

time, so that there were many more in the past. W. L. W. Sargent reported on a large survey of metal-line systems that showed that they cluster much as present-day galaxies cluster: further evidence that they arise in galaxies like our own. D. Turnshek, C. B. Foltz *et al.*, and J. P. Ostriker discussed how QSOs themselves affect their immediate environment, in some cases spewing forth clouds of material, in other cases merely altering existing clouds with their intense radiation. A. M. Wolfe and F. H. Briggs summarized their long-term study of the "damped Lyman- α " systems, metal-line systems that arise in the disks of early spiral galaxies. The most controversial results were presented by D. Tytler, who argued that there are not two fundamentally different types of clouds but a single population with a continuous distribution of cloud sizes, hydrogen column densities, and metallicities. Two years later, this controversy is still unresolved, and there remains persuasive evidence for both views.

One good feature of this book is that verbatim transcripts of the discussions are included, giving a sense of the stimulating atmosphere of the conference. An unfortunate feature is that only the review talks are included, with the contributed papers issued separately in a preprint that has not been widely circulated. (This reviewer has been unable to get a copy despite numerous requests.) The contributed papers are liberally referred to in the review talks and in many cases report the newest and most influential ideas and results. Still, this book provides a good starting point for students and researchers seeking an introduction to the subject.

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Postmortems

Recent Vertebrate Carcasses and Their Paleobiological Implications. JOHANNES WEIGELT. University of Chicago Press, Chicago, 1989. xviii, 188 pp. + plates. \$60; paper, \$19.95. Translated from the German edition (Leipzig, 1927) by Judith Schaefer.

Death, decay, decomposition, putrefaction, destruction, burial—these are the subjects of a classic 60-year-old monograph by Johannes Weigelt now translated and accessible to a wide audience for the first time. Weigelt (1890–1948) was a pioneer of taphonomy (though he used the term *biostratinomy*). The German taphonomic tradition did not take root in North America (although Zangerl and Richardson's 1963

monograph on Pennsylvanian black shales was an outgrowth of that tradition). The taphonomy that is popular today follows the Russian tradition of I. Efremov, as introduced to the United States by E. C. Olson in 1962, which blossomed in the 1970s under the leadership of A. K. Behrensmeier.

Weigelt reviews the processes of decomposition of vertebrate remains and provides an exhaustive classification of causes of death, with abundant examples of mass death (including lemmings in the sea, reindeer in lakes, massive fish kills due to changes in temperature and salinity, the ill effects of El Niño on marine life, and the effects of cold and drought on terrestrial life). He stresses the importance of the moisture content of the burial medium: when the medium is too dry, natural mummification occurs; when it is too moist, decomposition is also inhibited, and a natural anaerobic process of saponification occurs, resulting in a carcass in which the soft parts are preserved as *adipocere*. Macabre examples of these two phenomena include mummies of knights in castle towers and in cathedral crypts and the undecomposed corpses in the Cemetery of the Holy Innocents in Paris. Weigelt recounts his observations of carcasses of cows, turtles, alligators, and garfishes that were killed by severe winter cold at Smithers Lake along the Texas Gulf Coast in December 1924, an event that claimed 1.25 million cattle. He tracks decomposition unflinchingly with an extensive series of photographs taken over a ten-month period. He demonstrates the relevance of the Texas carcasses for interpreting fossil fish and tetrapod remains.

Many of the themes of Weigelt's work (the role of insects in decomposition; burial of land vertebrates in marine strata; carcasses on facies boundary lines) have been discovered independently by modern workers. I am intrigued by his mention *en passant* of alligators regurgitating bone. It is well known that crocodilians have very low stomach pH and bone-free feces; thus paleontologists have discounted the role of crocodiles as agents of bone accumulation in the past. Is it possible that crocodiles faced with coarse, bony prey such as turtles and gars (rather than the dainty rodents of experimental studies) actually do regurgitate bone and thus may be agents of bone accumulation?

Conspicuously lacking in taphonomy today are studies of modern mass mortalities that can serve as models for the deposits that are so conspicuous in the fossil record. (We all know that wildebeests drown in great numbers when a herd crosses a river in flood, but who has ever studied the resultant carcasses?) Weigelt's book will serve as an indispensable resource and as a welcome

stimulus for some much-needed basic research in taphonomy.

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Books Received

Alternative Life-History Styles of Animals. Michael N. Bruton, Ed. Kluwer, Norwell, MA, 1989. xviii, 617 pp., illus. \$215. Perspectives in Vertebrate Science, vol. 6. From a conference, Grahamstown, South Africa, June 1987.

Arms Control and National Security. An Introduction. Arms Control Association, Washington, DC, 1989. vi, 176 pp., illus. Paper, \$14.95.

Atmospheric Radiation. Theoretical Basis. R. M. Goody and Y. L. Yung. 2nd ed. Oxford University Press, New York, 1989. xvi, 519 pp., illus. \$95.

Authority, Liberty, and Automatic Machinery in Early Modern Europe. Otto Mayr. Johns Hopkins University Press, Baltimore, 1989. xviii, 265 pp., illus. Paper, \$16.95. Johns Hopkins Studies in the History of Technology. Reprint, 1986 ed.

The Awakening Desert. The Autobiography of an Israeli Scientist. Michael Evenari. Springer-Verlag, New York, 1989. xiv, 204 pp. + plates. Paper, \$29.50. Translated from the German edition (Gerlingen, 1987).

Benefits and Risks of Knowledge-Based Systems. Council for Science and Society. Oxford University Press, New York, 1989. xii, 76 pp. Paper, \$14.95.

Biology in Microgravity. A Guide for Experimenters. L. G. Briarty. European Space Agency, Noordwijk, The Netherlands, 1989. 141 pp., illus. Paper, Dfl. 40.

Biotechnology in Europe and Latin America. Prospects for Co-operation. Bernardo Sorj, Mark Cantley, and Karl Simpson, Eds. Kluwer, Norwell, MA, 1989. xviii, 223 pp., illus. \$69. Based on a seminar, Brussels, Belgium, April 1987.

Cell Growth and Division. Renato Baserga, Ed. IRL (Oxford University Press), New York, 1989. xiv, 158 pp., illus. \$58; paper, \$38. Practical Approach Series.

A Citizen's Right to Know. Risk Communication and Public Policy. Susan G. Hadden. Westview, Boulder, CO, 1989. xvi, 239 pp. \$27.95.

Clinical Chemistry. E. Howard Taylor, Ed. Wiley-Interscience, New York, 1989. x, 293 pp., illus. \$75. Chemical Analysis, vol. 106.

The Clockwork Sparrow. Time, Clocks, and Calendars in Biological Organisms. Sue Binkley. Prentice Hall, Englewood Cliffs, NJ, 1990. x, 262 pp., illus. \$24.95.

Common Forest Trees of Hawaii (Native and Introduced). Elbert L. Little, Jr., and Roger G. Skolmen. U.S. Department of Agriculture, Washington, DC, 1989 (available from the Superintendent of Documents, Washington, DC). vi, 321 pp., illus. Paper, \$16. Agriculture Handbook no. 679.

Common Trees of Puerto Rico and the Virgin Islands. Elbert L. Little, Jr., and Frank H. Wadsworth. Published by the authors, 924 20th St. S., Arlington, VA 22202, 1989. x, 556 pp., illus. Paper, \$16. Reprint, 1964 ed.

Commutative Ring Theory. Hideyuki Matsumura. Cambridge University Press, New York, 1989. xiv, 320 pp. Paper, \$24.50. Cambridge Studies in Advanced Mathematics, vol. 8. Reprint, 1986 ed.

The Computer and the Mind. An Introduction to Cognitive Science. P. N. Johnson-Laird. Harvard University Press, Cambridge, MA, 1989. 444 pp., illus. Paper, \$14.95. Reprint, 1988 ed.

Conservation for the Twenty-First Century. David Western and Mary C. Pearl, Eds. Oxford University Press, New York, 1989. xxvi, 365 pp., illus. \$36.95. Based on a conference, New York, Oct. 1986.

Darwin Without Malthus. The Struggle for Existence in Russian Evolutionary Thought. Daniel P. Todes. Oxford University Press, New York, 1989. x, 221 pp. + plates. \$45. Monographs on the History and Philosophy of Biology.

Defect and Fault Tolerance in VLSI Systems. Vol. 1. Israel Koren, Ed. Plenum, New York, 1989. xii, 362 pp., illus. \$69.50. From a workshop, Springfield, MA, Oct. 1958.

Dioxins and Furans. Questions and Answers. Todd Paddock. Academy of Natural Sciences, Philadelphia, PA, 1989. xii, 101 pp. Paper, \$10.

The Formation and Evolution of Planetary System. H. A. Weaver and L. Danly, Eds. Published for the Space Telescope Science Institute by Cambridge University Press, New York, 1989. xii, 344 pp., illus. \$44.50. Space Telescope Science Institute Symposium Series, vol. 3. From a meeting, Baltimore, MD, May 1988.

The Fossil Book. A Record of Prehistoric Life. Carroll Lane Fenton and Mildred Adams Fenton. 2nd ed. Doubleday, New York, 1989. xii, 740 pp., illus. \$40.

Frontiers of Stress Research. Herbert Weiner *et al.*, Eds. Huber, Lewiston, NY, 1989. xii, 458 pp., illus. \$79. Neuronal Control of Bodily Function, vol. 3. From a symposium, Trier, F.R.G., Sept. 1987.

Gene Transfer and Gene Therapy. Arthur L. Beaudet, Richard Mulligan, and Inder M. Verma, Eds. Liss, New York, 1989. xxii, 441 pp., illus. \$110. UCLA Symposia on Molecular and Cellular Biology, vol. 87. From a symposium, Tamarron, CO, Feb. 1988.

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Geometric Reasoning. Deepak Kapur and Joseph L. Mundy, Eds. MIT Press, Cambridge, MA, 1989. viii, 512 pp., illus. Paper, \$27.50. Largely reprinted from *Artificial Intelligence*, vol. 37 (1988). From a workshop, Oxford, U.K., June-July 1986.

Global Warming. Are We Entering the Greenhouse Century? Stephen H. Schneider. Sierra Club, San Francisco, 1989 (distributor, Random House, New York). xvi, 317 pp., illus. \$18.95.

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Growth and Optical Properties of Wide-Gap II-VI Low-Dimensional Semiconductors. T. C. McGill, C. M. Sotomayor Torres, and W. Gebhardt, Eds. Plenum, New York, 1989. xii, 349 pp., illus. \$79.50. NATO Advanced Science Institutes Series B, vol. 200. From a workshop, Regensburg, F.R.G., Aug. 1988.

The Guanine-Nucleotide Binding Proteins. Common Structural and Functional Properties. L. Bosch, B. Kraal, and A. Parmeggiani, Eds. Plenum, New York, 1989. x, 409 pp., illus. \$89.50. From a workshop, Renesse, The Netherlands, Aug. 1988.

Holographic and Speckle Interferometry. A Discussion of the Theory, Practice and Application of the Techniques. Robert Jones and Catherine Wykes. 2nd ed. Cambridge University Press, New York, 1989. xiv, 353 pp., illus. \$69.50; paper, \$27.50. Cambridge Studies in Modern Optics, vol. 6.

Human Apolipoprotein Mutants 2. From Gene Structure to Phenotypic Expression. C. R. Sirtori *et al.*, Eds. Plenum, New York, 1989. xii, 255 pp., illus. \$65. NATO Advanced Science Institutes Series A, vol. 167. From a workshop, Limone sul Garda, Italy, March 1988.

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Humans and Other Animals. Beyond the Boundaries of Anthropology. Barbara Noske. Pluto Press, London, 1989 (U.S. distributor, Unwin Hyman, Winchester, MA). xii, 244 pp. \$39.95.

Igneous Petrogenesis. Marjorie Wilson. Unwin Hyman, Winchester, MA, 1989. xx, 466 pp., illus. \$100; paper, \$39.95.

The Immune Response to Structurally Defined Proteins. The Lysozyme Model. Sandra J. Smith-Gill and Eli E. Sercarz, Eds. Adenine, Schenectady, NY, 1989. 416 pp., illus. \$90. From a workshop, Bethesda, MD, June 1988.

In Situ Hybridization. A. T. Haase and M. B. A. Oldstone, Eds. Springer-Verlag, New York, 1989. xiv, 90 pp., illus. \$59.50. Current Topics in Microbiology and Immunology, vol. 143.

Interpol. Issues in World Crime and International Criminal Justice. Michael Fooner. Plenum, New York, 1989. xx, 244 pp., illus. \$29.50. Criminal Justice and Public Safety.

Journey to the Stars. Space Exploration -- Tomorrow and Beyond. Robert Jastrow. Bantam, New York, 1989. viii, 214 pp., illus. \$18.95.

Mechanisms of Reactions of Organometallic Compounds with Surfaces. D. J. Cole-Hamilton and J. O. Williams, Eds. Plenum, New York, 1989. xiv, 299 pp., illus. \$72.50. NATO Advanced Science Institutes Series B, vol. 198. From a workshop, St. Andrews, Scotland, June 1988.

Merlin's Tour of the Universe. Neil de Grasse Tyson. Columbia University Press, New York, 1989. \$29.95.

The Metabolism and Toxicity of Fluoride. Gary M. Whitford. Karger, Basel, 1989. xii, 160 pp., illus. \$98. Monographs in Oral Science, vol. 13.

Metal-DNA Chemistry. Thomas D. Tullius, Ed. American Chemical Society, Washington, DC, 1989. x, 213 pp., illus. \$49.95. ACS Symposium Series, vol. 402. From a symposium, Toronto, Ontario, June 1988.

Methods in Neuronal Modeling. From Synapses to Networks. Christof Koch and Idan Segev. MIT Press, Cambridge, MA, 1989. xiv, 524 pp., illus. \$45. Computational Neuroscience.

Microcosm. The Quantum Revolution in Economics and Technology. George Gilder. Simon and Schuster, New York, 1989. 426 pp. \$19.95.

Mindweave. Communication, Computers and Distance Education. Robin Mason and Anthony Kaye, Eds. Pergamon, Elmsford, NY, 1989. xvi, 273 pp., illus. \$34.95. Based on a conference, Milton Keynes, U.K., Oct. 1988.

Mössbauer Spectroscopy Applied to Inorganic Chemistry. Vol. 3. Gary J. Long and Fernande Grandjean, Eds. Plenum, New York, 1989. xvi, 644 pp., illus. \$115. Modern Inorganic Chemistry.

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Musical Savants. Exceptional Skill in the Mentally Retarded. Leon K. Miller. Erlbaum, Hillsdale, NJ, 1989. viii, 266 pp., illus. \$39.95.

The Names of Plants. D. Gledhill. 2nd ed. Cambridge University Press, New York, 1989. vi, 202 pp. \$44.50; paper \$14.95.

Natural Language Processing Technologies in Artificial Intelligence. The Science and Industry Perspective. Klaus K. Obermeier. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 263 pp., illus. \$39.95. Ellis Horwood Series in Artificial Intelligence.

Neuropeptide Y. Viktor Mutt *et al.*, Eds. Raven, New York, 1989. xxiv, 353 pp., illus. \$125. Karolinska Institute Nobel Conference Series. From a conference, Stockholm, Aug. 1988.

The New Biology. Law, Ethics, and Biotechnology. George P. Smith II. Plenum, New York, 1989. xx, 303 pp. \$34.95.

Nucleotide Analogues as Antiviral Agents. John C. Martin, Ed. American Chemical Society, Washington, DC, 1989. viii, 190 pp., illus. \$44.95. ACS Symposium Series, vol. 401. From a symposium, Los Angeles, CA, Sept. 1988.

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Oxygen Transport to Tissue XI. Karel Rakusan *et al.*, Eds. Plenum, New York, 1989. xxiv, 868 pp., illus. \$135. Advances in Experimental Medicine and Biology, vol. 248. From a meeting, Ottawa, Ontario, Aug. 1988.

Pathways to Health. The Role of Social Factors. John P. Bunker, Deanna S. Gomby, and Barbara H. Kehrer, Eds. Kaiser Family Foundation, Menlo Park, CA, 1989. xxiv, 420 pp. Paper. From a conference, Menlo Park, CA, March 1987.

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Person Perception and Attribution. Hans-Werner Bierhoff. Springer-Verlag, New York, 1989. x, 313 pp., illus. \$59. Springer Series in Social Psychology.

Perspectives in Neural Systems and Behavior. Thomas J. Carew and Darcy B. Kelley, Eds. Liss, New York, 1989. xii, 276 pp., illus. \$76; paper, \$38. MBL Lectures in Biology, vol. 10.

Philosophy of Technology. Practical, Historical and Other Dimensions. Paul T. Durbin, Ed. Kluwer, Norwell, MA, 1989. xxiv, 191 pp. \$79. Philosophy and Technology, vol. 6.

Progress in Heterocyclic Chemistry. Vol. 1. H. Suschitzky and E. F. V. Scriven, Eds. Pergamon, Elmsford, NY, 1989. x, 334 pp., illus. \$70; paper, \$35.

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Regulation of Cell Growth and Activation. James J. Mond, John C. Cambier, and Arthur Weiss, Eds. Raven, New York, 1989. xii, 292 pp., illus. \$78. Advances in Regulation of Cell Growth, vol. 1.

Regulation of Prokaryotic Development. Structural and Functional Analysis of Bacterial Sporulation and Germination. Issar Smith, Ralph A. Slepecky, and Peter Setlow, Eds. American Society for Microbiology, Washington, DC, 1989. xii, 304 pp., illus. \$59; to ASM members, \$45.

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Report on ESA's Scientific Satellites. European Space Agency, Paris, 1989 (distributor, ESA Publications, Noordwijk, The Netherlands). 127 pp., illus. Paper, Dfl. 40.

Rule-Governed Behavior. Cognition, Contingencies, and Instructional Control. Steven C. Hayes, Ed. Plenum, New York, 1989. xx, 391 pp., illus. \$49.50.

Science and Technology of Thin Film Superconductors. Robert D. McConnell and Stuart A. Wolf, Eds. Plenum, New York, 1989. xiv, 557 pp., illus. \$95. From a conference, Colorado Springs, CO, Nov. 1988.

Science and Technology Planning and Policy. F. Bilich. Elsevier, New York, 1989. xvi, 303 pp., illus. \$94.75.

Self-Organization and Associative Memory. Teuvo Kohonen. 3rd ed. Springer-Verlag, New York, 1989. xvi, 312 pp., illus. Paper, \$34. Springer Series in Information Sciences, vol. 8.

Self-Regulated Learning and Academic Achievement. Theory, Research, and Practice. Barry J. Zimmerman and Dale H. Schunk, Eds. Springer-Verlag, New York, 1989. xvi, 212 pp. \$49. Springer Series in Cognitive Development.

Shattered Mirrors. Our Search for Identity and Community in the AIDS Era. Monroe E. Price. Harvard University Press, Cambridge, MA, 1989. viii, 159 pp. \$19.95.

Sources of the Self. The Making of the Modern Identity. Charles Taylor. Harvard University Press, Cambridge, MA, 1989. xii, 601 pp. \$37.50.

The Space Telescope. Eyes Above the Atmosphere. George Field and Donald Goldsmith. Contemporary Books, Chicago, IL, 1989. 166 pp. \$18.95.

Stolen Words. Forays into the Origins and Ravages of Plagiarism. Ticknor and Fields (Houghton Mifflin), New York, 1989. x, 300 pp. \$18.95.

Structure Elucidation by Modern NMR. A Workbook. H. Duddle and W. Dietrich. Steinkopff, Darmstadt, and Springer-Verlag, New York, 1989. viii, 238 pp., illus. Paper, \$29.50. Translated from the German edition (Darmstadt, 1988).

Structured Stochastic Matrices of M/G/1 Type and Their Applications. Marcel F. Neuts. Dekker, New York, 1989. xvi, 334 pp. \$125. Probability, vol. 5.

Style, Politics and the Future of Philosophy. Allan Janik. Kluwer, Norwell, MA, 1989. xvi, 273 pp. \$79. Boston Studies in the Philosophy of Science, vol. 114.

Survival in Space. Medical Problems of Manned Spaceflight. Richard Harding. Routledge, New York, 1989. xx, 227 pp., illus., + plates. \$22.

Symmetry and Antisymmetry. K. Tayler, Haslingfield Press, Cambridge, U.K., 1989. iv, 111 pp., illus. £10.95.

Synthesis of Optically Active-Amino Acids. Robert M. Williams. Pergamon, Elmsford, NY, 1989. xviii, 410 pp., illus. \$80; paper, \$39.50. Organic Chemistry Series, vol. 7.

Synthetic Organic Electrochemistry. Albert J. Fry. 2nd ed. Wiley-Interscience, New York, 1989. xii, 339 pp., illus. \$55.

Teaching the History of Science. Michael Shortland and Andrew Warwick, Eds. British Society for the History of Science and Basil Blackwell, New York, 1989. viii, 281 pp. \$29.95. Based on a conference, Oxford, U.K., 1987.

Wildlife Production Systems. Economic Utilization of Wild Ungulates. Robert J. Hudson, K. R. Drew, and L. M. Baskin, Eds. Cambridge University Press, New York, 1989. xiv, 469 pp., illus. \$95.50. Cambridge Studies in Applied Ecology and Resource Management.

World Archaeoastronomy. A. F. Aveni, Ed. Cambridge University Press, New York, 1989. xiv, 504 pp., illus. \$125. Based on a conference, Merida, Mexico, Jan. 1986.

X-Ray Detectors in Astronomy. G. W. Fraser. Cambridge University Press, New York, 1989. xii, 302 pp., illus. \$69.50. Cambridge Astrophysics Series.

Products & Materials

Blot Analyzer

The Betascope 603 blot analyzer is a new system for direct imaging and quantitation of radiolabeled blots, electrophoretic gels, thin-layer chromatography plates, and other laboratory samples. Through use of a high-speed, high-resolution sensor, the Betascope images ^{32}P , ^{14}C , ^{35}S , and other labeled samples up to 20 times faster than conventional autoradiography. Since each disintegration is counted electronically, quantitation of radioactivity in bands or spots can be quickly and precisely determined by using the instrument's mouse-controlled software. Not a densitometer, the Betascope images samples within a 20 by 20 cm area in real time, displaying and updating images during data collection. The system consists of the Betascope imaging module, analysis software, display, keyboard, mouse system, image printer, and camera. Betagen Corp. Circle 547.

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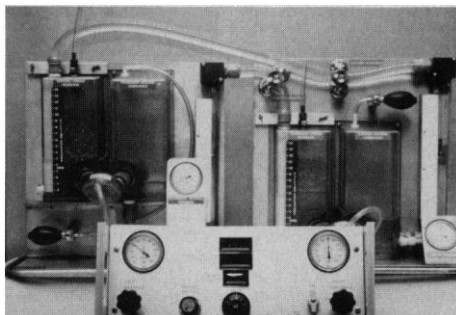
involvement. Enhanced signal processing and other technical improvements allow it to consistently detect sequences at or above 99% accuracy. EG&G Biomolecular. Circle 557.

Biotechnology Information Directory

The National Library of Medicine has a new on-line database called the Directory of Biotechnology Resources. The directory provides information about databases and electronic networks, organizations, reference publications, and descriptions of committees working on the nomenclature of the field. Collections and repositories of organisms and subcellular and genetic elements available to workers in the discipline are also included. The file is accessible through the MEDLARS system. Specialized Information Services Division, National Library of Medicine. Circle 447.

Mock Circulation Systems

Mock Circulation Systems, originally designed for artificial heart research, are hydraulic analogs of the mammalian circulatory system. Arterial compliances and resistances, venous filling pressures, and bronchial flow are all adjustable to simulate a



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ing in length from 200 to more than 10 million base pairs. The CHEF-DR II system is unique among pulsed-field technologies because it provides a reliable electronic means of achieving uniform fields. Electrodes are actively regulated during the separations to maintain field uniformity. The system can separate 16 yeast DNA bands, compared with 11 to 13 for other pulsed-field techniques. The system includes the hexagonal electrode gel apparatus, a drive module, the programmable Pulsewave 760 field switcher, the highly regulated Model 200/2.0 Power Supply, and a circulation pump. Bio-Rad Laboratories. Circle 561.

Literature

How to Increase Profitability with High-Resolution QC Weighing is a comprehensive, eight-page 'how to' booklet on high-resolution weighing and a handy reference tool. The booklet includes a review of the two basic weighing technologies, a glossary of terms, and a brief question and answer section with illustrations and reference charts. Sartorius Corp. Circle 444.

Nonlinear Dynamic Systems: Modeling, Simulation, and Realtime Controls Testing is a six-page, four-color brochure. The brochure provides details of the three kinds of hardware and software tools that Xanalog offers: complete parallel processor-equipped systems with real-time interfaces, software with hardware enhancements for a user's personal computer, and software for a user's personal computer. Xanalog Corp. Circle 445.

Waters Chromatography Systems and Chemistries for Food and Agricultural Product Analysis is a 24-page brochure that presents products and applications for quality control, process/product evaluation, research and development, and regulatory compliance for the food and agricultural laboratory. Waters Chromatography Division of Millipore. Circle 446.

Catalog for Laboratory Light Sources introduces a new product line of laboratory light sources and illuminator accessories. Included are fiber optic and macrophotography illuminators, microscope transilluminators, uniform light sources, fiber optic light guide sets, optical filter sets, standard lamp sources, and lamp power supplies. Lab-source. Circle 438.

Laboratory Reagents and Chromatography Products provides complete product information, specifications, and prices for more than 7000 product listings, including laboratory reagents, high-purity acids, and solvents for key chromatographic applications. Circle 500.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

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Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines \times \$40 = approximate cost of ad. For ads to appear after 1 January 1990, multiply total lines \times \$41. (This is an approximate cost ONLY. Allow for variation between estimated lines and actual typeset lines and the resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.)

CANCELLATION POLICY:

NOTE: Ad cancellations made after Thursday, TWO weeks prior to issue date incur a 10% production charge. Final deadline for cancellations is 12 p.m. Tuesday, ONE week prior to issue date. Cancellations must be in writing.

Send copy for all **Positions Wanted** ads and **Line Classified** ads less than 1/6 page in size (39 lines) to:

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555
FAX: 202-682-0816

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

Scherago Associates, Inc.
1515 Broadway
New York, NY 10036
Telephone: 212-730-1050
FAX: 212-382-3725

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1333 H Street, NW
Washington, DC 20005

POSITIONS WANTED

Biochemical Geneticist, Ph.D. Research experience in human genetics, tumor genetics, biochemistry, and cell biology; some teaching experience in microbiology, genetics, and bacterial genetics. Seeking teaching position in small university, college, or community college. Box 251, **SCIENCE**.

Chemist/Biochemist/Physiological Sciences. Extensive teaching in clinical biochemistry, chemistry, endocrinology, toxicology, hematology; cancer research. Instrumentation: visible UV, infrared, TLC, electrophoresis, GC, Fluorometry, TIA. Supervision, administration, consulting. Prefer academic, government, hospital, research institute. P.O. Box 354, Rochelle Park, NJ 07662.

POSITIONS WANTED

Chemical Patent Attorney, experienced, desires full-time or part-time position. Relocation to small city preferred. Telephone Don Favre (pronounced favor) at 703-742-3840.

Crystal Grower and Thin Films Preparationist. Considerable experience in the growth of inorganic crystals. Single crystals were grown to study their optical, magnetic, and superconducting properties. Thin films were prepared for superconducting studies and ion implantation. Thin-film devices have been fabricated by photolithography. Considerable experience in high vacuum and ultrahigh vacuum. Also experienced in cryogenic techniques. L. H. Pearce, 914 Abbiegail Drive, Tallahassee, FL 32303.

Medical Microbiologist, Ph.D. Seeks teaching position in Chicago area. Extensive experience teaching and research in bacteriology, mycology, and serology. Publications. Box 252, **SCIENCE**.

Ph.D., Pharmacology and Toxicology (1987). Experience in protein purification and characterization, several immunochemical techniques, in vivo and in vitro studies, HPLC, and GC. Three years of postdoctoral experience in molecular biology, including genomic and cDNA cloning, gene characterization, and DNA sequencing. Seeks research position in industry. Box 253, **SCIENCE**.

POSITIONS OPEN

ANIMAL ECOLOGIST

Applications are invited for a tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** position in animal ecology beginning September 1990. Candidates must hold the Ph.D. degree. Development of a strong externally funded research program (terrestrial or aquatic), commitment to teaching, and interaction with other faculty in the area are expected. Preference is for an experimental ecologist whose research is compatible with the utilization of a developing field station. Teaching duties include graduate specialty courses and participation in the general biology program. Send a letter of application, curriculum vitae, a maximum of five selected reprints, a statement of research/teaching interests and goals, and three to five letters of recommendation to: **Dr. Michael L. Kennedy, Chairman of Ecology Search Committee, Department of Biology, Memphis State University, Memphis, TN 38152.** Applications are accepted through 15 February 1990 or until a suitable candidate is identified. *Memphis State University is an Equal Opportunity/Affirmative Action Employer.*

QUEEN'S UNIVERSITY DEPARTMENT OF ANATOMY

Applications are invited for an **ASSISTANT PROFESSOR** of anatomy. This special appointment is contingent on the applicant being successful in obtaining a Medical Research Council of Canada or equivalent scholarship. A Ph.D. and/or M.D. or D.D.S. degree and a minimum of 2 years of postdoctoral experience are essential. The department is located in new facilities in a basic medical sciences building. Current research strengths are in cell biology, neuroscience, and human biomechanics. Outstanding candidates with strong research programs in other related areas will also be considered. Ability to teach in two of four areas (human gross anatomy, neuroscience, histology, or embryology) in an integrated curriculum will be an asset. Candidates should arrange to have a copy of their curriculum vitae and three letters of recommendation sent to: **Dr. M. G. Joneja, Professor and Head, Department of Anatomy, Faculty of Medicine, Queen's University, Kingston, Ontario, Canada, K7L 3N6.** In accordance with Canadian immigration requirements this advertisement is directed to Canadian citizens and permanent residents. Persons of both sexes are encouraged to apply. Deadline for receipt of applications and letters of recommendation is 31 January 1990.

ASSISTANT PROFESSOR, Department of Medicine, Indiana University School of Medicine, with possibility of a joint appointment in microbiology and immunology. Initial research would focus on genetics of virulence factors, including antibiotic resistance, in chlamydiae. A strong background in molecular biology is required. Interested parties reply with curriculum vitae to: **Robert B. Jones, M.D., Ph.D., Department of Medicine, Room 435 Emerson Hall, 545 Barnhill Drive, Indianapolis, IN 46202-5124.**

POSITIONS OPEN

AGRICULTURAL ENTOMOLOGIST NATURAL ENEMIES

The Department of Entomology, University of California, Davis, announces a tenure-track position in applied entomology (11 months plus 1 month paid vacation) at the **ASSISTANT PROFESSOR/ASSISTANT ENTOMOLOGIST** level. The appointee will be involved in undergraduate and graduate instruction and advising in entomology, supervise graduate students, and participate in the plant protection and pest management program courses. The appointee will do original research on the evaluation, manipulation, and enhancement of natural enemies of arthropod pests in vegetable and field cropping systems. Ph.D. and demonstrated research and teaching potential essential. Letter of application, curriculum vitae, transcripts, reprints, a statement of research interests and career goals, and the names and addresses of three referees should be sent to: **Michael P. Parrella, Chair of the Search Committee, Department of Entomology, University of California, Davis, CA 95616** by 9 February 1990. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

The Department of Biological Sciences at the University of Alabama in Huntsville announces a full-time, tenure-earning teaching/research position in microbiology/immunology beginning fall 1990: **ASSISTANT OR ASSOCIATE PROFESSOR** able to teach undergraduate and graduate courses in microbiology, immunology, and microbial physiology. Knowledge of, or experience with, recombinant DNA techniques highly desirable. Candidate will be expected to establish a strong, independent research program and be able to attract extramural funding. Ph.D. in microbiology/cell biology required. Postdoctoral experience desirable. Salary competitive, based on qualifications and experience. Send letter of application, curriculum vitae, and three letters of recommendation to: **Chairman, Microbiology Search Committee, The University of Alabama in Huntsville, Huntsville, AL 35899.** Deadline for submission: 1 February 1990 or until suitable candidate is found. *The University of Alabama is an Affirmative Action/Equal Opportunity Institution.*

BIOLOGICAL SCIENCES, GAMETE PHYSIOLOGIST. The Reproductive Physiology and Endocrinology Group in the Department of Biological Sciences at Kent State University is seeking applications for a tenure-track position at the **ASSISTANT PROFESSOR** level to start August 1990. Research training and experience should be in the area of gamete physiology, preferably using mammalian models. The appointee will be expected to develop a strong research program complementary to ongoing research activities, to seek extramural funding, and to participate in recruiting and advising graduate students. Instructional responsibilities during a given academic year will include a graduate level course in gamete physiology and an undergraduate physiology course. Applicants must have the Ph.D. or equivalent with postdoctoral experience, publications, and the potential for extramural funding. Salary is dependent upon qualifications and experience. The deadline for receipt of applications is 31 January 1990 and must include a letter of application, a résumé, three letters of recommendation, and copies of all academic transcripts. Submit applications and supporting material to:

Dr. Walter C. Adams, Professor
Chair, Search Committee
Department of Biological Sciences
Kent State University
Kent, OH 44242

ASSISTANT PROFESSOR. Applications are invited for a position at the level of assistant professor (tenure track) in the Department of Chemistry at Stanford University, with primary research and teaching interests in the general area of inorganic chemistry. Applicants must be strongly motivated toward creative research and have a commitment to teaching at the undergraduate and graduate levels. In applying, please send curriculum vitae, list of publications, a brief statement of research interests (three pages or less), and, in addition, have three letters of recommendation sent to: **Professor Harden M. McConnell, Chairman, Department of Chemistry, Stanford University, Stanford, CA 94305.** *Stanford is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify minority persons and women with appropriate qualifications.* Applications should be received by 19 January 1990.

POSITIONS OPEN

AGRICULTURAL ENTOMOLOGIST COOPERATIVE EXTENSION SPECIALIST

The Department of Entomology, University of California, Davis, announces a career-track position in entomology (11 months plus 1 month paid vacation) at the assistant cooperative extension specialist (70%) and assistant entomologist level in the Agricultural Experiment Station (30%). Ph.D. in entomology emphasizing field IPM required; ability to effectively communicate orally and in writing and evidence of research excellence necessary. Appointee expected to do original research and extend knowledge relative to insect management in currently used and potential alternative field or vegetable cropping systems. Activities must address needs of diverse ethnic and gender population groups. Letter of application, curriculum vitae, transcripts, reprints, names and addresses of three referees, and a brief statement of career goals should be sent to: **Frank G. Zalom, Chair of the Search Committee, Department of Entomology, University of California, Davis, CA 95616** by 12 January 1990. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR, TENURE TRACK

The University of Illinois College of Medicine at Rockford seeks to add a tenure-track assistant professor to its diversified Department of Biomedical Sciences. The emphasis will be on excellence in research. The specific research area is open, although it is expected to involve studies at the molecular level. Contribution to a team-taught course in medical pharmacology and/or medical microbiology is expected. Submit curriculum vitae, a short statement of research interests, and the names and addresses of three references to: **Dr. George Pack, Department of Biomedical Sciences, University of Illinois College of Medicine at Rockford, 1601 Parkview Avenue, Rockford, IL 61107.** Applications will be reviewed starting 1 February 1990. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR MICROBIOLOGY LOUISIANA STATE UNIVERSITY

The Department of Microbiology has a tenure-track position available in 1990 for a candidate with a Ph.D. degree and at least 2 years of postdoctoral experience. We are seeking a candidate who uses molecular techniques to study important problems in either prokaryotic or eukaryotic microbiology. The successful candidate will have access to excellent facilities for the analysis and synthesis of macromolecules. Salary is competitive and commensurate with qualifications and experience. Review of applications will continue until a suitable candidate is found. Please send curriculum vitae, a letter stating present and future research efforts, and the names and addresses of three references to: **Dr. M. D. Socolofsky, Department of Microbiology, Louisiana State University, Baton Rouge, LA 70803-1715.**

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

ASSISTANT PROFESSOR MOLECULAR/CELLULAR NEUROBIOLOGY

The Department of Neurobiology and Physiology, Northwestern University, invites applications and nominations for a tenure-track faculty position at the rank of **ASSISTANT PROFESSOR** beginning fall 1990. Outstanding applicants working in any area of neuroscience will be considered, although candidates working in molecular or cellular neurobiology are particularly encouraged to apply. There are 21 faculty in the department with research programs in sensory neurobiology, neuroendocrinology, development, and plasticity. The department is a central component of the newly formed Institute for Neuroscience, consisting of over 70 faculty. Our department and the Department of Biochemistry, Molecular Biology, and Cell Biology form the life sciences division on the Evanston campus. Applicants should have a Ph.D. or M.D. and have completed postdoctoral training. Curriculum vitae, list of publications, a description of current and future research, and three letters of recommendation should be sent to: **Dr. Lawrence Pinto, Search Committee Chairman, Department of Neurobiology and Physiology, Northwestern University, 2153 Sheridan Road, Evanston, IL 60208.**

Northwestern University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT PROFESSORS OF MICROBIOLOGY, TENURE TRACK

The University of Illinois College of Medicine at Rockford seeks to add one or two tenure-track assistant professors of microbiology to its diversified Department of Biomedical Sciences. The emphasis will be on excellence in research. Contribution to a team-taught course in medical pharmacology and/or medical microbiology is expected. Submit curriculum vitae, a short statement of research interests, and the names and addresses of three references to: **Dr. Raymond Quock, Department of Biomedical Sciences, University of Illinois College of Medicine at Rockford, 1601 Parkview Avenue, Rockford, IL 61107-1897.** Applications will be reviewed starting 1 February 1990. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR, MICROBIOLOGY

Applications are invited for a tenure-track position in immunology or microbial physiology/molecular genetics. Applicants must have a doctorate in microbiology or related field, and postdoctoral research experience. The successful candidate will develop a productive research program. Duties include directing M.S. and Ph.D. students, as well as teaching undergraduate and graduate courses. Subject to budgetary approval, a second position will also be filled. Appointment begins in August 1990. Screening will start on 1 February 1990, and continue until the budgeted positions are filled. Send curriculum vitae, a statement of research goals, and three letters of reference to: **Dr. Mary Woodworth, Chair, Department of Microbiology, Miami University, Oxford, OH 45056.** *Miami University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR NEUROPHYSIOLOGY

Faculty position at an **ASSISTANT PROFESSOR** level available in the Neuroscience Research Unit of the Department of Psychiatry, University of Vermont College of Medicine (UVM). Applications are invited from qualified Ph.D.'s with strong research credentials in electrophysiology and expertise in patch-clamp techniques in cell culture systems related to mammalian CNS neurons. Salary commensurate with qualifications and experience. Send curriculum vitae, representative reprints, statement of future research directions, and names and addresses of three references to: **R. H. Lenox, M.D., Director, Neuroscience Research Unit, Department of Psychiatry, University of Vermont College of Medicine, Burlington, VT 05405.** Applications accepted until position filled. *UVM is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

DEPARTMENT OF ZOOLOGY MIAMI UNIVERSITY

The Department of Zoology at Miami University intends to make three tenure-track **ASSISTANT PROFESSOR** appointments effective August 1990. A Ph.D. in zoology/biology is required.

On the Oxford Campus, we are looking for: (i) a **MOLECULAR BIOLOGIST** trained in developmental biology and/or genetics; teaching duties include graduate and undergraduate courses in a new interdepartmental program in molecular biology and biotechnology; (ii) a **DEVELOPMENTAL BIOLOGIST** working at the cell or molecular level; teaching duties include on a rotational basis an advanced specialty course in developmental biology, courses in the introductory program, and comparative vertebrate anatomy. The successful applicants also are expected to develop an active research program and to seek external funding for it.

On the Middletown Campus, we are seeking someone to teach courses offered in the first two years of a baccalaureate program, including comparative anatomy and animal physiology. Advancement will be dependent on a combination of teaching, service, and scholarly activities.

Application review will begin 22 January 1990. Applicants should specify the position in which they are interested, and send a résumé, transcripts of all academic work, a description of research and teaching interests, and three letters of reference to: **R. G. Sherman, Department of Zoology, Miami University, Oxford, OH 45056.**

Minorities and women candidates are strongly encouraged to apply. Miami University is making every effort to create a diverse, heterogeneous faculty and staff.

RESEARCH SCIENTIST/ SENIOR RESEARCH SCIENTIST

A\$31,525-A\$45,699

plus District Allowance of
A\$2,160 pa with dependants and
A\$1,170 pa without dependants

**Centre for Arid Zone Research
Alice Springs NT
AUSTRALIA**

FIELD: Erosion modelling for arid
land management.

GENERAL: The Division of Wildlife and
Ecology, in collaboration with other
groups is developing a research program
to support State and Federal Landcare
initiatives in Australia's arid and semi-arid
rangelands.

The program has three components:

- assessment of land degradation and the forecasting of degradation risk
- development of grazing and land management techniques to allow sustainable production and the restoration of previously degraded areas
- creation and marketing of decision support systems to deliver research results to users through the RANGEPAK system which already has significant market penetration.

The Centre for Arid Zone Research will concentrate on the arid zone component of these topics but will also support other groups through its expertise in remote sensing, modelling of processes at the landscape scale, and whole-property decision support systems. The Centre currently has 18 staff including 9 scientists working on a wide range of problems in arid zone ecology and land management.

DUTIES: Develop and calibrate physically-based distributed models of erosion and deposition at the landscape scale. Determine the effects of these processes on vegetation at different grazing intensities. Provide linkages between these models and already-developed landscape-scale erosion forecasting procedures based on remote sensing data and signal processing techniques in the microBRIAN image processing package.

QUALIFICATIONS: A Ph.D or equivalent in physics, engineering, soil science or geomorphology. Good mathematical skills and ability to write software essential. Experience with remote sensing and/or hydrologic modelling desirable.

TENURE: Indefinite with Australian Government Superannuation benefits.

APPLICATIONS: Quoting reference no. PG66, relevant personal particulars including details of qualifications, experience and the names of at least two professional referees should be forwarded to:

**The Officer-in-Charge
CSIRO Centre for
Arid Zone Research
PO Box 2111
ALICE SPRINGS
NT 0871
AUSTRALIA**



by 31 January 1990.

ENQUIRIES: Dr G. Pickup, telephone
6189 524 2555, fax 6189 52 9587.

AB1-89/20

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR. The Hospital for Sick Children, Research Institute, wishes to recruit an individual with research interests in ion transport within the lung. Priority will be given to the applicant with an interest in second messenger control mechanism for sodium ion channels. Applicants should submit curriculum vitae, a brief statement of their research interests, selected reprints, and the names of three references to: **Dr. Hugh O'Brodovich, Respiratory Physiology, Hospital for Sick Children, 555 University Avenue, Toronto, M5G 1X8, Canada.** Deadline: 28 February 1990.

UNIVERSITY OF TORONTO, ERINDALE

The Erindale Campus of the University of Toronto has a contractually limited position available for an **ASSISTANT PROFESSOR** of psychology. The initial appointment will be for 3 years with the possibility of renewal for an additional 2 years. Applications are invited from candidates specializing in cognitive development or cognitive or developmental psychology. Candidates must have a Ph.D. in psychology and show evidence of an active research program. Send curriculum vitae and letters of recommendation to: **Professor T. M. Alloway, Associate Chair, Department of Psychology, Erindale Campus, University of Toronto, Mississauga, Ontario, Canada, L5L 1C6**, before 1 February 1990. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents. The University of Toronto encourages applications from qualified men and women, members of visible minorities, and persons with disability.*

UNIVERSITY OF CALIFORNIA AT LOS ANGELES MOLECULAR BIOLOGY INSTITUTE ASSISTANT PROFESSOR

The Molecular Biology Institute of the University of California at Los Angeles has an opening for a tenure-track assistant professor. The institute comprises 70 faculty members from six departments who use structural, biochemical, genetic, and molecular approaches to study fundamental problems in biology. Outstanding candidates with research interests in any area of molecular, cellular, or developmental biology are encouraged to apply. Completed applications consisting of curriculum vitae, a one-page summary of research plans, and three letters of reference should be received before 1 February 1990 by:

**The MBI Search Committee
Molecular Biology Institute
University of California
Los Angeles, CA 90024-1570
FAX: 213-206-7286**

The University of California is an Equal Opportunity Employer. Applications from women and members of minority groups are encouraged.

ASSISTANT PROFESSOR, PATHOBIOLOGY BROWN UNIVERSITY

The Department of Pathology and Laboratory Medicine at Brown University is seeking an experimental pathologist for a campus-based position as assistant professor of medical science. The successful candidate is expected to develop an independent research program, supported by external funds, involving the study of basic mechanisms of disease pathogenesis. Teaching duties involve participation in courses of general or systemic pathology to medical students and training and advising undergraduate and graduate students. Candidates should have an M.D., D.V.M., and/or Ph.D. degree and a minimum of 2 years of postdoctoral or residency research training in pathobiology. Preference will be given to candidates with an M.D. degree with research experience in an area related to molecular pathology. Opportunities for the practice of pathology on a part-time basis are available at the Brown University affiliated hospitals for suitable candidates.

Send curriculum vitae, recent reprints, a description of career objectives and research plans, and three letters of reference to: **Dr. Nelson Fausto, Chair, Department of Pathology and Laboratory Medicine, Division of Biology and Medicine, Brown University, Providence, RI 02912.** *We encourage applications from women and minority candidates. Brown University is an Equal Opportunity/Affirmative Action Employer.* Applications are expected by 15 February 1990. Screening will begin on that date and continue until a successful candidate has been identified or the search is closed.

POSITIONS OPEN

ASSISTANT PROFESSOR IN RESIDENCE, University of California, San Diego. Research faculty position available for well-trained investigator with Ph.D. in biochemistry, physiology, or related discipline to generate a research program in glucose and insulin metabolism. Experience in whole animal physiologic studies as well as modern in vivo techniques of investigation are preferred. Opportunities to collaborate with other faculty interested in insulin resistance and insulin action exist. This position is at a junior faculty level, but associate professor appointments are possible if commensurate with the candidate's experience and background. The primary appointment will be in the Department of Surgery with collaborative interactions and secondary appointments in other departments as appropriate. Closing date: 31 March 1990. Salary per published scale. Send letter of inquiry and curriculum vitae to: **Dr. Jerrold Olefsky, University of California, San Diego, Department of Medicine (V-111G), La Jolla, CA 92093.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

OREGON Tenure-track position in Department of General and Oral Pathology. Applicants should have doctorate in dentistry, medicine, or a Ph.D. with training in molecular biology, molecular genetics and/or immunopathology. Candidates with funded research grants or with an established record or demonstrated potential for funded research will receive highest consideration. Limited teaching responsibilities have main emphasis on graduate level education. Rank and salary commensurate with qualifications. *An Equal Opportunity/Affirmative Action Employer.* Position is open and available. Applications accepted until position filled. Send curriculum vitae and letter of personal goals to: **M. H. Bartley, DMD, Ph.D., Department of General and Oral Pathology, School of Dentistry, Oregon Health Sciences University, 611 S.W. Campus Drive, Portland, OR 97201.**

ASSISTANT PROFESSOR. Gastroenterology faculty position. The University of Iowa, Department of Internal Medicine, invites applicants for a faculty position in the Division of Gastroenterology-Hepatology. Minimum requirements include M.D. degree, postgraduate training in clinical medicine, certified by the American Board of Internal Medicine in the subspecialty of gastroenterology, and experienced in endoscopic procedures, including ERCP. Established research experience in B cell immunobiology and helper T cell/B cell interactions required. Research activities will be commensurate with the interest and the demonstrated ability of the applicant. The applicant will be expected to participate in teaching and clinical activities of the Department of Medicine. Salary is based on the academic level of entry and on the applicant's qualifications and responsibilities. *Women and minorities are encouraged to apply.* Candidates should submit curriculum vitae with bibliography to: **Randall W. Jordison, Assistant to the Chairman, Department of Internal Medicine, The University of Iowa College of Medicine, Room SE309 GH, Iowa City, IA 52242.** *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.*

ANALYTICAL CHEMIST needed to develop functional laboratory, providing support for biochemistry and microbiology research to biotechnology based products. Require Ph.D. Degree in Analytical Chemistry, ability to perform research utilizing plant materials and metal speciation, and working knowledge of modern instruments (HPLC, TLC, NMR and mass spectroscopy). Salary \$40,000 per year. **Job Order No. 3948932. Contact Utah Job Service, 1234 South Main Street, P.O. Box 11750, Salt Lake City, UT 84147.**

BIOCHEMICAL PHARMACOLOGIST

ASSISTANT PROFESSOR level position. Ph.D. in pharmacology, biochemistry, molecular biology, or related area. Undergraduate degree in pharmacy desirable. Responsibilities include teaching biochemistry course for pharmacy students and development of research program using techniques of biochemistry/molecular biology to pursue fundamental pharmacologic questions. Send curriculum vitae, brief description of research interests, and names and addresses of three references by 31 January 1990 to: **J. Mark Winston, Ph.D., College of Pharmacy and Health Sciences, Drake University, Des Moines, IA 50311.** *Equal Opportunity/Affirmative Action Employer. Applications from qualified minorities and women especially encouraged.*

POSITIONS OPEN

ASSOCIATE PROFESSOR/PROFESSOR DEPARTMENT OF HUMAN ONCOLOGY UNIVERSITY OF WISCONSIN, MADISON

Senior level position available for individual with 10 to 20 years of experience and competence in clinical radiobiology and medical physics and broad background in teaching and research. Duties include the design and analysis of animal experiments involving the interaction of cytostatic drugs, oxidizing and anti-oxidizing agents, and cytotoxic radiation treatment; establishing and testing mathematical models to relate in vitro human and in vivo animal experimentation data to results of human radiotherapy clinical trials; writing computer software to evaluate competing strategies in radiation therapy; participation in the design of new clinical trials; developing imaging techniques; and teaching residents and graduate and medical students. Send résumé, statement of research interest, and names of three references to:

**Timothy J. Kinsella, M.D.
Professor and Chairman
Department of Human Oncology
K4/312 CSC, 600 Highland Avenue
Madison, WI 53792**

BIOLOGY. Tenure-track **ASSISTANT PROFESSOR**, effective 13 August 1990. Teaching responsibilities: general biology, anatomy and physiology, and developmental biology courses. Earned doctorate in biology with strong preparation in developmental biology required; college teaching experience preferred. Modest research program appropriate to primarily teaching institution expected and supported. Salary competitive. Campus located in suburban setting near southern Lake Michigan, and 65 miles east of Chicago. Consideration of applications will begin on 15 January 1990 and will continue until the position is filled. Send letter of application, curriculum vitae, transcripts, and three letters of reference to: **Mrs. Diane M. Carpenter, Academic Operations Assistant, Purdue University North Central, Westville, IN 46391. FAX: 219-785-5355.** Will provide acknowledgement letter. *Women, minorities encouraged to apply. Equal Access/Equal Opportunity Employer.*

CELL AND MOLECULAR BIOLOGY

The Department of Biological Sciences and the Center for Gene Structure and Function is recruiting for two positions for cell or molecular biologists as tenure-track faculty members. Appointment at any professional rank is possible, depending on the qualification of the successful applicant. Successful candidates will be expected to establish an independent research program and to participate in team-taught courses in their areas of research at the undergraduate and/or graduate level. Suitable start-up and relocation funds are available. Send curriculum vitae, a statement of research interests, and names of references to: **Dr. Joseph S. Krakow, Chairman, Search Committee, Department of Biological Sciences, Hunter College, City University of New York, 695 Park Avenue, New York, NY 10021.** *Hunter College is committed to participation in science at all levels by minorities and women.*

ECOLOGY AND FISHERIES OF THE BLUE CRAB POSTDOCTORAL RESEARCH ASSOCIATE

Incumbent will manage research program on the population dynamics of the blue crab in Chesapeake Bay. Responsibilities include direction of field personnel and logistics, field and lab activities, data management and analysis, report preparation and publication, and statistical analysis of existing long-term data on blue crab abundance. Ph.D. required. Non-tenure, but program designed for more than 1 year with potential for additional grant funding. Experience desired in statistical analysis and modeling, particularly with complex, long-term fisheries or ecological data sets. This 12-month position as assistant research scientist has an annual salary of \$26,000 and full benefits. Send letter of interest, curriculum vitae, and three references as soon as possible to: **Dr. Romuald N. Lipcius, Chair, Postdoctoral Research Associate Search Committee, The College of William and Mary, Virginia Institute of Marine Science, Gloucester Point, VA 23062.** Position is available immediately and will be filled no later than 1 February 1990. *The College of William and Mary is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

Director General

The position of Director General of the International Center for Living Aquatic Resources Management (ICLARM) has become immediately available as a result of the continuing illness of the previous incumbent.

ICLARM is a nonprofit, autonomous, nongovernmental, international center with headquarters in the Philippines. The goal of ICLARM is to assist tropical developing nations in wise management of aquatic and coastal resources and in aquaculture development for the benefit of small-scale producers and rural poor. The Center's Program areas include aquaculture (principally low cost inland and coastal farming systems and genetics), capture fisheries management (stock assessment and modeling), coastal area management (planning, geographical information systems, socio-economics) and information (global services and research) which interact in a multidisciplinary approach.

Qualifications: The major qualifications required are: 1) Ph.D. and background in one or more of ICLARM's Program areas; 2) Ability to work with scientists, research institutions, fisheries agencies and other governmental and nongovernmental entities, national, regional and international; 3) Proven competence in managerial matters to ensure efficient operation of an international, multidisciplinary center; 4) Proven competence to deal effectively with fund-raising activities and donor organizations.

Duties and Responsibilities: The Director General will have full responsibility for the supervision and direction of the International Center for Living Aquatic Resources Management. Under the general supervision of the ICLARM Board of Trustees he or she will direct the planning and implementation of the research programs of the Center. Based at headquarters in Manila he or she will supervise directly the four Program Directors in the execution of ICLARM programs.

The Director General will assume responsibility for fund-raising on behalf of ICLARM and will maintain an effective relationship with donors and potential donors; take responsibility for public relations and maintenance of close communications with fisheries research and development organizations worldwide to ensure close cooperation with these groups and play a pivotal role in coordination of ICLARM research programs with those of other institutions. These functions require frequent travel.

Benefits and Allowances: Generous, equivalent to those provided by the International Agricultural Research Centers.

Applications: Applications should be addressed to Dr. James A. Storer, Chairman, ICLARM Search Committee, 15 Cleveland St., Brunswick, Maine 04011, U.S.A. to be received no later than 15 February 1990. Applications should include complete personal qualifications and experience, previous and present positions and salaries, and names, addresses and phone numbers of three personal references.



**The University
of Melbourne**

Chair of Zoology

The University of Melbourne invites applications for a new Chair of Zoology. The existing Chair in the Department is filled by Professor G.D. Campbell.

The appointee will be a distinguished Zoologist and be prepared to give academic leadership in the Department and biological sciences within the University. The Department of Zoology has well funded research groups in comparative, cardiovascular, respiratory and autonomic physiology, evolutionary biology, neuroethology and behaviour, and marine ecology.

It is anticipated that the appointee will serve as Head of the Department for a period of up to five years.

Salary: \$A63,919 per annum. The University is currently examining the question of salary loadings and responsibility allowances.

Further information about the position, application procedure, superannuation, travel and removal expenses, housing assistance and conditions of appointment is available from the Registrar. All correspondence (marked "Confidential") should be addressed to The Registrar, The University of Melbourne, Parkville, Victoria, 3052, Australia.

Telephone: (+613) 344 7528* Facsimile: (+613) 344 6897*

Applications close on Friday 23 February, 1990.

The Council reserves to itself the right to make no appointment or to fill the Chair by invitation at any stage.

An equal opportunity employer.

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DIRECTOR HUNTSMAN MARINE SCIENCE CENTRE



Applications are invited for the position of Director, HMSC commencing no later than Sept. 1, 1990. The HMSC, located in St. Andrews, New Brunswick, Canada is a non-profit organization supported by universities, corporations, federal and provincial government agencies, and the public. There are 22 permanent plus additional contractual employees and a physical plant encompassing laboratories, an aquarium/museum, a 12.8m vessel, and residences. The HMSC is dedicated to research and education at all levels.

Applicants should have a demonstrated ability in research and fund raising, and be able to show leadership and administrative ability appropriate to this senior position. The applicant should have a broad appreciation of the field of marine science and be responsive to the diverse requirements of this multifaceted institution.

The initial appointment will be for 3-5 years and is subject to renewal. Salary will be commensurate with qualifications and experience.

Applications (4 copies) together with a curriculum vitae and the names of three references should be submitted by Jan. 31, 1990 to:

Dr. William R. Driedzie
HMSC Search Committee
Department of Biology
Mount Allison University
Sackville, NB
CANADA E0A 3C0
Telephone: (506) 364-2506
FAX: (506) 364-2505

NEUROSCIENCE DEPARTMENT

Roche Institute of Molecular Biology

Cellular/Molecular Neuroscientist,
Assistant Professor Level



The department currently has well developed interests in inter- and intracellular signalling mechanisms and gene expression/regulation in adult and developing nervous systems. Individual will be expected to establish an independent basic research program in one of these general areas of neuroscience. The Institute provides investigator salary and generous support for supplies, equipment and personnel. Applicants should submit resume and an outline of research by February 1st, 1990, to: **Dr. John A. Connor, Head, Department of Neuroscience, Roche Institute of Molecular Biology, 340 Kingsland Street, Nutley, New Jersey 07110.** We are an equal opportunity employer.



Roche Institute of Molecular Biology
Hoffmann-La Roche Inc.

POSITIONS OPEN

SCRIPPS INSTITUTION OF OCEANOGRAPHY BIOLOGICAL OCEANOGRAPHY

Applications are invited for an **ASSISTANT, ASSOCIATE, OR FULL PROFESSOR/CURATOR** (tenure-track or tenured) position in marine planktonology; level and salary (University of California pay scale) commensurate with qualifications and experience. At the time of appointment successful candidates must hold a Ph.D. degree in a biological science, and must have a demonstrated excellence in independent research.

Qualifications include research and teaching interests in the ecology and evolution of planktonic organisms involving field and laboratory work, the utilization of plankton collections, and, preferably but not necessarily, expertise in the systematics and/or biogeography of one or more diverse and/or abundant planktonic organisms.

Candidates are expected to conduct an active research program supported by extramural funds, to be involved in graduate teaching and supervision of graduate students, and to supervise the maintenance, utilization, and expansion of the institution's extensive marine plankton collection. Candidates at the associate or full professorial level must show evidence of a strong research record. Assistant-level candidates will be evaluated on their potential, from their publication record and letters of recommendation, as appropriate to their level of experience.

Please send a letter of application including a description of research interests, list of publications, résumé of teaching experience, and interests in plankton collections, and names of at least five references to:

**Chairman, Biological Oceanography
Graduate Department, A-008
Scripps Institution of Oceanography
University of California, San Diego
La Jolla, CA 92093**

Closing date for applications is 15 January 1990. An Equal Opportunity/Affirmative Action Employer.

CLINICAL CHEMIST CLINICAL LABORATORY SCIENCES SCHOOL OF ALLIED HEALTH PROFESSIONS UNIVERSITY OF WISCONSIN MILWAUKEE

The Department of Health Sciences invites applications and nominations for a faculty position in the clinical laboratory sciences program. Primary responsibilities include teaching clinical chemistry at the graduate and undergraduate levels of the program and establishing a productive research program. Previous teaching and research experience and certification in medical technology highly desirable. Ph.D. in clinical chemistry or related specialty required. Rank, tenure, and salary commensurate with experience and qualifications. Send curriculum vitae, statement of research interests, and three letters of recommendation by 28 February 1990 to: **John A. Ndon, Ph.D., MT (ASCP), Search and Screen Committee, University of Wisconsin-Milwaukee, Department of Health Sciences, P.O. Box 413, Milwaukee, WI 53201.** Affirmative Action/Equal Opportunity Employer.

DANA-FARBER CANCER INSTITUTE HARVARD MEDICAL SCHOOL PROFESSOR OF BIOLOGICAL CHEMISTRY AND MOLECULAR PHARMACOLOGY

Dana-Farber Cancer Institute (DFCI) and Harvard Medical School are seeking a professor of biological chemistry and molecular pharmacology with a primary research interest in the molecular biology of gene regulation as it relates to the differentiation of mammalian somatic cells. The candidate should be a distinguished investigator, and will become a member of the new Division of Cell and Molecular Biology at the DFCI. The successful candidate will be expected to carry out a strong basic science research program, and participate in the teaching of medical and graduate students in the fields of cell and molecular biology. *Harvard University is committed to increasing representation of women and minority members among its faculty and particularly encourages applications from such candidates.* Candidates should send curriculum vitae, statement of research interests, and names of three references to: **David M. Livingston, M.D., Professor of Medicine, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.**

Harvard Medical School and Dana-Farber Cancer Institute are Affirmative Action/Equal Opportunity Employers.

POSITIONS OPEN

SIGMA XI OPENINGS DIRECTOR OF MEMBERSHIP

Sigma Xi seeks a scientist looking for a career shift. A new position has been established, the director of membership, who will manage one of the four divisions at the society's headquarters. This person will be responsible for working with the membership committee to develop and implement policies dealing with the society's 110,000 members, including analyzing trends and identifying problems and solutions. Applicants should have a Ph.D. in a technical field. Send résumé and salary requirements to the attention of: **Dr. John Ahearn, Executive Director.**

PROGRAM ADMINISTRATOR - PROGRAMS

Develop and expand several of the society's programs. Essential qualifications include broad scientific education, a talent for writing, and experience in writing and managing grant proposals. An advanced research degree is required. Some travel is involved. Send résumé and salary requirements to: **Dr. Evan Ferguson, Director of Programs.**

PROGRAM ADMINISTRATOR CHAPTERS AND CLUBS

Develop and maintain links between headquarters and the society's 520 local groups, primarily in North America. Essential qualifications include broad scientific education, a talent for writing, knowledge of the scientific research environments in which the society's chapters and clubs exist, and the capacity to represent the society and to explain its objectives and activities to both scientists and nonscientists. Applicants should have a Ph.D. in a technical field. Involves frequent travel. Send résumé and salary requirements to: **Dr. Evan Ferguson, Director of Programs.**

All positions available 1 January 1990 and will be located in the society's new headquarters in Research Triangle Park, North Carolina.

**Sigma Xi, The Scientific Research Society
345 Whitney Avenue
New Haven, CT 06511**

Sigma Xi is an Equal Opportunity Employer.

MARKEY DEVELOPMENT BIOLOGY PROGRAM

Applications are solicited for the **DIRECTOR** of the newly established Markey Developmental Biology Program at Northwestern University Medical School. The successful candidate should be an internationally recognized developmental biologist who can provide scientific leadership for the program. Candidates must qualify for a senior faculty appointment with tenure in the university. Core laboratories for the Markey Developmental Biology Program will be housed in the newly constructed Tarry Research and Education Building on the Chicago campus. Generous funds and additional junior faculty positions are available. Review of applications will begin after 15 January 1990. Send applications to: **Guenter Albrecht-Buehler, Ph.D., Chairman of Search Committee, Morton 4-656, 303 East Chicago Avenue, Chicago, IL 60611-3008.** Northwestern University is an Equal Opportunity/Affirmative Action Educator and Employer. Employment verification required upon hire.

FACULTY POSITIONS IN THE COMPLEX CARBOHYDRATE RESEARCH CENTER

The University of Georgia Complex Carbohydrate Research Center (CCRC), consisting of seven research groups comprising 90 members (faculty, staff, and students), will add three tenure-track faculty. The CCRC, organized for collaborative and interdisciplinary research in carbohydrate science, has recently occupied a new 40,000-square foot building. Appointments will normally be at **ASSISTANT PROFESSOR** level, but one senior professorship may be filled. The CCRC particularly seeks cell and molecular biologists, biochemists, and chemists with demonstrated research ability or an interest in developing a research program with complex carbohydrates of plants, animals, or microbes. Applications are being considered as received with the next major review on 15 January 1990. Send letter of application, proposed research, and complete curriculum vitae to: **Drs. Peter Albersheim or Alan Darvill, Directors, Complex Carbohydrate Research Center, The University of Georgia, 220 Riverbend Road, Athens, GA 30602.** An Affirmative Action/Equal Opportunity Institution.

POSITIONS OPEN

NATURAL PRODUCTS DIRECTOR OF ORGANIC CHEMISTRY RESEARCH

NPI, an emerging specialty chemical company involved in the discovery and development of proprietary naturally derived compounds, is seeking an outstanding individual to serve as research director.

Requirements:

Ph.D. chemist with at least 5 years of experience beyond the postdoctoral level to direct a team in the discovery of biologically active compounds as well as oversee the development of a product line based on known active molecules.

Skills in separation, identification, modification, and characterization of compounds from natural sources.

Desirable experience would include some knowledge of formulation and manufacturing as well as utilization of natural molecules in one or more segments of industry, such as agricultural chemicals, pharmaceutical products, or specialty chemicals.

Substantial opportunities for promotion exist as you become a senior member of a growing organization. Work will be performed in the corporate research laboratories in Salt Lake City, Utah. Please send résumé to:

**Julie Burns
Director of Personnel
NPI
417 Wakara Way
Salt Lake City, UT 84108**

LOUISIANA STATE UNIVERSITY (LSU) MEDICAL CENTER VICE CHANCELLOR FOR ACADEMIC AFFAIRS AND DEAN OF THE GRADUATE SCHOOL

As a member of the senior executive staff of LSU Medical Center, this full-time senior official reports directly to the chancellor. As vice chancellor, this person is responsible, in a broad sense, for providing professional counsel and advice, exercising leadership and guidance, developing long-range goals and objectives, formulating and administering policies, and coordinating the academic affairs of all of the professional schools in the medical center.

As dean of the graduate school, this individual is responsible for the development and enhancement of policies and programs and the coordination and direction of all academic matters, including the curriculum, under the purview of the chairperson within the Graduate School.

Candidates for the position must possess at least a doctoral degree in one of the basic health sciences; have a minimum of 5 years of academic administrative experience in a university health science center; demonstrate a strong commitment to academic excellence through their background and experience in original writing, research, and education of graduate students in the basic health sciences; and possess effective oral and written communication skills.

Academic rank and salary commensurate with qualifications.

Nominations and applications, including curriculum vitae and the names of three references, should be forwarded not later than 1 February 1990 to:

**Dr. Jack H. Rayson
Search Committee Chairman
1100 Florida Avenue
New Orleans, LA 70119**

LSU Medical Center is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN BIOCHEMISTRY. Drew University. Tenure-track position at the **ASSISTANT PROFESSOR** level beginning fall 1990. Ph.D. required and some teaching experience preferred. Teaching responsibilities will include biochemistry, some organic and general chemistry courses, and supervision of undergraduate research. The successful candidate will value excellence in teaching and have a commitment to undergraduate research. Drew University is a highly selective liberal arts college in northern New Jersey with a well-equipped, ACS-accredited chemistry department. Send résumé, undergraduate and graduate transcripts, a short research proposal, and the names and addresses of three references to: **Chairman, Department of Chemistry, Drew University, Madison, NJ 07940-4037** by early January. Drew University complies with Equal Opportunity standards and pursues Affirmative Action goals. Qualified women and minorities are encouraged to apply.

POSITIONS OPEN

LABORATORY DIRECTOR FOR A MOLECULAR BIOLOGY RESOURCES FACILITY. Ph.D. or M.S. degree in biochemistry or organic chemistry, preferably with training and several years of experience in analytical biochemistry. The director supervises the operation of a laboratory that performs amino acid analysis, peptide synthesis, peptide sequencing, and oligonucleotide synthesis for researchers in the biological sciences. Supervise one full-time and two part-time technicians. Send résumé and names and addresses of three references to: **Dr. Raymond W. Beck, Biology Consortium, M-303 Walters Life Sciences Building, University of Tennessee-Knoxville (UTK), Knoxville, TN 37996.** Application review begins 1 February 1990. *UTK is an Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

ENVIRONMENTAL SCIENTIST/REMOTE SENSING SPECIALIST, ASSISTANT PROFESSOR. Full-time, tenure-track position at the University of Kansas to teach in the environmental studies program and build research program in Kansas biological survey. Suitable remote sensing and/or GIS specialties include but are not limited to: land/water interface, land cover/vegetation analysis, wetland ecosystem analysis, water pollution assessment, or related area. Salary: \$35,000 to \$40,000 for 12 months. Ph.D. required. Postdoctoral research, teaching, and GIS experience preferred. Start 1 July 1990. Send application letter, curriculum vitae, copies of publications, statement of teaching and research goals, and three letters of recommendation to: **Dr. Edward A. Martinko, Kansas Biological Survey, Foley Hall, 2041 Constant Avenue, Lawrence, KS 66047.** Application deadline: 2 February 1990 or until a suitable candidate is selected. *Equal Opportunity/Affirmative Action Employer.*

BIOLOGICAL OCEANOGRAPHER (PHYSIOLOGY). The Department of Marine Sciences at the University of Connecticut announces an **ASSISTANT PROFESSOR** level opening in the areas of marine environmental physiology anticipated for 1 September 1990. This is a full-time, 9-month, tenure-track appointment. The successful applicant is expected to establish an extramurally funded research program, advise and support graduate students (M.S. and Ph.D.), and teach at the undergraduate and graduate levels. Applicants should have a Ph.D. in oceanography/marine sciences (or related fields), have one or more years of postdoctoral experience, and document their potential to develop an independent research program. Candidates must also have the ability to interface effectively with other members of the department. Send a summary of research and teaching interests with curriculum vitae and the names of three references to: **Dr. Robert B. Whitlatch, Head, Department of Marine Sciences, The University of Connecticut, Groton, CT 06340.** Position closing date: 1 February 1990. *Affirmative Action/Equal Opportunity Employer. (Search #0A114.)*

SEATTLE UNIVERSITY BIOLOGY FACULTY POSITION

The Biology Department of Seattle University is seeking applications for a full-time, tenure-track position at the **ASSISTANT PROFESSOR** level to begin in September 1990. Qualifications include a Ph.D. in a biological science, with expertise in physiology and developmental biology. Candidates should have both interest and proven or potential ability in undergraduate teaching. Teaching responsibilities will include undergraduate courses in vertebrate physiology, comparative anatomy, developmental biology/embryology, and general biology. Applicants should send résumés, transcripts, and the names and addresses of three references to: **Dr. Daniel B. Matlock, Chair, Biology Department, Seattle University, Seattle, WA 98122.** Deadline for receipt of applications is 1 February 1990.

Founded in 1891, Seattle University is a metropolitan teaching university focused on the Jesuit tradition of career-oriented education with a strong liberal arts foundation. Extensive laboratory instruction characterizes all of our departments. A year-long senior engineering design project sponsored by industry is a hallmark of our engineering programs, and independent senior research is a distinctive feature of our science programs. The university strives to develop a campus community in which all faculty, staff, and students, regardless of color or gender, feel welcome, supported, and valued. *Additional minority faculty are especially needed to assist in making this commitment a reality.*

Help Us Extend Childhood.

St. Jude's position as a world leader in the research and treatment of catastrophic diseases in children, results from the commitment of our staff and the courage of our young patients. You can make a difference in our continuing progress to better understand and treat these diseases as a Senior Research Technologist.

SENIOR RESEARCH TECHNOLOGIST

The qualified individual will maintain cultured human and animal cell lines and prepare membrane fractions from these cells for studies of membrane transport proteins. This individual will also use rapid sampling techniques and animal tissues (1 to 30 seconds uptake intervals) to study nucleoside transport in cells and membrane vesicles.

Requirements include experience in cell culture, preparation of membrane fractions from cultured cells and animal tissues, and use of rapid sampling techniques for measurement of the membrane transport of small molecules. Requires a BS with experience or a Master's degree in Pharmacology, Biochemistry or Biology.

Our salaries are very competitive and our benefits program includes 3 weeks vacation, comprehensive health insurance, tuition assistance, life insurance, accidental death and dismemberment coverage, long-term disability insurance and a flexible spending account program.

To apply, please send your resume to: **Jack Hilzheim, Tennessee Job Service, 1295 Poplar, Memphis, TN 38104.** St Jude is an affirmative action equal opportunity employer.



ST. JUDE CHILDREN'S RESEARCH HOSPITAL

DANNY THOMAS, Founder

DIRECTOR, CIVITAN INTERNATIONAL RESEARCH CENTER

A Mental Retardation/Developmental Disabilities Research Center at the University of Alabama at Birmingham

The University of Alabama at Birmingham (UAB), is seeking a dynamic leader to serve as the first Director of the Civitan International Research Center (CIRC). The CIRC will be dedicated to research related to mental retardation and developmental disabilities (MR/DD) and is being developed by UAB in partnership with Civitan International. Using a long-term, multimillion dollar commitment from Civitan International, UAB is constructing a 60,000 nsf research facility that will house relevant research programs and activities. The Director will have primary responsibility for this facility and will be provided with substantial operating funds for the augmentation of MR/DD research programs. The Center Director will report directly to the Vice President for Health Affairs and will also hold a faculty appointment in an appropriate academic and/or clinical department.

UAB is a research oriented, urban university composed of a nationally recognized medical center with six health professions schools and hospital complex; comprehensive undergraduate and graduate programs in six additional schools covering the arts, sciences, and professions of business, education and engineering; and strong continuing education and community service activities. UAB faculty and staff exceed 12,500 and more than 14,000 students are enrolled in degree programs. Extramural grant and contract support of over \$100 million is one component of an annual budget which exceeds \$550 million.

UAB provides a world-class research environment characterized by interdepartmental/interdisciplinary interactions that have led to the formation of a number of very strong research centers. It is anticipated that the CIRC will foster such interactions, building upon existing strengths of departments throughout the University, including the patient care and health professionals training programs of the Sparks Center for Developmental and Learning Disorders, while, at the same time, expanding our expertise in MR/DD research through new faculty appointments. Since we are seeking an individual to be the first Director of the Civitan International Research Center, the successful candidate will be uniquely positioned to build a new Center and to influence the long-term direction and growth of basic and clinical MR/DD research in the University. The candidate should possess a terminal degree, preferably a M.D. and/or Ph.D., and relevant administrative experience.

Screening of candidates will begin immediately and the search will continue until a suitable candidate is selected. Those interested are encouraged to submit their materials at the earliest possible date. We anticipate filling this position by June 1, 1990.

Applications should include a complete resume and the names and addresses of at least five references. Nominations are encouraged. Applications and nominations should be sent to:

Terry L. Hickey, Ph.D.
Assistant Vice President for Health Affairs
Dean and Co-Director of the Graduate School
102 Mortimer Jordan Hall
University of Alabama at Birmingham
University Station
Birmingham, AL 35294



Affirmative Action, Equal Opportunity Employer

POSITIONS OPEN

THE JOHNS HOPKINS UNIVERSITY

The Thomas C. Jenkins Department of Biophysics seeks candidates for a **FACULTY POSITION** in the area of imaging of macromolecular and subcellular systems by light and/or electron microscopy and the use of computational techniques. The candidate should have a strong background in physical sciences and be interested in the solution of structure-function relationships of fundamental biological problems. The rank for this tenure-track position is open. Please send, by 1 February 1990, a curriculum vitae, list of publications, statement of research interests, and names of references to: **Professor Warner E. Love, Search Committee Chair, Thomas C. Jenkins Department of Biophysics, The Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218.** *The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITIONS IN BIOLOGY

The Biology Department invites applications from qualified candidates for two tenure-track positions at the **ASSISTANT PROFESSOR** level. A Ph.D. and a commitment to teaching undergraduate students are required for both positions. Candidates will be expected to develop an active research program involving students. Opportunities exist for participation in a masters-level graduate program in marine biology.

DEVELOPMENTAL BIOLOGIST. Research interests should be in some aspect of modern developmental biology. Some preference may be shown for candidates who use marine organisms as models in their research. Candidate must be able to teach undergraduate courses in vertebrate embryology, general biology, and developmental biology.

COMPARATIVE ANATOMIST. Research interests should be in some area of evolutionary biology or comparative anatomy of some group of marine vertebrates. Candidate must be able to teach undergraduate courses in comparative vertebrate anatomy, general biology, and human anatomy.

Send curriculum vitae, statement of teaching and research interests, reprints of published research, and the names of three persons we might contact as references to:

**Dr. James W. Smiley, Chairman
Department of Biology
College of Charleston
Charleston, SC 29424**

Applications will be accepted until 1 January 1990.
The College of Charleston is an Equal Opportunity Employer.

FACULTY POSITION IN NEUROBIOLOGY NEUROBIOLOGY RESEARCH CENTER (NRC)

UNIVERSITY OF ALABAMA AT BIRMINGHAM (UAB)

Due to continued expansion of the NRC in the UAB School of Medicine, a new tenure-track position in molecular neurobiology is available. The appointment will be at the **ASSISTANT OR ASSOCIATE PROFESSOR** level, commensurate with experience. The successful candidate will be expected to conduct an active, extramurally funded research program related to aspects of synaptic function including normal transmission, plasticity, or development. Particular consideration will be given to individuals using contemporary tools that afford insight into gene expression and regulation. The appointment is on a 12-month basis and includes nationally competitive salary, newly renovated space, and start-up funds. The NRC is currently composed of 16 faculty members with actively funded research programs in synaptic and membrane biophysics, molecular biology of synaptic transmission, neuroendocrinology, peptide modulation of neural rhythmicity, neuroembryology, and neuron/glia interaction in development and regeneration. Access to shared facilities, including a premiere neuronal image analysis center and supercomputer network are available in the NRC. UAB is a major biomedical research center with thriving graduate programs in neurobiology, immunology and molecular biology and is located in an economically favorable and culturally vibrant community. Applicants should send curriculum vitae and statement of research interest and have three letters of reference sent by 28 January 1990 to: **Michael J. Friedlander, Director, Neurobiology Research Center, University of Alabama at Birmingham, Birmingham, AL 35294.** *UAB is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

NEUROBIOLOGY FACULTY POSITIONS

The Sanders-Brown Center on Aging at the University of Kentucky invites applications for two tenure-track faculty appointments from molecular neurobiologists with prime research interest in Alzheimer's disease and/or aging. Successful candidates will have a faculty appointment in the appropriate academic department of the university. Appointees will be expected to develop their own research programs and be willing to participate in multidisciplinary research. The Sanders-Brown Center is one of the NIA-funded Alzheimer's disease research centers. A letter of interest, recent curriculum vitae, and names of three references should be submitted to: **William R. Markesbery, M.D., or David R. Wekstein, Ph.D., Sanders-Brown Center on Aging, University of Kentucky, Lexington, KY 40536.** *The University of Kentucky is an Equal Opportunity Employer.*

TWO FACULTY POSITIONS IN OCEANOGRAPHY

The University of Maine has just established a graduate Department of Oceanography, and seeks:

(i) A **CHAIRPERSON** to guide its development. Associate or full professor. Area of expertise open, though preference may be given to persons in physical, chemical, or fisheries oceanography.

(ii) **ASSISTANT OR ASSOCIATE PROFESSOR** in these same fields. Areas of focus for the department will include estuarine-shelf processes, paleoceanography, fisheries oceanography, and benthic processes. *Applications from women and minorities are strongly encouraged.* Review of applications will begin 7 January 1990, and continue until positions are filled. Send letters of application, curriculum vitae, and names and addresses of three references to: **Dr. L. Mayer, Department of Oceanography, University of Maine, Orono, ME 04469.** Telephone inquiries can be directed to: 207-581-1437 or 207-563-3146.

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

FACULTY POSITIONS, PHARMACOLOGY. Full-time, tenure-track appointments at the rank of **ASSISTANT PROFESSOR** are available in the newly reorganized Department of Pharmacology at the Louisiana State University Medical Center (LSUMC), New Orleans. Applicants should have a Ph.D. with a minimum of 2 years of postdoctoral experience. Under special circumstances appointments at the level of associate professor will be considered. Establishment of an independent research program funded by extramural support is expected, as is participation in the educational programs of the department. Candidates with research interests in neuropharmacology or in CNS control over cardiovascular, respirator, renal, or GI function are especially encouraged. Applicants should send curriculum vitae, a brief statement of present and future research directions, and the names, addresses, and telephone numbers of three references to: **Dr. J. M. Moerschbacher, Head, Department of Pharmacology, LSU Medical Center, 1901 Perdido Street, New Orleans, LA 70112-1393.** *LSUMC is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF PITTSBURGH DEPARTMENT OF BIOLOGICAL SCIENCES FACULTY POSITION

The Department of Biological Sciences of the University of Pittsburgh is seeking a tenure-track **ASSISTANT PROFESSOR** with research expertise in temperate, freshwater or terrestrial ecology. The person hired will be expected to obtain extramural research support. The faculty member would direct graduate research and teach in the undergraduate and graduate programs of the department, which will be offering a major in ecology and evolution. The successful candidate will be expected to participate in the summer teaching/research program at the off-campus Pymatuning Laboratory of Ecology. Deadline for submission is 15 February 1990, for a starting date of 1 September 1990. Applicants should submit a brief description of their research program, curriculum vitae, and the names, addresses, and phone numbers of three persons who can supply letters of recommendation to: **Dr. Kenneth W. Cummins, Chair of the Ecology Search Committee, Department of Biological Sciences, University of Pittsburgh, Pittsburgh, PA 15260.** *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer. Applications from minority and women candidates are especially encouraged.*

POSITIONS OPEN

The University of Iowa's College of Dentistry is presently conducting a search to fill a full-time **FACULTY POSITION** in the Dows Institute for Dental Research. Applicants must have a Ph.D. and research accomplishments that can augment the activities of the faculty of the Dows Institute. These include studies of oral soft tissues, salivary biochemistry, biomaterials and craniofacial growth, utilizing cell and tissue culture and immunological and molecular biological techniques. Academic rank and salary will be commensurate with qualifications and experience. The position will be available 1 April 1990; screening will begin immediately. Submit curriculum vitae to: **Dr. C. A. Squier, Assistant Dean for Research and Director of Dows Institute, College of Dentistry, University of Iowa, Iowa City, IA 52242.** *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.*

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) DEPARTMENT OF BIOLOGY FACULTY POSITIONS IN GENETICS AND DEVELOPMENT

Candidates are sought for two tenure-track positions at the level of **ASSISTANT PROFESSOR**. Candidates should have significant research experience in either genetics or development. The responsibilities of this position include conduct of an active research program and participation in the teaching program of the department.

Applicants should send curriculum vitae and a summary of proposed research, and arrange to have letters sent from three scientists who can provide an evaluation of the candidate's accomplishments and future potential for both research and teaching. Applications and letters should be sent to:

**Chairman
Genetics and Development Search Committee
c/o Room 56-511, Department of Biology
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, MA 02139**

MIT is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION AT RESEARCH INSTRUCTOR LEVEL

The Division of Nephrology of the University of Alabama at Birmingham (UAB) is seeking applications for a full-time, non-tenure-track position at the research instructor level. Successful candidate will have a Ph.D. in molecular biology and at least 3 years of postdoctoral research. Experience in cloning and characterization of genes and complementary DNA is essential. Send résumé and names of three references to: **David G. Warnock, M.D., Division of Nephrology, UAB Station, Birmingham, AL 35294.** Telephone: 205-934-3585. *UAB is an Affirmative Action/Equal Opportunity Employer.*

JUNIOR FACULTY POSITION MOLECULAR BIOLOGY TRANSPLANTATION

The Transplantation Biology Research Laboratory in the Department of Surgery, Cedars-Sinai Medical Center, is seeking applicants for a full-time position at the **RESEARCH ASSISTANT** level. The applicants should have a Ph.D., M.D., D.V.M., or equivalent degree with postdoctoral experience in molecular biology/immunology. This is a full-time research position that will consist of significant collaborative interaction with other faculty in the research laboratory and the development of an individual research program. It is expected that the successful candidate will develop his/her research program in the general areas of molecular biology, immunology, and transplantation biology. The Department of Surgery has a long-term commitment to the development of basic research programs to support a large clinical multiorgan transplantation program and substantial research support, laboratory space, and salary are available to the appropriate candidate.

Applications will be accepted until the position is filled. Candidates should submit their curriculum vitae, research plans, and the names of three references to:

**Dr. Donald V. Cramer
Director, Transplantation Biology
Department of Surgery
Cedars-Sinai Medical Center
8700 Beverly Boulevard
Los Angeles, CA 90048**



University of Tromsø

HEART RESEARCH

The University of Tromsø has an immediate opening for **A PROFESSOR OF PHYSIOLOGY** until January 1, 1993, with possibility of extension. The position is attached to the Department of Medical Physiology which concentrates its activity on experimental heart research. This includes studies of cardiac electrophysiology and pharmacology, heart failure, arrhythmias and antiarrhythmic drugs, hemodynamics, ischemia and reperfusion, and hypothermia. The Department is equipped for in vitro studies of isolated heart cells and heart tissues, as well as in vivo studies of anesthetized dogs and other animals. Applicants are expected to strengthen this research, and must therefore possess research experience and supervising ability in experimental heart research. Lectures may be held in English, but as the position also entails administrative work, the successful applicant is expected to learn Norwegian.

The Department of Medical Physiology has 2 professors, 2 assistant professors plus research fellows (approx. 10) and technical support staff (approx. 6).

The gross salary is at present NOK 276.792 per year. Applications including a complete c.v. and list of publications should be sent in 5 copies together with the relevant certificates to:

The University of Tromsø, The University Director, Breivika, N-9000 TROMSØ, NORWAY.

Closing date for applications: 29. December 1989.

Full directives for application and further information about the professorship can be obtained at the University at the above-mentioned address, or from Professor Helge Refsum, Institute of Medical Biology, University of Tromsø, Teoribygget, N-9000 Tromsø, NORWAY. Tel. 47 83-44693.

FRANITZ 35A35

POSITION AVAILABLE IN CYTOGENETICS Department of Laboratory Medicine and Pathology University of Minnesota

Applications are being accepted for a continuing position in the field of cytogenetics in the Department of Laboratory Medicine and Pathology (with a joint appointment in the Institute of Human Genetics) at the University of Minnesota.

Candidates being considered at the Assistant Professor (tenure track) level will have an M.D. or Ph.D. in genetics or a closely-related discipline and will be board certified or board eligible in Clinical Cytogenetics, and have a minimum of two years experience in a clinical cytogenetics laboratory. Demonstration of research productivity is necessary with evidence of publications in peer-reviewed journals.

Candidates being considered at the Associate Professor (tenured) or Professor (tenured) level will be required to have an M.D. or Ph.D. in genetics or a closely-related discipline and will be board certified or board eligible in Clinical Cytogenetics. The Associate Professor candidates must also have a minimum of five years of professional experience beyond the degree, professional distinction in research and writing, and demonstrated effectiveness in teaching and advising. The Professor candidates must also have a minimum of eight years of professional experience beyond the degree, a national reputation in research and writing, and demonstrated effectiveness in teaching and advising.

Responsibilities will include teaching cytogenetics to residents, postdoctoral fellows, graduate students, medical students, and technologists. The incumbent in this position will be expected to develop an independent research program in cytogenetics and/or related discipline. This position assumes partial responsibility for daily operation of the laboratory with emphasis on prenatal diagnosis and related studies (including chorionic villi, amniotic fluid, skin fibroblast and peripheral blood specimens as indicated); supervise tissue culture, slide making, chromosomal banding and analysis; interpret and report results of cytogenetic analyses; coordinate send-out of specimens for other biochemical and molecular biologic assays.

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

Cytogenetics Search Committee
University of Minnesota
Department of Laboratory Medicine and Pathology
Box 198 UMHC, 420 Delaware Street SE
Minneapolis, MN 55455

Deadline for receipt of applications is January 15, 1990. The University of Minnesota is an equal opportunity educator and employer and invites and encourages applications from women and minorities.

IMMUNEX RESEARCH AND DEVELOPMENT CORPORATION, a Seattle-based biopharmaceutical company committed to research and development for treating diseases related to malfunctions in the immune system, is currently recruiting for:

Staff Scientists and Postdoctoral Fellows

With experience in the following areas:

Process Development/ Biochemical Engineering

Successful candidates will work on purification, scale-up, and refolding of recombinant proteins expressed in microbial and mammalian cell hosts. Additional positions are available for work on protein characterization and formulation. A background in biochemical engineering, biochemistry or protein chemistry is preferred.

Experimental Hematology

Staff Scientist needed to contribute to experimental hematology program. Researcher needed for development of in vitro and in vivo models of hematopoiesis. Particular emphasis will be placed on the establishment of assays having the capacity to detect novel hematopoietic growth factors.

Immunology

Scientific researcher needed with expertise in culturing of monocytes/macrophages and assessment of their activation. Expertise in dealing with human cells a plus; experience with cytokines desired.

Immunex Research and Development Corporation offers excellent opportunities for career development as well as competitive salaries and an excellent benefits package. For consideration, please submit C.V., names of three references, and list of publications to: **Immunex Research and Development Corporation, Human Resources Director, 51 University Street, Seattle, WA 98101. EOE.**

IMMUNEX

St. John's University
New York

FACULTY POSITIONS

The Department of Biological Sciences, St. John's University, New York, seeks energetic candidates for two tenure-track positions with expertise in molecular, cell, developmental biology or developmental neurobiology. Rank and salary are open and depend on qualifications. Postdoctoral experience and evidence of good research productivity are required. Successful applicants will be expected to conduct an externally funded research program and to teach a course in their specialties in the doctoral program. Candidates should submit curriculum vitae with a list of publications, a brief statement of research interests, and names of at least three references by 1 January 1990, to: **Dr. Richard Lockshin, Chair, Department of Biological Sciences, St. John's University, Jamaica, NY 11439.** An Equal Opportunity Employer — M/F.

Our client, an exciting, stable medical device manufacturer located in the Sunbelt, is recruiting for the following positions in material development:

Senior Scientist—Biochemist

This individual will be responsible for planning, conducting and evaluating research and development of biological materials and materials processes. Other job functions include establishing a scientific understanding of treatment processes for biological materials and developing characterization test methods. The qualified applicant will possess a Ph.D. in Biochemistry with a minimum of two years experience in collagen chemistry and tissue characterization methods. Excellent written communication skills and demonstrated problem solving skills are required.

Our client offers an excellent compensation package, commensurate with experience, and a fringe benefit program. Please submit your resume with salary history to: **Confidential Reply Service, Dept. 52, Anderson Fischel Thompson, 2950 North Loop West, Suite 230, Houston, TX 77092.** All replies will be forwarded to our client unopened. No phone calls please. Our client is an equal opportunity employer.

Confidential Reply Service
Anderson Fischel Thompson



POSITIONS OPEN

FACULTY POSITIONS: SUMMER 1990

The School for Field Studies announces teaching opportunities for undergraduate field research courses. Levels: senior faculty (Ph.D. required) and associate faculty (Ph.D. preferred).

WILDLIFE BIOLOGIST: wildlife management, Kenya.

TROPICAL ECOLOGIST: cloudforest ecology, Costa Rica.

PRIMATE TOLOGIST: primate behavior, Mexico.

CORAL REEF ECOLOGIST: coral reef ecology, Caribbean.

RESOURCE MANAGEMENT EXPERT: fisheries management, Caribbean.

MARINE MAMMALOGISTS: bottlenose dolphins, North Carolina; humpback whales, Massachusetts; harbor seals, Alaska.

AQUATIC ECOLOGIST: acid rain, New York.

ORNITHOLOGISTS: bald eagle ecology, Alaska; honeyguide-human symbiosis, North Kenya (associate only).

BOTANIST: landscape ecology, Colorado (associate only).

For more information or to apply, send letter, résumé, and three references to: **S. F. Search, The School for Field Studies, 16 Broadway, Beverly, MA 01915.**

PROFESSOR AND HEAD, Department of Food Science and Technology, University of Georgia, Georgia Station, Griffin, Georgia. Seeking an individual to lead the department, which has 11 full-time faculty, 21 staff, and graduate students. This is a 12-month tenure-track faculty position to be filled by a candidate qualifying for appointment as professor. Qualifications: Ph.D. or equivalent degree in food science or closely related field, and demonstrated scholarly research, commitment to research and graduate education, and leadership and communication skills. Application deadline: 1 March 1990. Send application letter, résumé, list of publications, official transcripts, and names and addresses of four references. Submit nominations by 31 January 1990. For additional information and to apply, contact: **Dr. Robert Rauniker, Search Committee Chair, Agricultural Economics Department, Georgia Station, Griffin, GA 30223-1797.** Telephone: 404-228-7231. FAX: 404-228-7270. *The University of Georgia is an Equal Opportunity/Affirmative Action Institution.*

PROFESSOR AND HEAD, Department of Anatomy and Physiology, Kansas State University, College of Veterinary Medicine, seeks a professor and head, Department of Anatomy and Physiology. The research and instructional programs of the department include anatomy, cell biology, neurosciences, physiology, pharmacology, physiological chemistry, and veterinary nutrition. The department has 14 full-time faculty, 25 graduate students in M.S. and Ph.D. degree programs, and 12 support staff. Candidates should possess the D.V.M. degree (or equivalent) and/or the Ph.D. degree in one of the disciplines relevant to the departmental instructional and research responsibilities, veterinary professional and graduate teaching experience, and research accomplishments sufficient to warrant appointment to the rank of professor. Detailed position description is available upon request. Applications accepted until 15 January 1990 or until a suitable applicant is selected. Applicants should submit a letter of application, curriculum vitae, a summary of professional goals and administrative philosophy, and names and addresses of three references. Address applications, inquiries, and nominations to: **Dr. Joseph E. Smith, Chairman, Search Committee, College of Veterinary Medicine, Kansas State University, Manhattan, KS 66506-5605.**

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

PROFESSOR OF NUTRITION

Tenure-track research position, teaching with possible Agricultural Experiment Station appointment. Doctorate, active research/grantsmanship in nutrition science, and leadership ability in doctoral training required. Application review begins 15 January 1990 and continues until position is filled. Send application letter, curriculum vitae, sample reprints, and names of five references to: **Dr. Helen A. Shaw, Department of Food and Nutrition, 322 Stone, University of North Carolina, Greensboro, NC 27412-5001.** Telephone: 919-334-5313. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

COMMUNITY ECOLOGIST

ASSISTANT PROFESSOR. Ph.D. required, full-time, tenure-track, fall 1990. Responsibilities include undergraduate courses in ecology, evolution, and general biology. The candidate will be expected to develop a field research program. Send curriculum vitae, transcripts, and three letters of reference to: **Dr. W. H. Heidcamp, Chair, Department of Biology, Gustavus Adolphus College, St. Peter, MN 56082** by 25 January 1990. *Affirmative Action/Equal Opportunity Employer.*

FRESHWATER BIOLOGY

The Department of Biology at The University of Mississippi invites applications for two tenure-track **FACULTY POSITIONS** in its expanding Freshwater Biology Program. The incumbents will conduct extramurally funded research using the University of Mississippi Biological Field Station (a 500-acre facility including over 140 artificial ponds, streams, and wetlands), teach in the undergraduate and graduate curricula, direct graduate students at the M.S. and Ph.D. levels, and participate in professional service. Opportunities exist to participate in currently funded toxicological research and/or research on the fate and effects of materials in natural and artificial freshwater ecosystems. Earned doctorate, research experience, and publications in appropriate field required.

BENTHIC INVERTEBRATE ECOLOGIST. Will conduct basic and applied research using benthic invertebrates in artificial and natural ponds, streams, and wetlands. Teaching responsibilities may include invertebrate biology, aquatic biology, ecology, or general biology. Experience in ecology, physiology, and/or toxicology is appropriate.

ENVIRONMENTAL AQUATIC MICROBIOLOGIST. Will conduct basic and applied microbiological research in freshwater systems. Teaching responsibilities may include applied microbiology, general microbiology, microbial ecology, or general biology. Experience in microbiology of aquatic systems and microbial ecology is appropriate.

It is anticipated that the positions will be filled at the **ASSISTANT PROFESSOR** level beginning in August 1990. More senior appointments may be considered for experienced candidates with a current record of funded research, who can utilize the facilities available at the Biological Field Station.

Please submit applications (including letter of application, curriculum vitae, description of current and future research interests, and names and telephone numbers of at least three individuals willing to provide letters of evaluation) to: **James A. Kushlan, Chair, Department of Biology, The University of Mississippi, University, MS 38677.** Deadline for applications: 12 January 1990 or until filled.

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

MASS SPECTROSCOPIST. Rice University Department of Biochemistry announces the availability of a scientific staff position for an experienced bioorganic mass spectroscopist to operate GC-MS units and to participate in research on sterol biosynthesis, sterol metabolism, and the chemistry of complex lipids. Salary dependent on qualifications and experience. Position available immediately. Interested persons should send résumé and names of three references to: **G. J. Schroepfer, Jr., Department of Biochemistry, Rice University, P.O. Box 1892, Houston, TX 77251.** *Rice University is an Equal Opportunity/Affirmative Action Employer.*

MICROBIOLOGIST

The Department of Biology at Southwest Missouri State University invites applicants for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level beginning fall 1990 semester. The individual must possess a Ph.D. and will be expected to teach an introductory course in microbiology and courses related to microbial physiology, and develop a strong research program. Preference will be given to applicants who use molecular approaches to the study of microbial biotechnology. Send a letter of application, curriculum vitae, statement of research objectives, and the names of three references by 2 February 1990 to: **Dr. Robert Wilkinson, Chairman, Search Committee, Southwest Missouri State University, Department of Biology, 901 South National, Box 148, Springfield, MO 65804.** *We are an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITION

The Department of Biology, Georgia Southwestern College, invites applications for a tenure-track position to begin 1 September 1990. Recent graduate study in botany is required and expertise in plant physiology and/or molecular biology is desirable. The Ph.D. is required for promotion and tenure, but applicants with clear prospects for completion of the degree in the near future will be considered. Teaching duties will include nonmajor introductory biology, as well as some upper level biology courses. Although this is primarily a teaching position, research interest is encouraged. Salary and rank are commensurate with education and experience.

Applicants should submit curriculum vitae, a statement of professional goals, and names, addresses, and phone numbers of at least three references to: **William L. Tietjen, Chairman, Department of Biology, Georgia Southwestern College, Americus, GA 31709. Telephone: 912-928-1621.** Closing date is 15 February 1990.

Georgia Southwestern College is an Affirmative Action/Equal Opportunity Employer.

FIELD MANAGER for coral reef research in Florida Keys acting as on-site field coordinator; helping design and service automated monitoring stations. M.S. in biology with experience in tropics. Required skills include SCUBA, computer literacy, and electronics. Faculty level position at \$25,000 per annum. Send letter, résumé, and names and addresses of three references to: **Dr. John C. Ogden, Director, Florida Institute of Oceanography, 830 First Street South, St. Petersburg, FL 33701.**

ICHTHYOLOGIST COMPARATIVE ANIMAL PHYSIOLOGIST

ASSISTANT PROFESSOR, tenure-track position, pending funding. Ph.D. required, teaching experience and postdoctoral research experience preferred. Teaching duties will include comparative animal physiology, ichthyology, and fisheries biology. Expected to establish a research program on freshwater fish that involves graduate and undergraduate students. The Aquatic Biology Program has a field station and 42-foot research vessel on Lake Erie. Submit résumé, statement of teaching philosophy, research plans, and three references by 1 February 1990 to: **Dr. Bonnie Sampsell, Chairman, Biology Department, State University College at Buffalo, 1300 Elmwood Avenue, Buffalo, NY 14222.** *Buffalo State College is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR PLANT PATHOLOGIST. We are seeking a plant pathologist whose research interests are in the molecular aspects of plant-pathogen interactions. This is a tenure-track position at the **ASSISTANT PROFESSOR** level. A Ph.D. is required and postdoctoral experience desirable. The successful candidate will be expected to initiate an independent research program in the molecular aspects of plant pathology, seek extramural funding, develop courses in their specialty, and teach in our introductory botany program. Nine-month salary: from \$30,000, depending on experience. Send curriculum vitae, undergraduate and graduate transcripts, reprints, a statement of research interests, and three letters of recommendation to: **Dr. Ivan K. Smith, Chair, Department of Botany, Ohio University, Athens, OH 45701** by 15 January 1990. *Ohio University is an Equal Opportunity/Affirmative Action Employer.*

NEUROPHYSIOLOGIST

Tenure-track position for neurophysiologist available in the Departments of Surgery and Physiology, College of Medicine, University of South Florida, for neurophysiologist with specific research interests in cochlear/vestibular physiology. Experience with electrophysiologic and histologic techniques required. The successful applicant will be expected to conduct his/her own grant-supported research and to consult/assist in other otologic research by faculty and residents.

To apply, send curriculum vitae, brief summary of research plans, and names of five references to: **Loren J. Bartels, M.D., Associate Professor of Surgery, Division of Otolaryngology, Box 16, 12901 Bruce B. Downs Boulevard, Tampa, FL 33612.** Deadline for receipt of applications is 15 February 1990.

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

Research Professionals in Biotechnology

ImmunoGen is a rapidly growing biotechnology company dedicated to the development of immunotoxins and other cancer therapeutics. We are seeking talented scientists to join us in exploring new approaches to human disease. Research positions are available at Ph.D., M.S. and B.S. levels in our expanding research programs. Candidates should enjoy taking the initiative in solving scientific problems to achieve near-term and long-term goals.

STAFF SCIENTISTS IN BIOCHEMISTRY

Candidates should have a Ph.D. in Biochemistry or related disciplines, with a strong research background in biochemistry. People with a proven record of realizing ideas through developing independent research projects, such as group leaders or junior faculty, would be strong candidates.

STAFF SCIENTISTS IN CELL BIOLOGY

Candidates should hold a Ph.D. in cell biology, immunology or related disciplines and have a strong research background and publication record in mammalian cell biology.

STAFF SCIENTIST IN MOLECULAR BIOLOGY

Our newly established molecular biology laboratory is developing a research program to include among other projects cloning, characterization and expression of cell surface antigens, construction, mutagenesis and expression of chimeric proteins. Qualified candidates should possess a Ph.D. in molecular biology and have a strong background in molecular cloning methods, cDNA library construction and screening, and DNA sequencing.

RESEARCH ASSOCIATES

A number of opportunities exist for associate scientists at the B.S. and M.S. level in cell biology, molecular biology, biochemistry and organic chemistry. Research areas include characterization and study of human cell lines, *in vitro* evaluation of immunotherapies for cancer and other diseases, DNA cloning and sequencing, drug synthesis and immunoconjugate construction.

ImmunoGen offers an excellent salary and benefits package including 100% paid Health and Dental Insurance and Tuition Assistance. The company is located in a new, fully equipped, state-of-the-art laboratory in Cambridge, midway between the campuses of HARVARD and MIT.

Please send a detailed resume including three references and a statement describing your scientific interests and career goals. All responses will be acknowledged. Reply to: Jeanne Horgan, Personnel Department, ImmunoGen, Inc., 148 Sidney Street, Cambridge, MA 02139.

IMMUNOGEN, INC.

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POSITIONS OPEN

BIOLOGY FACULTY AUGSBURG COLLEGE

The Department of Biology, Augsburg College, is seeking candidates for a tenure-track, full-time **ASSISTANT PROFESSOR** appointment to begin September 1990. Teaching responsibilities include courses for microbiology, biochemistry and cell biology majors as well as a beginning course in biology.

Augsburg College is a private, coeducational liberal arts college located in Minneapolis, Minnesota, and is affiliated with the Evangelical Lutheran Church in America. Enrollment is approximately 2,700 students.

Requirements include Ph.D. in cell biology, microbiology, or a closely related field, and a strong commitment to teaching at the undergraduate level with the potential to involve students in research. Salary will be based on preparation and experience. Excellent benefits package.

We seek an individual committed to the educational mission of our urban, church-related, liberal arts college. Submit letter of inquiry, current resume, transcript or list of relevant courses taken, and three current letters of reference from individuals familiar with candidate's teaching and research experience by 1 February 1990 to:

Personnel Department

Augsburg College
731 21st Avenue South
Minneapolis, MN 55454

Augsburg College is an Affirmative Action Employer.

CHAIR DEPARTMENT OF BIOLOGICAL SCIENCES AND ALLIED HEALTH FORT HAYS STATE UNIVERSITY

Mission of department (faculty of 21) includes undergraduate and graduate (M.S.) education, research, and public and clinical service. Chair has administrative and fiscal responsibility for departmental programs while participating in teaching, research and service. Candidates must have Ph.D. in discipline related to departmental programs and distinguished record of university teaching, scholarly research, and grantsmanship. Strong academic, administrative, budgetary, and communicative skills essential. Position opens 18 June 1990. Applications include: curriculum vitae, statements describing teaching and research interests, and administrative philosophy and names, addresses and phone numbers of four references. Send applications by 15 February 1990 to: **Robert A. Nicholson, Search Committee Chair, Department of Biological Sciences and Allied Health, Fort Hays State University, 600 Park, Hays, KS 67601-4099. Telephone: 913-628-4214. An Affirmative Action/Equal Opportunity Employer.**

HEMATOLOGIST-ONCOLOGIST at the **INSTRUCTOR AND ASSISTANT PROFESSOR** level. Full-time faculty appointment at the University of Texas, M. D. Anderson Cancer Center. Applicant must qualify for licensure in Texas and be B.C.-B.E. in medical oncology or hematology. A strong interest in clinical research and commitment to patient care is essential. Research laboratory experience desirable but not mandatory. The focus of the department is on the use of biological agents (interferons, interleukins, hematopoietic growth factors) in the therapy of human malignancies. Please send curriculum vitae, including names and addresses of references to:

Jordan U. Gutterman, M.D.

Professor and Chairman

**Department of Clinical Immunology
and Biological Therapy, Box 41
M. D. Anderson Cancer Center
1515 Holcombe Boulevard
Houston, TX 77030**

Attention: Debra Mouton

An Equal Opportunity/Affirmative Action Employer.

HUMAN ANATOMY AND PHYSIOLOGY. One-year sabbatical replacement as **ASSISTANT PROFESSOR** to teach introductory human anatomy and physiology course. Background should include experience with human cadavers. Masters or Ph.D. required. Send curriculum vitae and three letters of reference to: **Dr. Richard Welton, Department of Biology, Southern Oregon State College, Ashland, OR 97520** by 1 February 1990. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CAREER AWARDS (15 YEARS) IN BIOCHEMISTRY, PHARMACOLOGY AND PHYSIOLOGY. Applications (M.D. or Ph.D.) invited for three posts in a large, internationally recognized cardiovascular research group (Director: D. J. Hearse), specializing in biochemistry, physiology, pharmacology, electropharmacology & electrophysiology of the heart. Applicants should be strongly motivated, have a track record of high calibre creative research, be able to conceive and direct new work and demonstrate a high standard of writing skills. Experience in cardiac or vascular research would be an advantage but not a prerequisite. For one position, experience in membrane and protein chemistry and redox control systems would be valuable. Awards (Lecturer or Senior Lecturer level) are for five years initially, renewable to 15 years, remuneration (£11,466 - £25,935 p.a.) reflecting age and excellence. Relocation assistance and other special allowances provided. For details send a curriculum vitae and hand written letter providing any relevant information to: **Professor D. J. Hearse, Cardiovascular Research, The Medical School, Rayne Institute, St. Thomas' Hospital, London SE1 7EH, U.K.** by 31 January 1990.

EASTERN VIRGINIA MEDICAL SCHOOL (EVMS) TENURE TRACK APPOINTMENT IN ANATOMY AND NEUROBIOLOGY. The Department of Anatomy and Neurobiology is seeking a qualified applicant for a tenure-track appointment at the assistant professor level. Candidates should possess a Ph.D. or M.D. (or equivalent) and at least two years of postdoctoral experience. The successful candidate should demonstrate a willingness to participate in the teaching of the anatomical disciplines, as well as the development of an active research program in neurobiology. The department is especially interested in candidates whose research experience encompasses such areas as molecular neurobiology, electrophysiology, as it relates to mechanisms of central and peripheral neural regeneration and/or receptor localization and cell lineage. Major collaborative departmental research focuses in general upon the concepts and mechanisms of recovery of function in the mammalian CNS-PNS. Candidates for this position will be expected to pursue vigorous research programs and have evidence of prior support from Federal or private agencies or the potential of garnering such. Interested individuals should send curriculum vitae, a complete bibliography, three letters of recommendation and a brief description of current and future research activities to: **David E. Scott, Ph.D., Professor and Chairman, Department of Anatomy and Neurobiology, Eastern Virginia Medical School, P.O. Box 1980, Norfolk, VA 23501. The Eastern Virginia Medical School is an Equal Opportunity/Affirmative Action Employer.**

MOLECULAR CELL BIOLOGIST UNIVERSITY OF CALIFORNIA SAN DIEGO

A position is available in the new Division of Cellular and Molecular Medicine of the University of California, San Diego, in either the **RESEARCH SERIES (ASSISTANT)** or the **PROFESSOR IN RESIDENCE (ASSISTANT)** series. The appropriate series will depend on whether the successful candidate devotes his/her time entirely to research (research series) or engages in teaching, research, and service (professor in residence series). The applicant will join a research group involved in the study of renal membrane and extracellular matrix proteins, and will be responsible for the application of recombinant DNA techniques to the investigation of proteins important in normal function (membrane traffic, membrane physiology, cell matrix-interactions, basement membrane assembly) and in renal disorders (immune injury, cell proliferation).

Experience in cDNA library construction and screening, PCR techniques, and gene cloning sequencing and expression is necessary. A background in protein chemistry would be helpful. Salary and level of appointment will be commensurate with the qualifications of the candidate. The position will be available in early 1990.

Applications with curriculum vitae and names of three referees should be sent by 15 January 1990 to:

Dr. Marilyn G. Farquhar

Department of Cell Biology

Yale University School of Medicine

P.O. Box 3333

New Haven, CT 06510

Affirmative Action/Equal Opportunity Employer.

MOLECULAR GENETICIST

The Department of Molecular Genetics of The Ohio State University is initiating a search for one or more talented molecular geneticists for tenure track Assistant Professor positions. We are particularly interested in applicants with research interests in molecular genetic studies of major topics in cell and developmental biology using experimental systems such as yeast, *Drosophila*, *Caenorhabditis*, *Mus* and *Arabidopsis*. However, highly qualified applicants with other research specialties within the broader mandate of our unit will also be considered seriously. A highly competitive recruiting package is available, including an attractive (hard money) salary, generous laboratory space, ample funds for equipment purchase and funds for initial operating expenses. Women and members of minority groups are encouraged to apply.

Applications should include a detailed curriculum vitae, a description of research experience, a statement of the nature of the planned independent research program, and the name, address and telephone number of each of four scientists who have agreed to serve as references. Applications will be accepted until suitable candidates are hired but recruiting is scheduled to begin in earnest by March, 1990.

Information about our Department can be obtained by calling our offices at 614-292-8084.

Application materials should be sent to: **Molecular Genetics Search, Department of Molecular Genetics, The Ohio State University, 484 W. 12th Avenue, Columbus, Ohio 43210**

The Ohio State University is an Equal Opportunity/Affirmative Action Employer.



FULL PROFESSOR VISION RESEARCH

Applications and nominations are invited for a tenured faculty research position at the level of Professor in the Eye Research Institute of Oakland University. The candidate must be an established investigator with Ph.D., M.D. or equivalent, a minimum 10 years experience in independent research, a strong publication record and, where appropriate, proven ability to secure continuous external grant support. We are particularly interested in established scientists in molecular biology or immunology who have, or will make, a strong commitment to vision research. Investigators in other areas of biomedical sciences who will make the same commitment will also be considered.

Opportunities exist for collaboration with current faculty who are engaged in research in the biochemistry, physiology and molecular biology of the cornea, lens, retina and intraocular fluids. In addition, collaboration on clinical research projects is also possible with faculty and residents of the affiliated Department of Ophthalmology of a major area hospital.

The Eye Research Institute is an independent academic unit of Oakland University, a state supported institution situated on a 1400 acre campus, 25 miles north of Detroit, with an enrollment of 12,300 students in baccalaureate and doctoral programs.

Applicants should send a curriculum vitae, 3 to 5 reprints and the names of three references by February 16, 1990 to: Dr. M.V. Riley, Chair, Search Committee, Eye Research Institute, Oakland University, Rochester, MI 48309.

An Equal Opportunity/Affirmative Action Employer



SIMON FRASER UNIVERSITY BIOCHEMIST

Protein Structure/Function & Enzymology Rank Open

The Institute of Molecular Biology and Biochemistry at Simon Fraser University is expected to occupy a new \$26.6 million research/teaching facility in mid 1992. As a major participant in this initiative, the Department of Chemistry is seeking applications from outstanding scientists at all ranks for a tenure track position (rank open). The successful candidate will be expected to establish a productive research program in an area of protein structure and function or enzymology. Applications should include a curriculum vitae, an outline of current research interests and reprints of recent publications. Applicants should also arrange to have letters of support, from at least three referees to be sent directly to

Prof. A.C. Oehlschlager
Department of Chemistry/Biochemistry
Simon Fraser University
Burnaby, British Columbia
Canada, V5A 1S6

The closing date for this competition is **April 30, 1990**. In accordance with Canadian Immigration practice, priority will be given to Canadian citizens and Landed Immigrants.

Simon Fraser University offers equal employment opportunities to qualified applicants.

TENURE-TRACK ASSISTANT PROFESSORSHIPS DEPARTMENT OF BIOLOGY

The Department of Biology at Tufts University invites applications for three new tenure track positions at the assistant professor level, to start Sept., 1990. This is an expansion made possible in part by a grant under the Howard Hughes Medical Institute Undergraduate Initiative; two additional faculty positions will be opened to start Sept., 1991.

The Department presently has 17 full-time faculty members committed to offering a broadly-based biology curriculum. We seek candidates with training in specialties that will complement our existing research and teaching programs at the undergraduate and graduate levels. Successful applicants will be expected to pursue independent extramurally-funded research programs, and to sponsor doctoral-level graduate research. PhD required; postdoctoral experience preferred. In addition to the specialized teaching listed for each position, duties will include participation on a rotating basis in team-taught introductory and intermediate level biology courses. Applicants will be sought for the following specific positions; although research specialties are suggested, we will consider any outstanding candidate in each area.

MOLECULAR BIOLOGIST, preferably with research interests in the molecular biology of higher or lower eukaryotes, including plants. Instructional duties will include an intermediate level course in molecular biology and an advanced seminar course.

NEUROBIOLOGIST, preferably with research interests in developmental neurobiology, receptors or channels, integrative neuroscience, or neuroethology. Instructional duties will include a course in neurobiology and a specialty course.

POPULATION BIOLOGIST, preferably with research interests in population dynamics, population genetics, or evolutionary mechanisms. Instructional duties will include an introductory course in biostatistics and a course in an area of population biology.

Women and minorities are encouraged to apply. Applications will consist of a curriculum vitae, a concise statement of research interests and goals, and letters sent from three references who can comment on teaching ability and research potential.

Address to: **Chair, Search Committee for (state position desired), Department of Biology, Tufts University, Medford, MA 02155.**
Deadline for completed applications, including letters of reference, is Jan. 9, 1990.

Tufts University is an Equal Opportunity/Affirmative Action Employer.



TUFTS UNIVERSITY

DIRECTOR

BIOTECHNOLOGY INSTITUTE FOR TECHNOLOGY TRANSFER University of Florida, Gainesville, FL

The University of Florida is seeking an outstanding leader and scholar to direct the Biotechnology Institute for Technology Transfer at the University of Florida Research and Technology Park. The University is a comprehensive research institution with over \$161 million in annual research funding and more than 300 faculty actively involved in biotechnology research. The Director of the Biotechnology Institute reports directly to the Vice President for Research and has the mandate to facilitate and oversee emerging biotechnology companies at the Research Park and to lead in biotechnology transfer from the University to industry. Major responsibilities include identifying commercially significant research at the University; establishing partnerships with industry to develop commercially valuable biotechnology discoveries; marketing biotechnology patents and discoveries to commercial firms; providing and managing Research Park facilities which join the University to industry in order to develop commercially viable products.

Applicants must have demonstrated experience in successful technology transfer; a background in successful administrative leadership; Ph.D. preferred or post baccalaureate degree with research experience; scientific proficiency in biotechnology essential; demonstrated ability to negotiate and obtain funding at the highest administrative levels of business, industry and government; sensitivity toward and ability to work with diverse groups; commitment to affirmative action and equal opportunity. Salary will be commensurate with the experience and qualifications of the individual selected.

Applicants must submit a letter of application that addresses each of the responsibilities of the position, a current curriculum vitae, and the names, addresses and telephone numbers of three references. Nominations and applications should be sent to: Ms. Roxanna Bruce, Office of the Vice President for Research, 223 Grinter Hall, University of Florida, Gainesville, FL 32611-2037. *Deadline for Receipt of completed applications:* February 1, 1990. The University of Florida is an Equal Employment Opportunity/Affirmative Action Employer.

POSITIONS OPEN

MARINE CENTER DIRECTOR

The Louisiana Universities Marine Consortium, an organization of Louisiana's public universities, invites applications and nominations for the newly created position of **DIRECTOR** of the Louisiana Universities Marine Center. Duties for the position include guiding research and educational programs and administering operations of the Marine Center in Cocodrie, Louisiana, and two field stations. The Marine Center Director will report to the Executive Director of the Consortium and will also serve as the Consortium's Associate Director. The successful candidate is encouraged to maintain a program of independent research dealing with some aspect of the coastal ocean. Adjunct appointment to the faculty of one or more member universities is expected. The Marine Center contains 30,000 square feet of research and teaching laboratories and, at present, has a resident faculty of eight doctoral-level scientists. Research and teaching facilities are also used by faculty and students from member universities. Two specially-built research vessels, Pelican (105 ft) and Acadiana (57 ft), are based at the Marine Center. Applicants should be marine scientists with a strong record of accomplishment in research and preferably with some experience in administration of research and education programs. Applicants should send a letter of application, resumé and names, addresses, and telephone numbers of three individuals familiar with their qualifications by 31 January 1990 to: **Dr. Donald F. Boesch, Executive Director, Louisiana Universities Marine Consortium, Chauvin, LA 70344.**

Louisiana Universities Marine Consortium is an Equal Opportunity/Affirmative Action Employer.



The University of Manitoba Faculty of Science MOLECULAR BIOLOGIST

The Department of Zoology, University of Manitoba, has a tenure-track position for a molecular biologist to start September 1990. Salary is dependent on qualifications and experience. Applicants must have a Ph.D. with postdoctoral experience in development, evolution, or genetics. Promising applicants from other areas of metazoan molecular biology are not excluded. Responsibilities include undergraduate and graduate teaching and developing an independent, vigorous research program. Start-up support is available and opportunities exist for collaborative research. *Both women and men are encouraged to apply. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.* Applicants must submit curriculum vitae, description of research interests, representative reprints, and names of at least three references by 31 March 1990 to: **Dr. J. H. Gee, Zoology Department, University of Manitoba, Winnipeg, MB, Canada R3T 2N2.**

MOLECULAR BIOLOGIST

Studying cellular or developmental phenomena in a eukaryotic system.

The Biology Department of Boston College has a full-time tenure-track position available at the **ASSISTANT PROFESSOR** level beginning in September 1990 for an individual with a Ph.D. and at least 2 years of postdoctoral experience to establish a vigorous, externally funded research program. In addition to teaching in his/her area of expertise, the candidate will be expected to contribute to departmental teaching needs in one area such as: introductory biology, immunology, cellular biology, or evolution.

Boston College, a university of 14,000 students, has a growing Biology Department with 20 faculty members and 50 graduate students in the M.S. and Ph.D. programs. The university has a strong commitment to research and offers competitive salaries, excellent start-up funds, and well-equipped facilities. Applications should include curriculum vitae, a list of publications, and a summary of current and future research plans. Applicants should also arrange for three letters of reference to be sent. All materials should be received by 31 January 1990 by:

Search Committee
Biology Department
Higgins Hall
Boston College
Chestnut Hill, MA 02167

Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

MANAGER CYTOCHEMISTRY/MICROSCOPY FACILITY

To direct a new core facility to localize proteins and nucleic acids using confocal microscopy methods. This facility will serve a faculty community of 25 with diverse interests in cell, developmental, and molecular biology. The manager must have a firm grasp of basic molecular and cell biology (a postgraduate degree, masters or higher, is necessary) and at least 5 years of full-time research experience with both immunological and immunocytochemical methodology. Experience with confocal microscopy is also essential. The manager will advise on major purchases of core equipment, help in writing research grants for this purpose, set up and maintain new equipment including a confocal microscope, and manage physical reorganization and plan remodeling of space as necessary. Manager will also interact with faculty and students to promote the use of the facility and collaborations, and will offer seminars and lectures to students on basic immunocytochemical and microscopic techniques, both practical and theoretical. Address inquiries with curriculum vitae to: **CMF Search, Department of Biology, Princeton University, Princeton, NJ 08544.**

An Affirmative Action/Equal Opportunity Employer.

MICROBIOLOGIST/MOLECULAR GENETICIST. A tenure-track faculty position is available for August 1990, at the level of **ASSISTANT PROFESSOR**, for a broadly trained microbiologist to teach microbiology, school health, general biology for nonmajors, and an appropriate advanced course, and to carry out research involving undergraduate students. A doctoral degree is required, and teaching experience is preferred. A letter of application, curriculum vitae, three letters of recommendation, and all undergraduate and graduate transcripts should be sent to: **Dr. John J. Ruffolo, Department of Biology, University of Wisconsin-Whitewater, Whitewater, WI 53190.** The deadline for receipt of all application materials is 16 February 1990. *UW-Whitewater is an Equal Opportunity Employer with an Affirmative Action plan. Women, members of minority groups, persons with disabilities, and Vietnam-era veterans are encouraged to apply.*

NEUROSCIENTIST. Responsible for isolating and characterizing neuropeptides and neurohormones, synthesizing novel related compounds and evaluating these natural and novel compounds for drug activity in various neurochemically modulated systems, participating in managing laboratory facilities, and providing analytical and synthetic expertise to various project groups within the company. Requires Ph.D. degree in clinical pharmacology and 5 years of experience in the job offered or in medicinal chemistry/neurochemistry. Also requires practical knowledge of the application of a variety of analytical techniques, particularly chromatography in its various forms and ligand-receptor binding; familiarity with the principles of drug disposition; and familiarity with neuropharmacology. Salary: \$48,000 per year. Job and interview site: Menlo Park, California. Send this ad and a resumé to: **Job #KV10008, P.O. Box 9560, Sacramento, CA 95823-0560** not later than 30 December 1989.

PLANT INTERACTIONS WITH OTHER ORGANISMS INDIANA UNIVERSITY BLOOMINGTON, INDIANA

The Department of Biology anticipates appointing a new faculty member who uses modern experimental approaches to study the interactions of plants with other organisms. We will consider applications from individuals studying a wide range of systems, including interactions of plants with animals, bacteria, fungi, or viruses. The successful candidate will be expected to conduct a vigorous, independent research program and contribute to teaching. Applicants should have demonstrated ability as creative scientists. While we expect to make the appointment at the **ASSISTANT PROFESSOR** level, candidates at higher levels will also be considered. Curriculum vitae, a brief description of research interests, and three letters of reference should be sent to: **Dr. Marti Crouch, Search Committee, Department of Biology, Indiana University, Bloomington, IN 47405.** Applications received before 15 January 1990 will be assured of consideration.

Indiana University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

PEDIATRIC INFECTIOUS DISEASES

The University of California San Francisco (UCSF) is seeking a Board-certified academic pediatrician at the **ASSISTANT PROFESSOR** level to participate in the research, teaching, and clinical activities of the Infectious Diseases Division of the Department of Pediatrics. Candidates must have completed an infectious diseases fellowship with additional training in molecular biology, and have the capacity to establish a research program in infectious disease pathogenesis or immunology/infectious diseases. Approximately 80% time will be spent on research and the remainder on clinical and teaching duties in the department. Please submit curriculum vitae to: **Steve Kohl, M.D., Chief, Division of Pediatric Infectious Diseases, Department of Pediatrics, UCSF, San Francisco General Hospital, 1001 Potrero Avenue, 6E9, San Francisco, CA 94110.** *The University of California is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

PHYSIOLOGICAL ECOLOGIST

The Department of Biology at Berry College invites applications for a 9-month, tenure-track position at the **ASSISTANT PROFESSOR** level (Ph.D. required). The successful candidate will join a department with a research theme in ecology and evolutionary biology. The candidate will teach either anatomy and physiology or vertebrate physiology and contribute to the introductory biology program for majors and nonmajors. The opportunity exists to develop an upper level course in physiological ecology. Research with undergraduates and publication are expected. Send curriculum vitae, transcripts of all academic work, and three letters of recommendation by 15 February 1990 to: **Dr. Robert A. Martin, Department of Biology, Berry College, Mt. Berry Station, Rome, GA 30149.** *Equal Opportunity Employer.*

PLANT ECOLOGIST. Tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** position starting 1990-91 academic year. Candidate must have a strong field orientation and bring modern approaches and techniques to research on terrestrial problems in Hawaii. The Botany Department's commitments include the investigation of mechanisms in the ecology and evolution of Hawaiian ecosystems and species. Responsibilities include research, teaching, and service; courses could include introductory botany or biology, upper-division ecology, and a specialized graduate course. Send curriculum vitae, reprints, statement of research and teaching interests, and names of three referees to: **Chair, Ecology Search Committee, Botany Department, University of Hawaii at Manoa, 3190 Maile Way, Honolulu, HI 96822.** Closing date for receipt of applications: 15 February 1990. Inquiries accepted by **FAX: 808-943-0380.** *An Equal Opportunity/Affirmative Action Employer.*

PROGRAM MANAGER FOR BIOLOGICAL APPLICATIONS. The Office of Technology Assessment, a science/technology agency of the U.S. Congress, is seeking a senior manager, responsible for overseeing the conduct and assuring the quality of studies conducted by the Biological Applications Program. Candidates must have a doctorate in biological sciences or equivalent experience, extensive subject area knowledge, and be capable of supervising 20 staff in producing reports for Congress that improve understanding of relevant technological issues. Must be expert in research methods, public policy, management, and administration; able to exercise judgment appropriate to a legislative environment; and assure that studies are objective and free from advocacy. Submit curriculum vitae to: **Clyde Behney, Search Committee, Office of Technology Assessment, U.S. Congress, Washington, DC 20510.** Please reply by 31 January 1990. *Equal Opportunity Employer.*

REGIONAL ECOLOGIST. The Nature Conservancy invites applications for an individual to work with state natural heritage programs, the academic community, and others to advance the northeast portion of a national community classification and the identification of plant communities of conservation concern. The position requires technical expertise in plant community ecology. Send curriculum vitae and names of three references to: **Dr. Larry Master, The Nature Conservancy, 294 Washington Street, Boston, MA 02108.** Telephone: 617-542-1908. *The Nature Conservancy is an Equal Opportunity Employer.*

**COLD SPRING HARBOR LABORATORY
FACULTY POSITION
X-RAY CRYSTALLOGRAPHY**

We seek applicants for a newly-created faculty position in the field of protein structure and function, particularly X-ray crystallography, which will expand an on-going effort at Cold Spring Harbor. Current faculty members in this area include Dr. Jim Pflugrath, Dr. John Anderson and Dr. Jeff Kuret. The X-ray crystallography group will move into the new W.M. Keck Foundation Structural Biology Laboratory in 1991. Both senior and junior faculty positions will be considered.

Curriculum vitae and names of references should be submitted to:

Dr. Bruce Stillman
Cold Spring Harbor Laboratory
P.O. Box 100
Cold Spring Harbor, NY 11724



Cold Spring Harbor Laboratory
An equal opportunity employer

The Cancer Research Institute

is pleased to announce the recipients of its

**1989 William B. Coley Award
for
Distinguished Research in Immunology**

Dr. Howard M. Grey
Vice President, Research and Development
Cytel Corporation
La Jolla, California

Dr. Alain Townsend
Lecturer in Immunology
Institute of Molecular Medicine
University of Oxford
Oxford, England

Dr. Emil R. Unanue
Mallinckrodt Professor and
Chairman, Department of Pathology
Washington University School of Medicine
St. Louis, Missouri

133 East 58 Street, New York, NY 10022 212-688-7515

**Air Force
Office of
Scientific
Research**

**Summer Faculty and
Graduate Student
Research Program**



The USAF Summer Faculty Research Program (SFRP) and Graduate Student Research Program sponsored by the Air Force Office of Scientific Research and conducted by Universal Energy Systems, Inc. (UES) provides research opportunities for qualified faculty members and graduate students of U.S. Institutions of higher education. The research will be conducted at one of 23 participative Air Force Laboratory Centers.

- **Electrical Engineering**
- **Mechanical Engineering**

- **Aeronautical and Astronautical Engineering**
- **Biomedical Engineering**
- **Chemical, Industrial and Civil Engineering**
- **Physics**
- **Computer Modeling and Computer Science**
- **Chemistry**
- **Mathematics**
- **Behavioral Science**
- **Operations Research**
- **Metallurgy**
- **Meteorology and Geophysics**
- **Life Sciences, Biology and Biophysics**
- **Toxicology**

To be eligible for participation, individuals must be U.S. citizens currently serving as full-time faculty or graduate students at U.S. Institutions. All qualified applicants will receive consideration without regard to age, color, race, religion, sex, or national origin.

Interested individuals are requested to contact:

SFRP Administrator
Universal Energy Systems, Inc.
4401 Dayton-Xenia Road
Dayton, Ohio 45432
Phone (800) 533-7532
Or (513) 426-9876

UES Universal Energy Systems

Equal Opportunity Employer

POSITIONS OPEN

THE U.S. DEPARTMENT OF COMMERCE (DOC)/ NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

ASSOCIATE DIRECTOR, Environmental Studies Program involves the development and evaluation of research programs and the awarding of Federal grant funds to support individual projects, coherent assemblages of projects, and large institutional programs at U.S. academic institutions.

A full 4 year or longer professional curriculum in an accredited college or university leading to a Bachelor's Degree or higher with specific study in biology or related field of science underlying ecological research. A Ph.D. in marine ecology or equivalent is highly desirable. Experience in research grants negotiation is also desirable. Salary: \$48,592 to \$63,172 (Dependent upon experience and qualifications). Send Standard Form 171 to:

**NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION
NESDIS/OAR Personnel Branch
11420 Rockville Pike, Room 40
Rockville, MD 20852
Telephone: 301-443-3434
DOC is an Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS. Available for independent, highly motivated, and well-qualified individuals to study: (i) molecular and cell biological aspects of transmembrane signaling during T cell activation with particular emphasis on protein kinases, and (ii) strategies for synthetic peptide-based HIV vaccine development using conventional or recombinant DNA techniques to introduce immunogenic epitopes into appropriate carriers. Experience in molecular biology and immunological techniques is desirable for both positions. Send résumé and names of three references to: **Dr. Amnon Altman, IM3, Scripps Clinic and Research Foundation, La Jolla, CA 92037. Telephone: 619-554-8602.**

Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL SCIENTIST INDUSTRIAL POSITION BIOTECHNOLOGY GROUP OLIN CORPORATION

Olin has a position for a recent Ph.D. in microbial genetics or physiology with strength in prokaryotic molecular genetics. He or she will identify biocatalytic methods of specialty chemical synthesis and devise methods to boost enzyme productivity in pseudomonads. Applicants should have broad interests, skills, and a desire to apply these to practical problems. The position is for 2 years with the potential to become permanent. The salary is \$40,000 per year. Olin encourages publication, subject only to patent and trade secret protection. Send your résumé with the addresses of references to: **Tony Cydlo, Personnel Office, Olin Research Center, P.O. Box 586, Cheshire, CT 06410. An Equal Opportunity Employer. M/F/H/V.**

POSTDOCTORAL POSITIONS HUNTER COLLEGE, CUNY

1) **BIOORGANIC/BIOCHEMISTRY** of antitumor drug-DNA interactions: synthetic oligonucleotides, restriction fragments, DNA footprinting, HPLC, gel electrophoresis, DNA structural studies, computer modeling. \$25,000 first year, to work with Professor Maria Tomasz.

2) **SYNTHESIS** of new porphyrin-intercalator adducts that cut DNA, and porphyrin-antibody conjugates for diagnostic gamma and nuclear magnetic resonance imaging applications. \$25,000 first year, to work with Professor David Lavallee.

3) Professors Tomasz and Lavallee are members of the Institute of Biomolecular Structure and Function at Hunter College, which maintains excellent facilities for automated DNA and protein sequencing and synthesis, and includes NMR, X-ray and Evans and Sutherland instruments. Additionally, postdoctoral fellowships, aimed at increasing the participation of underrepresented minorities are available from this Institute in the two laboratories.

Please send a resume to: **Dr. Lavallee or Tomasz at the Department of Chemistry, Hunter College, CUNY, 695 Park Avenue, New York, NY 10021.**

POSITIONS OPEN

POSTDOCTORAL POSITION available now to study myeloid membrane structure/function. Research projects involve granulocyte membrane protein purification and characterization of molecules recognized by myeloid-specific monoclonal antibodies. Send curriculum vitae and three names or letters of reference to: **Dr. Keith Skubitz, Department of Medicine, Box 325 UMHC, University of Minnesota Medical School, Minneapolis, MN 55455. Equal Opportunity Employer.**

MOLECULAR EVOLUTION. POSTDOCTORAL POSITION with active group studying genetic structure of social insect populations, available immediately. Position involves development and large-scale application of probes for RFLP or VNTR polymorphisms, and training of other personnel. Send curriculum vitae, two letters, and brief summary of molecular skills to: **Dr. David Queller, Department of Ecology and Evolution, Rice University, P.O. Box 1892, Houston, TX 77251. Telephone: 713-527-4919.**

POSTDOCTORAL POSITION available immediately in arteriosclerosis SCOR program to investigate cellular cholesterol metabolism using biochemical and molecular biological approaches. *Must be U.S. citizen or permanent resident. Minority applicants desired.* Send curriculum vitae to:

**Dr. Ira Tabas
Department of Medicine
Columbia University
New York, NY 10032**

POSTDOCTORAL POSITIONS BIOMEDICAL ENGINEERING DEPARTMENT BOSTON UNIVERSITY

Computational research in peptide structure and function. Training in the mathematical sciences and a strong interest in biomedical research required. Send curriculum vitae and list of publications to: **Charles DeLisi, College of Engineering, Boston University, 44 Cummings Street, Boston, MA 02215.**

POSTDOCTORAL POSITION. Available immediately for x-ray analysis of crystallized enzyme inhibitor complexes relevant to blood clotting. Experience in crystallography or biophysical chemistry desired. Send curriculum vitae and addresses of three references to: **Dr. Brian Edwards, Department of Biochemistry, Wayne State University, 540 East Canfield Avenue, Detroit, MI 48201. Wayne State University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL/TRANSCRIPTION. Join a group investigating the transcriptional regulation of human liver gene expression with emphasis on retinoic acid homeostasis during morphogenesis and epithelial cell differentiation. Send curriculum vitae, with names and telephone numbers of three references, to: **Dr. Gregg Duester, Department of Biochemistry, Colorado State University (CSU), Fort Collins, CO 80523. Deadline: 28 February 1990. CSU is an Equal Opportunity/Affirmative Action Employer. Equal Opportunities office: 314 Student Services Building.**

POSTDOCTORAL POSITION available immediately in molecular virology/immunology to study pathogenic mechanisms of Simian Immunodeficiency Viruses (SIV) in nonhuman primates under the direction of Dr. Jonathan S. Allan. The AIDS program is comprised of five investigators currently funded in immune mechanisms, vaccine development, chemotherapeutics, pathogenesis and molecular biology. Southwest Foundation is a nonprofit biomedical research facility supported, in part, by NIH funded research. We have a large colony of nonhuman primates, some of which are currently on AIDS studies. Candidates are expected to have an M.D., D.V.M. and/or Ph.D. and training in molecular biology. Basic expertise in molecular cloning and DNA sequencing techniques is preferred. Annual salaries range between \$21,694 and \$30,139, commensurate with relative experience. Interested individuals should send curriculum vitae and the names and phone numbers of three references to: **Personnel Director (51), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284. An Equal Opportunity Employer Male/Female.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN COCHLEAR AND AUDITORY-NERVE PHYSIOLOGY

Available immediately to study the relationship between cochlear afferent activity and the vibrations of the basilar membrane. Send curriculum vitae and the names of three references to: **Dr. Mario A. Ruggero, Department of Otolaryngology, University of Minnesota, 2630 University Avenue S.E., Minneapolis, MN 55414. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

POSTDOCTORAL POSITIONS IN MOLECULAR ENDOCRINOLOGY

Individuals with strong backgrounds in molecular and/or cellular biology are invited to apply for postdoctoral positions in a leading laboratory involved in the investigation of the biosynthetic and regulatory mechanisms in the production of the islet hormones insulin, amylin, glucagon, and others. Areas of concentration include islet prohormone conversion mechanisms, regulation of islet hormone gene expression, expression and role of ion channels in islet cells, insulin receptor signal transduction mechanisms, studies on islet hormone gene evolution and on mutant insulin, and insulin receptor genes in human populations. Contact:

**Donald F. Steiner, M.D., Senior Investigator
Howard Hughes Medical Institute, N214
Box 23**

**The University of Chicago
5841 South Maryland Avenue
Chicago, Illinois 60637**

HUMAN GENETIC MAPPING

POSTDOCTORAL POSITION open immediately to participate in NIH-funded study of human DNA polymorphisms based on (dC-dA)_n(dG-dT)_n sequences (*Am. J. Hum. Gen.* **44**, 388-396) and to map genes responsible for Tourette's Syndrome and other neurological disorders through linkage analysis. Excellent salary and benefits. Send curriculum vitae and names of three references to: **Dr. James Weber, Marshfield Medical Research Foundation, 510 North St. Joseph Avenue, Marshfield, WI 54449.**

POSTDOCTORAL POSITIONS available immediately to study (i) the biochemistry and genetics of enterobacterial common antigen (ECA) synthesis in *E. coli* and *S. typhimurium*, and (ii) the biochemistry and genetics of lipoprotein biogenesis in bacteria and protein trafficking in mammalian cells. Send curriculum vitae and names of three references to: **Civilian Personnel, c/o Dr. Paul D. Rick and Dr. Henry C. Wu, Department of Microbiology, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION DIVISION OF CELLULAR AND MOLECULAR MEDICINE UNIVERSITY OF CALIFORNIA SAN DIEGO

A postdoctoral research position is available in the new Division of Cellular and Molecular Medicine of the University of California, San Diego. The successful candidate will join a research group involved in the study of extracellular matrix proteins and membrane proteins of kidney cells. Studies will focus on the investigation of proteins important in normal function (cell matrix-interactions, membrane traffic, membrane biogenesis, membrane transport, basement membrane assembly) and in renal disease (mechanism of immune complex formation, cell proliferation). Prior experience in biochemistry, cell biology, and/or immunology is desired. Salary and level of appointment will be commensurate with the qualifications of the candidate. The position will be available 1 March 1990.

Application with curriculum vitae and names, addresses, and telephone numbers of three referees should be sent by 15 January 1990 to:

**Dr. Marilyn G. Farquhar
Department of Cell Biology
Yale University School of Medicine
P.O. Box 3333
New Haven, CT 06510**

Affirmative Action/Equal Opportunity Employer.

**UNIVERSITY OF COLORADO
HEALTH SCIENCES CENTER**

NEUROSCIENCE PROGRAM DIRECTOR

The Neuroscience Program at the University of Colorado Health Sciences Center is seeking a permanent Director. Applications will be considered until the position is filled.

The Neuroscience Program is an interdepartmental Graduate Program, involving approximately 50 faculty members in both basic science and clinical departments within the School of Medicine. Faculty research interests range from molecular neurobiology to the organization of the central nervous system. A tenured position for the Director is available in the Department of Physiology. A new research building now under construction will provide an additional 14,000 square feet of space for the program, including a director's laboratory and office suite.

The School of Medicine has a broad, well-supported research base, with strong interdisciplinary programs in molecular biology, cell biology, and endocrinology, as well as in neuroscience.

Successful candidates for the position will be expected to maintain a vigorous research effort, and will be responsible for program organization, administration and development of program support. Applicants should send a *Curriculum vitae* and the names of at least three referees to:

Professor A.R. Martin
Neuroscience Search Committee
Department of Physiology, C-240
University of Colorado Health Sciences Center
4200 East Ninth Ave.
Denver, CO 80262

The University of Colorado is an Equal Opportunity/Affirmative Action Employer. Minorities and women are especially encouraged to apply.

**ASSISTANT/
ASSOCIATE
INVESTIGATOR**

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

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

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

Send resume and three letters
of recommendation to:

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



**THE NEW YORK
BLOOD CENTER**

Equal Opportunity Employer M/F

CENTRE FOR PHARMACEUTICAL RESEARCH

**Scientific
Assistant
to the Board**

PARIS

Our client is one of France's foremost health-care groups and a major force in international markets.

The scientific direction of the research departments (biology, chemistry, technology and projects) calls for an individual of outstanding calibre. Working closely with the Centre's board, you will create the optimum conditions for the development of new drug therapies concentrating in particular on **planning, coordination, innovation and scientific elegance.**

You must have an **excellent background in pharmaceutical chemistry** combined with biology, gained at university (Doctorate or PhD) and through experience in either a pharmaceutical laboratory or in biological research. You must be bilingual (French/English).

Please send a handwritten letter of application together with your CV to:
Média-System, 6 impasse des Deux Cousins, 75849 Paris Cedex 17, France. Please quote reference 66487 on the envelope.

POSITIONS OPEN

POSTDOCTORAL POSITION

Available immediately for a Ph.D. in immunology to study T cell recognition. The work will focus on the role of CD8 and CD4 molecules and will include both molecular and cellular investigations. Previous experience with cellular immunological and/or molecular biological techniques would be an advantage but is not essential. Send curriculum vitae, including names and telephone numbers of two references to: **Dr. Terry Potter, Division of Basic Immunology, Department of Medicine, National Jewish Center, 1400 Jackson Street, Denver, CO 80206.**

BIOCHEMIST POSTDOCTORAL OPPORTUNITY

Battelle, Pacific Northwest Laboratories, seeks a biochemist, preferably with experience in protein characterization and peptide sequence determination by conventional methods. The successful candidate will participate in the development and application of "unconventional" methods based on the combination of capillary electrophoresis and electrospray ionization mass spectrometry.

Battelle, Pacific Northwest Laboratories, offers a diverse and dynamic scientific environment. Located in southeast Washington, the area boasts a favorable climate, a variety of affordable quality housing, and an abundance of year-round recreational opportunities, to name a few.

Applicants must have a Ph.D. in biochemistry or related discipline. Candidates should send current curriculum vitae to: **A. F. Gasperino, Pacific Northwest Laboratories, P.O. Box 1406, Department A-7, Richland, WA 99352. FAX: 509-376-9099.**

U.S. citizenship is required for all positions. Battelle is an Equal Opportunity Employer.

POSTDOCTORAL POSITION at the Dana-Farber Cancer Institute, Harvard Medical School: molecular basis of recognition by T cell receptor gamma-delta. Position available to study molecular basis of antigen recognition by human gamma-delta T cell receptor. Work involves derivation and characterization of antigen-specific gamma-delta T cell clones, cloning, sequencing and transfection of T cell receptor genes, and in vitro site-directed mutagenesis of T cell receptor genes to delineate the residues involved in antigen recognition. Position carries an appointment at Harvard Medical School. Please send curriculum vitae and names of three references to: **Dr. Hamid Band, Laboratory of Immunohistochemistry, Mayer 640, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. Telephone: 617-732-3085. An Affirmative Action/Equal Opportunity Employer.**

A full-time **POSTDOCTORAL RESEARCH ASSOCIATE** position is available beginning 1 February 1990 for molecular studies in animal virology. Ph.D. in microbiology, biochemistry, biology, fisheries science, or related field required. History of research in animal vaccine development with good laboratory techniques and experience in recombinant DNA technology, protein purification, immunization of live animals, and tissue culture an asset. Send letter of application, curriculum vitae, and three letters of reference to: **Dr. J. C. Leong, Department of Microbiology, Oregon State University, Corvallis, OR 97331-3804** on or before 15 January 1990. *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973 and has a policy of being responsive to the needs of dual-career couples.*

POSTDOCTORAL RESEARCH ASSOCIATES

The Vitamin and Mineral Nutrition Laboratory at USDA, Human Nutrition Research Center, has two positions available immediately in nutritional biochemistry. Research is directed towards study of (i) the transport and metabolism of nutrients by a differentiated human intestinal cell line (Dr. M. Failla) and (ii) effect of zinc status on synthesis of retinol-binding protein and hepatic vitamin A metabolism (Dr. J. C. Smith). Previous experience with cell culture techniques and cellular biochemistry is desired. Salary is \$28,852 (GS-11). Send résumé and names of three references to: **Dr. Mark Failla, USDA, VMNL, Building 307, BARC-East, Beltsville, MD 20705. Telephone: 301-344-2148. The USDA is an Equal Opportunity Employer. Refer to numbers 9E016 and RA-89-8.**

POSITIONS OPEN

POSTDOCTORAL POSITION available in the enzymology of beta-lactam antibiotics, involving the active site chemistry of bacterial beta-lactamases and DD-peptidases. A strong background in enzymology and/or bio-organic chemistry preferred. Please send curriculum vitae and the names of three references to: **Dr. R. F. Pratt, Chemistry Department, Wesleyan University, Middletown, CT 06457.**

POSTDOCTORAL POSITION. To investigate cellular interactions involved in intestinal immunity. Ph.D. with experience in either cellular or intestinal immunity required. Please send curriculum vitae and names of three references to: **Dr. Robin G. Bell, James A. Baker Institute for Animal Health, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY 14853.**

POSTDOCTORAL POSITION MOLECULAR GENETICS

A postdoctoral position is available in the laboratory of Joseph R. Testa, Ph.D., to study molecular aspects of chromosome alterations in human non-small cell lung cancer. Background in molecular biology required. Salary commensurate with experience. Send curriculum vitae and names of two references to: **Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. Equal Opportunity Employer.**

POSTDOCTORAL POSITION, INTERDISCIPLINARY RESEARCH IN NERVE REGENERATION. Available immediately for a 3-year duration. The research involves the study of bioactive biomedical polymers for use in stimulating peripheral nerve regeneration and is funded through the NSF Tissue Engineering Initiative. Supervision is joint from the Departments of Chemical Engineering (Prof. J. A. Hubbell) and Zoology (Prof. G. D. Bittner). Send curriculum vitae and three references to: **Dr. Jeffrey A. Hubbell, Department of Chemical Engineering, University of Texas, Austin, TX 78712-1062. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION. Reproductive Biology Research Training Grant. Available immediately. Interdisciplinary training with faculty members, NICHD Center for Population Research. Recent Ph.D.'s with liberal arts, medical, agricultural, or veterinary science background and demonstrated performance in animal reproductive biology. Only U.S. citizens, noncitizen nationals and permanent residents are eligible. Send resume, summary of research interests, and three reference letters to: **Dr. John D. Biggers, Harvard Medical School, LHRB, 45 Shattuck Street, Boston, MA 02115. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES

The Vitamin and Mineral Nutrition Laboratory at the U.S. Department of Agriculture (USDA) Human Nutrition Research Center, has two positions available immediately in nutritional biochemistry. Research is directed towards study of (i) the transport and metabolism of nutrients by a differentiated human intestinal cell line (Dr. M. Failla) and (ii) effect of zinc status on synthesis of retinol-binding protein and hepatic vitamin A metabolism (Dr. J. C. Smith). Previous experience with cell culture techniques and cellular biochemistry is desired. Salary is \$28,852 (GS-11). Send résumé and names of three references to: **Dr. Mark Failla, USDA, VMNL, Bldg. 307, BARC-East, Beltsville, MD 20705. Telephone: 301-344-2148. The USDA is an Equal Opportunity Employer. Refer to numbers 9E016 and RA 89-8.**

POSTDOCTORAL RESEARCH ASSOCIATE: Effects of nucleotide analog incorporation into DNA by human DNA polymerases. Applications are invited for a postdoctoral position to study the effects of nucleotide analog incorporation on rates of chain extension and occurrence of chain termination. The mechanism of such effects will be analyzed by steady-state kinetics and rapid reaction techniques. Candidates should have either advanced training in enzyme kinetics, or experience in working with DNA polymerases or related enzymes. To apply, send curriculum vitae and three references to: **Dr. R. L. Blakley, Chairman, Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS

Two positions are open starting 1 January 1990.

SOMATIC CELL THERAPY TECHNOLOGY: Development of biolistic technology for in-situ transformation of animal tissues. Would join team effort in this new area. Must have extensive molecular biology experience. \$25,000-35,000 salary.

TRANSCRIPTION REGULATION: Study of the eukaryotic transcription complex with emphasis on factors conserved between yeast and mammals. We stress developing and employing new approaches. Would join small, interactive research group. For both positions send curriculum vitae and names of three references to:

**Dr. Stephen Johnston
139 Biological Sciences Building
Duke University
Durham, NC 27706**

Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE

Postdoctoral position available in a biotechnology research laboratory which has its emphasis in the detection and characterization of biological markers of human diseases. The successful candidate will be responsible for the biochemical characterization, preparation of nucleic acid probes for determining tissue origin, and expression and development of relevant assays for potential markers of autoimmune diseases, in particular, rheumatoid arthritis and diabetic kidney disease. Several new protein markers have recently been identified by the laboratory research group. A strong background in protein and nucleic acid biochemistry is required. A working knowledge of immunology and interest in autoimmune disease is desirable. Send curriculum vitae and three letters of recommendation to: **Thomas L. McDonald, Ph.D., Department of Pathology and Microbiology, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL OR RESEARCH ASSOCIATE

The Division of Pinelands Research (DPR) in the Center for Coastal and Environmental Studies at Rutgers University in conjunction with the New Jersey Pinelands Commission is seeking a qualified Ph.D. to participate as a principal investigator for one or more years in a long-term experimental, on-site wastewater disposal system. This study is being conducted to provide protection for the groundwater resources of the 1.1 million acre Pinelands National Reserve. Applicants with background in soils, hydrology, and nitrogen cycling are especially desired. Send letter of application, curriculum vitae, and names and telephone numbers of three references to: **Dr. Ralph E. Good, Director, DPR, Department of Biology, Rutgers University, Camden, NJ 08102. Telephone: 609-757-6146. Position available immediately and will remain open until filled. Rutgers, The State University of New Jersey, is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

The Liposome Company, a pharmaceutical company specializing in lipid-based drug delivery systems, is seeking a recent Ph.D. in immunology with background knowledge in lipid biochemistry to join a small team involved in the research of liposome-based vaccines. Study will focus on the mechanism of liposome action, humoral and cellular responses, and formulation. Competitive starting salary and benefits. Submit curriculum vitae, description of prior research, and names of three references to: **Debra Pascale, The Liposome Company, Inc., One Research Way, Princeton, NJ 08540.**

RESEARCH POSITION, M.D. or Ph.D., available: (i) electrophysiology, basic and clinical efforts in new approaches to catheter ablation; (ii) platelet laboratory, basic and clinical research in prostaglandin/insulin platelet receptor pathophysiology, thrombosis; (iii) animal research, role of coronary collaterals in acute myocardial ischemia. Please send résumé to: **Hiltrud S. Mueller, M.D., Montefiore Medical Center/Cardiology, 111 East 210th Street, Bronx, NY 10467. Telephone: 212-920-6746.**

MilliGen/Biosearch: Opportunities in Science.



The MilliGen/Biosearch division of Millipore is developing new instrumentation and chemistries for DNA and protein research in our Burlington facility. Specifically, we are involved with synthesis and sequencing of proteins/peptides, and complementary separations technology. Backed by Millipore, a Fortune 500 international corporation, MilliGen/Biosearch has become a leader in this rapidly expanding field. Our tremendous recent growth has created the following opportunity:

Scientist

We are seeking a self-starting, team-oriented individual to develop analytical methods for the analysis characterization and isolation of DNA, peptides and proteins. The successful candidate will have a BS degree and familiarity with the techniques commonly used in an analytical laboratory, such as HPLC, GC, and UV. Instrumental troubleshooting skills and a working knowledge of computers are desirable.

We offer a comprehensive benefit package and a stimulating research environment. Interested candidates should submit their resume with references to: Employment Manager, MilliGen/Biosearch Division of Millipore Corp., 186 Middlesex Turnpike, Burlington, MA 01803. An Equal Opportunity Employer.

MilliGen/Biosearch
Division of MILLIPORE

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MARINE AND ESTUARINE BIOLOGY WESTERN WASHINGTON UNIVERSITY

The Department of Biology of Western Washington University invites applications for two tenure-track positions in marine and estuarine biology at the level of assistant or associate professor. Candidates should hold the Ph.D. degree and be strongly committed both to teaching at the undergraduate and graduate (M.S.) level and to an active research program. Faculty are sought in the following disciplines to start September 15, 1990:

1) PHYTOPLANKTON ECOLOGY/NUTRIENT DYNAMICS. Teaching includes an undergraduate course in marine algae, a graduate course in biological oceanography, and participation in other departmental course offerings on the main campus and at Shannon Point Marine Center (SPMC). Research interests should be in primary productivity and nutrient cycling in coastal marine systems. Interest in algal physiology is also desired. Research program will be based at the SPMC in Anacortes, Washington.

2) MARINE MICROBIAL ECOLOGY. Teaching will include an undergraduate course in lower organisms, a graduate course in microbial ecology, and participation in the departmental course offerings on the main campus and at SPMC. Research interests should be in the role of marine microbes in energy/biomass transformations, biogeochemical cycling, or benthic-water column interactions.

Western Washington University enjoys a strong national reputation. The Department of Biology consists of 16 faculty and has strong programs in marine biology and ecology and a rapidly developing program in cellular and molecular biology. WWU has a strong commitment to the marine sciences. Existing resources at WWU include seven marine science faculty, the Shannon Point Marine Center, a Biology B.S. degree option in Marine Biology, a Biology M.S. degree option in Marine and Estuarine Science, and excellent library holdings. Program expansion includes a new science complex on the main campus currently in the design phase, capital development of the Shannon Point Marine Center, and new equipment funds.

Applicants should submit a resume, statement of teaching experience, teaching and research interests, the names of at least four referees and indicate for which position you are applying. Review of applications will begin on January 30 and will continue until the positions are filled.

Candidates for both positions should submit materials to **Dr. June Ross, Chair, Department of Biology, Western Washington University, Bellingham, WA 98225.** WWU is committed to enhancing the diversity of the faculty; women and minorities are encouraged to apply. WWU is an Affirmative Action/Equal Opportunity employer.

SMITH COLLEGE DEPARTMENT OF PHYSICS

The Smith College Physics Department invites applications for a tenure-track position in experimental physics at the Associate or Assistant Professor level. The candidate should have a Ph.D., an interest in teaching, and research interests amenable to collaboration with undergraduates. Preference will be given to persons with an established experimental program. Funds are available to start or extend a research project. Women and minorities are encouraged to apply. Located in Western Massachusetts, Smith College is a leader in the education of women and has an outstanding record in the number of professional women physicists who are alumnae. The Five College Consortium, comprised of Smith, Amherst, Mt. Holyoke, and Hampshire Colleges and the University of Massachusetts, provides a rich intellectual and cultural life for faculty and students as well as additional collegial opportunities in teaching and research. **A curriculum vita, statement of teaching and research interests and experience, and three letters of reference should be sent to: Professor Bruce Hawkins, Chair, Department of Physics, Clark Science Center, Smith College, Northampton, MA 01063. Preference will be given to applications received before February 15, 1990.** Smith College is an Equal Opportunity/Affirmative Action Employer.



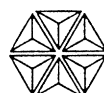
Senior Research Scientist

Metabolism and Pharmacokinetics

The Bristol-Myers Squibb Company and its Pharmaceutical Research and Development Division has an excellent career opportunity in its Metabolism and Pharmacokinetics Group located in Syracuse, New York. This Group plays a key role in the drug development process by providing pharmacokinetic, metabolic and biopharmaceutic information from pre-clinical and clinical studies for worldwide drug registration. Candidate drugs under development are targeted for the treatment of cancer, infectious diseases, cardiovascular diseases and central nervous system disorders.

The Senior Research Scientist we seek will have supervisory responsibilities commensurate with qualifications and will be responsible for producing the entire pre-clinical/clinical metabolism and pharmacokinetic registration package for selected drug candidates. Should have a Ph.D. in Pharmacology, Biopharmaceutics, Medicinal Chemistry or a related field with approximately 5 years of relevant experience and a track record of success. Excellent oral and written communication skills a must.

We offer an outstanding compensation package and a comprehensive benefit program which includes relocation assistance to a superb Upstate NY living area. Interested candidates should submit a resume with salary requirements to: **EMPLOYMENT MANAGER**



**BRISTOL-MYERS SQUIBB COMPANY
RESEARCH AND
DEVELOPMENT DIVISION**
P.O. Box 4755, Syracuse, New York 13221-4755
An equal opportunity employer M/F/H/V

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE

Available immediately. Research on species- and tissue-specific enzyme compartmentation. General biochemical background required, experience with protein and rDNA technologies preferred. Salary competitive. Contact: **Dr. James W. Campbell, Department of Biochemistry and Cell Biology, Rice University, P.O. Box 1892, Houston, TX 77251. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

position available immediately for a Ph.D. in endocrinology, molecular biology, or related discipline to study molecular mechanisms involved in endocrine regulation of growth and development of chickens. Experience in radioimmunoassay, radioreceptor assay, and recombinant DNA techniques required. Send curriculum vitae, research interests, and names of three references to: **Dr. Larry A. Cogburn, Department of Animal Science, Room 040, Townsend Hall, University of Delaware, Newark, DE 19717-1303. An Equal Opportunity/Affirmative Action Employer.**

TEXAS A&M COLLEGE OF MEDICINE ASSISTANT RESEARCH SCIENTIST

Applications are invited for a research position either in the area of molecular biology of membrane proteins or the study of the pathogenic bacterium *B. bacilliformis*. Send curriculum vitae and names of three references to: **Garret M. Ihler, Department of Medical Biochemistry and Genetics, Texas A&M College of Medicine, College Station, TX 77843-1114.**

Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE

Brigham and Women's Hospital has an opening for a research associate to study electrophysiology of smooth muscle. Applicant should have experience with in vivo experimentation, chronic animal preparations, and basic physiological techniques. Experience with patch clamp technique welcome.

Candidates should have a Ph.D. in a related field and capacity for interdisciplinary research and growth. Please send résumé, letter of interest, and names of references to: **D. S. Sugarbaker, M.D., Department of Surgery, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115.**

RESEARCH SCIENTIST

As a leader in the field of cell transplantation research, we currently have a number of openings for Ph.D. research scientists. Fields of study include; transplantation immunology, assay development for secreted cell proteins and cell membrane markers, cell characterization biology, protein isolation/characterization, cell encapsulation technology, and studies involving the growth and differentiation of cell transplants in animals. Please submit curriculum vitae to: **Department #952, Personnel Department, Hana Biologics, Inc., 850 Marina Village Parkway, Alameda, CA 94501. Equal Opportunity Employer.**

ASSISTANT RESEARCH PROFESSOR OF MOLECULAR BIOLOGY

Applications are invited for an ASSISTANT RESEARCH PROFESSOR at the Veterinary Molecular Biology Research Laboratory (VMB), Montana State University. This position is a non-tenure track, research faculty 12-month appointment with a salary range of \$25,000-\$32,000 per year based on experience and qualifications.

REQUIRED QUALIFICATIONS: Ph.D. in Molecular Biology or related field, a record indicating the ability to perform independent research, and a willingness to collaborate with other VMB faculty on infectious disease problems of livestock. Interested applicants should send a letter of application, curriculum vitae, and names and addresses of three professional references to: **Chair, Search Committee, VMB Laboratory, Montana State University, Bozeman, MT 59717.** Screening will begin 15 January 1990 and continue until a suitable candidate is found. *MSU provides preference in employment to eligible veterans. For information contact HR/AA 120-C MH, MSU. An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

RESEARCH ASSOCIATE (postdoctoral) position available immediately with group studying second messenger regulation of epithelial transport activity in eye tissues. Requires Ph.D. and an understanding of either (i) intracellular microelectrode or patch-clamp methodology or (ii) ATPase biochemistry. Send curriculum vitae and names of three references to: **Dr. Nicholas Delamere, Department of Ophthalmology & Visual Sciences, University of Louisville School of Medicine, Louisville, KY 40292, U.S.A. The University of Louisville is an Affirmative Action/Equal Opportunity Employer.**

The University of Arizona has two positions available at the **RESEARCH ASSISTANT PROFESSOR** level to conduct a program on comparative evaluation of stem cells derived from various sources in hematopoietic-immune reconstitution. The successful candidate(s) will establish the relevant test system in vitro and in vivo, develop clinical and other collaborations, train and supervise support staff, and participate in directing and planning the program. Candidates must have general familiarity with the theory and technology relating to hematopoiesis and immunology in the context of clinical and experimental bone marrow transplantation. Particulars should be addressed to: **Dr. Edward A. Boyse, Department of Microbiology and Immunology, University of Arizona, 1501 North Campbell, Tucson, AZ 85724.** The review of applicants will continue until the position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer. Women and minorities are urged to apply.*

RESEARCH ASSOCIATE to study the neuropharmacological aspects of cognitive processes using Pavlovian second-order fear conditioning. Ph.D. in psychology with 2 to 3 years of postdoctoral experience in behavioral pharmacology is required. Must have extensive experience in higher-order Pavlovian conditioning procedures, rodent microsurgery, analgesia/conflict and ingestive behavioral tests, metabolic mapping, and statistics. Send résumé by 22 December 1989 to: **Dr. George A. Cicala, Department of Psychology, University of Delaware, Newark, DE 19716. Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE IN PLANT PHYSIOLOGY

The Experiment Station of the Hawaiian Sugar Planters' Association (HSPA) is seeking candidates for a 2-year position at the Ph.D. level. Objectives of the project are to develop resistance of young sugarcane plants to broad spectrum herbicides, including sulfonylureas and phosphinothricin. Approaches include stress and mutagenic treatment of tissue-cultured material, as well as selection of sugarcane transformants via integration of appropriate gene constructs. The work will also include analyses of selected mutants/variants to pinpoint their mode of resistance acquisition and, if new, to investigate a modified pathway leading to resistance.

The Experiment Station is located in the Honolulu area. Senior staff includes a cohesive group of about 15 scientists in the disciplines of physiology, biochemistry, molecular biology, genetics, breeding, and pathology. Most of the scientists hold a joint appointment within the University of Hawaii, and there is close collaboration with university staff. Research is conducted in a modern, well-equipped facility and publication of findings is strongly emphasized. The position is funded at a salary of \$30,000 and includes medical, dental, and vacation benefits. Submit curriculum vitae and two letters of recommendation or contact: **Dr. A. Maretzki, HSPA, P.O. Box 1057, Aiea, HI 96701. Telephone: 808-486-5373.**

RESEARCH SCIENTISTS. Performs independent research and publishes in area of biochemistry and molecular biology, re RNA transport and ribosomal biogenesis. Utilizes microinjection apparatus and microdissection techniques and biochemical and genetic analyses and background in nucleic acid and recombinant DNA. Skills in ultracentrifugation techniques, spectroscopy methods, gel electrophoretic and chromatographic techniques, and computer and radiation safety equipment required. Supervises students and technician in laboratory. Ph.D. in molecular biology or Ph.D. (A.B.D.), 3 years as research scientist, research assistant, or research associate required; 40 hours per week. \$22,000 per year. Contact: **Bethlehem Job Service, 55-61 West Walnut Street, Bethlehem, PA 18018. Job Order #4253220.**

POSITIONS OPEN

RESEARCH ASSOCIATE. Research focuses on isolation and chemical characterization of the immunity signal(s) which activates genes responsible for induced resistance of tobacco, using chromatographic techniques, and development of techniques to bioassay signal in laboratory and field. Special duties also include identification, purification, and assays of key enzymes, proteins, and antifungal compounds in immunization process, and optical and electron microscopy of immunized plants. Minimum requirements include a Ph.D. degree in plant pathology with a strong background in host-parasite interactions and 2 years of postdoctoral work on plant immunization and PR proteins. Candidate must have had demonstrated expertise in studying obligate pathogens, analytical studies of enzymes and proteins using electrophoretic and chromatographic techniques, chemical characterization of natural products of plants, optical and electron microscopic studies of host-parasite interactions, plant cell suspension and tissue culture, and a proven record of productivity. Salary: \$21,000 per year. Send résumés to: **Tillie Moore, Kentucky Job Services, Kentucky 788244, 300 South Upper Street, Lexington, KY 40508.**

RESEARCH ASSOCIATE. Isolation of factors inhibiting melanization in frog skin through protein (soluble and membrane) and oligosaccharide purification and characterization, HPLC and other chromatographic techniques, immunochemical techniques, cell culture, PAGE and NMR. Ph.D. in biochemistry and 4 years of academic and/or work experience in above techniques required; 40-hour week, 8 a.m. to 5 p.m.; \$20,000 per academic year. Qualified applicants send résumé or application letter with ad by 29 December 1989 to: **Arizona DES Job Service, Attention: 732A, Re: 0803202, P.O. Box 6123, Phoenix, AZ 85005.** (Job location: Tucson, Arizona. *Employer paid ad. Proof of authorization to work in United States required, if hired.*)

The Department of Neurology at the University of Michigan is seeking applications for a **RESEARCH OR TENURE-TRACK POSITION** in molecular neurobiology and/or protein chemistry. Successful candidate will join a multidisciplinary team of investigators studying neurotransmitter receptors. Position includes laboratory space, start-up funds, and salary support for initial years of program. Opportunity exists for a joint appointment in a basic science department. Curriculum vitae and three letters of recommendation should be sent to: **Robert L. Macdonald, M.D., Ph.D., Department of Neurology, University of Michigan, 1108 Neuroscience Building, Ann Arbor, MI 48109-1687. The University of Michigan is an Equal Opportunity/Affirmative Action Employer and encourages women and minorities to apply.**

RESEARCH SCIENTIST, 37½ hours per week, \$42,500 per year. Research and development pertaining to polymer chemistry. Synthesizing water soluble polymers by inverse emulsion polymerization. Developments of new methods in polymerization.

Requirements: Ph.D. in polymer science/plastics engineering. Must have research background in polymeric initiators; inverse emulsion polymerization and surfactant free inverse emulsion polymerization; block copolymerization by inverse emulsion polymerization; inverse dispersion polymerization; and organic reaction mechanism. Hands-on experience in NMR, FT-IR, UV, DSC, GPC, SEM, light scattering, and viscometry.

Send résumé or curriculum vitae to: **Philadelphia Job Bank Office, 444 North 3rd Street/3rd Floor, Philadelphia, PA 19123. Job Order No. 4304819.**

ASSISTANT RESEARCH SCIENTIST, TRANSDERMAL TRANSPORT. To study the mechanisms of ionic compound penetration through mammalian skin. Applicant should hold a Ph.D. in bioengineering, biophysics, or a related field; have postdoctoral experience in skin research; possess expertise in confocal microscopy and electrophysiological measurement techniques; have requisite computer skills in data collection, analysis, and database manipulation. The appointee will be expected to train and supervise technicians and students. Please submit curriculum vitae, a list of three intramural and three extramural references, and two letters of recommendation by 30 January 1990 to: **Dr. F. C. Szoka, Jr., School of Pharmacy, University of California, San Francisco, CA 94143-0446.**

The University of California is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

PHARMACEUTICAL

Postdoctoral Position

CONNAUGHT LABORATORIES is seeking a candidate with a recent Ph.D. in microbiology or microbial physiology for a Postdoctoral position within our Product Development Department. In this position, you will be involved in studying the mechanism of endotoxin and antigen production in a human pathogenic bacterium used for vaccine production. The study will include all phases of bacterial growth: solid culture, culture flask and controlled fermentation.

Available resources for this position will include technical support, testing services and consultation with Research Department scientists. To qualify, you should have a thorough background in microbial physiology (a concentration on human pathogens preferred) and laboratory experience in biochemical and functional assays for bacterial endotoxin.

We offer an outstanding compensation package and a stimulating, professional environment in which to work. For consideration, send resume with salary requirements to: **Human Resources Dept., SC15, CONNAUGHT LABORATORIES, INC., Rt. 611, P.O. Box 187, Swiftwater, PA 18370.** An equal opportunity employer.



CONNAUGHT
LABORATORIES, INC.

POSTDOCTORAL TRAINING IN CELL REGULATION

The Department of Biochemistry, St. Jude Children's Research Hospital, announces a training program in the molecular and cellular biology of cell growth, differentiation and transformation. The program emphasizes a multidisciplinary approach that develops skills in biochemistry, molecular genetics and cell biology. Fellows benefit from training in energetic, well-funded laboratories within an expanding research institute. We offer competitive stipends plus the benefit of living in a growing, economical, sunbelt community. Specific research groups participating in the program include:

- W. Y. Cheung: Regulatory properties and biological functions of calmodulin; Ca^{2+} regulated enzymes
- J. Cleveland: Growth factor signal transduction and regulation of gene transcription
- V. A. Fried: The ubiquitin system and post-translational regulatory pathways
- J. N. Ihle: Mechanisms of hematopoietic stem cell growth regulation, differentiation and transformation
- S. Jackowski: Regulation of phospholipid metabolism and the production of lipid-derived second messengers
- C. Rock: Cell cycle regulation of membrane biogenesis
- E. Thomas: Antimicrobial and antitumor mechanisms of leukocytes

Further information on individual research programs can be obtained by writing the Department of Biochemistry. Applicants should indicate the research group(s) they are interested in, submit a brief statement of their research interests, curriculum vitae, reprints, and names of three references to:

Postdoctoral Training Program
Department of Biochemistry
St. Jude Children's Research Hospital
332 N. Lauderdale
Memphis, TN 38105

An Equal Opportunity/Affirmative Action Employer

RECEPTOR BIOLOGY MOLECULAR ONCOLOGY

Sterling Research Group has three immediate openings in the Oncopharmacology Department. We are looking for scientists with experience in mammalian cell biology, cell surface receptors, and intracellular signal transduction, who have an interest in applying basic findings in these areas to the discovery of novel cancer therapies.

Senior Research Biologist

This individual will have a key role in identifying molecular targets for antitumor drug discovery and in the design of assay systems to exploit those targets.

The successful candidate will have a Ph.D. in Cell Biology, Biochemistry or other life science discipline; two or more years' postdoctoral experience in academic or industrial research; and experience in eucaryotic cell biology, receptor biology or molecular biology as demonstrated by refereed publications. Excellent written and verbal communication skills are essential. Research experience in basic mechanisms of tumor cell transformation is desirable. **Please respond to position "SRG-63."**

Research Biologists

These individuals will aid in the development of screening systems for the discovery of novel anticancer agents.

The successful candidates will have a B.S. (or equivalent) in a life science discipline and a minimum of one to three years' experience in academic or industrial research. Experience in tissue culture and radioisotope techniques is highly desirable, experience in molecular biology is desirable. **Please respond to position "SRG-65."**

Sterling Drug Inc. offers competitive salaries and a comprehensive benefits program along with outstanding career opportunities for personal and professional growth. For confidential consideration, please forward resume with salary history/requirements to: Employee Relations, "Position number as referenced above," Sterling Research Group, A Division of Sterling Drug Inc., 81 Columbia Turnpike, Rensselaer, NY 12144. An Equal Opportunity Employer M/F/H/V.



**STERLING
RESEARCH GROUP**

A Subsidiary of Eastman
Kodak Company

Build a Future With Sterling.

The Centers for Disease Control, Division of Vector-Borne Viral Diseases, is now accepting applications for Chief, Dengue Branch in San Juan, Puerto Rico.

Applications are invited from persons with experience and expertise in epidemiology, microbiology, virology, or medical entomology. A medical, veterinary or other doctorate level degree is preferred. The person selected for this position will be responsible for planning, developing, and directing a broad based program which includes laboratory and field research on arboviral diseases of public health importance, community based programs of prevention and control and providing reference services and research capabilities to national and international agencies on arbovirus diseases. Also responsible for supervising Branch personnel and providing technical and consultative services to local, state, and other Federal agencies in the investigation and control of diseases. Supervises a staff of approximately 35 employees, including 5-7 doctorate level professionals. This position is offered at a GM-15 level (salary range \$57,158-\$74,303, depending on training and experience; with an additional cost of living allowance and comparability allowance for physicians). The position may be filled at equivalent levels under commissions in the U.S. Public Health Service. Interested candidates should submit a Curriculum Vitae, a statement of research interests, and three letters of recommendation to:

Director, DVBVD, CDC
P.O. Box 2087
Ft. Collins, CO 80522

by January 31, 1990.

CDC is an equal opportunity employer and provides a smoke-free work environment.

Leonard S. Florsheim, Sr. Chair in Natural Sciences (Molecular Biology)

New College of the University of South Florida invites applications and nominations for an endowed professorship in the Natural Sciences beginning preferably August, 1990. The position is open to a Ph.D. Scientist with associate professor or professor rank with demonstrated background and ability in undergraduate education. Interest in teaching gifted undergraduates and an outstanding teaching record are assumed. Research interest should be within the field of molecular biology, which could include aspects of cellular biology, developmental biology, neurobiology, physiology or related areas of biology. A strong research program that involves undergraduate participants is expected.

New College faculty members teach two courses per term, offer tutorials, and supervise senior theses. There is also an Independent Study Period during the month of January. The Florsheim Professor will have discretion in selecting his/her courses. New College is a small, residential, highly selective honors college in the Florida State University System. There is an emphasis on small classes and individualized instruction. The Florsheim Professor is expected to become a permanent member of the New College Faculty; faculty responsibilities include participation in faculty governance as well as teaching and research. Compensation (salary, benefits, research support, travel) will be provided by a one-million dollar endowment.

Nominations and applications (including resume and three letters of recommendation) should be sent prior to January 24, 1990, to Dr. Richard Coe, Chair, Florsheim Search Committee, c/o Provost's Office, New College, University of South Florida, 5700 N. Tamiami Trail, Sarasota, FL 34243. New College, University of South Florida is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

TEACHING POSITION, EVOLUTIONARY BIOLOGIST. The Department of Biology, Emory University, invites applications for a nontenure-track position at the **ASSISTANT PROFESSOR** rank. Responsibilities include teaching undergraduate courses in evolutionary biology and ecology and participating in graduate courses. The successful candidate should have experience in research and will become involved in supervising students in independent research. The position is renewable for up to 3 years. Send curriculum vitae, a statement on experience and interest in teaching, and have three letters of recommendation sent to: **Evolutionary Biologist Search Committee, Department of Biology, Emory University, Atlanta, GA 30322.** Review of applications will begin in January 1990. *Emory is an Equal Opportunity/Affirmative Action Employer.*

TRANSPLANTATION IMMUNOLOGIST

As a leader in the field of biomedical research, we currently have an opening for a transplantation immunologist, with a Ph.D. and at least 2 years of experience in the understanding and manipulation of immunological reactions to tissue/cell transplantation. Experience in the design and implantation of animal studies for the evaluation of host reaction to implanted cells and devices highly desirable. Please submit curriculum vitae to: **Department #952, Personnel Department, Hana Biologics, Inc., 850 Marina Village Parkway, Alameda, CA 94501.** *Equal Opportunity Employer.*

U.S. ARMS CONTROL AND DISARMAMENT AGENCY WILLIAM C. FOSTER FELLOWS VISITING SCHOLARS PROGRAM

The U.S. Arms Control and Disarmament Agency (ACDA) is conducting a competition for selection of visiting scholars to participate in ACDA's activities during the 1990-91 academic year. The purpose of this program is to give specialists in the physical sciences and other disciplines relevant to the agency's activities an opportunity for active participation in the arms control and disarmament activities of the agency and to gain for the agency the perspective and expertise such persons can offer. *Visiting scholars must be citizens or nationals of the United States and on the faculty of a recognized institution of higher learning.* For information on applications procedures, call or write: **Visiting Scholars Program, Attention: Personnel Office, Room 5722, U.S. Arms Control and Disarmament Agency, 320 21st Street, N.W., Washington, DC 20451.** Telephone: 202-647-2034. Application deadline is 31 December 1989.

FELLOWSHIPS

RESEARCH FELLOWSHIPS IN EPIDEMIOLOGY OF LUNG DISEASES

NIH supported stipends and tuition fees for a two year program working in airways hyperreactivity and/or natural history studies on chronic lung disease along with didactic training in epidemiology leading to a Master's degree from Harvard University. Must be eligible in Internal Medicine or equivalent. Candidates with clinical training in Pulmonary Diseases preferred but not required. Available for U.S. citizens or permanent residents. Inquire: **Frank E. Speizer, M.D., Professor of Medicine, Harvard Medical School, Co-Director, Channing Laboratory, Department of Medicine, Brigham and Women's Hospital, 180 Longwood Avenue, Boston, MA 02115.** *This program specifically encourages applications by minority group members. The Brigham and Women's Hospital is an Equal Opportunity Employer.*

RESEARCH ASSOCIATE OR POSTDOCTORAL FELLOW

Biochemist/biologist wanted to investigate the molecular genetics of signal transduction in eukaryotes. Project involves identification and characterization of genes whose products are important in cell surface receptor mediated gene induction. Salary: \$25,000 to \$32,000 commensurate with experience and qualifications. Send curriculum vitae to: **Dr. Robert P. Dotin, Hunter College, CUNY, Center for Study of Gene Structure and Function, 695 Park Avenue, New York, NY 10021.**

FELLOWSHIPS

Harvard University announces Bullard **FELLOWSHIPS IN FOREST RESOURCES** with stipends available for advanced study and research. Fellowships are open to individuals in academic careers, public service, or private forestry with stipends up to \$25,000. Further information may be obtained from: **Committee on the Charles Bullard Fund for Forest Research, Harvard University, Harvard Forest, Petersham, MA 01366.** Deadline for applications: 1 February 1990.

POSTDOCTORAL FELLOWSHIP in molecular biology/cystic fibrosis (CF Research). A postdoctoral position is available immediately to study the pathogenesis of cystic fibrosis (CF). The project involves construction and manipulation of expression vectors for a small cDNA that encodes the CF transmembrane regulatory protein and transfection of cDNA into mammalian cells. Applicants must have molecular biology experience. Salary is competitive and commensurate with experience. Comprehensive benefits. Please send curriculum vitae and names of three potential references to: **Mary C. Rose, Ph.D., Children's National Medical Center, Department of Pediatrics, 111 Michigan Avenue, NW, R-114, Washington, DC 20010.** Telephone: 202-745-3064. *Affirmative Action/Equal Opportunity Employer M/F.*

MAYTAG FELLOW IN ZOOLOGY ARIZONA STATE UNIVERSITY (ASU)

One-year postdoctoral research fellowship emphasizing collaborative research with a faculty member in the Department of Zoology. Applications must include curriculum vitae, three letters of recommendation, statement of research plans, and a letter from the intended faculty sponsor. Application deadline: 15 January 1990. Starting date: 16 August 1990. Applications from two individuals wishing to share the position will be considered. *ASU is an Equal Opportunity/Affirmative Action Employer.* For more information, contact: **Dr. James Collins, Chair, Department of Zoology, Arizona State University, Tempe, AZ 85287-1501.** Telephone: 602-965-3571.

DOCTOR OF ARTS IN BIOLOGICAL SCIENCES. FELLOWSHIPS are available for persons interested in the D.A. degree in biological sciences. The program stresses preparation for undergraduate teaching at colleges and universities. Applicants must hold a master's degree in some area of biology. Deadline for receipt of application is 1 March 1990. For more information contact: **Chairman, D.A. Committee, Department of Biological Sciences, Idaho State University, Pocatello, ID 83209.** *An Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE BROOKHAVEN NATIONAL LABORATORY

The Medical Department has a position available for a psychiatry, neurology or nuclear medicine Fellow to work in an established Positron Emission Tomography (PET) Program. The **FELLOWSHIP** offers research and clinical experience performing brain studies on substance abusers and patients who use psychotropic medications. The appointee will also have an appointment in the Department of Psychiatry at the State University of New York at Stony Brook. Candidates should be licensed and Board-certified, or eligible for certification. Interested candidates should contact: **Dr. Nora D. Volkow, Medical Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, L.I., NY 11973.** Telephone: 516-282-3335. *Equal Opportunity Employer M/F.*

POSTDOCTORAL FELLOWSHIP

Position available immediately to study the mechanism of phorbol ester-induced differentiation of human leukemic cells. Studies center on assessing the postactivation processing of protein kinase C; detection of protein kinase C isozymes by biochemical, molecular, and immunological techniques; and evaluation of activation of phorbol ester response factors and their effect on gene transcription. Please send curriculum vitae to: **D. Kirk Ways, M.D., Ph.D., Department of Medicine/Endocrinology, East Carolina University School of Medicine, Greenville, NC 27858.** *An Equal Opportunity/Affirmative Action Employer. Federal law requires proper documentation of identity and employability at the time of employment. It is requested this documentation be included with your application.*

RESEARCH FELLOWSHIPS IN GERONTOLOGY—

Postdoctoral and senior fellow research fellowships, supported in part by training grants from the National Institute on Aging, are available at The University of Michigan Institute of Gerontology. Stipends and related expenses will be provided to qualified applicants. Postdoctoral trainees must have completed a Ph.D., M.D., or equivalent degree. Senior fellows must be established investigators, at least seven years beyond receipt of a doctoral degree, and interested in expanding their research into gerontology. Prospective faculty mentors represent the behavioral, biological, clinical and social sciences and the humanities as follows: W. A. Achenbaum, Ph.D.; R. C. Adelman, Ph.D.; D. Aminoff, Ph.D., D.Sc.; B. Carlson, M.D., Ph.D.; B. J. Cohen, D.V.M., Ph.D.; J. A. Faulkner, Ph.D.; B. E. Fries, Ph.D.; A. Gafni, Ph.D.; J. B. Halter, M.D.; A. R. Herzog, Ph.D.; N. Krause, Ph.D.; J. Kuwada, Ph.D.; J. Liang, Ph.D.; M. A. Perlmutter, Ph.D.; D. Rosenblatt, M.D., Ph.D.; A. B. Schultz, Ph.D.; D. G. Steel, Ph.D.; M. Supiano, M.D.; B. Troen, M.D.; L. M. Verbrugge, Ph.D.; B. Villeponteau, Ph.D.; W. Weissert, Ph.D.; T. P. White, Ph.D.

Candidates should forward a letter of interest, complete curriculum vitae and bibliography, and identification of potential faculty mentor to: Ms. Jane Ketchin, Institute of Gerontology, The University of Michigan, 300 North Ingalls, Ann Arbor, MI 48109-2007. Postdoctoral candidates also should arrange for delivery of official copies of graduate transcripts and at least three letters of recommendation. The University of Michigan is an Equal Opportunity/Affirmative Action Employer.

Ciba Geigy Biotechnologie Department Basel, Switzerland

A Postdoctoral Fellowship Position

is immediately available for a period of up to three years at the Biotechnologie Department of Ciba-Geigy to study the molecular interactions between a protein and its receptor. The project will involve both genetic engineering of the cloned ligand protein and immunological epitope mapping of the binding domain to the receptor.

Applicants must have a good working knowledge of molecular biology techniques, expertise in immunological and biochemical characterization of ligand-receptor complexes.

The successful candidate is encouraged to establish contacts with the academic community. This position offers good possibilities to develop own ideas in a stimulating research environment. Publication of results is strongly encouraged.

Applications, including a curriculum vitae, a description of the current research interests and the names and addresses of three referees should be forwarded under ref. "Science 2731" to Mr. H. Schmid, CIBA-GEIGY Limited, Personnel Department, P.O. Box, 4002 Basel, Switzerland.

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FELLOWSHIPS

HUMAN NUTRITION INSTITUTE FELLOWSHIP IN NUTRITION AND AGING

The Human Nutrition Institute of the International Life Sciences Institute's Research Foundation will award two fellowships in 1990 to encourage innovative investigators to develop research interests in the area of nutrition and aging. Each fellowship will provide \$20,000 per year for 2 years. Applicants must have received their Ph.D., M.D., or D.D.S. degree within the last five years. The closing date for applications is 15 March 1990. To receive an application or additional information, write: **The Human Nutrition Institute, ILSI Research Foundation, 1126 16th Street, N.W., Suite 100, Washington, DC 20036.**

YALE UNIVERSITY SCHOOL OF MEDICINE DEPARTMENT OF THERAPEUTIC RADIOLOGY

POSTDOCTORAL FELLOWSHIP. Exciting opportunity for Ph.D. with background in molecular biology, protein biochemistry, or immunology, and an interest in vascular biology or cell motility, to join a vascular and tumor cell biology laboratory at Yale Medical School. Current investigations center around isolation, characterization, and cloning of vascular and epithelial cell migration factor(s). Competitive salary. Please send curriculum vitae to: **Dr. Eliot M. Rosen, Department of Therapeutic Radiology, 132 HRT, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE. Conduct studies on the regulation of the choline acetyltransferase gene and its expression in normal and Alzheimer's brain. A Ph.D. in molecular biology, biochemistry, biology, or related fields preferred. Stipend commensurate with experience. Send curriculum vitae and names of references to: **Dr. Louis B. Hersch, Biochemistry Department, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9038. An Equal Opportunity University.**

The Division of Geological and Planetary Sciences at the California Institute of Technology expects to offer **POSTDOCTORAL RESEARCH FELLOWSHIPS** in one or more of the following areas: geology, geophysics, geochemistry, cosmochemistry, and planetary sciences. Interested individuals should send their résumé to: **Division Chairman, Division of Geological and Planetary Sciences (170-25) California Institute of Technology, Pasadena, CA 91125. An Equal Opportunity/Affirmative Action Employer.**

TRAINING

METHODS IN COMPUTATIONAL NEUROSCIENCE 5 August to 1 September 1990. This intense, advanced lecture and laboratory **COURSE** presents the basic techniques necessary to study single cells and neural networks using simulation software developed at the California Institute of Technology. Limited to 20 students. Co-directors: James M. Bower and Christof Koch, California Institute of Technology. Application deadline: 15 May 1990. For further information and application forms, contact: **Admissions Coordinator, Marine Biological Laboratory, Woods Hole, MA 02543. Telephone: 508-548-3705, ext. 216.**

POSTDOCTORAL TRAINEESHIP

The Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, is seeking applicants for a postdoctoral traineeship in diabetes. The program is funded by the National Institutes of Health and offers opportunities to participate in major epidemiologic studies concerning the etiology and natural history of insulin dependent diabetes. Trainee may obtain a master's or doctoral degree and would be expected to be active in data analysis and publication. Excellent opportunity for individuals with prior training in basic or clinical sciences, epidemiology, statistics, genetics, and behavioral sciences to be trained in diabetes-related topics. Physicians should be eligible for licensure in Pennsylvania. Send résumés to: **Trevor J. Orchard, M.D., Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA 15261.**

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

ASSISTANTSHIPS

ASSISTANTSHIPS IN FRESHWATER BIOLOGY

The expanding program in freshwater biology at the University of Mississippi announces the availability of postdoctoral fellowships and graduate assistantships. Research and teaching assistantships are offered; supplementary fellowships are available for exceptionally qualified candidates and minority students. Current and anticipated funding includes the areas of ecotoxicology (effects of contaminants, sediment quality), aquatic plant ecology and physiology, stream ecology (nutrient cycling, fish behavior), reservoir ecology, environmental and applied microbiology (microbial ecology, microbial physiology, biodegradation), evolutionary biology, wetlands, bioacoustics (aquatic insects), fish population biology and genetics, and fish physiology (swimming efficiency, energetics). Postdoctoral positions are available in coal biodesulfurization. Contact: **James Kushlan, Chair, Department of Biology, The University of Mississippi, University, MS 38677. Telephone: 601-232-7203.**

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

GRADUATE ASSISTANTSHIPS in molecular biology and biochemistry. Several positions are available in the Department of Molecular Biology and Biochemistry at Wesleyan University (Middletown, Connecticut). Research interests of the faculty emphasize regulation of gene expression in embryogenesis and development; protein structure, function, and design; DNA replication; yeast genes homologous to protein kinase oncogenes; structure and function of chromosomal proteins; protein-nucleic acid interactions; chemistry of reactions at phosphorus; nuclear magnetic resonance spectroscopy; and computer modeling. All students receive tuition remission, good fringe benefits, and dependency allowance, if applicable. Opportunities to teach. Write to: **Dr. Norma Allewell, Director, Graduate Admissions, Department of Molecular Biology and Biochemistry, Wesleyan University, Middletown, CT 06457. Telephone: 203-347-9411, ext. 2524.**

ANNOUNCEMENTS

FIRST ANNOUNCEMENT ORAL IMMUNIZATION USING RECOMBINANT BACTERIA 6-7 JUNE 1990, MUNICH, FRG

Speakers include: B. Askonas, J. D. Clements, J. Clark-Curtiss, R. Curtiss, G. Dougan, P. Freimuth, T. L. Hale, M. Levine, J. Holmgren, J. B. Kaper, S. Kaufmann, J. J. Mekalanos, M. Radman, P. Reeves, M. H. V. Regenmortel, W. S. Robinson, J. C. Sadoff, J. Sanchez, S. Snapper, B. A. D. Stocker, R. Weiss.

Organizers: M. Hofnung, Institut Pasteur, Paris; F. Schödel, Max-Planck-Institut für Biochemie, Martinsried. Supported by the Walter Schulz Foundation and the Carl Friedrich v. Siemens Foundation.

Twenty abstracts will be accepted for poster presentations. Deadline for submission: 15 March 1990.

Information and abstract submission: **F. Schödel, Max-Planck-Institut für Biochemie, D-8033 Martinsried, Telephone: (89) 8578-3759. FAX: (89) 8578-3777.**

MOLECULAR GENETICS INHERITED RETINAL DEGENERATIONS YOUNG INVESTIGATORS AWARDS

The RP Foundation Fighting Blindness announces support of Young Investigator Awards in molecular genetics. A successful applicant will plan a full-time effort in the molecular genetics of inherited forms of retinal degeneration and will have an established connection to an ongoing research effort relevant to that topic. Requirements include a Ph.D. and/or M.D. plus at least 2 years of postdoctoral experience. Application may be made at any time. Reviews will be conducted promptly and awards announced within 12 weeks of receipt of the completed application, including letters of recommendation. Awards will be individualized and can encompass salary and/or research support. It is contemplated they will average \$50,000 per year and extend for 3 to 5 years. For full information, contact: **Jeannette S. Felix, Ph.D., Director of Science, RP Foundation Fighting Blindness, 1401 Mt. Royal Avenue, Baltimore, MD 21217. Telephone: 301-225-9400.**

SYMPOSIUM

SYMPOSIUM ON GROWTH FACTORS IN REPRODUCTION CHAIRMAN: DAVID W. SCHOMBERG, Ph.D. 1-4 April 1990 Hyatt Regency Hotel Savannah, Georgia

Sponsored by Sero Symposia, USA

Major scientific sessions are: mechanism of growth factor action, growth factors and gonadal function, regulation of normal and neoplastic mammary growth, regulatory peptides in reproductive tract development and function, and embryomaternal signalling. Offers sixteen CME credit hours. Abstract forms and registration information may be obtained by contacting: **L. Lisa Kern, Ph.D., Sero Symposia, USA, 100 Longwater Circle, Norwell, MA 02061. Telephone: 800-283-8088; 617-982-9000.**

REQUEST FOR PROPOSALS

REQUEST FOR PROPOSALS MOLECULAR GENETIC STUDIES INHERITED RETINAL DEGENERATIONS

Proposals are invited for molecular genetic analysis of inherited retinal degenerations such as retinitis pigmentosa and allied disorders, Usher syndrome, and inherited macular degeneration. Proposals must focus on mapping, isolation, and characterization of genes causing a form(s) of retinal degeneration. Proposals to study gene defects in animal models, using molecular genetic approaches, are also invited.

New and renewal applications will be reviewed by a special panel of consultants to the RP Foundation Scientific Advisory Board, solely on the basis of scientific merit and direct relevance. Awards will average \$100,000 annually for 3 years.

Interested individuals should submit a letter of intent which briefly summarizes the proposed research approach, describes background of the laboratory, and gives an approximate budget and the curriculum vitae of the principal investigators. Following a preliminary review, complete applications will be invited from a limited number of applicants. Deadline for letter of intent is 22 January 1990, for application is 1 April 1990, and funding is expected to begin 1 September 1990.

Address letters of intent to: **Jeannette S. Felix, Ph.D., Director of Science, RP Foundation Fighting Blindness, 1401 Mt. Royal Avenue, Baltimore, MD 21217. Telephone: 301-225-9400.**

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National Defense Science and Engineering Graduate Fellowships

Starting in Academic Year 1990-1991

As a means of increasing the number of U.S. citizens trained in disciplines of science and engineering of military importance, the Department of Defense plans to award approximately 120 new three-year graduate fellowships in April 1990. National Defense Science and Engineering Graduate Fellowships will be awarded for study and research leading to doctoral degrees in, or closely related to, the following disciplines:

AERONAUTICAL AND ASTRONAUTICAL
ENGINEERING
BIOSCIENCES (includes Toxicology)
CHEMICAL ENGINEERING
CHEMISTRY
COGNITIVE, NEURAL, AND BEHAVIORAL
SCIENCE
COMPUTER SCIENCE
ELECTRICAL ENGINEERING
GEOSCIENCES (includes terrain, water,
and air)
MANUFACTURING SCIENCES AND
ENGINEERING (includes Industrial
Engineering)
MATERIALS SCIENCE AND ENGINEERING
MATHEMATICS
MECHANICAL ENGINEERING
NAVAL ARCHITECTURE AND OCEAN
ENGINEERING
OCEANOGRAPHY
PHYSICS (includes Optics)

National Defense Science and Engineering Graduate Fellows selected in 1990 will receive a stipend in addition to full tuition and required fees. The amount of the stipend is \$15,000 in 1990-91, \$16,000 in 1991-92 and \$17,000 in 1992-93. Also, the fellow's graduate academic department will receive \$2000 per year.

Recipients of National Defense Science and Engineering Graduate Fellowships do not incur any military or other service obligation.

Specific information regarding the fellowship and an application package are available from Battelle Memorial Institute, a not-for-profit research institution, which is administering the program for the Department of Defense.

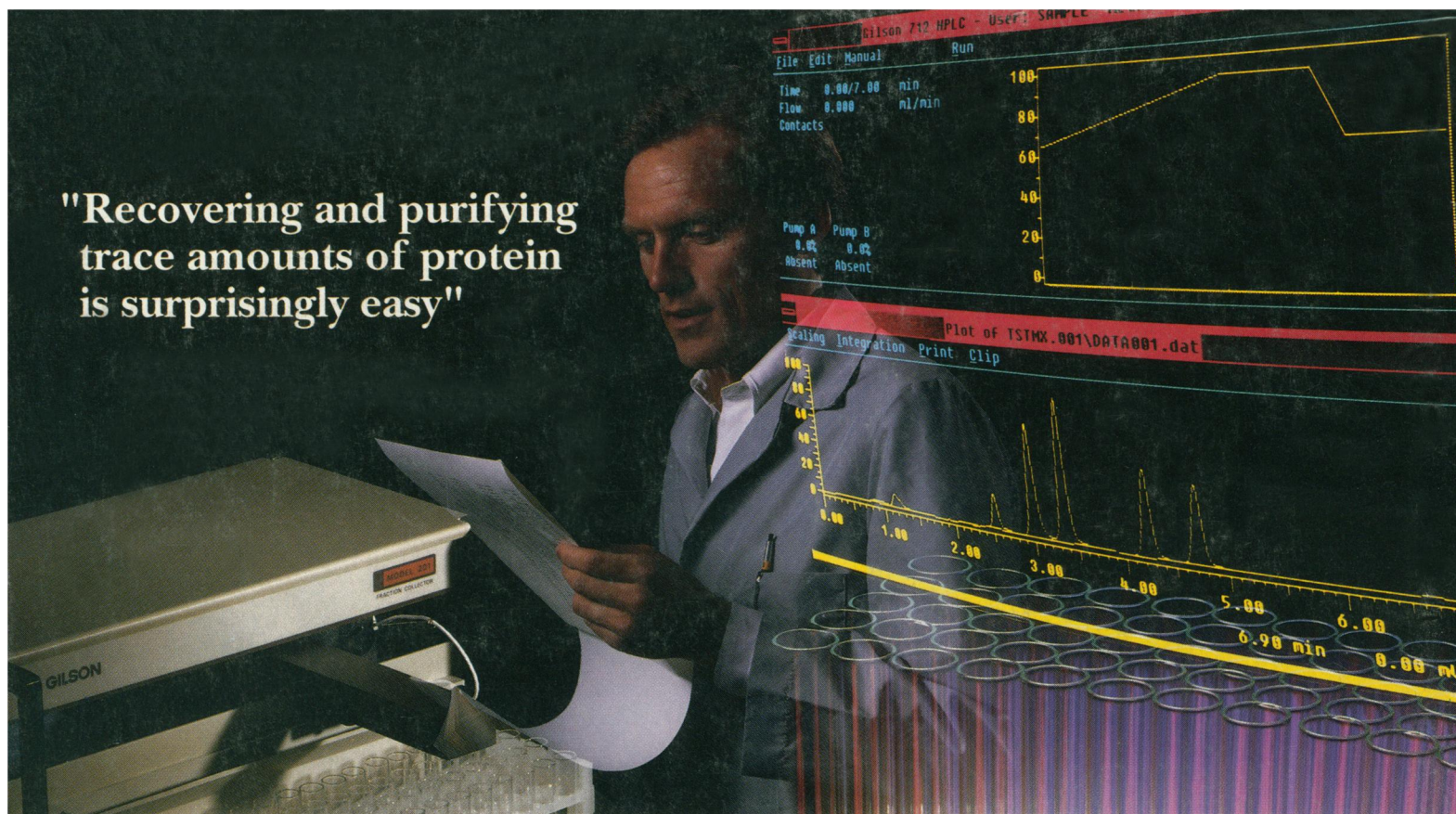
Application materials are available from Battelle at the following address:

NDSEG Fellowship Program
200 Park Drive, Suite 211
P.O. Box 13444
Research Triangle Park, NC 27709
ATTN: Dr. George Outterson
(919) 549-8505.

Completed applications must be received by Battelle by January 17, 1990.



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The Gilson Auto-Prep HPLC system has one pump for mobile phase delivery, another for repetitive sample injection. And that, according to a chromatographer in radiation oncology and cancer research, makes it surprisingly easy to recover trace amounts of protein from complex sample matrices. Repetitive injection of small volumes of sample allows the use of high-efficiency analytical or semi-prep columns for high throughput, excellent resolution, and very pure fractions.

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A pharmaceutical QC lab supervisor likes the capacity and reliability of the system. A multimode fraction collector with 120- or 540-tube capacity is the key. The collector—either the Gilson 201 or 202—has a stationary rack design. Unlike collectors with carousel racks, it won't jam. The collector acts as a system controller, and multicycle capability allows collection of fractions from the repetitive runs into the same set of tubes for automated sample purification.

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gradient with the Auto-Prep system simply requires the addition of pumping modules and, when necessary, a controller. All components from the original system are used, so none of your initial investment is lost.

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