-specific genes.

Send curriculum vitae with the names of three references to: Director, Biotechnology Center, Rightmire Hall, 1060 Carmack Road, The Ohio State University, Columbus, OH 43210. An Affirmative Action/Equal Opportunity Employer.

Research Triangle Universities Plant Molecular Biology Fellowships

Applications due February 1, 1989

Awards to be announced after March 15, 1989

In 1983, Duke University, North Carolina State University, the University of North Carolina at Chapel Hill and the North Carolina Biotechnology Center formed a Consortium dedicated to the advancement of studies in the molecular biology of green plants and other photosynthetic organisms. In 1989, with financial support from Ciba-Geigy, RJR Nabisco and the North Carolina Biotechnology Center, the Consortium will provide a limited number of graduate and postdoctoral Fellowships for study and research in plant molecular biology at the three Research Triangle universities.

Fellowship candidates must be U.S. citizens. Preference will be given to applicants from outside North Carolina. Each Fellow must be based in a plant molecular biology laboratory at one of the Research Triangle universities but will participate in activities involving faculty and students at all three institutions.

Graduate Fellowships

The graduate student stipend is \$10,000 plus tuition, with an allowance for supplies and travel. The award is renewable for two additional years. Candidates must apply directly for graduate admission at one or more of the participating universities; acceptance in a graduate degree program is required for the award.

Postdoctoral Fellowships

The postdoctoral stipend is \$21,500, subject to university policies, plus a \$5,000 allowance for supplies and travel. The award is renewable for an additional year. Applicants must be sponsored by a qualified faculty member at one of the three participating universities.

For specific application requirements, contact:

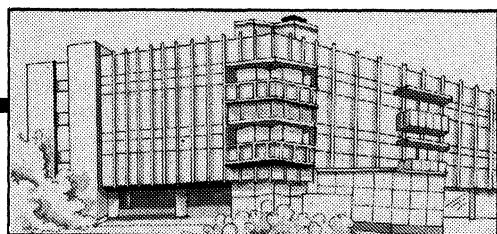
North Carolina Biotechnology Center

ATTN: Jay Gartrell

P.O. Box 13547

Research Triangle Park, NC 27709-3547

FAX 919-549-9710



MERRELL DOW RESEARCH INSTITUTE STRASBOURG CENTER

has an opening for a

Molecular Virologist

We are seeking an independent scientist (Ph.D. + 3 years post doctorate) with a demonstrated expertise in the molecular biology of retroviruses. The successful candidate will be expected to initiate a basic research program that will investigate viral-encoded proteins as targets for antiviral drug design. Integrating within a multidisciplinary team of scientists focusing on signal transduction, the virologist will have abundant opportunities for scientific collaborations with molecular biologists, immunologists, protein and medicinal chemists, and pharmacologists. The scientist selected for this opening will immediately occupy an important role in the development of the biological sciences program at MDRI, Strasbourg. Knowledge of French is desirable, but not a requirement for this position.

Applicants should send a curriculum vitae and three letters of references to: Mrs M.J. Bildstein Director of Personnel Services
Merrell Dow Research Institute 16, rue d'Ankara
F-67084 STRASBOURG Cedex - France.

MEDIA-SYSTEM

SANDOZ, a leading pharmaceutical company based in Switzerland, and well established in endocrine therapy has, due to the retirement of a distinguished endocrinologist, an opening in the Preclinical Research Dept., Basle, for a well-qualified

Pharmacologist or Physician

to work on the development of new drugs for the treatment of

Endocrine Disorders

The successful applicant will take charge of a laboratory working within an interdisciplinary group in the endocrinological research unit. He or she should be familiar with, and capable of setting up, both biochemical and animal models of endocrine disorders. We are particularly interested in a candidate with interests in, and experience of, not only the classical fields of pituitary hormones and reproductive physiology, but also the rapidly growing field of *growth factor research and its applications to oncology*.

In addition to qualifications in experimental pharmacology or physiology (Ph.D., D.V.M. or M.D.), applicants should thus have postdoctoral and (possibly) industrial experience, a broad knowledge of endocrinology, and proven or potential ability to lead a small group of research scientists.

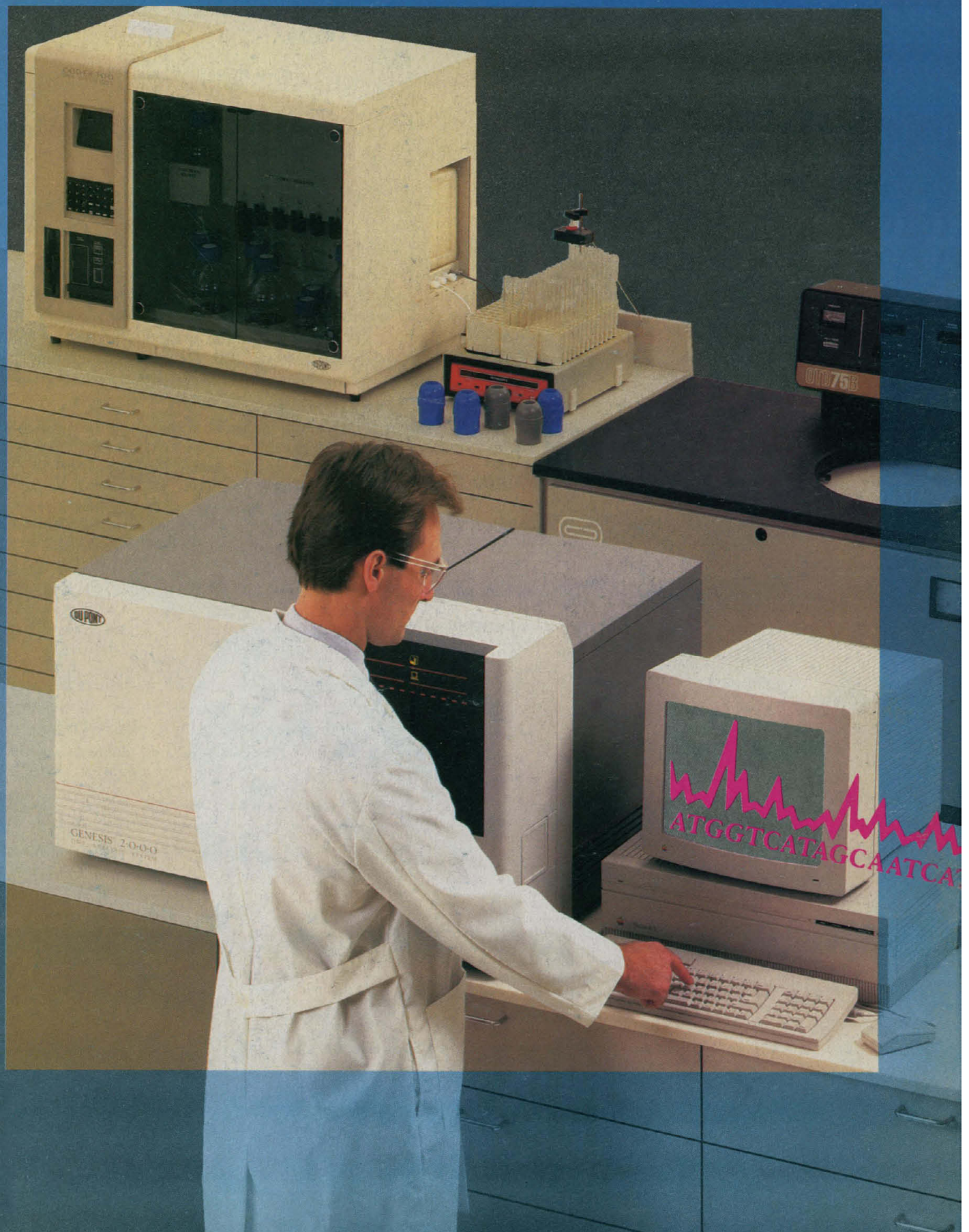
SANDOZ offers a scientifically attractive working atmosphere, well-equipped laboratories, and the opportunity both to publish the results of original research and to attend scientific meetings.

Applications, which will be treated in strict confidence, should be accompanied by a *curriculum vitae* and list of publications and addressed to:



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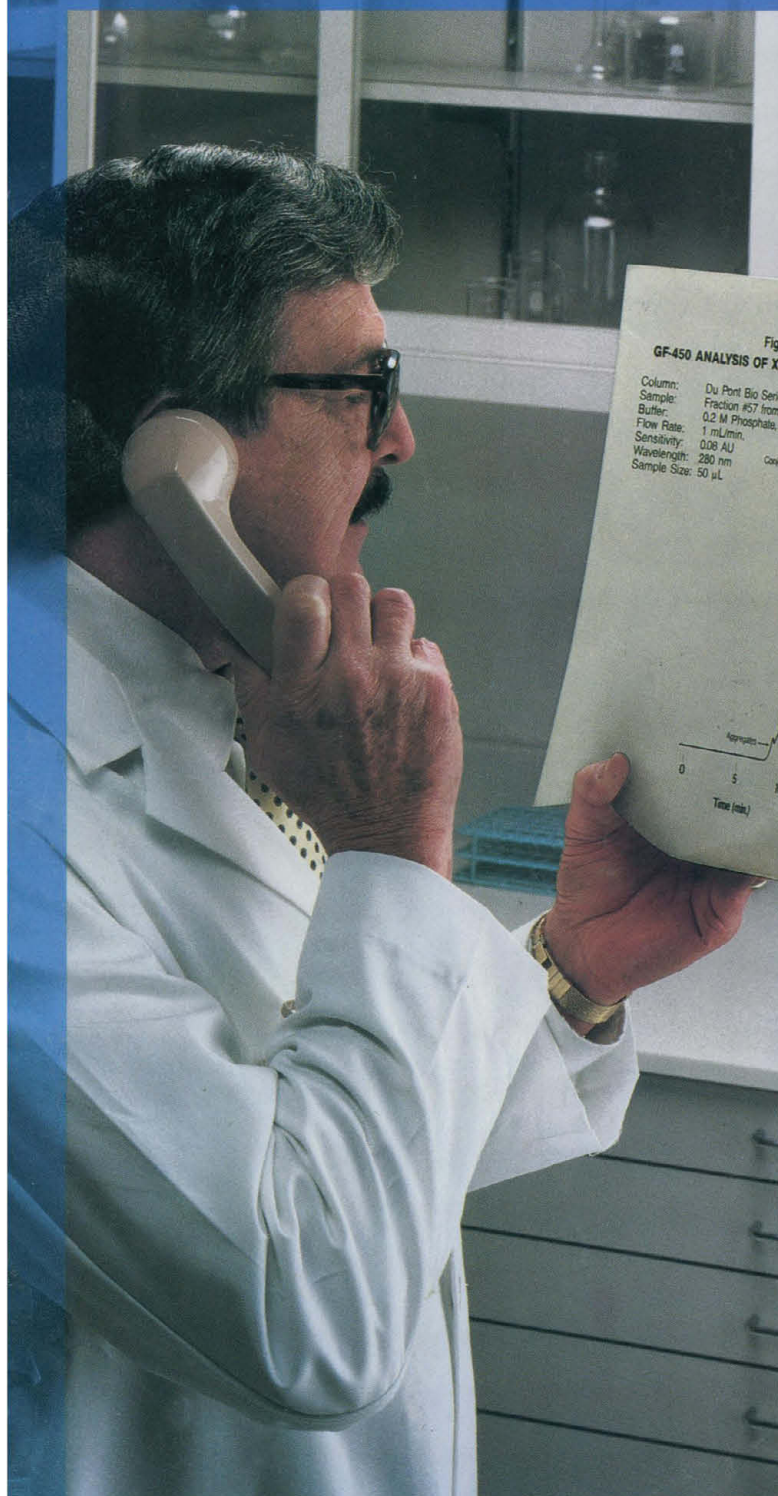


Figure 4
GF-450 ANALYSIS OF XL PURIFIED CONJUGATE

Column: Du Pont Bio Series (GF-450)
Sample: Fraction #57 from GF-450XL
Buffer: 0.2 M Phosphate, pH 7.0
Flow Rate: 1 mL/min
Sensitivity: 0.08 AU
Wavelength: 280 nm
Sample Size: 50 μ L

Conjugate

Aggregates
0 5 10
Time (min)

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