

special version of the general ethical duty of beneficence. Weithorn manifests a sophisticated appreciation of the history of law-science interactions as she elaborates the ethical and social obligations of scientists positioned to influence law and policy. Her discussion is sensitive to the complexities of interacting with a legal system that has made both good and highly questionable uses of scientific evidence. (The Supreme Court's scientifically based approval of sweeping authorization of eugenic sterilization is a prominent example in the latter category.) Her sensitivity to the means by which sci-

ence permeates the legal system mandates concern—while other authors manifest simple eagerness—that pursuit and dissemination of scientific knowledge will have direct and indirect effects upon law and social policy. That concern leads Weithorn to call for scrupulous care in the conduct and reporting of scientific research and sensitivity to the distinction between social goals that are the product of scientific enlightenment and social goals that are the product of personally held values. At the same time, the ethical principles she advocates provide guidance for the scientist seeking ways to pursue social goals

without compromising scientific integrity or suffering an artificial detachment from the processes of governance and the circles of influence by which they are inevitably affected.

PEGGY C. DAVIS

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Reprints of Books Previously Reviewed

Malinowski, Rivers, Benedict and Others. *Essays on Culture and Personality.* George W. Stocking, Jr., Ed. University of Wisconsin Press, Madison, 1988. Paper, \$12.95. Reviewed 236, 1579 (1987).

The Triumph of Evolution. *The Heredity-Environment Controversy, 1900–1941.* Hamilton Cravens. Johns Hopkins University Press, Baltimore, 1988. Reviewed 206, 1024 (1980).

Books Received

The AIDS Health Crisis. *Psychological and Social Interventions.* Jeffrey A. Kelly and Janet S. St. Lawrence. Plenum, New York, 1988. xvi, 205 pp. \$25. Applied Clinical Psychology.

Aleksandr Porfir'evich Borodin. *A Chemist's Biography.* N. A. Figurovskii and Yu. I. Solov'ev. Springer-Verlag, New York, 1988. xiv, 171 pp., illus. \$79.50. Translated from the Russian edition (Moscow, 1950) by Charlene Steinberg and George B. Kauffman.

American Pediatrics. *The Social Dynamics of Professionalism, 1880–1980.* Sydney A. Halpern. University of California Press, Berkeley, 1988. xii, 228 pp. \$27.50.

Angular Momentum. *Understanding Spatial Aspects in Chemistry and Physics.* Richard N. Zare. Wiley-Interscience, New York, 1988. xiv, 349 pp., illus. \$39.95.

Auditory Pathway. *Structure and Function.* Josef Syka and R. Bruce Masterton, Eds. Plenum, New York, 1988. xii, 363 pp., illus. \$79.50. From a symposium, Prague, Czechoslovakia, Aug. 1987.

Audubon Wildlife Report, 1988/1989. William J. Chandler and Lillian Labate, Eds. Academic Press, San Diego, CA, 1988. xviii, 817 pp., illus. \$24.95.

Automated Biomonitoring. *Living Sensors as Environmental Monitors.* D. Gruber and J. Diamond. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1988. 208 pp., illus. \$49.95. Ellis Horwood Books in Water and Wastewater Technology.

Baudin in Australian Waters. *The Artwork of the French Voyage of Discovery to the Southern Lands, 1800–1804.* Jacqueline Bonnemains, Elliott Forsyth, and Bernard Smith, Eds. Oxford University Press, New York, 1988. xii, 347 pp., illus. \$195.

The Beauty of Light. Ben Bova. Wiley, New York, 1988. xviii, 350 pp., illus., + plates. \$24.95. Wiley Science Editions.

Evolution of Life Histories of Mammals. *Theory and Pattern.* Mark S. Boyce, Ed. Yale University Press, New Haven, CT, 1988. xvi, 373 pp., illus. \$45. Based on a symposium, Edmonton, Alberta, Aug. 1985.

Explosion Pipes. Vladimir A. Milashev. Springer-Verlag, New York, 1988. x, 249 pp., illus. \$110. Translated from the Russian edition (Leningrad, 1984) by R. E. Sorkina.

Federal Social Policy. *The Historical Dimension.* Donald T. Critchlow and Ellis W. Hawley, Eds. Pennsylvania State University Press, University Park, 1988. viii, 206 pp. \$22.50.

The Hour of the Fox. *Tropical Forests, the World Bank, and Indigenous People in Central India.* Robert S. Anderson and Walter Huber. University of Washington Press, Seattle, 1988. xiv, 158 pp. + plates. \$25.

An Introduction to Membrane Transport and Bioelectricity. John H. Byrne and Stanley G. Schultz. Raven, New York, 1988. viii, 232 pp., illus. \$49; paper, \$29.50. Raven Press Series in Physiology.

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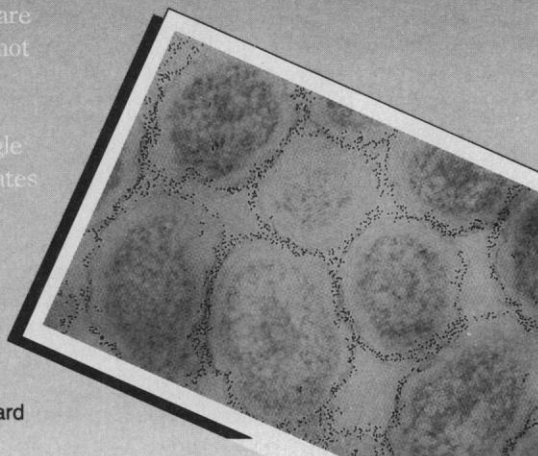
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Introductory Readings in the Philosophy of Science. E. D. Klemke, Robert Hollinger, and A. David Kline, Eds. 2nd ed. Prometheus, Buffalo, NY, 1988. xvi, 440 pp. Paper, \$18.95.

Invertebrate and Fish Tissue Culture. Yukiaki Kuroda, Edouard Jurstak, and Karl Maramorosch, Eds. Japan Scientific Societies Press, Tokyo, and Springer-Verlag, New York, 1988. xiv, 294 pp., illus. \$55.90. From a conference, Ohito, Japan, May 1987.

The Investigative Enterprise. Experimental Physiology in Nineteenth-Century Medicine. William Coleman and Frederic L. Holmes, Eds. University of California Press, Berkeley, 1988. vi, 342 pp. \$39.95.

"Mind, Heart, and Vision." Professional Engineering in Canada, 1887 to 1987. Norman R. Ball. National Museum of Science and Technology, Ottawa, 1988 (U.S. distributor, University of Chicago Press, Chicago). xii, 176 pp., illus. \$39.95. A large-format, extensively illustrated volume celebrating the centennial of the founding of the Canadian Society of Civil Engineers.

Minds at War. Nuclear Reality and the Inner Conflicts of Defense Policymakers. Steven Kull. Basic Books, New York, 1988. x, 341 pp. \$19.95.

Molecular Genetics of Parasitic Protozoa. Mervyn J. Turner and David Arnot, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1988. xii, 170 pp., illus. Paper, \$25. Current Communications in Molecular Biology. From a conference, Cold Spring Harbor, NY, Oct. 1987.

Neurosciences and Ethics. B. Hess and D. Ploog, Eds. Springer-Verlag, New York, 1988. xii, 204 pp., illus. \$55.90. From a conference, Klostergut Jakobsberg, F.R.G., April 1986.

Neurosecretion. Cellular Aspects of the Production and Release of Neuropeptides. Brian T. Pickering, Jonathan B. Wakerley, and Alastair J. S. Summerlee, Eds. Plenum, New York, 1987. xii, 270 pp., illus. \$59.50. From a symposium, Bristol, U.K., Aug.-Sept. 1987.

New Nucleic Acid Techniques. John M. Walker, Ed. Humana, Clifton, NJ, 1988. xvi, 560 pp., illus. \$49.50. Methods in Molecular Biology, vol. 4.

New Protein Techniques. John M. Walker, Ed. Humana, Clifton, NJ, 1988. xvi, 531 pp., illus. \$49.50. Methods in Molecular Biology, vol. 3.

Non-Invasive Simulation of Brain and Spinal Cord. Fundamentals and Clinical Applications. Paolo M. Rossini and Charles D. Marsden, Eds. Liss, New York, 1988. xvi, 328 pp., illus. \$96. Neurology and Neurobiology, vol. 41. From a workshop, Sorrento, Italy, May 1987.

Physics of the Galaxy and Interstellar Matter. H. Scheffler and H. Elsässer. Springer-Verlag, New York, 1988. xii, 492 pp., illus. Paper, \$49.50. Astronomy and Astrophysics Library. Translated from the German edition (Zürich, 1982) by A. H. Armstrong. Reprint, 1987 ed.

Physiological Regulation of Membrane Fluidity. Roland C. Aloia, Cyril C. Curtain, and Larry M. Gordon, Eds. Liss, New York, 1988. x, 369 pp., illus. \$120. Advances in Membrane Fluidity, vol. 3.

Plant Flavonoids in Biology and Medicine II. Biochemical, Cellular and Medicinal Properties. Vivian Cody *et al.*, Eds. Liss, New York, 1988. xxii, 461 pp., illus. \$80. Progress in Clinical and Biological Research, vol. 280. From a meeting, Strasbourg, France, Aug.-Sept. 1987.

Plant Genetic Transformation and Gene Expression. A Laboratory Manual. John Draper *et al.*, Eds. Blackwell Scientific, Palo Alto, CA, 1988. x, 355 pp., illus. Spiral bound, \$66.50.

Precambrian of the Aravalli Mountain, Rajasthan, India. A. B. Roy, Ed. Geological Society of India, Bangalore, 1988. xii, 439 pp., illus. \$45. Memoir no. 7. From a seminar, Udaipur, India, Jan. 1986.

Prediction of Response to Cancer Therapy. Thomas C. Hall, Ed. Liss, New York, 1988. xiv, 309 pp., illus. \$60. Progress in Clinical and Biological Research, vol. 276. From a symposium, Istanbul, Turkey, July 1987.

Preparative Acetylenic Chemistry. Lambert Brandsma. 2nd ed. Elsevier, New York, 1988. xii, 321 pp. \$115.75. Studies in Organic Chemistry, vol. 34.

Progress and Opportunities in Southern Hemisphere Optical Astronomy. V. M. Blanco and M. M. Phillips, Eds. Astronomical Society of the Pacific, San Francisco, CA, 1988 (distributor, Brigham Young University Press, Provo, UT). xiv, 427 pp., illus. \$32. Astronomical Society of the Pacific Conference Series, vol. 1. From a symposium, La Serena, Chile, Jan. 1988.

Proteins. Structure and Function. James J. L'Italien, Ed. Plenum, New York, 1987. xvi, 817 pp., illus. \$115. Based on a symposium, San Diego, CA, Sept.-Oct. 1985.

The Psychology of Human Freedom. A Human Science Perspective and Critique. Malcolm R. Westcott.

Springer-Verlag, New York, 1988. xii, 227 pp. Paper, \$34.

Rationality. Harold I. Brown. Routledge (Routledge, Chapman and Hall), New York, 1988. x, 244 pp. \$35. The Problems of Philosophy.

Relativism and Realism in Science. Robert Nola, Ed. Kluwer, Norwell, MA, 1988. x, 299 pp. \$79. Australasian Studies in History and Philosophy of Science, vol. 6.

Representation and Reality. Hilary Putnam. MIT Press, Cambridge, MA, 1988. xviii, 136 pp. \$19.95. Representation and Mind.

SDI. Technology, Survivability, and Software. Office of Technology Assessment, Congress of the United States. Princeton University Press, Princeton, NJ, 1988. xiv, 281 pp., illus. \$45; paper, \$10.95. Reprint.

Seabed Pockmarks and Seepages. Impact on Geology, Biology and the Marine Environment. M. Hovland and A. G. Judd. Graham and Trotman, London, 1988. (U.S. distributor, Kluwer, Norwell, MA). xii, 293 pp., illus. \$117.

Second Advanced ICFA Beam Dynamics Workshop on Aperture-Related Limitations of the Performance and Beam Lifetime in Storage Rings. (Lugano, Switzerland, April 1988.) J. Hagel and E. Keil, Eds. CERN, Geneva, 1988. x, 229 pp., illus. Paper.

Security Markets. Stochastic Models. Darrell Duffie. Academic Press, San Diego, CA, 1988. xx, 358 pp. \$44.95. Economic Theory, Econometrics, and Mathematical Economics.

Seismological Algorithms. Computational Methods and Computer Programs. Durk J. Doornbos, Ed. Academic Press, San Diego, CA, 1988. xviii, 469 pp., illus. \$85.

Slaves and Slavery in Ancient Rome. Zvi Yavetz. Transaction Books, New Brunswick, NJ, 1988. viii, 182 pp. \$29.95. Translated from the Hebrew.

The Smallpox Story in Words and Pictures. Abbas M. Behbehani. University of Kansas Medical Center, Kansas City, 1988. xii, 192 pp. Paper, \$15.95.

(Continued on page 419)

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Substitutes for Fetal Bovine Serum

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CURVE^{fit} is a software package for fitting curves and modeling data. The program's data analysis models include linear regression, Fourier series expansion, the polynomial model, and the rational polynomial model. The program can generate data from an equation entered by the user at the keyboard. Data may also be transformed, and different data files may be added to or multiplied by each other. The program also

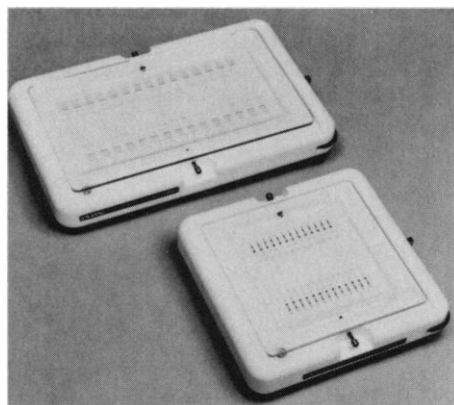
includes several utility functions, including Fourier transforms, splines, quasi-splines, polynomial roots, and the breakdown of rational polynomials to simple fractions. CURVE^{fit} requires an IBM PC or PS/2 or compatible computer, a color graphics board, and a minimum of 256 kilobytes of random-access memory. \$150. Lema Bytes. Circle 453.

DNA Synthesizer

A DNA synthesizer is available that produces oligonucleotides with an efficiency of 99% and that has coupling cycles less than 5 min long. The automated, user-programmable synthesizer comes with an IBM-compatible personal computer. One- and two-column models are available, both with a 125-mer synthesis guarantee and a 200-mer capacity. From \$14,950. Biotix. Circle 449.

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The Horizontal Developing Chamber develops high-pressure thin-layer chromatography (HPTLC) plates from both sides toward the middle. The chamber is available



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Solution Calculation Software

LabSolutions is a software package that automates multicomponent solution and buffer preparation calculations. For chemical reagents, the user specifies the concentrations desired and the software calculates the quantities of components needed. For buffers, the user specifies the pH as well as the concentrations desired. The program accepts standard units of weight, volume, and concentration in formulas, and it can calculate molecular weights from atomic formulas or chemical names. The program also has routines for mixing and diluting solutions and for automatically generating dilution series. The program comes with databases of chemicals, buffers, acids, and bases, to which the user can add. LabSolutions requires an IBM PC or PS/2 compatible computer with at least 256 kilobytes of random-access memory. \$299 commercial; \$199 academic. The Center for Science Support. Circle 455.

Literature

Amino Acid Derivatives, Peptides and Proteins, Synthesis Services is a 6-page brochure detailing services for peptide and protein synthesis. BACHEM Bioscience. Circle 456.

Separation Sciences is a 16-page booklet of products for thin-layer chromatography, high-performance liquid chromatography, and electrophoresis. Eastman Kodak, Laboratory and Research Products Division. Circle 463.

Immuno Chemicals 1989 is a catalog of more than 1000 immunochemicals and related products, including antimouse reagents adsorbed with rat serum proteins as well as phycoerythrin and gold antibody conjugates. Sigma Chemical. Circle 464.

The *Microchromatography Newsletter* discusses techniques such as high-resolution gas chromatography, supercritical fluid chromatography, and micro high-performance liquid chromatography. HBI, Haake Buchler Instruments, Carlo Erba Product Group. Circle 534.

Western Blotting Detection Systems: How Do You Choose? compares sensitivity, specificity, stability, and restrictions of methods of protein immunoblotting. Bio-Rad Laboratories, Chemical Division. Circle 535.

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.

(Continued from page 417)

Social Science in Government. Uses and Misuses. Richard P. Nathan. Basic Books, New York, 1988. xiv, 224 pp. \$18.95.

Sodium Transport Inhibitors. G. S. Stokes and J. F. Marwood, Eds. Karger, Basel, 1988. xiv, 161 pp., illus. \$99.50. Progress in Biochemical Pharmacology, vol. 23. From a symposium, Sydney, Australia, Aug. 1987.

Somatic Cell Genetics and Cancer. L. M. Franks, Ed. Published for the Imperial Cancer Research Fund by Oxford University Press, Oxford, U.K., 1988. iv, pp. + pp. 225-375, illus. Paper, \$30. *Cancer Surveys*, vol. 7, no. 2.

Specific Heat of Solids. Ared Cezairliyan et al. Hemisphere, New York, 1988. xiv, 484 pp., illus. \$98. CINDAS Data Series on Material Properties, vol. 1-2.

The Spectrum of Atomic Hydrogen. Advances. G. W. Series, Ed. World Scientific, Teaneck, NJ, 1988. xxiv, 512 pp., illus. \$78; paper, \$37.

Statistical Techniques in Bioassay. Z. Govindarajulu. Karger, Basel, 1988. xiv, 166 pp. \$46.

Steroid Receptors in Health and Disease. Virinder K. Moudgil, Ed. Plenum, New York, 1988. xii, 334 pp., illus. \$75. Sero Symposia, USA. From a conference, Rochester, MI, Sept. 1987.

Structural and Magnetic Phase Transitions in Minerals. S. Ghose, J. M. D. Coey, and E. Salje, Eds. Springer-Verlag, New York, 1988. xii, 244 pp., illus. \$59.50. Advances in Physical Geochemistry, vol. 7. Based on a symposium, Stanford, CA, July 1986.

Studies in Nonlinear Aeroelasticity. Earl H. Dowell and Marat Ilgamov. Springer-Verlag, New York, 1988. xvi, 455 pp., illus. \$68.

Superconductors. Conquering Technology's New Frontier. Randy Simon and Andrew Smith. Plenum, New York, 1988. xiv, 326 pp., illus. \$23.95.

Transient Phenomena in Multiphase Flow. N. H. Afgan, Ed. Hemisphere, New York, 1988. xii, 1052 pp. illus. \$195. Proceedings of the International Centre for Heat and Mass Transfer, vol. 25.

Tumor Progression and Metastasis. Garth L. Nicolson and Isaiah J. Fidler, Eds. Liss, New York, 1988. xx, 302 pp., illus. \$140. UCLA Symposia on Molecular and Cellular Biology, vol. 78. From a symposium, Keystone, CO, April 1987.

Tumor Promoters. Biological Approaches for Mechanistic Studies and Assay Systems. Robert Langenbach, Eugene Elmore, and J. Carl Barrett, Eds. Raven, New York, 1988. xx, 460 pp., illus. \$85. Progress in Cancer Research and Therapy, vol. 34. From a conference, Triangle Park, NC, Sept. 1986.

Ultrashort Laser Pulses and Applications. W. Kaiser, Ed. Springer-Verlag, New York, 1988. xvi, 424 pp., illus. \$87.50. Topics in Applied Physics, vol. 60.

Vegetation Mapping. A. W. Küchler and I. S. Zonneveld, Eds. Kluwer, Norwell, MA, 1988. x, 635 pp., illus. \$250. Handbook of Vegetation Science, vol. 10.

Vision. Structure and Function. D. T. Yew, K. F. So, and D. S. C. Tsang, Eds. World Scientific, Teaneck, NJ, 1988. x, 614 pp., illus. \$62.

"What Do You Care What Other People Think?" Further Adventures of a Curious Character. Richard P. Feynman with Ralph Leighton. Norton, New York, 1988. 255 pp., illus. \$17.95.

What is Art For? Ellen Dissanayake. University of Washington Press, Seattle, 1988. xvi, 249 pp., illus. \$20.

What Mad Pursuit. A Personal View of Scientific Discovery. Basic Books, New York, 1988. xiv, 182 pp., illus., + plates. \$16.95. Alfred P. Sloan Foundation Series.

What Process is Due? Courts and Science-Policy Disputes. David M. O'Brien. Russell Sage Foundation, New York, 1988 (distributor, Russell Sage Foundation/CUP Services, Ithaca, NY). xx, 242 pp. \$22.50.

Who Got Einstein's Office? Eccentricity and Genius at the Institute for Advanced Study. Addison-Wesley, Reading, MA, 1988. xvi, 316 pp., illus. Paper, \$10.95. Reprint, 1987 ed.

Wind Energy—1. E. Van der Voort and G. Grassi, Eds. Harwood, New York, 1988. xii, 267 pp., illus. \$65. From a meeting, Brussels, Belgium, May 1986.

Workers with Multiple Chemical Sensitivities. Mark R. Cullen, Ed. Hanley and Belfus, Philadelphia, 1987. viii pp. + pp. 655-806. \$29. Occupational Medicine, vol. 2, no. 4.

World Crops. Cool Season Food Legumes. R. J. Summerfield, Ed. Kluwer, Norwell, MA, 1988. xxxviii, 1179 pp., illus. \$355. Current Plant Science and Biotechnology in Agriculture. From a conference, Spokane, WA, July 1986.

The Year of the Gorilla. George B. Schaller. University of Chicago Press, Chicago, 1988. xvi, 259 pp., illus., + plates. Paper, \$12.95. Reprint, 1964 ed.

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Kent State University's Regional Campuses invites applications for two 9-month tenure-track positions in biological sciences. Ph.D. required. A strong interest in teaching undergraduate students is essential. In addition to the regular teaching assignment there is an expectation of scholarly research and professional activity, as well as participation in the community life of the campus.

ASSISTANT PROFESSOR at the Stark Campus, Canton, Ohio; preference given to candidates with expertise and training in reproductive biology. Typical assignment for a semester would include teaching human physiology, anatomy and physiology, and other undergraduate courses related for both the major and the non-major.

INSTRUCTOR/ASSISTANT PROFESSOR with a split assignment between the Ashtabula Campus, Ashtabula, Ohio and Geauga Campus, Burton, Ohio. Duties include classroom teaching, student advising, and laboratory management. Specializations: aquatic ecology and microbiology, with capability to teach physiology with appropriate retraining. Salary commensurate with qualifications. Appointments to begin 20 August 1989. Application deadline: 1 March 1989. Send letter of application, résumé, transcripts, and names and addresses of three references to:

Thomas L. Lamb, Administrative Dean
104 Merrill Hall, Kent State University
Kent, OH 44242

Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ASSISTANT IN ENGINEERING. Nontenure-track faculty position. Responsibilities include operation, maintenance and instruction of GC/MS facility as well as GC, HPLC, AAS, UV-VIS and TOC instruments. Position requires minimum of M.S. degree in chemistry or closely related field and experience in environmental analytical chemistry, including extensive GC-MS experience. Familiarity with USEPA methodology, QA/QC plans, electronics and instrument troubleshooting, methods development and hazardous substance analyses is desirable. Involves supervision of analytical laboratory, teaching instrument use and data interpretation, input to QA/QC plans, research proposal collaboration and development of instrument SOPs. Application including résumé and names, addresses, and telephone numbers of three references should be forwarded to: **Dr. Joseph J. Delfino, Chairman, Search Committee, Department of Environmental Engineering Sciences, Black Hall, University of Florida, Gainesville, FL 32611** within 30 days of publication of this announcement. The position will be filled as soon as practical after that date. *The University of Florida is an Equal Opportunity/Affirmative Action Employer.* Salary is negotiable based on training and experience.

ASSISTANT PROFESSOR—Theoretical ecologist or theoretical population biologist. Applications are invited for a tenure-track assistant professorship beginning August 1989. Teaching responsibilities will include a theoretical ecology or population biology course and participation in undergraduate offerings. *The University of Wisconsin-Madison is an Affirmative Action/Equal Opportunity Employer and encourages women and minorities to apply.* Please submit curriculum vitae, copies of publications, description of research and teaching interests, and have three letters of recommendation sent by 1 March 1989 to:

Chair, Population Biologist Search Committee
Department of Zoology
University of Wisconsin-Madison
Madison WI 53706
Telephone: 608-262-1087

ASSISTANT PROFESSOR, Department of Physiological Optics, School of Optometry, The University of Alabama at Birmingham.

The Department of Physiological Optics is seeking a vision scientist for a faculty position at the assistant professor level. The successful candidate will be expected to teach professional level and graduate level courses. Candidates should have a Ph.D. in a related discipline, postdoctoral experience, and a strong record of accomplishment in research. Preference will be given to applications submitted before 15 April 1989. The application should include curriculum vitae and the names of at least three references. Send application to: **Dr. Graeme Wilson, Department of Physiological Optics, School of Optometry, The University of Alabama at Birmingham, Birmingham, AL 35294.** *UAB, An Affirmative Action/Equal Opportunity Employer.*

UTAH STATE UNIVERSITY BIOTECHNOLOGY CENTER BIOLOGICAL HAZARDOUS WASTE MANAGEMENT

NIHES Superfund Basic Research and Training Grant provides 4 years of support for **GRADUATE STUDENTS, POSTDOCTORATES AND TECHNICIANS** in chemistry, biochemistry, molecular biology, and engineering. Potential for degrees in chemistry and biochemistry, molecular biology and biochemistry, toxicology, environmental engineering, etc. One principal technician position in the monoclonal antibody service laboratory. Individual projects include biodegradation of environmental pollutants, enzymology of fungal peroxidases, ligninase production by eukaryotic expression vectors, physical-chemical analyses of ligninases, bio-reactor engineering, design and operation, and molecular structure and function of lignin peroxidases. Current research involves sequencing and cloning the ligninases, determining enzyme properties and function, and degradation of environmental pollutants, including field testing of the biodegradation process and commercial development of the technology. Salaries dependent upon experience and qualifications. Send curriculum vitae and three letters of recommendation to: **Steven D. Aust, Director, Biotechnology Center, Utah State University, Logan, UT 84322-4430.** *USU is an Affirmative Action/Equal Opportunity and IRCA Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR MARINE FISH AND/OR SHELLFISH ECOLOGY AND MANAGEMENT. Tenure-track position. Candidates with expertise in harvest or culture of commercial stocks preferred. Successful candidate will teach courses in commercial fisheries, marine fish ecology, mariculture and others as appropriate, and will direct undergraduate and graduate student research. Ph.D., university teaching experience, and research experience required. Applicants should submit curriculum vitae (including reprints), transcripts of academic work, and three letters of reference to: **Dr. Richard L. Ridenhour, Dean, College of Natural Resources, Humboldt State University, Arcata, CA 95521. Telephone 707-826-3561.** Closing date is 1 March 1989. *Humboldt State University is an Equal Opportunity/Affirmative Action Title IX Employer.*

ASSISTANT PROFESSOR MOLECULAR BIOLOGY OF RETROVIRUSES

The Division of Biology at Kansas State University has a tenure-track position available at the assistant professor level effective August 1989. Applications are invited from investigators with postdoctoral experience in the molecular biology of retroviruses and/or related oncogene expression. The division has a strong program in biological research, excellent facilities, an NCI Graduate Training Grant in Virology and Tumor Biology, and a distinguished faculty with several millions of dollars in extramural grants. The successful candidate will be expected to establish a vigorous and creative program in retrovirus and/or oncogene research, and to participate in graduate and undergraduate instruction. Candidates should apply by 15 February 1989 by submitting curriculum vitae, a brief description of future research plans, and having three letters of reference sent to:

Terry C. Johnson
Division of Biology, Ackert Hall
Kansas State University
Manhattan, KS 66505

KSU is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR

One long-term track faculty position. Begin late August 1989. Ph.D. required, some teaching experience—geneticist. Expected to teach upper and lower division courses and conduct research with undergraduate biology majors with innovative nonscience course development. Liberal arts environment. Some possibilities of graduate teaching. Letter stating interests, complete résumé, transcripts, and three letters of reference due prior to 17 February 1989 to: **Sister John Karen Frei, Associate Vice President, Academic Health Science Center, Barry University, Miami Shores, FL 33161.**

TRUDEAU INSTITUTE, INC. BASIC RESEARCH SCIENTISTS

The Trudeau Institute is always interested in receiving applications for tenure-track, full-time research staff position, from appropriately trained individuals. Appointments may be made at the assistant, associate, or full member (professor) levels, depending on scientific ability and past performance. Successful applications will be expected to develop independent research programs in **immunology, immunopathology, molecular immunology or related fields.**

The Trudeau Institute is a free-standing, not-for-profit, basic research Institute with modern facilities, up-to-date equipment, in-house animal production, efficient management and an international reputation for excellence. Current staff interests include: Cancer immunology, transplantation immunology, immunity to infectious and parasitic diseases, regulation of immune responses, and the production and function of cytokines. Adequate start-up funding for new projects is available from Institute resources. Salaries and benefits are competitive, and working conditions are conducive to a productive career in research.

Applications consisting of curriculum vitae, the names and addresses of three references, and a brief description of research interests should be addressed to:

Dr. Robert J. North, Director
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, NY 12983

POSITIONS OPEN

ASSISTANT RESEARCHER. Postdoctoral, Kewalo Marine Laboratory, Pacific Biomedical Research Center, full-time, federal funds, to begin approximately 1 March 1989, subject to availability of funds. Duties: Undertake research on the mechanisms of motility in sea urchin sperm flagella by studying the interaction of the beat pattern with a vibrating micropipet and comparing with appropriate theoretical models. Minimum qualifications: Ph.D. degree in biophysics or physical chemistry, with background in mathematics and real time computer programming to analyze and interpret the hydrodynamic interactions between a flagellum and the medium. Experience in performing light microscope micromanipulation of biological cells and in designing theoretical models involving hydrodynamics of low Reynolds number systems. Starting monthly salary: \$2,473. Send résumé and two letters of recommendation to: **Ms. Frances Okimoto, Pacific Biomedical Research Center, Kewalo Marine Laboratory, 41 Ahui Street, Honolulu, HI 96813.** Closing date: 28 February 1989. *Equal Employment Opportunity/Affirmative Action.*

ASSISTANT/ASSOCIATE PROFESSOR DEPARTMENT OF GENETICS

The Department of Genetics, University of Washington, seeks candidates for a tenure-track appointment at the rank of assistant or associate professor, to begin in 1989 or 1990. The successful applicant will have a notable record of achievement in basic research and a strong commitment to both undergraduate and graduate education. Areas of particular interest to the Department include neurogenetics, mammalian genetics and plant molecular genetics. Applicants should arrange to have three letters of recommendation sent and should submit curriculum vitae and a brief description of research interests by 1 March 1989, to: **Search Committee, Department of Genetics, SK-50, University of Washington, Seattle, WA 98195.** *The University of Washington is an Equal Opportunity/Affirmative Action Employer.*

The Department of Biology at Queens College of the City University of New York invites applications for an anticipated tenure-track position in endocrinology, immunology, microbiology, or physiology at the rank of **ASSISTANT OR ASSOCIATE PROFESSOR.** Postdoctoral experience expected for assistant professor candidates. A strong commitment to an active research program and to undergraduate, master's and doctoral teaching required. Applicants should submit curriculum vitae, reprints of publications, a description of research plans, and arrange to have three letters of recommendation sent to: **Dr. David W. Alsop, Chairperson, Department of Biology, Queens College, CUNY, Flushing, NY 11367.** Position will be available until filled, but no later than 1 May 1989. *Affirmative Action/Equal Opportunity Employer. Applications from women and minorities are particularly encouraged.*

ASSOCIATE DIRECTOR NEVADA AGRICULTURAL EXPERIMENT STATION UNIVERSITY OF NEVADA-RENO

This is a high level administrative position responsible for research program objectives and accomplishments. The applicant must have an earned doctorate, documented record of accomplishment in agriculture or a related area and thorough familiarity with the philosophy of the land-grant system. To apply, submit a letter of application, curriculum vitae, names, addresses, and telephone numbers of five references by 28 February 1989 to: **Dr. Garner, Chair Search Committee, Department of Animal Science, University of Nevada, Reno, NV 89557-0104.** *Affirmative Action/Equal Employment Opportunity. UNR employs only U.S. citizens and aliens lawfully authorized to work in the United States.*

BOTANY: ASSISTANT PROFESSOR position, tenure-track. Starting 1 September 1989. Broadly trained, dynamic teacher with taxonomic or molecular emphasis to teach courses in general botany, genetics, plant physiology, and plant biosystematics in a small liberal arts college. Duties include recognized herbarium and greenhouse. Experience with undergraduate field trips helpful. Send curriculum vitae, three letters of recommendation, and transcripts to: **Dr. Eric Yensen, Botany Search Committee, The College of Idaho, Caldwell, ID 83605** before 10 February 1989. *Affirmative Action/Equal Opportunity Employer.*

IMMUNEX CORPORATION, a Seattle-based biotechnology company at the forefront of research and development in immune regulation, has a number of positions open as a result of an expansion in our research activities. We are recruiting:

STAFF SCIENTISTS AND POSTDOCTORAL FELLOWS

with experience in the following areas:

Mammalian Cell Fermentation

Applicants are needed to contribute to the mammalian cell fermentation research program. The position requires a background in mammalian cellular physiology, biochemical engineering or fermentation. Familiarity with a variety of culturing methods, cell culture scale-up, and downstream processing is desirable.

Proteolytic Enzymes

A scientist is needed to purify and characterize therapeutically important mammalian and microbial proteases in conjunction with a team providing recombinant proteases and protein engineering for structure to function studies. Preference will be given to candidates with experience in the design of protease substrates and inhibitors coupled with a strong background in determining enzyme kinetic and thermodynamic constants.

Biochemistry/Process Development

Scientists are sought to work on the purification, characterization, and renaturation of recombinant proteins expressed in microbial and mammalian cell hosts.

Experimental Hematology

Researchers are 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.

Yeast Expression and Genetics

An individual is sought who has experience in the expression of recombinant proteins in yeast. A background in yeast genetics, yeast physiology, and host strain improvement for enhanced recombinant protein expression is desired.

Transgenic Research

A researcher with a strong background in molecular biology is sought to be involved in the design and analysis of transgenic animal models. Experience in using stem cell methods with an interest in homologous recombination and stem cell biology is desired.

Immunology

The Dept. of Immunology is recruiting scientists with expertise in one or more of the following areas: 1. Autoimmunity. Must have extensive background and working model(s) for assessing the effects of cloned cytokines and their receptors *in vivo* and *in vitro*. 2. Immunologist with extensive expertise in monocyte/macrophage biology. Working familiarity with human cells is preferred but not essential. 3. Immunologist with a specialty in hypersensitivity, especially as it relates to cellular aspects of allergy and regulation by cytokines.

Staff Scientist candidates should hold a PhD degree and possess significant postdoctoral experience demonstrating independent research skill and creativity and will have demonstrated an ability to work in a collaborative environment. Successful candidates for postdoctoral fellowship positions should have completed a PhD degree and no more than two years' postdoctoral training.

Immunex Corporation offers excellent opportunity for career development as well as competitive salaries and an excellent benefits package. For consideration, please submit C.V., names of three references, and a list of publications to: Immunex Corporation, Human Resources Director, 51 University Street, Seattle, WA 98101. Immunex is an equal opportunity employer m/f/h.

IMMUNEX

LOOKING FOR A CAREER CHANGE?

An editorial position at *Science* is available for a PhD biomedical scientist with a broad range of interests and research experience in one or more of the following areas: molecular pharmacology and physiology, pre-clinical sciences, structural biology, or eucaryotic molecular biology. We are seeking someone with at least two or three years of post-doctoral experience in quantitative aspects of the life sciences and publications in the refereed literature. Editors have varied responsibilities in manuscript selection ranging from solicitation to editing for clarity. Previous editorial experience is not required. This is a full-time position in our Washington offices.

Please send resume and list of publications with cover letter and salary requirements to:

Mr. Gregory Stokes
AAAS
1333 H Street, NW
Washington, DC 20005

EOE

NUCLEIC ACID CHEMISTS

ISIS Pharmaceuticals, a San Diego-based pharmaceutical and technology company is seeking nucleic acid chemists at all levels to staff the Department of Nucleic Acid Chemistry. ISIS Pharmaceuticals is a new research and development company whose focus is to discover, develop and market novel therapeutics based upon antisense oligonucleotide analog chemistry. ISIS has secure funding, strong research programs, a world class scientific advisory board, an outstanding board of directors, and experienced scientists from the pharmaceutical industry who are dedicated to making ISIS a very special environment. The mission of the Department of Nucleic Acid Chemistry will be to develop an aggressive research program in the development of novel oligonucleotide analogs.

DIRECTOR OF NUCLEIC ACID CHEMISTRY. We seek an outstanding, creative individual to build and direct a state of the art nucleic acid synthesis and research facility. Initially, the Director will recruit a staff of approximately 4 Ph.D. and 4 BS/MS chemists.

The successful candidate will have a Ph.D. in Nucleic Acid Chemistry plus at least five years' experience in oligonucleotide analog synthesis as well as a strong desire and ability to develop an innovative research program.

SENIOR SCIENTISTS, Ph.D., NUCLEIC ACID CHEMISTRY. Successful candidates will have a Ph.D. in organic chemistry plus two years of postdoctoral experience preferably in nucleic acid synthesis.

SCIENTISTS MS/BS. Experience in organic synthesis or related area is desired. Relevant experience in analytical or structural chemistry is a plus.

Applicants should submit their CV and reprints of relevant publications to: ISIS Pharmaceuticals, Employment Department, 3000 Sand Hill Road, Building 3, Suite 225, Menlo Park, CA 94025. Applications will be kept confidential.

ISIS PHARMACEUTICALS

Associate Director Agricultural Formulation Development

Merck Sharp & Dohme Research Laboratories has an immediate opening for an Associate Director in its Agricultural Research Department, located in Three Bridges, New Jersey. The successful applicant will be responsible for the management of a group of 2 Ph.D's plus technical support staff in the development of novel formulation types, including controlled release systems, for a group of highly active insecticides. Regular interaction with field development, regulatory, marketing, and manufacturing professionals provides high visibility within the Company. The successful candidate should have a Ph.D. in Pharmaceuticals, Polymer Chemistry, or Physical Chemistry and 5+ years experience in agricultural pesticide development. Excellent oral and written communication skills will be required.

The Agricultural Research Three Bridges facility is located in Hunterdon County in West Central New Jersey approximately 60 miles from New York City. Our salaries, benefits, and growth potential are excellent. Interested candidates should submit their resume with the names of three references to **Ms. Dolores L. Barefield, MERCK & CO., INC., P.O. Box 2000, WBD-362, Rahway, NJ 07065.**



Merck & Co., Inc.

RESEARCH SCIENTISTS

**Perceptual Research
Related to Medical Imaging**

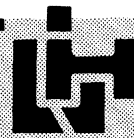
**Scientists (Ph.D.) in Experimental
Psychology, Physics or Engineering**

Major medical center in New York metropolitan area is seeking Scientists with Ph.D. in Experimental Psychology, Physics, Engineering or related disciplines with training and experience to conduct perceptual cognitive and performance analysis oriented research studies related to medical imaging.

Salary commensurate with experience. Qualified candidates should send Curriculum Vitae with specific indication of relevant experience, in confidence to: **Andrea McGoldrick, Employment Office.**

**Long Island Jewish
Medical Center**

400 Lakeville Road, New Hyde Park, N.Y. 11042
LIJMC is an equal opportunity employer





Yale UNIVERSITY

Vertebrate Developmental Biologist

Yale University Department of Biology wishes to appoint a Vertebrate Developmental Biologist at the Assistant Professorship level. The successful candidate should carry on a vigorous, independent research program, supervise the research of graduate students and postdoctoral fellows, and contribute to undergraduate teaching.

Send curriculum vitae, description of research interests, and the names and addresses of three referees by March 1, 1989 to: Chairman, Department of Biology, Yale University, P.O. Box 666, New Haven, CT 06511.

Yale University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCHERS

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

Applicants must have received their doctoral degree within the past three years and must meet the requirements for a Department of Energy security clearance. Postdoctoral appointments are for one year, renewable for a second year. The salary range is \$33,640 - \$35,445 per year. Interested candidates should send a curriculum vitae to Dr. Bruce E. Lehnert, Life Sciences Division, MS M882, Los Alamos National Laboratory, Los Alamos, NM 87545. (505) 667-2753.

To apply formally, send resume, employment application, graduate and undergraduate transcripts, and three letters of reference to Carol M. Rich, Human Resources Development Division PD-88-047, Los Alamos National Laboratory, Los Alamos, NM 87545.

Affirmative Action/Equal Opportunity Employer
U.S. Citizenship Required

University of California

Los Alamos

Postdoctoral Researcher

Genentech, Inc., a leader in the field of biotechnology, is seeking a Postdoc to take part in significant research on lipoprotein biochemistry and the development of atherosclerosis. Candidates with training in protein biochemistry, molecular biology or pharmacology will be considered.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to Dr. Richard Lawn, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer. Women and minorities are encouraged to apply.

Genentech, Inc.
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Genentech, Inc.
Genentech, Inc.

RESEARCH SCIENTIST BIOCHEMISTRY

The Dermatological Research Group of the Bristol-Myers Pharmaceutical Research Development Division has an opportunity for a Research Scientist to join a multi-disciplinary team in the discovery of new drugs for the treatment of skin diseases. The position is in the PreClinical Biochemical Pharmacology Group.

This position requires a Ph.D. degree with 1-3 years post-doctoral experience in general biochemical techniques. Experience in enzymology or receptor binding techniques would be highly desirable. The successful candidate will be expected to develop an independent research effort aimed at identifying potential enzyme (or other) targets for the development of new anti-inflammatory drugs for the treatment of psoriasis and other skin diseases. Supervisory experience and leadership skills are important since the position will supervise other scientists.

This position offers an opportunity to work on scientifically exciting and state-of-the-art programs in dermatology. A very attractive and competitive salary and comprehensive benefits package is available. Submit resume and salary requirements in confidence to:

Manager, Human Resources

Bristol-Myers Company

Pharmaceutical R&D Division

100 Forest Avenue, Buffalo, N.Y. 14213

An Equal Opportunity Employer M/F/H/V

POSITIONS OPEN

BIOLOGY/ENVIRONMENTAL POSITION UNIVERSITY OF NEW ENGLAND

The Division of Life Sciences invites applications for a tenure-track position in biology and environmental science/studies at the assistant or associate professor level. Duties include teaching general biology, conservation of natural resources, pollution, or case studies. Applicants should have a background in marine biology or medical biology to support our degree programs in these areas, as well as documented experience in environmental issues. A strong interest in interdisciplinary education and integration of the curriculum is desirable. Projected starting date is 20 August 1989. Submit a résumé and a statement of teaching goals by 17 February 1989 to: **Mr. Michael Miles, Director of Personnel, University of New England, Biddeford, ME 04005.** *The University of New England is an Affirmative Action/Equal Opportunity Employer.*

BOTANIST: Colorado College invites applications for a tenure-track position in systematic botany to begin fall semester, 1989. Courses to be taught include introductory botany, plant evolution and field botany. Advanced undergraduate courses to be offered depend on area of specialization. Knowledge and skills in floristics, cytogenetics, numerical taxonomy and/or cladistics especially desirable. Professional responsibilities include curating the College herbarium and developing a research program involving undergraduates. Persons who are primarily physiologists or ecologists should not apply. Ph.D. required. Colorado College is a private, undergraduate, liberal arts institution enrolling 1900 students. The College and Department especially seek candidates who can teach in general and Southwest regional studies courses and address the perspectives of women and minorities in the curriculum. Send letter of application describing teaching and research interests, curriculum vitae, publications, official transcripts, and three letters of recommendation to: **Werner G. Heim, Chair, Department of Biology, The Colorado College, Colorado Springs, CO 80903,** prior to 3 February 1989. *An Equal Opportunity Employer. Women and minorities are encouraged to apply.*

A tenured position is available for a **CARDIAC PATHOLOGIST** with cardiovascular research interests. The suitable candidate will be in charge of, and play a vital role with the cardiac transplant service. Our Medical School is located in Manhattan. An excellent salary and fringe benefits are offered. Interested candidates should send a letter of interest and curriculum vitae to: **Dr. Alan Schiller, Chairman of Pathology, Box 1194, The Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574.** *An Equal Opportunity Employer.*

CELL BIOLOGIST, BIOPHYSICIST, STRUCTURAL BIOLOGIST, MOLECULAR BIOLOGIST. The Pennsylvania Muscle Institute and the University of Pennsylvania School of Medicine seek outstanding candidates for two tenure-track positions in the area of fundamental cardiovascular or motility research. One position will be in the field of molecular genetics of contractile proteins. The other position is in the broad area of cell biology, biophysics and/or structural biology of muscle. These positions are primarily aimed at, but not restricted to, the assistant professor level. Appointment will be made in the department appropriate to academic interest. Applicants should send curriculum vitae and research statements and the names of three references to: **Yale E. Goldman, M.D., Ph.D., Director of Pennsylvania Muscle Institute, School of Medicine, University of Pennsylvania, Philadelphia, PA 19104-6085.** *Equal Opportunity/Affirmative Action Employer.*

Middlebury College: Applications are solicited for a 2-year leave replacement for a **CHEMIST** capable of teaching organic and inorganic chemistry at the undergraduate level. Teaching effectiveness at the undergraduate level and potential to involve undergraduates in research are most important considerations. Ph.D. or A.B.D. required. Send letter describing background and research interests, an up-to-date curriculum vitae, undergraduate and graduate transcripts, and three current letters of reference to: **R. W. Gleason, Chairman, Department of Chemistry and Biochemistry, Middlebury College, Middlebury, VT 05753.** Application deadline is 17 February 1989. *Middlebury College is an Equal Opportunity Employer.*

POSITIONS OPEN

CELL BIOLOGIST/ MOLECULAR BIOLOGIST

The Department of Veterinary Biosciences, College of Veterinary Medicine at the Virginia Polytechnic Institute and State University invites applications for a tenure-track faculty position available 1 July 1989. Minimum requirement for the position include a D.V.M. (or equivalent) or Ph.D. and no less than 2 years of postdoctoral experience. Establishment of an independent research program funded by extramural support is expected, as is participation in teaching morphology/cell biology to both professional and graduate students. The College offers excellent research facilities for molecular engineering, flow cytometry, electron microscopy, ESR spectroscopy and computer analysis. The major disciplines in the department include: morphology, biochemistry, physiology, pharmacology and toxicology. Unique opportunities exist for collaborative and interdisciplinary research. Rank and salary for the position are negotiable. Responsibilities include teaching professional and graduate students morphology/cell biology and conducting research utilizing eukaryotic cells and molecular approaches. Although applications will be accepted until the position is filled, review of applications will commence 10 February 1989. Qualified persons should submit their curriculum vitae, a description of their research interests, current and proposed research funding, and three letters of recommendation sent to: **Dr. Hara P. Misra, Professor and Department Head, Veterinary Biosciences, Virginia-Maryland College of Veterinary Medicine, Virginia Tech, Blacksburg, VA 24061.** *The Virginia Polytechnic Institute and State University is an Affirmative Action/Equal Opportunity Employer.*

CHAIRPERSON DEPARTMENT OF MICROBIOLOGY AND PUBLIC HEALTH MICHIGAN STATE UNIVERSITY

Applications and nominations are invited for the position of Chairperson of the Department of Microbiology and Public Health at Michigan State University. The Department has significant graduate and undergraduate programs, and also serves the Medical and Veterinary Schools. This large and diverse Department has strong research programs in many areas of modern microbiology including molecular biology, virology, immunology and parasitology, as well as major participation in an NSF funded Science and Technology Center in microbial ecology. Candidates must have an excellent record of research achievement in any area of modern microbiology and the ability to provide the administrative leadership necessary to build on established strengths in research, teaching and service. Applicants should submit curriculum vitae, a statement of present and past research interests, teaching and administrative experience, and the names of three or more references to:

**Dr. Loran Bieber
Search Committee Chairperson
A101 East Fee Hall
Michigan State University
East Lansing, MI 48824**

Review of applications will begin 1 February 1989 and will continue until the position is filled. *Michigan State University is an Equal Opportunity/Affirmative Action Employer. Applications from or nominations of women and/or minority candidates are encouraged.*

CYCLOTRON OPERATOR/CHEMISTRY ASSOCIATE—The Center for Metabolic Imaging at Creighton University has two immediate openings for cyclotron operator/chemistry associate to operate and maintain CTI-112 cyclotron, carry out routine production of positron emitting radiopharmaceuticals (such as ^{18}F FDG, ^{13}N), for clinical studies, and to develop new radiopharmaceuticals for metabolic studies. The candidates should have B.S./M.S. degree in either electronic engineering or mechanical engineering with some chemistry background. Experience with handling of radioactive materials is necessary. Interested candidates should send résumé and transcript to:

**Dr. Chyng-Yann Shiue
Director, Center for Metabolic Imaging
Department of Radiology
Creighton University
601 North 30th Street
Omaha, NE 68131**

An Equal Opportunity Employer.

POSITIONS OPEN

UNIVERSITY OF MIAMI CHAIRPERSON DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

We are seeking a distinguished mathematician with a strong record in research. The department is firmly committed to excellence in research and teaching, has enjoyed substantially increased outside funding in recent years, and anticipates several new faculty appointments in the near future. The new chairperson would play a major role in the further development and enhancement of our program.

Applicants should submit curriculum vitae and the names and addresses of four references to: **Professor Chris Cosner, Chair, Search Committee, Department of Mathematics and Computer Science, University of Miami, Coral Gables, FL 33124.** The appointment could be effective as early as fall 1989, so immediate applications are encouraged. However, applications will be accepted until the position is filled.

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

DEPARTMENT CHAIR

The Department of Horticulture and Landscape Architecture, Washington State University, invites applications for a department chairperson. Major responsibilities include dynamic leadership and effective administration of research, teaching and extension programs. A Ph.D. in horticulture or any closely related area in plant science or landscape architecture is required. Experience in research, teaching and/or extension is also required. Strong academic, administrative, organizational, budgetary, and communication skills are desired. The candidate should have proven ability to attract extramural funding, a record of scholarly excellence, and must be eligible for tenure at the rank of full professor. Salary is competitive and commensurate with qualifications and experience. Application deadline: 31 March 1989. The application must include curriculum vitae, list of publications, names, and addresses of four references, and a statement of professional goals. Nominations or applications should be sent to: **Professor B. W. Poovaiah, Chairman, Search Committee, Department of Horticulture and Landscape Architecture, Washington State University, Pullman, WA 99164-6414.** *WSU is an Equal Opportunity/Affirmative Action Employer. Protected group members are encouraged to apply.*

DIRECTOR, CLINICAL CYTOGENETICS

The Department of Medical and Molecular Genetics at the Mount Sinai School of Medicine is seeking an experienced Ph.D. cytogeneticist to direct its clinical laboratory. A unique opportunity for ABMG Board-certified or eligible candidates; research activities encouraged. Rank and salary commensurate with experience. Send curriculum vitae and two references to: **Dr. Robert J. Desnick, Mount Sinai School of Medicine, Division of Medical and Molecular Genetics, Box 1203, Fifth Avenue and 100th Street, New York, NY 10029.**

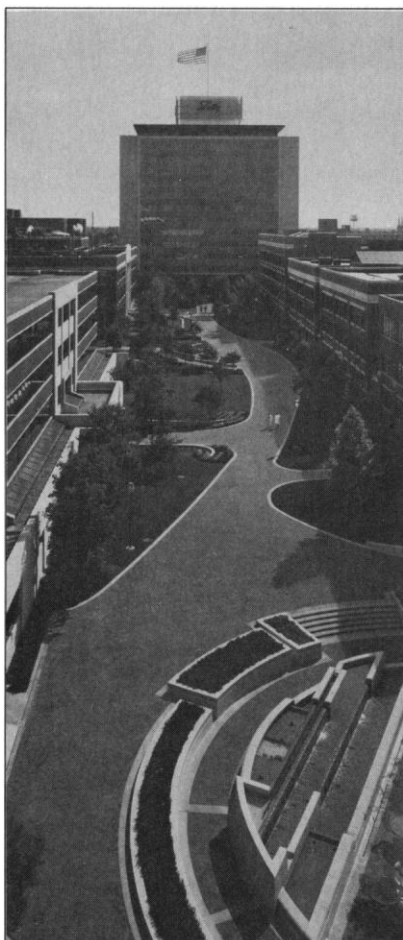
EXPERIMENTAL PATHOLOGIST

Position is available for a person with an M.D. degree and trained in anatomic and/or clinical pathology, and techniques of molecular biology. Candidate must have a demonstrated record of productivity as evidenced by prime authorship publications in critically reviewed journals and as Principal Investigator on USPHS grants or contracts. The candidate will be expected to initiate and maintain an independent, extramurally-funded research program. At least 75% of time will be available for research; and teaching pathology to medical students and residents will be assigned.

Please send curriculum vitae and a letter describing current and planned research goals, and the names of three references to:

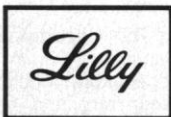
**John W. Kreider, M.D.
Division of Experimental Pathology
Department of Pathology
The Milton S. Hershey Medical Center
P.O. Box 850
Hershey, PA 17033**

*An Affirmative Action/Equal Opportunity Employer.
Women and minorities encouraged to apply.*



BS/MS SCIENTISTS

Virology Research



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For more than a century, scientists at ELI LILLY AND COMPANY have developed innovative, high quality pharmaceutical products. In 1988, Lilly invested over \$500 million in research-and-development programs. More than 3,000 scientists at the company's Lilly Research Laboratories are pursuing creative research programs that involve many important health care needs.

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- Bachelor's or Master's degree in virology, microbiology, or a related discipline.
- Two to five years experience with virology or molecular virology research.
- Experience with tissue culture and aseptic techniques.

Eli Lilly and Company is committed to scientific excellence. Lilly provides a stimulating professional atmosphere with many opportunities for collaborative, multidisciplinary research. The company offers an attractive total compensation program. Entry level and salary will be based upon each candidate's experience.

For prompt consideration, please forward your *resumé* to:

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Science Recruitment (AV-1)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285



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Fermentation Microbiologist, Molecular Biologist: Requirements include BS, MS in microbiology or biochemistry. 1-3 years experience in large scale microbial and fungal fermentations helpful. Good mechanical aptitude necessary.

Molecular Biology: Requirements include a BS degree in biology or biochemistry with 2-3 years experience in molecular biology or an advanced degree. Duties include the production and analysis of restriction endonucleases, nucleic acid modifying enzymes and nucleic acids.

Enzyme/Protein Analysis: Requirements include a degree in chemistry or biochemistry. 2-3 years experience with traditional wet method chemistry or advanced degree in Biochemistry with emphasis in enzymology including: protein determination, enzyme kinetics preferred.

Protein Purification: Requirements include a BS, MS in the sciences and 3-5 years experience with protein purification techniques. Duties will include the development and large scale production of enzymes and other proteins.

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These positions offer the opportunity to utilize technical and problem solving skills to provide product information to customers worldwide.

Tissue Culture: Requirements include a degree in biology or biochemistry and 3-5 years general tissue culture lab experience. Scientific writing experience, knowledge of GMP and sterility and validation testing helpful.

Immunochemicals: Requirements include a BS degree in biology or biochemistry along with laboratory experience in one or more of the following areas: Immunohistochemistry, monoclonal antibody development, production and characterization, radioimmunoassay, or tissue culture.

All candidates must possess strong written and verbal communication skills and be able to work independently. Selected applicants will be provided with compensation commensurate with experience and education, plus full company-paid benefits package. Send your confidential resume to: **SIGMA CHEMICAL COMPANY, P.O. Box 14508, St. Louis, MO 63178.**

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POSITION: Microbiologist/Patent Examiner Opportunity involves the scientific and legal evaluation of patent applications involving recombinant DNA, molecular and cellular immunology, molecular genetics, microorganisms, cell biology, cell culture, fermentation, enzymology or clinical chemistry.

QUALIFICATIONS: 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 Molecular Biology, Biochemistry, Immunology, Enzymology, Embryology, Protein Chemistry, Microbiology or Cell Biology.

A Ph.D. or M.S. degree with relevant research experience is preferred. A B.S. degree with significant research experience will be considered.

Research Experience in any of the following areas would be beneficial: DNA cloning, protein chemistry, gene expression, sequencing techniques, muteins, hybridoma technologies, monoclonal antibody applications, mammalian or plant cell lines, cell culture, immunossays, hybridization techniques, fermentation, enzymatic reaction, diagnostics and automation of clinical analysis.

SALARY: Dependent upon experience and qualifications.

LOCATION OF POSITION: Arlington, VA

For further information contact:

Patent and Trademark Office
Office of Personnel, C&E
CPK 1, Suite 700
Washington, D.C. 20231
703-557-3631
Toll free: 800-368-3064



DEPARTMENT HEAD OF BIOCHEMISTRY AND BIOPHYSICS TEXAS A&M UNIVERSITY

Applications and nominations are invited for the position of Head of the Department of Biochemistry and Biophysics at Texas A&M University.

The Department of Biochemistry and Biophysics, with a faculty of 23, is an administrative unit of the College of Agriculture, offering B.S., M.S. and Ph.D. degrees in Biochemistry and Genetics and is affiliated with the Texas Agricultural Experiment Station. The Department has been designated for continued growth and development by the University administration and will occupy a new 90,000 sq. ft. research building in the spring of 1989.

Candidates for the position must have a Ph.D. or equivalent degree, a record of research excellence in the fields of Biochemistry and/or Molecular Biology, demonstrated leadership in scholastic activities and a strong commitment to excellence in academic and research programs in Biochemistry/Molecular Biology. The successful candidate will have a major influence in filling several currently vacant faculty positions, including one endowed Chair.

The position is expected to be filled by September 1, 1989. Nominations and applications should include resumes and names and telephone numbers of at least three references. Review of applications will begin on February 1, 1989; however applications will be accepted until a suitable candidate is identified. These materials should be submitted to:

Dr. Charles J. Arntzen
Department Head Search Committee
Department of Biochemistry and Biophysics
Texas A&M University
College Station, Texas 77843-2128
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VIROLOGIST

Research and development position available to develop an amplified nucleic acid based assay for the detection and diagnosis of the human immunodeficiency virus. Applicants should have a Ph.D. in virology and molecular biology experience. Industrial product development experience is preferred.

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Yale UNIVERSITY

The McKnight Foundation

Molecular Genetics of the Flowering Process Graduate and Postdoctoral Fellowships

An interdisciplinary research program at Yale University sponsored by The McKnight Foundation. Applications are invited for Graduate and Postdoctoral Fellowships to join an interdisciplinary research program undertaken by ten faculty members in three departments at Yale University (Biology, Molecular Biophysics & Biochemistry, and Forestry & Environmental Studies).

Ongoing projects include the following:

- genetic analysis of cell-cell interactions in floral structures
- mutational and molecular fine-structure analysis of floral genes
- ectopic expression of growth regulators in the flowering process

The training program also includes technical workshops, seminar programs, and extensive collaborative work. Graduate applicants must apply to the Director of Graduate Studies, Department of Biology, P.O. Box 6666, Yale University, New Haven, CT 06511 U.S.A., Telephone: (203) 432-3538 by March 1, 1989. Postdoctoral applicants should apply directly to the Project Coordinator with CV, three letters of reference, and a research interest statement. Postdoctoral fellows will be encouraged to develop independent collaborative projects on flowering.

For further information, contact Prof. Ian Sussex (Project Coordinator), Yale Biology Department, P.O. Box 6666, New Haven, CT 06511 U.S.A.

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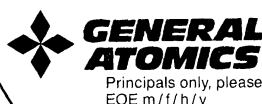
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COMPUTER CENTER**

SDSC, on the UC San Diego campus, is expanding its graphics/visualization program.

The Director will manage the planning, installation and operation of a new Visualization Center having a significant research component as well as providing services to researchers. State-of-the-art capabilities will include high speed connection into the CRAY supercomputer, dedicated graphics rendering and animation machines, production post processing with high resolution film, video and audio systems. R & D includes development and demonstration of enhanced communications and of distributed processing techniques to bring high quality visualization to remotely located researchers.

SDSC seeks candidates with established credentials in visualization. Desirable qualifications include an MS or PhD in appropriate field. Demonstrated management, organizational, interpersonal and communication skills will be important to this unique professional opportunity.

Please send resume to **General Atomics, Dept. 89-2, P.O. Box 85608, San Diego, CA 92138.**



PLANT BIOTECHNOLOGY

GARST SEED COMPANY is a member of the Agricultural Products Group of Imperial Chemical Industries PLC (London), the World's fourth largest chemical manufacturer and a diversified world leader in discovery, technology, and innovation. The dedication of a new Bioscience Laboratory near Ames, Iowa in October, 1988, marked the consolidation of Garst's traditional plant breeding program with the international bioscience capabilities of ICI.

The expectations of this new endeavor have created some challenging opportunities for competent scientists interested in applying biotechnology to crop improvement.

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Ph.D and BS/MS level positions for those with theoretical foundation and practical experience in the application of RFLP technology to corn breeding.

**Biochemistry/
Physiology**

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**Cell Biology
Transformation**

Ph.D. and BS/MS level positions for those with background in the molecular and biochemical characterization of transformed plants.

Positions for Ph.D. scientists could be permanent or a two-year Post Doctoral appointment with permanent position to follow by mutual agreement.

We offer a competitive salary commensurate with experience, comprehensive benefits, high professional standards and respect, and - most importantly - the career association with a world leader in meeting farmers' needs for the coming decade. Our growth over the past decade has been nothing less than phenomenal, and we invite your candidacy. Principals only. Please submit resume in confidence to **Charles T. Brodigan, Associate Employment Manager, ICI Americas, Wilmington, DE 19897.**



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Hana Biologics, Inc. is a leader in the application of biotechnology and cell biology for production of therapeutic, diagnostic, and research reagents. Hana currently has openings at the Ph.D., M.S., and B.S. levels for individuals with expertise in cell biology, molecular biology, immunology, biochemistry, immunochemistry, clinical histopathology, endocrinology and flowcytometry.

Salary and benefits are commensurate with qualifications and experience. Applications should include C.V., three references, and publication record where applicable.

Please send applications to:



Hana Biologics, Inc.
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POSITIONS OPEN

ECOLOGY POSTDOCTORAL POSITIONS

Three positions are available for research at the Cedar Creek LTER site. Preference will be given to individuals with expertise in broad-scale comparisons of North American ecosystems, in plant-animal interactions, in forest processes, in successional dynamics, or in biodiversity. Apply by 24 February 1989. Send curriculum vitae, reprints, and have three letters of reference sent to: **Dr. David Tilman, Department of Ecology and Behavioral Biology, 318 Church Street SE, University of Minnesota, Minneapolis, MN 55455.** *The University of Minnesota is an Equal Opportunity Employer and specifically invites and encourages applications from women and minorities.*

ENVIRONMENTAL CHEMIST/TOXICOLOGIST. Great Lakes Environmental Research Laboratory, Ann Arbor, Michigan. Postdoctoral position studying the interactions of benthic organisms with contaminated sediments using laboratory measurements of bioturbation. Research includes bioavailability, partitioning, biotransformation, toxicity and mathematical modeling. The position, GS-11 (\$28,852), is for 1 year with possible extensions. Successful candidates must have a Ph.D. and U.S. citizenship. Submit an SF-171 by 3 February 1989 to: **Department of Commerce, Central Administrative Support Center, Attn: Mr. Andrew Hicks, Room 1749 CC22, 601 East 12th Street, Kansas City, MO 64105.**

EXECUTIVE DIRECTOR ALASKA SCIENCE AND TECHNOLOGY FOUNDATION

The Alaska Science and Technology Foundation (ASTF), created in 1988 by the Alaska State Legislature, is seeking an Executive Director. The ASTF will "promote and enhance, through basic and applied research: economic development and technological innovation in Alaska; public health, telecommunications, and sustained growth and development of Alaska science and engineering capabilities." Location: Anchorage. Salary: \$66,000 minimum (negotiable). Application instructions and complete position description available. Closing date: 1 March 1989.

Alaska Science and Technology Foundation
P.O. Box 230507
Anchorage, AK 99523
Telephone: 907-562-3699 Fax: 907-561-6174
The ASTF is an Equal Opportunity Employer

Emory University, Department of Radiology, seeks a Ph.D. or M.D. with either NMR spectroscopy or imaging experience for a full-time **FACULTY POSITION**. The candidate must be able to originate fundable research projects using NMR and collaborate with other faculty members (in or out of radiology) on NMR research. Knowledge of spin behavior is essential, and medicine, biology, or biochemistry, analog electronics, and computer science are useful skills.

Two 1-meter clinical imagers operating at 0.5 and 1.5 T and a 30-cm 200-MHz instrument, all fully programmable, will be available. The department is part of an 800-bed tertiary care complex giving ample opportunity for collaborations requiring clinical material. Seven Ph.D. scientists in the radiology department are currently involved full-time in NMR. Qualified candidates please contact:

Dr. Thomas Dixon, Director
Frits Philips Magnetic Resonance
Research Center
419 Woodruff Memorial Building
Emory University
Atlanta, GA 30322

Emory University is an Equal Opportunity/Affirmative Action Employer.

FOSSIL ENERGY POSTGRADUATE RESEARCH PROGRAM—Opportunities at Energy Technology Centers in Morgantown (West Virginia) and Pittsburgh. Available research positions in the areas of physical sciences, engineering, and microbiology available. Degree within last 3 years required as is U.S. citizenship or PRA status. Contact: **Fossil Energy Postgraduate Program, University Programs Division, Oak Ridge Associated Universities, Box 117, Oak Ridge, TN 37831-0117.** Telephone: 615-576-3456.

POSITIONS OPEN

FACULTY POSITION IN MEDICINAL CHEMISTRY AT PURDUE UNIVERSITY

The Department of Medicinal Chemistry and Pharmacognosy is requesting applications from established investigators for an anticipated faculty position at the advanced level. The successful candidate will be expected to have established and to maintain a strong, externally-funded program that complements and enhances departmental programs in areas including cancer research and synthetic organic medicinal chemistry. Candidates will have the opportunity to participate in the teaching and development of courses at the graduate and undergraduate levels. Applicants should submit curriculum vitae, a brief outline of research interests and accomplishments, and should arrange to have three letters of recommendation sent to: **Professor Peter Heinsteins, Chair, Faculty Search Committee, Department of Medicinal Chemistry and Pharmacognosy, School of Pharmacy and Pharmaceutical Sciences, Purdue University, West Lafayette, IN 47907.** Review of applications will commence 15 February 1989 and continue until the position is filled. *Purdue University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN VETERINARY NUCLEAR MEDICINE

The Department of Veterinary Biosciences, University of Illinois at Urbana-Champaign, is seeking applicants for a regular tenure-track position at the assistant or associate professor level in veterinary nuclear medicine and magnetic resonance imaging. Available 21 August 1989. D.V.M. (or equivalent) and/or Ph.D. degree required; preference for D.V.M. plus graduate degree. Applicants should have demonstrated ability to conduct research. The department has a very active program of teaching, research, and clinical imaging in nuclear medicine, and is pursuing similar interests in MRI in cooperation with the Department of Veterinary Clinical Medicine and the Bioengineering Program. Teaching responsibilities (approximately 40%) include: graduate course in research applications of radionuclides; basic radiation physics, radiobiology and nuclear medicine to third year veterinary students; and clinic patient imaging procedures with fourth year veterinary students. These efforts are shared with a senior faculty person and resident. The successful applicant will be expected to initiate and conduct a high-quality research program. Starting salary commensurate with experience and training. For full consideration applications must be received by 15 March 1989. Send résumé and names of three references to: **Dr. A. R. Twardock, Department of Veterinary Biosciences, 2001 South Lincoln, Urbana, IL 61801; telephone: 217-333-6507.** *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

INFECTIOUS DISEASES PHYSICIAN with interest both in laboratory and clinical research to join multidisciplinary Lyme Disease Center in New York Medical College in the Division of Infectious Diseases. Research interests may include pathogenesis, diagnosis, animal models, immune response or vaccine development. Send résumé, reprints, and names of three references to: **Dr. Gary P. Wormser, M.D., Room 208SE, Macy Pavilion, New York Medical College, Valhalla, NY 10595.**

The Max-Planck-Institute of Biophysical Chemistry, 3400 Göttingen, West Germany, plans to appoint a **JUNIOR INVESTIGATOR** as head of an independent research group (Nachwuchsgruppe). The candidate is expected to establish a research program in membrane biophysics.

Preferably, she or he should have experience in second messenger-mediated cellular signals in connection with ion channels. The appointment will be for a period of 3 to 5 years on the level of C2 or C3 (comparable to assistant or associate professor). Support, both equipment and personnel, will be provided.

Disabled persons with the same qualifications will be favored. Applications, including curriculum vitae, publication list, three copies of relevant papers, one- to two-page research program, and the names of three referees should be sent to: **Professor E. Neher, MPI biophysikalische Chemie, Am Fassberg, D3400 Göttingen, West Germany.**

POSITIONS OPEN

The Department of Biology seeks a 1-year, full-time, leave replacement to instruct courses in vertebrate zoology, animal behavior, fresh water biology and either comparative anatomy or assistance in general biology. The successful candidate is also expected to teach a January interim course of their choosing. The position is to be filled at the **INSTRUCTOR OR ASSISTANT PROFESSOR** level. *Women and minorities are encouraged to apply.* Submit a letter of application, curriculum vitae, and have three letters of reference sent to: **Dr. William Heidcamp, Department of Biology, Gustavus Adolphus College, St. Peter, MN 56082.**

Equal Opportunity/Affirmative Action Employer.

INVERTEBRATE ZOOLOGIST/FIELD ECOLOGIST: Marietta College, a private, 4-year, liberal arts college, is seeking to fill a tenure-track position at the assistant professor level, beginning August 1989. Ph.D. required with primary interest in teaching but also willing to carry on research with students. Principal teaching duties include invertebrate zoology, field ecology, vertebrate zoology, general biology, and one other course depending on qualifications. Review of applications will begin on 1 February 1989. Send résumé, graduate and undergraduate transcripts, and three letters of recommendation to: **Dr. Peter E. Hogan, Chair, Biology Department, Marietta College, Marietta, OH 45750.** *Marietta College is an Affirmative Action/Equal Opportunity Employer. Women and minorities are particularly encouraged to apply.*

LECTURER— VERTEBRATE AND FIELD BIOLOGY

The Program in Ecology, Evolution, and Behavior of the Department of Biology at Princeton University has a full-time opening or two half-time openings at the rank of lecturer for a 1-year renewable appointment beginning in September 1989. Duties include teaching a vertebrate biology laboratory course with a strong physiological component, teaching a field biology course, and advising the independent work of several undergraduates in these fields. The courses are given during the fall term, in collaboration respectively with **Robert Lisk** and **Henry Horn**, and there is time in the spring term for the candidate's own research. A Ph.D. in a relevant discipline is required. Applicants should specify whether they wish a half-time or full-time appointment. The closing date for applications is 3 March 1989. Applicants should send curriculum vitae and arrange for three letters of reference to be sent to: **Robert Lisk, Search Committee, Program in Ecology, Evolution, and Behavior, Guyot Hall, Princeton University, Princeton, NJ 08544-1003.**

Princeton University is an Equal Opportunity/Affirmative Action Employer.

CORNELL UNIVERSITY MICROBIOLOGIST— ASSISTANT/ASSOCIATE PROFESSOR

Applicants are invited for the position of assistant or associate professor in the Department of Microbiology, College of Agriculture and Life Sciences, Cornell University. This is a tenure-track, 12-month appointment and will start 1 January 1990. Those applying should possess a strong background and interest in prokaryotic biology. Areas of interest include but are not limited to: molecular approaches to environmental microbiology, photosynthesis, developmental biology, beneficial plant-bacterial interactions and other aspects of bacterial diversity. The appointee will be expected to undertake a vigorous research program and participate in undergraduate and graduate teaching programs of the department. Inquiries are invited from all qualified applicants. Applicants should possess a Ph.D. in microbiology or a related area, have postdoctoral research experience, and demonstrated research ability. *Women and minority candidates are encouraged to apply.* Applicants should submit curriculum vitae by 15 March 1989 and arrange to have three letters of reference sent to: **Dr. Stephen H. Zinder, Chairman-Search Committee, Department of Microbiology, Stocking Hall, Cornell University, Ithaca, NY 14853.** *Cornell University is an Equal Opportunity/Affirmative Action Employer.*



ACADEMIC RESEARCH ENHANCEMENT AWARD

The Academic Research Enhancement Awards (AREAs) provide funding for feasibility studies, pilot studies and other small-scale health related research projects. Awards are made in amounts of up to a total of \$75,000 in direct costs (plus applicable indirect costs) for a period of up to three years; however, no more than \$35,000 in direct costs may be awarded for any one year.

Eligibility Requirements

1. Applicant Institutions

All domestic institutions offering baccalaureate or advanced degrees in the sciences related to health are eligible, except those that have received an NIH Biomedical Research Support Grant (BRSG) of \$20,000 or more per year for four or more years during the period from FY 1982 through FY 1988.

2. Applicant Principal Investigators

Must not have active research grant support (including an AREA) from either NIH or the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) at the applicant institution at the time of award of an AREA grant.

May not submit a regular NIH or ADAMHA research grant application for essentially the same project as a pending AREA application.

Are expected to conduct the majority of their research at their own institution, although limited access to special facilities or equipment at another institution is permitted.

May not be awarded more than one AREA grant at a time nor be awarded a second AREA grant to continue the research initiated under the first AREA grant.

Award Criteria

Funding decisions are based on the research project's scientific merit and relevance to NIH programs, and the institution's contribution to the undergraduate preparation of doctoral-level health professionals. Among projects of essentially equivalent scientific merit and program relevance, preference will be given to those submitted by institutions that have granted baccalaureate degrees to 25 or more individuals who, during the period 1978-1988, obtained academic or professional doctoral degrees in the health related sciences.

APPLICATION RECEIPT DATE

June 22, 1989

Anticipated Number of Awards: Approximately 112 grants

For information and application materials, contact:

Office of Grant Inquiries
Division of Research Grants
National Institutes of Health
Westwood Building, Room 449
Bethesda, Maryland 20892
(301) 496-7441

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These positions, for a period of one to three years, will be available for highly qualified individuals with enthusiasm for discovery through basic research in the biological sciences. Publication of basic research findings is encouraged, as is participation in scientific meetings. Opportunities are available in the following areas:

- regulation of topoisomerases and DNA replication
- structure/function of protein kinases
- hormone-receptor signal transduction and regulation of protein kinase C
- molecular and cellular biology of neurodegenerative disorders
- regulation of gene expression in mammalian cell systems
- role of oncogenes and tumor suppressor genes in neoplastic transformation
- receptor structure elucidation and peptidomimetic design and synthesis

At Glaxo Inc. growth opportunities and state-of-the-art facilities are complemented by a location (Raleigh-Durham-Chapel Hill) that has excellent universities in close proximity. Further, we reward talent and creativity with an excellent salary and benefits package. Candidates interested in these positions, please send curriculum vitae, along with the names of three references, to:

Human Resources Dept.
Job #PF-S

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The University
of
British Columbia

FACULTY OF SCIENCE DEAN

Outstanding candidates are sought for the position of Dean of the Faculty of Science. The new Dean will take office July 1, 1989 or as soon thereafter as possible. The Faculty comprises eleven departments that offer B.Sc., M.Sc. and Ph.D. programs. The B.Sc. can also be earned in selected departments in the Faculties of Arts and of Medicine. There are more than 300 full-time faculty members.

The successful candidate will be a scholar recognized internationally in a field of research that enhances the Faculty. He or she will provide dynamic leadership within the Faculty and play a constructive part in the University's general academic leadership. The Dean will have proven administrative ability and will be dedicated to excellence in teaching.

Applications and nominations should be directed to **Dr. Daniel R. Birch, Vice President (Academic) and Provost, The University of British Columbia, 6328 Memorial Road, Vancouver, B.C. V6T 2B3, no later than March 31, 1989, and must include a curriculum vitae, a list of publications and the names of at least three referees.**

In accordance with Canadian Immigration requirements priority will be given to Canadian citizens and permanent residents of Canada. The University of British Columbia offers equal opportunity for employment to qualified female and male applicants.

The University of South Florida ROSKAMP CHAIR FOR BIOLOGICAL RESEARCH IN PSYCHIATRY

Applications are being sought for the Robert and Lee Roskamp Endowed Chair for Biological Research in Psychiatry at the University of South Florida Psychiatry Center. The Center is a recently constructed 114-bed teaching and research facility located on the USF Health Sciences Campus in Tampa.

Applicants should be established investigators with documented research experience and productivity in the biologic aspects of mental illness. They should possess demonstrated leadership and program development skills, an interest in teaching and functioning as a mentor and a record of independent grant and/or foundation support. The successful applicant will serve as Director of the Roskamp Laboratory for Biological Research in Psychiatry at the Center and will be expected to enrich its intellectual environment through his or her interactions with its faculty and trainees as well as with other USF departments. Preference will be given to individuals who have a medical degree and a clinically relevant focus for their research activities.

Applications and inquiries should be addressed to: Anthony Reading, M.D., Chair, Roskamp Search Committee, 3515 E. Fletcher Avenue, Tampa, Florida 33613. (813) 972-7050. The deadline for applications is March 30, 1989. *The University of South Florida is an Equal Opportunity Affirmative Action Employer.*

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- **Senior Principal Scientist:** Responsible for developing and implementing research programs to investigate and determine the etiology of skin desquamation; supervises and assists in implementation of research in support of existing products or product claims; serves as creative resource for other skin research programs. Requires Ph.D. in life sciences, accompanied by appropriately-related advanced training and/or experience; knowledge of immunology as it relates to inflammatory processes; demonstrated scientific creativity; knowledge of biochemistry; ability to work in a product-oriented research environment.
- **Biologist:** Responsible for developing and applying methodologies for evaluating product effects on model systems; conducts experiments directed at elucidating the biochemical mechanisms of drug action and structure-activity relationships. Requires B.S. in a life science with a minimum of 2 years relevant experience; excellent written and verbal communication skills; demonstrated knowledge of chemistry; experience with radionuclides; familiarity with basic techniques for the isolation and characterization of biochemical substances.

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Schering-Plough Consumer Operations
Ann Schaff, Personnel Manager, Personal Care Group.

Schering-Plough

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Please send 3 non-returnable writing samples with your resume.

CHEMICAL ABSTRACTS SERVICE

Employment Department
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BIO-RAD Bio-Rad Laboratories



TOXICOLOGIST

CIBA-GEIGY's Agricultural Division has an excellent opportunity for a Toxicologist at its Environmental Health Center located in Farmington, CT. You will conduct mammalian toxicology studies; participate in study design; and be responsible for preparation of protocols, overall study supervision, interpretation of results and report preparation. You will also have opportunities for collaborative work on the pathogenesis of toxic effects.

The successful candidate will have a Ph.D. or equivalent in toxicology, pharmacology or a related life science and strong communication skills. Zero to three years experience with agricultural/industrial chemicals in a contract or industrial laboratory is desirable.

CIBA-GEIGY Corporation offers on-going growth opportunities, excellent salaries and an attractive package of paid company benefits. The Environmental Health Center is adjacent to the University of Connecticut Health Center, in one of the state's most attractive semi-rural towns. To apply, please send your resume, a brief description of your experience, and your salary requirements to: **Mrs. P.A. Frutchey, CIBA-GEIGY Corporation, Agricultural Division, 400 Farmington Ave., Farmington, CT. 06032.** We Are An Equal Opportunity Employer M/F/H/V.

Science Serving Mankind

CIBA-GEIGY

Opportunities in Gastrointestinal Research

The Procter & Gamble Company, a leader in health care R&D, is seeking to fill entry level openings in a multidisciplinary G.I. research group. This group has a broad interest in understanding physiological changes in disease states and works with *in vitro* and *in vivo* systems to design novel therapies. Major research focus areas include gastritis, ulcer disease, motility and diarrheal disease.

Successful candidates will have a Ph.D. degree in physiology, pharmacology,

microbiology, or related field plus some general knowledge of gastrointestinal function. Postdoctoral experience is desirable but not required. Good written and oral communication skills are also important requirements. U.S. citizens or permanent residents preferred. Send resume and publication list to:

Dr. T.J. Logan
G.I. Research Positions
THE PROCTER & GAMBLE COMPANY
P.O. Box 398707
Cincinnati, Ohio 45239-8707

*Procter & Gamble is an
EQUAL OPPORTUNITY employer.*

Procter & Gamble

POSITIONS OPEN

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

Applications are invited for the above position.

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

The salary for Lecturers is on a scale from \$NZ35,000 to \$NZ42,500 (bar), \$NZ44,000 to \$NZ46,000 per annum.

Applications close on 28 April 1989.

Further particulars and Conditions of Appointment may be obtained from the undersigned to whom applications must be addressed: **A. W. Hayward, Registrar, University of Canterbury, Private Bag, Christchurch, New Zealand.**

MARINE MICROBIOLOGIST (60% TIME)

The Institute of Medicine of the National Academy of Sciences is seeking a staff officer for a project to evaluate safety of fisheries products for its Food and Nutrition Board. Responsibilities include collecting and analyzing scientific and other data relevant to the project, drafting background reports, and coordinating meetings and workshops. Position requires a Ph.D. or equivalent in microbiology with emphasis on marine microbiology and at least 2 years of related experience. Excellent writing and communication skills desired. A salary commensurate with experience and an exceptional benefits package is offered. Please send résumé and references in confidence to:

**Institute of Medicine
NAS 341 FP
2101 Constitution Avenue, N.W.
Washington, D.C. 20418
Equal Opportunity Employer.**

MICROBIOLOGIST-GENETICIST. The Biology Department, Missouri Southern State College, invites applications for a tenure-track position with teaching responsibilities to include microbiology, genetics, general biology, cell biology, virology, immunology, and pathological microbiology. Ph.D. preferred with a strong commitment to undergraduate teaching and research. Cell and molecular emphasis is desirable. Application deadline is 15 March 1989. Send letter of application, curriculum vitae, and three letters of reference to: **Dr. Ray A. Malzahn, Dean, School of Arts and Sciences, Missouri Southern State College, Joplin, MO 64801-1595. Equal Employment Opportunity/Affirmative Action Employer.**

MOLECULAR GENETICS— NEUROBIOLOGIST

Tenure-track position in the Andrus Gerontology Center and the Department of Biological Sciences. To establish a new laboratory research program in the general area of molecular genetics-neurobiology, with strong interests in aging and age-dependent neurological disease. This laboratory will be affiliated with the new university-wide Neural, Informational and Behavioral Sciences (NIBS) program. This position is being recruited at the assistant professorial level. However, more senior appointments will be considered. Send curriculum vitae, bibliography, names of four references and a brief description of career goals and research objectives by 24 February 1989 to:

**Dr. Caleb Finch
Chairman, Search Committee
Molecular Genetics-Neurobiologist
Department of Biological Sciences
University of Southern California
University Park
Los Angeles, CA 90089-0191**

POSITIONS OPEN

MOLECULAR GENETICIST to establish and direct an independent research program on the nutritional regulation of gene expression at the Human Nutrition Research Center on Aging. Please send résumés to:

**Dr. Irwin H. Rosenberg or Dr. Ernst J. Schaefer
Co-Chairs, Search Committee
USDA Human Nutrition Research Center on Aging
Tufts University
711 Washington Street
Boston, MA 02111
Telephone: 617-556-3100
An Affirmative Action/Equal Opportunity Employer.**

MOLECULAR GENETICS IN PLANT PATHOLOGY ASSISTANT PROFESSOR

A tenure-track, full-time research-teaching faculty position with research emphasis in molecular genetic applications to plant diseases/plant pathogens of importance in agriculture. Development of a course in molecular genetics of plant disease, team-teaching in a Ph.D. core series program, and graduate student advising required. A Ph.D. relevant to molecular genetics is required. A Ph.D. relevant to molecular genetics is required. Candidates with postdoctoral experience; experience in teaching, molecular genetics of plant diseases/plant pathogens, publishing in refereed journals, and have grant writing experience will be preferred. Applicants must send curriculum vitae, collegiate transcripts, a written statement of research and teaching interests, and have three or more letters of reference sent to: **Dr. Richard Zeyen, Department of Plant Pathology, 495 Borlaug Hall, University of Minnesota, St. Paul, MN 55108; telephone: 612-625-4754. Application deadline: 15 April 1989.**

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

MOLECULAR VIROLOGIST

The School of Medicine at Case Western Reserve University invites applications from new or established investigators for a program in molecular virology. We are seeking faculty members with primary interests in virology, especially in the area of human retroviruses and AIDS research. The CWRU School of Medicine provides a strong and interactive environment for collaborative research among basic and clinical investigators. Ample resources and newly renovated facilities are available for this program. *Case Western Reserve University is an Affirmative Action and Equal Opportunity Employer.* Interested applicants should contact: **Hsing-jien Kung, Ph.D. and Jerrold Ellner, M.D., Co-Chairmen, Virology Search Committee, Office of Academic Programs, Case Western Reserve University School of Medicine, 2119 Abington Road, Cleveland, OH 44106.**

NEUROCHEMIST

The Institute for Sensory Research at Syracuse University seeks applications from individuals working in the area of neurochemistry for a tenure-track position at the level of assistant or associate professor. The successful candidate is expected to develop a strong independent research program and to teach in the graduate neuroscience program. The appointment will begin 1 September 1989. The position is supported by substantial start-up funds and newly constructed laboratory space. Applications should include curriculum vitae, representative reprints, and a statement of aims for future research. Applicants should have three individuals send letters of recommendation. Send all material to: **Dr. Gustav A. Engbretson, Neurochemistry Search Committee, Institute for Sensory Research, Syracuse University, Syracuse, NY 13244-5290. Deadline for applications is 28 February 1989. Syracuse University is an Equal Opportunity Employer.**

NMR SPECTROSCOPY

Postdoctoral positions are available to study structure, dynamics, hydrogen exchange and function using 2D NMR and other biophysical approaches. Applicants should have experience with modern NMR methods. Please send curriculum vitae, a letter describing research interests, and have two reference letters sent to: **S. W. Englander, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA 19104. Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

MOLECULAR IMMUNOLOGIST. Position available in Department of Surgery for a Ph.D. immunologist with expertise in protein chemistry and "second messengers" involved in lymphocyte activation. Successful candidate will have interest in either transplant immunology and transplant tolerance or immune dysfunction in the critically ill surgical patient. Academic appointment as instructor or assistant professor of surgical research, Yale University. Send curriculum vitae and three letters of reference to: **Marvin A. McMillen, M.D., Department of Surgery, West Haven Veteran's Administration Medical Center, West Spring Street, West Haven, CT 06516.**

NMR SPECTROSCOPY

A research assistant professorship is available for studies of protein structure, dynamics, hydrogen exchange, and function. Candidates should be expert in 2D NMR methodology, and have research experience in biomolecular structure-function issues. The position will provide major access to 500-MHz equipment, collaborations with active group, competitive salary, teaching opportunities if desired, and the option of applying for research grants. Please send curriculum vitae, letter describing research interests, and have three letters of reference sent to: **S. W. Englander, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA 19104. Equal Opportunity/Affirmative Action Employer.**

OCCUPATIONAL MEDICINE/ENVIRONMENTAL HEALTH (OM/EH). Tenure-track faculty position for senior scientist to direct a newly established Southeastern Clinical OM/EH Evaluation Center at Emory University and an OM/EH educational track in Emory's MPH Program. Nominations and applications are invited from established clinicians Board-certified in OM and eligible for licensure in Georgia. Responsibilities include the direction, management, planning and development of an OM/EH Center and educational track committed to excellence in patient care, teaching and research. Also required are demonstrated leadership capabilities, previous academic, teaching, and administrative responsibilities, and a strong record in research. Salary is negotiable. Applications should include current curriculum vitae, the names of three references, and be submitted by 1 February 1989 to **Chair, Search Committee, Emory Department of Community Health, 69 Butler Street, SE, Atlanta, GA 30303-3219. An Affirmative Action/Equal Opportunity Employer.**

PET OPERATOR/MEDICAL PHYSICIST The Center for Metabolic Imaging at Creighton University has two immediate openings for PET operator/medical physicist to operate and maintain CTI-931 ECAT scanner. The candidate should have M.S./B.S. degree in electronic engineering, computer science or medical physics. Experience with VAX or SUN station system is desirable. Interested candidates should send résumé and transcript to:

**Dr. Chyng-Yann Shue
Director, Center for Metabolic Imaging
Department of Radiology
Creighton University
601 North 30th Street
Omaha NE 68131**

An Equal Opportunity Employer.

PHARMACOLOGY: University of South Florida (USF), College of Medicine. The Department of Pharmacology and Therapeutics invites applications for tenure-track positions at the appropriate level. Candidates are sought with research expertise in areas of biochemical or molecular pharmacology, such as mechanism of action of biological response modifiers. The successful applicants will be expected to develop an independent research program with outside funding. The responsibilities of the positions include teaching medical students and a graduate student course. Please submit a résumé and concise statement of research interests, and arrange for five letters of recommendation to be sent to: **Diane H. Russell, Ph.D., MDC-9, College of Medicine, USF, Tampa, FL 33612. Closing date is 15 February 1989. The University of South Florida is an Affirmative Action/Equal Opportunity Employer.**

Bioprocess and Bioengineering R&D

The Upjohn Company, a worldwide leader in the research, production and marketing of pharmaceuticals, chemicals and agricultural products, is expanding its bioprocess and bioengineering staff, and its manufacturing capabilities. This is part of Upjohn's on-going commitment to research and development which will approach \$400 million for 1988. We are offering challenging career opportunities for BS, MS and Ph.D. level candidates with training and laboratory experience in the areas described. Multi-disciplinary groups with exceptional and innovative problem-solving skills will develop new and improved processes for producing commercially important biotechnology products.

CELL BIOLOGY

Develop processes for optimal expression of proteins from transfected cell lines and hybridoma cultures. Work cooperatively in translating laboratory processes to large-scale production. Expertise in somatic cell genetics, gene amplification, cell physiology and kinetics, electroporation and microinjection techniques highly desirable.

PROTEIN CHEMISTRY

Develop procedures for purification of heterologous proteins produced through recombinant DNA and mammalian cell culture technology. Work cooperatively in translating laboratory processes to large-scale production. Knowledge of protein folding, modern protein purification techniques, gel electrophoresis, affinity, low pressure, ion exchange, and size exclusion chromatographies highly desirable.

MICROBIAL PHYSIOLOGY

Develop processes for improving expression of proteins from recombinant microorganisms using microbial physiology and molecular biology approaches. Knowledge of regulation intermediary metabolism, gene expression host development, and construction of recombinant genes desirable.

BIOCHEMICAL/CHEMICAL ENGINEERING

Develop scale-up procedures for mammalian cell culture and fermentation. Work cooperatively in translating laboratory procedures to the pilot plant and production scale operations. Experience at pilot plant scale, knowledge of equipment design and operation, and a good knowledge of biology, biochemistry or microbiology is desirable.

These positions are challenging career opportunities for qualified BS, MS and Ph.D. candidates.

Upjohn is located in Kalamazoo, a medium-sized southwestern Michigan community offering an excellent quality of life with immediate access to a rich mix of cultural, educational, and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for personal and career growth, a highly competitive salary commensurate with experience, a comprehensive benefits program, and relocation assistance. You are encouraged to send your CV/resume and a copy of transcripts to: Corporate Employment, Biochemical, The Upjohn Company, Kalamazoo, MI 49001 and refer to advertisement number 5612-CA in your correspondence. We are an Equal Opportunity Employer M/F.

Upjohn

Our Commitment to Scientific Excellence Continues...

PROTEIN BIOCHEMISTRY AND MOLECULAR GENETICS AT MONSANTO

The Monsanto Biological Sciences Department, located in suburban St. Louis, is committed to quality research in molecular biology leading to new products in health care, animal nutrition and agriculture. Scientists at the indicated degree levels are being recruited to fill the positions described below.

Protein Biochemistry

Research will focus on protein structure to activity relationships with a goal of creating unique and useful biomolecules. The positions call for Ph.D. or M.S. level Protein Biochemists with proven track record in modern methods for protein purification and characterization.

Biological NMR Spectroscopy

Two-dimensional NMR techniques will be used to obtain structural information on proteins and nucleic acids. Scientists will be expected to interact with molecular modelers and crystallographers to apply structural data toward predictions of activity for macromolecules. Requires a Ph.D. in biophysics, biochemistry or related field and a minimum of two years of relevant NMR spectroscopy experience.

Molecular Genetics

Research will involve nucleic acid manipulations including gene isolation and expression. In addition, mammalian and/or insect cell culture experience will be required to produce and assay proteins and engineered variants of proteins. Candidates should have a Ph.D. in molecular genetics or related field and a minimum of 3 years' relevant experience in molecular genetics.

Microbial Gene Expression

Research involves development of novel meterologous gene expression systems for bacteria or insect cells. Positions available for BS, MS, and Ph.D. level microbiologists or microbial geneticists. Candidates must have relevant experience in vector construction or in the genetic manipulation of microbes for screening and isolating strains that enhance protein expression.

These are excellent opportunities to apply your skills to new discoveries and challenges. Please send your curriculum vitae and names of three references to: **Monsanto Company; BB5B-GG; 700 Chesterfield Village Parkway; St. Louis, MO 63198.** Equal Opportunity Employer M/F/H/V.

Monsanto

POSITIONS OPEN

PATHOLOGIST—CELL BIOLOGIST: M.D./Ph.D. Established investigator for faculty position. Basic experimental cell biology and/or immunology. **Animal Genetics.** Abundant opportunities for collaborative investigations. *Women and members of minority groups are encouraged to apply.* Please forward curriculum vitae to: **John E. Craighead, M.D., Chairman, Department of Pathology, University of Vermont, Burlington, VT 05405.** Replies will be accepted until position is filled. *An Affirmative Action/Equal Opportunity Employer.*

PEPTIDE CHEMIST/MOLECULAR BIOLOGIST—The Division of Endocrinology Research Laboratories at the Rhode Island Hospital seeks a research associate with experience in peptide chemistry and/or molecular biology to study proTRH processing and TRH biosynthesis in an NIH-supported research program. Applications with the names of three references to: **Ivor Jackson, M.D., Director, Division of Endocrinology, Brown University/Rhode Island Hospital, 593 Eddy Street, Providence, RI 02903.** *An Equal Opportunity/Affirmative Action Employer.*

Ph.D. MOLECULAR BIOLOGIST

Enzo Biochem, Inc., a dynamic healthcare company is seeking a Ph.D. molecular biologist. Candidates should have experience in nucleic acid hybridization, cloning, probe development, and signal amplification.

Submit résumé in confidence to:

**Enzo Biochem, Inc.
325 Hudson Street
New York, NY 10013
Attention: SF**

Equal Opportunity Employer M/F

TWO Ph.D. STAFF POSITIONS available for a human geneticist, any discipline, and a molecular cytogeneticist. Appointee will develop independent research programs and provide technical and administrative support for the Human Genetic Mutant Cell Repository. Development funds and joint medical school appointments are available. Newly constructed laboratory space and technical assistance will be provided. Salary commensurate with qualifications. Please send curriculum vitae and names of three references to: **Dr. Gerard J. McGarrity, President, Coriell Institute for Medical Research, Copewood Street, Camden, NJ 08103.** *Affirmative Action/Equal Opportunity Employer.*

PHYSICIST—Research atomic defects and impurities in optical fibers with ultrasensitive microprobe analyses of trace elements or isotopes. Develop necessary spectroscopy of optical loss mechanisms for manufacturing of low-loss, long-length optical fibers. Utilize methods and/or theories involving ion/electron microprobe, mass spectrometry, photon detection, neutron activation, Rutherford backscattering and effects of nuclear radiation. Communicate with manufacturing/marketing personnel as to technical aspects of fiber-optic products. Ph.D. in physics plus 2 years of postdoctoral experience in job or 2 years of experience as researcher in nuclear physics. Experience must include "hands-on" experience in ion/electron microprobe, mass spectrometry, photon detection, neutron activation, Rutherford backscattering, effects of nuclear radiation. Forty hours per week, \$46,500 per year. Send résumés or apply in person to: **Georgia Department of Labor, 1535 Atkinson Road, Lawrenceville, GA 30243,** or to the nearest Georgia Job Service Center. Control #GA 5331878.

PLANT STRUCTURAL AND CELLULAR BIOLOGIST, assistant professor. A tenure-track position to establish a research program in structural and subcellular aspects of plant growth, development, and differentiation. The research approach should involve modern methods of microscopy and cell biology as applied to plants. In addition to establishing a prominent research program, the incumbent will be expected to teach a course that provides training in modern research approaches in plant anatomy and cell biology. Application deadline is 1 March 1989 or until filled. Interested individuals should submit résumé, transcripts, statement of research objectives, recent publications, and three letters of reference to: **Dr. Brian Larkins, Head, Department of Plant Sciences, University of Arizona, Tucson, AZ 85721.** *The University of Arizona is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

PLANT ECOLOGIST (ECOPHYSIOLOGIST): EPA Environmental Research Laboratory, Corvallis, Oregon. Seeking a physiological plant ecologist to conduct research on the effects of stratospheric ozone depletion (enhanced UV-B) on terrestrial plant ecosystems (primarily agroecosystems). This is a full-time GS-12 position and requires a Ph.D. in plant ecology, ecophysiology, plant physiology, or a closely related discipline. Candidates must be able to demonstrate the following skills: (i) ability to plan, implement, and lead complex research programs; (ii) experience with the effects of UV-B on plant systems (agroecosystems) or experience with environmental photobiology; and (iii) proven ability to communicate research results both orally and in the peer reviewed literature. *Position only open to U.S. citizens.* Salary range: \$34,580 to \$44,957 per annum. For technical information on this position contact: **Dr. Robert T. Lackey at the Corvallis Laboratory: 503-757-4634/4600.** To obtain a complete vacancy announcement, application package, and instructions, write: **EPA Personnel Office, P.O. Box 98516, Las Vegas, NV 89193-8516** no later than 15 February 1989.

EPA is an Equal Opportunity Employer.

PLANT REPRODUCTIVE BIOLOGIST (two open positions), assistant/associate professor. A tenure-track position to establish a research program related to the genetic and physiological basis of flower, embryo, and fruit development. The research approach should integrate the application of genetics, molecular biology, and biochemistry to understanding fundamental mechanisms regulating these processes with the ultimate goal of understanding fruit and crop production. In addition to establishing a prominent research program, the incumbent will be expected to teach a course compatible with the department curriculum. Application deadline is 1 March 1989 or until filled. Interested individuals should submit résumé, transcripts, statement of research objectives, recent publications, and three letters of reference to: **Dr. Brian Larkins, Head, Department of Plant Sciences, University of Arizona, Tucson, AZ 85721.** *The University of Arizona is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POPULATION BIOLOGISTS

The Program in Ecology, Evolution, and Behavior of the Department of Biology at Princeton University plans to appoint two population biologists to begin in September 1989, one a tenure-track assistant professor, the other at an open rank. Preference will be given to candidates with a strong research program involving field work or theory in ecology and evolutionary biology. The current faculty of Princeton's Graduate Program in Ecology, Evolution, and Behavior are: **John Bonner, Jim Gould, Peter Grant, Henry Horn, Steve Hubbell, Marty Kreitman, Bob Lisk, Naomi Pierce, Dan Rubenstein, and Ted Sullivan.** The closing date for applications is 3 March 1989. Applications should send curriculum vitae and arrange for three letters of reference to be sent to: **Dan Rubenstein, Search Committee, Program in Ecology, Evolution, and Behavior, Guyot Hall, Princeton University, Princeton, NJ, 08544-1003.**

Princeton University is an Equal Opportunity/Affirmative Action Employer.

TRUDEAU INSTITUTE, INC. POSTDOCTORAL ASSOCIATE TO STUDY T CELL-MEDIATED IMMUNITY

A vacancy exists for a postdoctoral fellow interested in studying immunity to tumor and histocompatibility antigens. Current studies deal with various aspects of T cell-mediated rejection of tumors and allografts. The opportunity to study T cell-mediated immunity to bacterial infection also exists. Applicants should have basic training in immunobiology. Starting salary will be commensurate with experience and includes liberal fringe benefits. Subsidized institute housing is available.

The Trudeau Institute is a private, not-for-profit, basic medical research institution located on the shore of Saranac Lake and near Lake Placid, New York.

Send curriculum vitae and names of three references to:

**Dr. Robert J. North, Director
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, NY 12983**

POSITIONS OPEN

POSTDOCTORAL ASSOCIATE HARVARD MEDICAL SCHOOL

To investigate regulation of the heat-shock response in eukaryotic cells. Successful applicants will collaborate with a group using molecular genetic and biochemical approaches to study regulation of heat shock protein activity. Demonstrated experience in molecular biology or protein biochemistry. Capacity for independent work is required. Salary according to experience. Send curriculum vitae, names of three referees to:

**Dr. Stuart Calderwood
Dana-Farber Cancer Institute
JFB 205
Harvard Medical School
44 Binney Street
Boston, MA 02115**

POSTDOCTORAL FELLOW: To conduct advanced research on the molecular genetics of signal transduction, using *Diatyostelium*. Research involves molecular cloning and characterization of biochemical pathways. Minimum requirements: Ph.D. in biochemistry or biology. \$25,000 per year or more, depending on qualifications. Send résumé and list of references to: **Department of Biological Sciences, Hunter College, CUNY, 695 Park Avenue, New York, NY 10021. Attention: Dr. Robert P. Dottin.**

POSTDOCTORAL POSITION

Available July 1989, for investigations of molecular mechanisms of neurodegenerative diseases. Candidate should have demonstrated expertise in cellular/molecular biology. Our laboratory is committed to studies of molecular biological approaches to understanding the pathogenesis of human neurodegenerative diseases and their animal models. Send curriculum vitae and three letters of recommendation to: **Donald L. Price, M.D., Neuropathology Laboratory, The Johns Hopkins University School of Medicine, 509 Pathology Building, 600 North Wolfe Street, Baltimore, MD 21205-2182.** *Affirmative Action/Equal Opportunity Employer. Because of funding requirements, applicants limited to U.S. citizens/permanent residents.*

POSTDOCTORAL POSITION to study the role of chromatin organization, DNA replication and oncogene rearrangements on gene regulation. Replicons from globin and immunoglobulin gene families and Epstein-Barr and bovine papilloma viruses are being studied. Projects include the determination of whether different origins are used in the replication of tissue-specific genes during differentiation. Send curriculum vitae and three letters of reference to: **Dr. Carl Schildkraut, CH416, Albert Einstein College of Medicine, Bronx, NY 10461.**

POSTDOCTORAL POSITION available immediately in Arteriosclerosis SCOR program to investigate lipoprotein metabolism and atherosclerosis, using biochemical and molecular biological approaches. *U.S. citizen or permanent resident.* Send curriculum vitae to:

**Dr. Alan Tall
Department of Medicine
Columbia University
New York, NY 10032**

POSTDOCTORAL POSITION available immediately to characterize the biochemical and functional properties of extracellular/matrix proteins involved in the expression of the transformed phenotype. Background in biochemistry, cell biology, molecular biology or immunology desirable. Send curriculum vitae and three letters of reference to: **Dr. Susan P. Hawkes, Department of Pharmacy, S-926, University of California, San Francisco, CA 94143-0446**

POSTDOCTORAL POSITION

Postdoctoral fellows/research associates: Positions available now through fall 1989 to study insulin/growth factor-regulated (Ser/Thr) protein kinases and tyrosine kinase substrates. Multidisciplinary program ongoing in well-equipped, newly renovated laboratories. Experience required in protein purification or monoclonal antibody technology. Send curriculum vitae with names of three references, brief description of background and interests to: **J. Avruch, Diabetes Unit, MGH East, Building 149, 13th Street, Charlestown, MA 02129.**



The Alton Ochsner Award
Relating Smoking and Health

Purpose:

An annual award of \$15,000 will be presented to one or more clinicians and/or basic science investigators, without regard to age, race, sex or nationality, for outstanding and exemplary scientific investigations that relate tobacco consumption and health. This scientific work may be clinical, fundamental, epidemiological or preventive in nature; the prime criterion for award selection is its scientific impact on this major health problem.

Award Donor:

Lakeside Pharmaceutical Division
Merrell Dow Pharmaceuticals Inc.

Institutional Sponsor:

Alton Ochsner Medical Foundation

Nominations:

Nominations must be made by a letter that outlines briefly and concisely the work and major contributions of the investigator to the field. Self nominations are excluded. The nomination must be supported by: (1) the candidate's curriculum vitae and bibliography (citing the major publications); (2) at least two letters of support from outside the candidate's institution; and (3) reprints of at least three major contributions. All material must be submitted in **octuplicate**, and no individual will be considered unless all supporting documentation is complete. We shall be pleased to review any other supporting documents and letters provided they are also submitted in octuplicate.

Nominations will be solicited from medical schools, Veterans Administration hospitals, and major clinics and research centers in this country.

There will be no more than three co-awardees for the Alton Ochsner Award in any one year. Nominees not receiving the Award will be considered for two additional years. New letters of support and updated materials in octuplicate are welcomed but are not mandatory on the two succeeding years following the first year of nomination.

Selection:

The Selection Committee consists of one member each from the Alton Ochsner Medical Foundation; the fields of Pulmonary Diseases, Cardiology, Surgery, Behavioral Sciences, Epidemiology; and the broad area of scientific achievement. In making its selection, the Committee will assess the candidate's scientific impact on this important field of investigative achievement through the significance of the fundamental or clinical contributions made. No member of the Selection Committee will be considered for the Award.

Deadline for Nominations: Nominations must be postmarked by March 31, 1989.

Presentation of Award:

The Award will be presented in person, October 31, 1989 at the Annual Assembly of the American College of Chest Physicians in Boston, Massachusetts.

Mail nominations to: Edward D. Frohlich, M.D.

Vice President for Academic Affairs
Alton Ochsner Medical Foundation
1516 Jefferson Highway
New Orleans, Louisiana 70121

NATIONAL INSTITUTES OF HEALTH

Public Health Service

DEPARTMENT OF HEALTH AND HUMAN SERVICES

The National Institutes of Health (NIH) invites nominations and applications for the position of Director, National Institute on Deafness and Other Communication Disorders (NIDOC). This is a Civil Service position in the Senior Executive Service (SES), with a salary range of \$68,700 to \$76,400 per annum. The person selected may be eligible for Physician's Comparability Allowance ranging from \$5,000 to \$20,000 per year. A one year probationary period must be served by the individual selected if not currently in the Senior Executive Service.

The National Institute on Deafness and Other Communication Disorders conducts, fosters, and supports research and research training on the causes, prevention, diagnosis, and treatment of deafness and other communication disorders. The Director, NIDOC, will be responsible for the coordination and direction of all programs and activities in the Institute.

For more information contact Ms. Patricia A. Southcomb at (301) 496-6521. The following forms are **required**: Application for Federal Employment (SF-171) accompanied by a current curriculum vitae and bibliography. These must be submitted to:

Ms. Patricia A. Southcomb
National Institutes of Health
Officer of the Director Personnel
Building 31, Room 1C-23
9000 Rockville Pike
Bethesda, Maryland 20892

Applications must be postmarked no later than March 17, 1989.

All qualified candidates will receive consideration without regard to race, religion, color, sex, age, national origin, lawful political affiliation, marital status, union membership, or nondisqualifying physical or mental handicap.

NIH is an Equal Opportunity Employer

POSTDOCTORAL, GRADUATE ASSISTANTSHIPS AND RESEARCH ASSISTANT POSITIONS available at the **W. Alton Jones Cell Science Center**, Lake Placid, New York. Positions are supported by individual awards and institutional funds. The investigators and their research interests are:

GORDON H. SATO, Director: Cellular endocrinology/physiology. Manzanar Project-Aquaculture system for food production in coastal-desert areas. Tissue culture of plants.

VINCENZO BUONASSISI: Biochemistry and molecular biology of endothelial proteoglycans.

MYLES CABOT: Lipid metabolic pathways and cell signal transduction.

JOHN CRABB: Protein structure-function, molecular biology of visual cycle proteins.

STEPHEN HARRIS: Molecular biology of gene expression in steroid responsive tissues.

JUN HAYASHI: Developmental immunobiology of thymocytes and thymic epithelial cells.

SUSAN JAKEN: Regulation and activation of protein kinase C isozymes.

PER-ERIK MANSSON: Molecular biology of growth factor genes.

RYOICHI MATSUDA: Developmental and molecular biology of muscle cells.

WALLACE MCKEEHAN: Growth factors/receptors in blood vessels, liver and prostate.

GINETTE SERRERO: Molecular biology and hormonal control of mesenchymal cell differentiation.

JAMES STEVENS: Mechanisms of cellular and biochemical toxicology and carcinogenesis.

GRADUATE ASSISTANTSHIPS are available to graduate students who are currently enrolled at a university but wish to conduct research towards a degree at WAJCS. Applicants must have completed all course work and be able to concentrate on thesis research. The Center or the applicant must be able to make arrangements with their university so that research conducted at the Center can be used for the degree. The Center also participates in a graduate program with Clarkson University, Potsdam, NY and the University of Vermont, Burlington, VT. Course work is taken at the University and research work is conducted at the WAJCS. This program is open to excellent candidates who have completed their undergraduate degree in the specialties offered.

W. ALTON JONES CELL SCIENCE CENTER is located in the heart of the Adirondack State Park, Lake Placid, NY. The Center is equipped with state-of-the-art equipment (amino acid analyzer, amino acid and DNA sequencers, peptide and DNA synthesizers and various other analytical instruments) for studies in cell and developmental biology, protein chemistry and molecular biology. Salaries and benefits are competitive. Send curriculum vitae, names of three references and description of research interest to:

Ms. Andrea Terwillegar, W.A.J.C.S.C., 10 Old Barn Rd., Lake Placid, NY 12946. The Cell Science Center is an Equal Opportunity/Affirmative Action Employer.

MANAGER

Pesticide Development International

Merck Sharp & Dohme Research Laboratories has an immediate opening for a Manager, International Pesticide Development in its Agricultural Research Department located in Three Bridges, New Jersey. The successful candidate will be responsible for the planning and management of development programs in Japan and Europe for a group of novel insecticide products. Regular interactions with regulatory, marketing and operations professionals provides high visibility within the company. The successful candidate should have a Ph.D. in entomology, agronomy, or plant pathology and 3+ years of experience in agricultural pesticide development. Excellent oral and written communications skills will be required.

The Agricultural Research Three Bridges facility is located in Hunterdon County in West Central New Jersey approximately 60 miles from New York City. Our salaries, benefits and growth potential are excellent. Interested candidates should submit their resume with the names of three references to **Ms. Dolores L. Barefield, MERCK & CO., INC., P.O. Box 2000, WBD-362, Rahway, NJ 07065.**



Merck & Co., Inc.

BIOTECHNOLOGY

CODON is a research and manufacturing, product-oriented biotechnology corporation specializing in the development and manufacture of high value-added recombinant protein products. We are rapidly expanding, and focused at finding novel solutions to today's most complex medical and veterinary conditions.

Employment opportunities at Codon cover a wide range of disciplines, including protein chemistry, molecular biology, immunology, tissue culture, process development, fermentation, biochemical engineering and quality assurance. Most positions require a minimum of a baccalaureate degree and laboratory experience in the above or allied fields.

To find out how you may fit into this exciting, intellectually stimulating environment, please send your resume and letter outlining area of interest to: **CODON, Human Resources Dept. 572, 213 E. Grand Ave., South San Francisco, CA 94080.** Equal Opportunity Employer

Our location, just south of San Francisco, California, places us in one of the major biotechnology centers in the country and affords close contact with prime educational institutions such as Stanford University, The University of California, San Francisco, and The University of California, Berkeley.

CODON

FACULTY POSITION IN PROKARYOTIC GENETICS

The Department of Biology at Texas A&M University invites applications for a tenure-track position in bacterial or bacteriophage genetics and molecular biology. Candidates should be using a prokaryotic organism to study fundamental biological problems. Special consideration will be given to applicants interested in developmental, regulatory or membrane systems. Essential qualifications include a strong record of research accomplishment, the ability to develop a vigorous research program, and a commitment to training undergraduate and graduate students. The Department has excellent research facilities and will provide competitive salaries and startup funds. Please send curriculum vitae, a statement of research interests, and the names, addresses and telephone numbers of at least three references by February 15, 1989, to:

Dr. Michael D. Manson
Chairman, Microbiology Search
Department of Biology
Texas A&M University
College Station, TX 77843

Texas A&M University is an Affirmative Action/Equal Opportunity Employer. Minority candidates are especially encouraged to apply.

MONOCLONAL ANTIBODY DEVELOPMENT

Research Scientist to establish new laboratory

Affymax Research Institute is a new venture in therapeutic drug discovery based on organic chemistry and advanced immunological science with participation of leading academic and industrial scientists.

Affymax seeks a person with extensive knowledge and experience in monoclonal antibody production with the ability to establish a laboratory and produce, independently, purified MAbs to a wide range of haptenated immunogens and to develop related new methodologies including anti-idiotypes.

Skill requirements include immunization techniques, cell culture, fusion, hybridoma screening, antibody purification and characterization. Experience with *in-vitro* techniques is desirable.

A graduate degree in immunology, cell biology or biochemistry is desired. A bachelor's degree with extensive experience will be considered.

Attractive employment conditions in a new, first class facility make this an outstanding opportunity.

Send Resume To:

Chief Scientist

Affymax Research Institute

3180 Porter Drive
Palo Alto, California 94304

Postdoctoral Associate

Monsanto Company is engaged in research aimed at the development of novel approaches for controlling gene expression. We have an immediate opening for a postdoctoral fellow to work with a group of biologists and chemists investigating new methods with therapeutic potential.

Candidates should have a Ph.D. in biochemistry or molecular biology and research experience involving recombinant DNA technology or receptor biochemistry.

Applicants should send curriculum vitae and the names and addresses of three references to: **Dr. M. Sanzo; MONSANTO COMPANY; Mail Zone S2D; 800 N. Lindbergh Blvd.; St. Louis, MO 63167.** An Equal Opportunity Employer M/F/H/V.

Monsanto

Important Contributions To An Essential Effort.

If you've been looking for an organization where your contributions will make a strong and positive impact, may we suggest The MITRE Corporation. A not-for-profit organization providing expert systems engineering solutions to military and civil agencies of the U.S. Government, we are currently providing technical support to manage the nation's hazardous waste problems for the EPA and to meet the mandates of the Defense Environment Restoration Act. These are the essential efforts that can make excellent use of your proven expertise.

Toxicologists

McLean, VA & San Antonio, TX

We currently have openings at our Washington Center and our San Antonio Site for professionals with high levels of skill and dedication to provide quality assurance of human health risk assessments performed by contractors on Air Force Installation Restoration Sites. Specific responsibilities include evaluating work plans for adequacy of approach; reviewing risk assessments for accuracy, completeness and validity of conclusions; and analyzing expected risk reductions. You will assist the Air Force in coordinating activities with EPA regional and state offices to ensure regulatory compliance. To qualify, you must have an advanced degree in Toxicology or related discipline, plus at least 3 years of experience in conducting chemical exposure and risk assessments, preferably at hazardous waste sites. Familiarity with CERCLA/SARA, the RI/FS process and EPA guidelines for conducting risk assessment at NPL sites is essential. Excellent communications skills a must.

Please submit your resume to **N.S. Scott, The MITRE Corporation, 7525 Colshire Dr., McLean, VA. 22102.** U.S. Citizenship required. An Equal Opportunity Employer.

MITRE

POSITIONS OPEN

POSTDOCTORAL POSITION: Available for the study of neurochemical basis of pain alterations associated with diabetes. Candidate with prior experience with EC-HPLC and opioid receptors is needed. Salary is \$21,200 per year. Approximate starting date is 1 May 1989. Submit curriculum vitae and three letters of recommendation to: **Dr. K. F. A. Soliman, Chairman, Basic Pharmaceutical Sciences Division, College of Pharmacy, Florida A&M University, Tallahassee, FL 32307** by 17 March 1989.

POSTDOCTORAL POSITION available immediately to participate in a variety of studies on the genetic component of the responses of animal tissues and cells to factors affecting lipoprotein metabolism. Applicants must have training in biochemistry, cell biology, or molecular biology. Send curriculum vitae and three references to: **Dr. Edward A. Fisher, Department of Physiology and Biochemistry, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, PA 19129.**

POSTDOCTORAL POSITION available to study enzymes and regulation of fatty acid metabolism. Candidates should have a Ph.D. degree and experience in one or more of the following areas: protein chemistry, molecular biology, cell culture, and protein purification. Applicants should submit curriculum vitae and letters of recommendation to: **Dr. George A. Cook, Department of Pharmacology, University of Tennessee College of Medicine, 874 Union Avenue, Memphis, TN 38163.**

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

POSTDOCTORAL POSITION: ORGANIC/MEDICINAL CHEMIST. The Center for Metabolic Imaging at Creighton University has an opening for organic/medicinal chemist interested in biomedical research with positron emission tomography (PET). Broad synthetic background required to develop compounds labeled with positron emitters ^{11}C , ^{13}N , and ^{18}F for in vivo metabolic studies. Experience with handling of radioactive materials is desirable but not essential. Interested candidates should send résumé and names of three references to:

Dr. Chyng-Yann Shue
Director, Center for Metabolic Imaging
Department of Radiology
Creighton University
601 North 30th Street
Omaha, NE 68131

POSTDOCTORAL— PROTEIN STRUCTURE—FUNCTION

A postdoctoral position is available to study fundamental mechanisms of allosteric regulation and control, using hemoglobin as a model. Powerful hydrogen exchange methods developed in this laboratory and other biophysical approaches including NMR will be used. Please send curriculum vitae, a letter describing research interests, and have two reference letters sent to **S. W. Englander, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA 19104.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately at Stanford University Medical Center to investigate mechanisms of acute lung injury and strategies for prevention. Laboratory investigates lung injury utilizing small animal models, cell culture techniques, neutrophil signal transduction pathway biochemistry, patch-clamping, and receptor interaction studies. This position will have some supervisory responsibility. Approximate annual salary is \$32,000. Please send curriculum vitae, names of three references, and brief description of interests, experience, and mastered investigative techniques to: **Thomas A. Raffin, M.D., Acting Chief, Division of Respiratory Medicine, Room C-356, Stanford, CA 94305.**

POSITIONS OPEN

POSTDOCTORAL OR RESEARCH ASSOCIATE position available on June 1989 to study biochemistry or molecular biology of protein degradation in the eye lens, particularly as it is affected by aging or nutrition. *Must be able to prove eligibility to work in the United States.* A list of our recent papers is available. Please send curriculum vitae and names of three references to:

Dr. Allen Taylor
USDA Human Nutrition Research Center
Tufts University
711 Washington Street
Boston, MA 02111

An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE position is available to study the acute and chronic aspects of the negative effect of alcohol on antihypertensive therapy. Studies will involve hemodynamic and electrophysiologic measurements in chronically instrumented conscious rats as well as central administration of drugs to investigate the role of central sympathetic pathways in the interaction. Candidates must have a Ph.D., M.D., D.V.M. or equivalent degree. Familiarity with hemodynamic measurements is desirable. Send curriculum vitae, description of research experience, and names of three references to: **Dr. Abdel A. Abdel-Rahman, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27858.** *Federal law requires proper documentation of identity and employability at the time of employment. It is requested that this documentation be included with your application. An Affirmative Action/Equal Employment Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE, Brookhaven National Laboratory. Position available for recent doctorate to use molecular approaches for studying DNA damage and repair in human skin in situ. This project is part of an on-going collaboration with investigators in the Dermatology Department, Harvard Medical School, and requires frequent travel to Harvard to participate in experiments. Applicant should have a strong background in biochemistry, molecular biology or related field; courses and/or experience in DNA biochemistry and repair an advantage. Appointment is for an initial 1-year period, renewable for a second year, with a minimum salary of \$23,000 per year. Position available 1 March 1989. Applicants should submit curriculum vitae and names of three references to: **Dr. Betsy M. Sutherland, Biology Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973.** *Equal Opportunity Employer M/F.*

**BROOKHAVEN
NATIONAL
LABORATORY**

POSTDOCTORAL RESEARCH OPPORTUNITY

Position available immediately in a multidisciplinary group investigating the development and maintenance of chemically defined brain systems. Applicant may join ongoing research or develop own project within the general focus of the laboratory. Current studies include the use of pharmacological and neuroanatomical techniques in in vivo and in vitro models. The objective of the research is to examine the development, aging and plasticity of CNS catecholamine and opioid systems, and their related growth factors. Previous experience in developmental neurochemistry preferable, but not essential. Salary range \$23,000 to \$25,000 plus benefits. Send curriculum vitae and three letters of reference to: **Dr. F. M. Leslie, Department of Pharmacology, University of California, Irvine, CA 92717.**

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

POSTDOCTORAL RESEARCH POSITIONS in studies of global climate change. One position available in dendrochronology of boreal forests, and one position available in wetland paleoecology with emphasis on bryophytes or macrofossils. Positions available for research to begin in March 1989. Send curriculum vitae and three letters of reference to: **Dale H. Vitt, Department of Botany, University of Alberta, Edmonton, Alberta Canada, T6G 2E9.**

The University of Alberta is committed to the principle of Equity in Employment.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE LABORATORY OF BIOCHEMICAL ENGINEERING DEPARTMENT OF CHEMICAL ENGINEERING MASSACHUSETTS INSTITUTE OF TECHNOLOGY

A postdoctoral position is available for the purification and characterization of heparin degrading enzymes from *Flavobacterium heparinum*. The project will focus on the characterization of the post-translational modifications of these proteins and their effects in heterologous expression systems. Applicants should have a Ph.D. in chemistry, biochemistry or a related field. Experience in protein purification, characterization of glycoproteins, and recombinant DNA technology is preferred. This position offers the opportunity to participate in an interdisciplinary group involved with several aspects of biotechnology including: fermentation technology, recombinant DNA technology, protein biochemistry and downstream processing. Send curriculum vitae to: **Professor Charles L. Cooney, Room 66-472, Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139.**

POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS CELLULAR AND MOLECULAR NEUROSCIENCE

Two positions are available immediately to study the structure and function of spectrin/ankyrin in the developing brain. Position I involves immunoelectron microscopy using immunogold techniques. A background (M.S., Ph.D. or M.D.) in electron microscopy and immunocytochemistry is preferable. Position II will focus on the characterization of cytoskeletal proteins. Applicants should have a strong background (Ph.D. and/or M.D.) in protein biochemistry. Send curriculum vitae and names of three references to: **Dr. Ian S. Zagon, Department of Anatomy, P.O. Box 850, The Pennsylvania State University, The M.S. Hershey Medical Center, Hershey, PA 17033.** Deadline for receipt of applications is 31 March 1989. *An Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL RESEARCH FELLOW

Position available immediately to study regulation of expression of the family of cytochrome P-450 genes in extrahepatic tissues, especially colon and brain, of human and rat. Ph.D. required; experience in molecular biology and/or protein chemistry preferred. Please send curriculum vitae and three references to: **Dr. Henry W. Strobel, Department of Biochemistry and Molecular Biology, P.O. Box 20708, University of Texas Medical School, Houston, TX 77225.** *The University of Texas is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

The Harvard School of Public Health is seeking a **PROFESSOR AND CHAIRMAN** to shape and lead a new department with a focus on personal behaviors that are critical to health and well-being. This department, will incorporate the existing department of behavioral sciences and will have a scope that may include behavior related to tobacco, alcohol and other drugs, injury, nutrition, exercise, and sexual activity. The appointed person will be expected to teach and perform research in the field of health-related behaviors and to provide leadership in developing this field, identifying the most promising avenues of research and teaching, and participating in the search for additional faculty. Candidates should demonstrate experience and knowledge within some pertinent field, such as epidemiology, psychology, sociology, anthropology, economics, and psychiatry, and have a strong record of research, teaching and scientific leadership.

The Harvard School of Public Health is an Equal Opportunity Employer. Women and members of minority groups are especially encouraged to apply. Send curriculum vitae including list of publications, the names of three or four evaluators and a statement of program to: **Ms. Tina C. Pacheco, Dean's Office, Harvard School of Public Health, 677 Huntington Avenue, Boston, MA 02115.**

The College of Veterinary Medicine, The Ohio State University, is accepting applications for a tenure track position in the Department of Veterinary Anatomy at the assistant or associate professor level. Candidates must have the DVM and/or PhD degree.

The successful candidate's primary academic responsibility will be instruction of professional students in histology and developmental anatomy with emphasis on histological variations of veterinary significance. The candidate should possess demonstrated expertise in one or more of the following areas of specialization: cellular biology, TEM/SEM, tissue culture, or tissue and cellular histochemistry at the light and electron microscopic levels. Current research interests in the department are gastrointestinal neuropeptides, cytoskeletal filaments, muscle biology, pulmonary organ injury, retrovirology, and the cardiovascular system. The candidate is expected to contribute to the department's research program and goals through participation in the graduate research program and collaborative/cooperative research efforts within the department. The development of an independent research program leading to cooperative studies with other departments within the college and the university will be encouraged. Senior faculty will be expected to contribute to the department's research goals by supporting program development of the junior faculty. Participation in funding at the national level is expected. Salary and appointment will depend on qualifications and experience. Interested individuals should submit a statement of research goals, curriculum vitae, and names and addresses of three referees to Dr. Jerry Masty, Chair, Search Committee, Department of Veterinary Anatomy, A100D Sisson Hall, 1900 Coffey Road, The Ohio State University, Columbus, OH 43210. Applications will be accepted until the position is filled.

The Ohio State University is an affirmative action/equal opportunity employer.

DIRECTOR, MOLECULAR BIOLOGY RESEARCH AND DEVELOPMENT

Bionetics Research Institute conducts cancer and diagnostic product development under the umbrella of the Pharma Division of Akzo, N.V., a worldwide organization with commercial endeavors in 50 countries. We are currently conducting recruitment for a high level scientist for the position of DIRECTOR, MOLECULAR BIOLOGY AND RECOMBINANT DNA LABORATORY.

This individual will direct a group of scientists developing recombinant proteins for cancer and viral therapeutic and diagnostic use. This individual will also interact with other laboratory directors to coordinate collaborative research projects on cytokines, human tumor antigens, human monoclonal antibodies, immunotoxins, and recombinant viral proteins.

Experience should include five plus years of research in gene cloning and procaryotic and eucaryotic expression with a strong publication record and sound supervisory and interpersonal skills.

BRI's benefits are excellent and competitive salary will be offered for this position. For consideration, please submit a CV, including salary requirements to:



BIONETICS RESEARCH INSTITUTE
1330-A Piccard Drive
Rockville, MD 20850

BRI is an equal opportunity employer, f/m/v/h.
PRINCIPALS ONLY.



BS/MS SCIENTISTS Transgenic Animal Research



Equal Opportunity Employer

For more than a century, scientists at ELI LILLY AND COMPANY have developed innovative, high quality pharmaceutical products. In 1988, Lilly invested over \$500 million in research-and-development programs. More than 3,000 scientists at the company's Lilly Research Laboratories are pursuing creative research programs that involve many important health care needs.

To further build its research capabilities, Lilly is seeking self-motivated, innovative scientists to work in the area of transgenic mouse research. The ideal candidate will have the following qualifications:

- Bachelor's or Master's degree in molecular biology, biology, animal science, or a related discipline.
- Experience in embryo manipulation and basic recombinant DNA techniques strongly preferred.
- Small-animal handling and surgery skills desirable.

Eli Lilly and Company is committed to scientific excellence. Lilly provides a stimulating professional atmosphere with many opportunities for collaborative, multidisciplinary research. The company offers an attractive total compensation program. Entry level and salary will be based upon each candidate's experience.

For prompt consideration, please forward your *resumé* to:

Maria L. Poor
Science Recruitment (TAR-1)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285

DEAN

For Graduate School of Arts and Science
& For Research in Arts and Science

New York University invites nominations and applications for the position of Dean for the Graduate School of Arts and Science and Dean for Research in Arts and Science.

The Dean of the Graduate School reports to the Dean of Faculty, and is a member of the President's Council of Deans. The Dean is responsible for maintaining and improving the quality of all graduate programs in arts and science. He or she is supported by professional staff, who assist in recruitment, admissions, advisement of graduate students, allocation of financial aid and the administration of curriculum.

The Dean will also be responsible under the Dean of Faculty for providing focus and support for research development activities. The Dean will help coordinate research activities crossing departmental lines; provide leadership in improving research management strategies, with special emphasis on the quality of support services; and work to enhance productive communication on research issues between NYU faculty and both executive and legislative agencies in Washington.

The Dean must have credentials appropriate for a tenured appointment in the Faculty of Arts and Science, and a history of involvement with large scale sponsored research.

Applications with current resumes should be submitted **prior to March 1, 1989** to:



Graduate School of
Arts and Science
Dept. of Anthropology
25 Waverly Place,
New York, New York 10003
Att: Hazel Salgo

NYU encourages applications from women and members of minority groups.

ENDOWED CHAIR FOR A RESEARCH LEADER IN MOLECULAR GENETICS/ DEVELOPMENTAL BIOLOGY/ IMMUNOLOGY UNIVERSITÉ DE MONTRÉAL

Thanks to a generous donation from a private corporation, the Université de Montréal is in a position to establish an endowed Chair in one of the following areas: molecular genetics, developmental biology or immunology.

Applicants must have demonstrated their capacity to conduct world class research and must have experience with complex scientific approaches. They should be recognized in their fields of scientific endeavor with an excellent record of publications. An ability to create highly collaborative interactions along with a demonstrated experience in directing a research group of substantial size will be considered as important qualifications. The successful applicant will be expected to elaborate a coherent integrated program in one of the research areas mentioned above.

Applications should be submitted to:

Dr. René Simard
Chairman of Search Committee
Vice-rectorat enseignement et recherche
Université de Montréal
C.P. 6128, succursale A
Montréal (Québec)
H3C 3J7

and should include a curriculum vitae, list of publications and names of at least three references.

In accordance with Canadian immigration requirements, this advertisement is also directed to Canadian citizens and permanent residents of Canada.

BIOCHEMIST/ ANALYTICAL BIOCHEMIST

The Enzymology Department of Merck, Sharp and Dohme Research Laboratories has immediate openings for a Biochemist/Analytical Biochemist. Responsibilities include research designed to determine the mechanism of enzymes selected as potential therapeutic targets and their inhibition. Candidates will have a BS, MS or equivalent in biochemistry or related field. Knowledge of enzymes required. Experience in biophysical techniques, (NMR, use of radioisotopes), chromatography, electrophoresis, lab automation, and computer use in data acquisition and analysis are desirable.

Merck Sharp and Dohme Research Laboratories is located in Rahway, New Jersey, approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Please send resume with salary history to **Mr. Dan J. Hoffman, P.O. Box 2000, Rahway, New Jersey 07065**. Equal Opportunity Employer.



Merck & Co., Inc.

CCD R&D OPPORTUNITIES

JPL has recently established a Microdevices Laboratory in a new CCD Research and Development Laboratory. Modern facilities containing extensive clean rooms, state-of-the-art nanofabrication and characterization equipment and CCD electro-optical performance characterization equipment for advanced microelectronics research.

CCD R&D TASK MANAGER

Requires PhD or MS degree in Solid State Physics, EE, or the equivalent, from 5-8 years of experience in charge-coupled device (CCD) imaging array design and development. Also requires a demonstrated ability to provide technical leadership and supervision of a team of physicists and engineers.

We desire experience in solid-state materials and device research, an in-depth knowledge of industrial fabrication processes for semi-conductor devices, including CCDs and hands-on laboratory experience with device and materials preparation and characterization, including electro-optical performance characterization.

CCD RESEARCH SCIENTIST

Will initiate research in novel device test structure fabrication and characterization, not limited to silicon-based concept. Involves development of advanced device concepts for science imaging applications in the UV to IR region of the spectrum.

Requires a PhD in Solid State Physics or EE with 5 years experience in Physics aspects of CCDs and/or related solid-state devices.

Please submit resume to **Professional Staffing, Department U97, Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Drive, Pasadena, CA 91109**. An Equal Opportunity Employer M/F/H/V.



Jet Propulsion Laboratory
California Institute of Technology

OPPORTUNITIES IN BIOTECHNOLOGY

Fisher Scientific, a leader in the manufacture and distribution of laboratory products, now has a strong presence in the growing Biotechnology marketplace. Currently, we are seeking high-energy professionals with proven expertise in Biotechnology, Marketing, and Research to contribute to our continuing growth.

Product Managers, Biotechnology

Successful candidates will be responsible for the implementation of marketing strategies for Fisher's Molecular Biology, Cell Biology, Peptide Synthesis, and/or Electrophoresis product lines. B.S. degree in Biochemistry, Molecular Biology, Microbiology, or related life sciences is required; an M.S. degree is preferred. You should have 2-4 years of marketing experience with similar product lines. Laboratory and/or sales experience is desirable.

Scientists, Immunochemistry

These individuals will develop new products and support existing products in the Immunochemistry and Molecular Biology fields. Candidates should possess an M.S. or Ph.D. in Immunology, Molecular Biology, Biochemistry, or related life science with associated laboratory experience.

We offer an attractive salary and benefits package plus the opportunity for career growth with a progressive organization. If you have the qualifications that we seek, please send a detailed resume with salary requirements to James F. Richardson, Manager, Employee Relations, FISHER SCIENTIFIC, 711 Forbes Avenue, Pittsburgh, PA 15219.

If you will be attending the annual conference for the American Society for Cell Biology/American Society for Biochemistry and Molecular Biology in San Francisco, visit booth #532 and inquire about opportunities with Fisher Scientific.



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COLLABORATIVE PROJECTS IN AGRICULTURAL BIOTECHNOLOGY

Agracetus is a leading company applying biotechnology to crop agriculture. Agracetus' applied efforts have generated a number of ideas, materials, and methods that could be valuable to university researchers. Agracetus wants to make its expertise available to established investigators interested in pursuing the following projects.

Agracetus has:

- A. Developed an electric discharge apparatus to engineer organisms by particle propulsion of DNA-coated gold beads. Soybean, corn, cotton and Caenorhabditis elegans have successfully been transformed by this apparatus.
- B. Isolated genes involved with cotton fiber synthesis.
- C. Isolated very high expressing variants of the B. thuringiensis delta endotoxin.
- D. Developed new formulations for applying microbial inoculants to the seed or soil.
- E. Developed microbial strains that enhance the yield of soybean and corn.
- F. Developed transformed cotton lines that kill insects through expression of various insecticidal genes.
- G. Developed transformed soybean, corn and cotton with marker genes.

Collaboration desired:

Determine role of a gene or regulatory sequence in soybean, corn, cotton or nematode.

Transform other organisms by this method.

Identify regulatory mechanisms for these genes.

Identify regulatory mechanisms for expression of these genes.

Test potential of certain microorganisms for improving plant growth under field conditions.

Determine basic mechanisms of biocontrol or growth enhancement.

Study ecological implications from agricultural use of these lines.

Use integrated marker genes for genome mapping.

Agracetus would provide ideas, materials or methods to the scientist. In some cases, Agracetus' equipment or facilities will be available to the university researcher. Unless Agracetus scientists contribute significant intellectual input to the collaboration, there is no need for Agracetus authorship. Collaborations normally will be funded by the investigator.

Investigators interested in pursuing any of these projects should submit a one-page outline of research interests including a list of previous publications relevant to the project. Requests should be sent to: c/o Collaboration, Agracetus, 8520 University Green, Middleton, Wisconsin 53562, U.S.A.



Agracetus

■ Agracetus: Where Your Potential Has a Higher Yield. ■

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITION available to study response of female germ cells of mice to chemical mutagens. Cytogenetics background is necessary to relate chromosome damage in oocytes to inherited aberrations. Send résumé to: **Dr. Walderico M. Generoso, Biology Division, Oak Ridge National Laboratory, P.O. Box 2009, M.S. 8077, Oak Ridge, TN 37831-8077.**

PROTEIN/DNA CORE FACILITY. CHIEF TECHNICIAN needed to supervise, operate and maintain peptide synthesizer and sequencer, cell sorters, and DNA sequencer, plus supporting HPLC and other equipment. Applicants must have experience in maintaining and operating some equipment of this type and will probably have B.S. or M.S. in chemistry or biochemistry. Fully benefited position from \$31,000 to \$35,000 depending on experience. Send résumé and names of references to: **Program in Cellular and Molecular Biology, Lederle Graduate Research Towers, University of Massachusetts, Amherst, MA 01003.** Deadline for applications is 15 February 1989 or until suitable candidates have been found. *An Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSISTANT PROFESSOR position available in the Department of Biochemistry and Biophysics. Ph.D. with at least 3 years of postdoctoral experience to join a research program on amino acid and monoamine function in the central nervous system. The successful candidate will be expected to carry out a vigorous research program and to actively seek extramural funding. Applicants should have expertise in the regulation of catecholamine and serotonin metabolism as well as in receptor modulation of calcium homeostasis in neurons. Experience in purification of neuroactive compounds from brain tissue is desirable. Send résumé and three letters of reference to: **Ms. Ruth Keris, Staff Assistant, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA 19104-6059.** Deadline: 1 March 1989. *Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

POSITIONS OPEN

RESEARCH ASSOCIATE. A career development opportunity is available for an individual with a Ph.D. in microbiology/immunology to work in a well-equipped Infectious Diseases Laboratory. Requirements include postdoctoral productive experience and ability to establish a successful independent research program in the areas of microbial pathogenesis, host defense mechanisms or antimicrobial resistance. Send curriculum vitae, a statement of research interests and the names of three references to: **Director, Division of Infectious Diseases, Hahnemann University, Broad and Vine, Philadelphia, PA 19102.** *Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE FOR MOLECULAR SEQUENCE/SYNTHESIS FACILITY

Available immediately, a research associate position to operate Lombardi Cancer Center facility for protein sequencing, peptide synthesis and oligonucleotide synthesis. M.S. in chemistry or biochemistry required. Previous laboratory experience in operation of sequencing and synthesis equipment including HPLC is necessary. Candidates should send curriculum vitae, a description of their relevant research experience and the names of three references to: **Dr. Carolyn Hurley, Department of Microbiology, Georgetown University, 3800 Reservoir Road, NW, Washington, DC 20007.**

RESEARCH SCIENTIST/Rochester: Plan and perform biomedical research in area of renal physiology using knowledge of isolated perfused kidney techniques, and isolated cell techniques. Study renal metabolism and the effects of active oxygen, species radicals in the kidney. Master's degree in physiology, plus 2 years of experience in the job offered required. Forty hours per week; \$25,000 per year. Send résumé or letter in duplicate to: **Job Service—S. Van Kempen, Job #NY0201707, 140 West Main Street, Rochester, NY 14614.**

POSITIONS OPEN

RESEARCH ASSOCIATE with Ph.D. in biochemistry to carry out isolation and characterization of cytochrome P-450 isozymes from chicken liver. Involves studies on the effect of various drugs on P-450 isozymes and their role in biotransformation of xenobiotics. Three years of experience in protein purification by column chromatography, one- and two-dimensional peptide mapping and SDS-PAGE, raising of antibodies and use in immunochemical techniques, immunoblotting, immunoprecipitation, autoradiography, radiolabeling of proteins, isolation of mRNA, cell free synthesis and HPLC would be desirable. Forty hours per week; salary: \$26,500. If not a U.S. citizen, please indicate visa status. Apply: **Employment Security Commission, 516 North Mangum Street, Durham, NC 27701** or your local job service office. **Job order no. NC 8104042, DOT code 090.227-010.** *Affirmative Action/Equal Opportunity Employer.*

RESEARCH SCIENTIST—The Department of Surgery at North Shore University Hospital invites applications for an anticipated full-time research position in the Division of Basic Science Research. Candidates conducting basic research in Adult Respiratory Distress Syndrome or cardiac calcium metabolism are encouraged to apply, although other fields of interest will be considered. Applicants completing postdoctoral training ready to conduct independent research would be strongly considered. Candidates will be expected to develop an active research program with the potential of attracting extramural funding. Ph.D. and/or M.D. degree with a minimum of 3 to 5 years of postdoctoral experience are required. Please respond by providing a brief statement of research interests and plans, curriculum vitae and bibliography, and the names of three references to: **Dr. Saul R. Powell, North Shore University Hospital, Boas-Marks Biomedical Research Building, 350 Community Drive, Manhasset, NY 11030.** *Equal Opportunity Employer M/F.*

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INTERNATIONAL RESEARCH FELLOWSHIP OPPORTUNITIES

for U.S. and Foreign Postdoctoral Scientists

***Senior International Fellowships**

These fellowships offer opportunities to U.S. biomedical, behavioral, or health scientists to conduct research in a foreign institution. The program is for scientists who have established themselves in their chosen career in the United States and whose professional stature is well-recognized by their peers and institutional officials.

The purpose of this program is to enhance the exchange of ideas and information about the latest advances in the health sciences, basic, clinical, and public health and to permit U.S. scientists to participate abroad in ongoing study or research in foreign institutions.

Fellowships are awarded for a period of 3 to 12 months and provide stipend, travel, and living allowance.

***International Research Fellowships**

These fellowships offer opportunities to foreign scientists in the formative stage of their career to extend their research experience in U.S. laboratories. Selections are first made by the Nominating Committee in participating countries, regions, or areas. Over 50 countries or regions in the Americas, Africa, Asia and the Far East, Australia, Europe, and New Zealand participate in the program.

The purpose of this program is to forge relationships between distinguished scientists in the United States and qualified scientists in other countries in order to study health-related problems of mutual interest.

Fellowships are awarded for a minimum of 12 months and provide stipend, travel, and institutional allowance.

***Foreign- Supported Fellowships**

These fellowships for U.S. scientists are supported by specific foreign countries and areas. They provide opportunities for scientists to conduct collaborative research in the country that provides funding.

The purpose of this program is to enhance the exchange of research experience and information in the biomedical, behavioral, and health sciences. The maximum period of support for all programs is 1 year and the minimum period of support varies with each program.

Participating countries and areas are: FINLAND, FRANCE, FEDERAL REPUBLIC OF GERMANY, IRELAND, ISRAEL, JAPAN, NORWAY, SWEDEN, SWITZERLAND, and TAIWAN.

***AIDS Fellowships**

There are two programs to support scientists interested in AIDS research. The postdoctoral fellowship program supports U.S. and foreign scientists to conduct research abroad and in the United States, respectively. The minimum support is for 3 months, and the maximum support is for 24 months. Institutional awards have been made to four U.S. institutions for a 5-year period.

The epidemiology training grants provide long-term training which may lead to the M.S. or Ph.D. degree and short-term training in the United States or participating foreign countries. Only foreign scientists from developing countries may participate in this program. Institutional awards have been made to eight U.S. Institutions for a five-year period.

The financial provisions of these programs include stipend, travel, and a host institutional allowance.

****Health Scientist Exchanges**

These programs for U.S. scientists support short- and long-term visits to AUSTRIA, BULGARIA, HUNGARY, POLAND, ROMANIA, YUGOSLAVIA, and the SOVIET UNION.

The purpose of these programs is to conduct collaborative activities in one of the health sciences or the health-related fields that are of mutual benefit to the United States and the participating country. Priority is given to visits designed to strengthen or expand ongoing collaborative relationships or to explore prospects for long-term cooperation.

The financial provisions include round-trip travel and in-country costs.



*Requests for additional information on Senior International, International Research, Foreign-Supported, and AIDS Fellowships should be sent to: International Research and Awards Branch, John E. Fogarty International Center, National Institutes of Health, Bethesda, MD 20892.

**Requests for additional information on Health Scientist Exchanges should be sent to: International Coordination and Liaison Branch (ICLB), John E. Fogarty International Center, National Institutes of Health, Bethesda, MD 20892.

POSITIONS OPEN

RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

Department of Biotechnology Research at Pioneer Hi-Bred International, Inc. is seeking applicants for our ongoing program of crop improvement in major agronomic crops. Pioneer offers competitive salaries, excellent facilities and a highly cooperative research environment. Successful candidates will be expected to interact extensively with ongoing programs in transformation, regeneration and gene isolation.

CELL/MOLECULAR BIOLOGIST. This permanent staff position will emphasize transformation and subsequent analysis of putative transformants to confirm the presence of target genes using enzyme assays and southern blots. This position will complement a strong effort in transformation of major agronomic crops. The development of a collaborative research program that furthers the efficiency of plant transformation is expected.

RESEARCH ASSOCIATE. The successful applicant will assist in various aspects of projects involved in the application of transformation systems. Expertise in tasks such as electroporation, protoplast isolation, protein characterization, enzyme assays, and cell culture techniques are desirable. The applicant should have a minimum of a 4-year degree or equivalent in biological sciences. Additional research experience is preferred.

Pioneer Hi-Bred International is an Equal Opportunity/Affirmative Action Employer. Send résumé with at least three references to:

Ginny Brown
Pioneer Hi-Bred International, Inc.
7300 N.W. 62nd Avenue, P.O. Box 38
Johnston, IA 50131

RESEARCH POSITIONS available immediately for (two) recent Ph.D.'s with strong background in molecular biology, recombinant DNA studies, and/or biochemistry. Projects involve studies on regulation of cellular and viral oncogenes and their products in mammary cells. Related areas of research include the expression of HIV genes under hormonal control. Technical help is available. Positions could lead to non-tenure-track faculty position within 12 months, and the candidates will be given opportunity in developing independent research programs. Salary is negotiable. Please send curriculum vitae and names of three references to: **Professor N. H. Sarkar, Head Laboratory of Molecular Virology, Department of Cell and Molecular Biology, Medical College of Georgia, Augusta, GA 30912-2100.** *An Equal Opportunity/Affirmative Action Employer.*

Researchers at SUNY Stony Brook seek **RESEARCH TECHNICIAN** for AIDS laboratory studying viral pathogenesis. Responsibilities include viral DNA and RNA analysis, in situ hybridization, immunohistochemistry, and HIV cultivation. Bachelor's degree required, graduate work in biological sciences preferred. At least 2 years of work in molecular virology and/or expertise in tissue culture, recombinant DNA technology, in situ hybridization, or immunohistochemistry preferred. Full-time position. Call: **Dr. B. Weiser, 516-444-1669/3491.**

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RESEARCH TECHNICIANS: At S.K.I., your research today leads to tomorrow's breakthroughs. If you are interested in basic or applied science, join the research professionals at Sloan-Kettering Institute and be on the frontier of some of the most important biomedical research taking place today. You will be a part of a team of investigators working in such key areas as molecular biology, immunology, cell biology, genetics, bone marrow transplant, and HIV using mammalian tissue culture techniques. A B.A. or B.S. is required. Hands-on experience and the ability to work independently are preferred. We offer an excellent compensation package and a superb opportunity for career development in a state-of-the-art environment. To apply, please call: **212-639-3028** or send your résumé to: **Ms. S. Randolph, Employment Department #749, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.** *Equal Opportunity Employer, M/F/H/V.*

POSITIONS OPEN

RESEARCH POSTDOCTORAL FELLOWSHIP.

Biochemical and molecular mechanisms of hormone (angiotensin) actions in heart. Receptor-G protein interactions, second messenger generation (Ca^{2+} and phospholipids), protein synthesis. Available: June 1989. Salary: PGY basis. Contact: **Kenneth M. Baker, M.D., Weis Center for Research, Geisinger Clinic, North Academy Avenue, Danville, PA 17822-2611.**

SCIENTIST II

Position available to study biochemistry of protein metabolism and exercise interaction in an aging population. Please send curriculum vitae to: **Dr. William Evans, USDA Human Nutrition Research Center on Aging at Tufts University, 711 Washington Street, Boston, MA 02111.** *Affirmative Action/Equal Opportunity Employer.*

SENIOR FELLOWSHIP IN GERONTOLOGY.

Opportunities to pursue sabbatical research related to aging in the behavioral, biological, clinical and social sciences and in the humanities are available at The University of Michigan Institute of Gerontology. Candidates must be at least 7 years beyond the doctoral degree. Projects must relate directly to ongoing research of one of the following faculty members: **W. Andrew Achenbaum, Ph.D.; Richard C. Adelman, Ph.D.; David Aminoff, Ph.D., D.Sc.; Bennett J. Cohen, Ph.D., D.V.M.; John A. Faulkner, Ph.D.; Brant E. Fries, Ph.D.; Ari Gafni, Ph.D.; Jeffrey B. Halter, M.D.; A. Regula Herzog, Ph.D.; Neal Krause, Ph.D.; John Kuwada, Ph.D.; Jersey Liang, Ph.D.; Marion A. Perlmuter, Ph.D.; Albert B. Schultz, Ph.D.; Duncan Steel, Ph.D.; Mark Supiano, M.D.; Lois Verbrugge, Ph.D.; Bryant Villeponteau, Ph.D.; Timothy P. White, Ph.D.** The minimal visitation is 6 months. Start date, visiting professorships, and partial salary support are negotiable. These positions are intended primarily for established investigators who lack previous experience in gerontology. Interested candidates should forward curriculum vitae, bibliography and letter of intent to: **Ms. Jane Ketchin, Institute of Gerontology, The University of Michigan, 300 North Ingalls, Ann Arbor, MI 48109-2007.** *A non-discriminatory, Affirmative Action Employer.*

SENIOR POSTDOCTORAL RESEARCH ASSOCIATE

The responsibility includes operating and maintaining the Tissue Culture Laboratory, participating in ongoing research projects on arachidonic acid metabolism, and providing expertise in cell culture techniques to other investigators. Extensive experience in cell culture and doctoral degree in biological sciences are required. Annual salary is \$30,000. This position will be in the Pennington Biomedical Research Center, a major new facility in the Louisiana State University system with the mission of improving human health through research in nutrition and preventive medicine. When responding to this ad, please reference **#8741201020.** Please send curriculum vitae and three letters of reference directly to: **Dr. George Bray, Pennington Biomedical Research Center, 6400 Perkins Road, Baton Rouge, LA 70808-4124.** *LSU is an Affirmative Action Employer.*

SENIOR STAFF INVESTIGATOR

Applications are invited for a full-time research position in the Renal Research Program, Department of Medicine. The position involves research in the broad areas of extracellular matrix biology. Applicants must have a demonstrated strong motivation toward creative research and the ability for independent work. Candidates must possess a Ph.D. or M.D. degree and substantial experience in the molecular biology and biochemical aspects of collagen/proteoglycan biosynthesis. Excellent facilities and support are available. Please submit curriculum vitae and reprints of most recent significant publications to: **Mr. David Shepherd, CFP-514, Henry Ford Hospital, 2799 West Grand Boulevard, Detroit, MI 48202.**

POSITIONS OPEN

SENIOR AQUATIC SCIENTIST sought for highly responsible position in emerging multi-disciplinary institute in Richmond, California (San Francisco Bay area). Successful candidate will direct scientific side of institute under general supervision of Executive Director. Requirements: Ph.D. in relevant field, 5+ years of professional experience, 2+ years of supervisory experience, broad expertise in marine pollution (contaminants, monitoring, management and regulatory aspects, data management and computer science). \$45,000 to \$60,000; benefits. Submit curriculum vitae and names of three references to: **Executive Director, Aquatic Habitat Institute, 180 Richmond Field Station, 1301 South 46th Street, Richmond, CA 94804** by 24 February 1989.

Louisiana State University (LSU) Eye Center is looking for a **SENIOR PHARMACOLOGIST.** Applicant should be interested in drug delivery systems, although other areas of research will be considered.

Previous experience in ophthalmology not necessary. Interested applicants send curriculum vitae to: **Herbert E. Kaufman, M.D., LSU Eye Center, 2020 Gravier Street, Suite B, New Orleans, LA 70112.** *LSUMC is an Equal Employment Opportunity/Affirmative Action Employer.*

WEIS CENTER FOR RESEARCH GEISINGER CLINIC DANVILLE, PENNSYLVANIA

A **STAFF SCIENTIST** (equivalent to assistant/associate professor) or senior scientist (equivalent to professor) position is available in the Weis Center for Research. The Geisinger Medical Center is affiliated with Jefferson Medical College. The Weis Center is located in a new research building (65,000 square feet) that accommodates 20 separate laboratories. The focus of the center is cellular and molecular aspects of cardiovascular function and disease. Persons with expertise in molecular and cell biology, including cloning, sequencing, and expression of genes, membrane proteins and receptors, and immunology, and with an interest in research problems broadly relevant to the cardiovascular system, will be given preference. Scientists are provided institutional funds for their salary and support of postdoctoral fellows, research technicians, supplies and equipment. The research building was completed in May 1987. Employment should begin on or after 1 July 1989. Applications will be accepted until the position is filled. Applications, including a summary of current research, curriculum vitae, and list of professional referees should be addressed to: **Dr. Howard E. Morgan, Sr. Vice President for Research, Weis Center for Research, Geisinger Clinic, Danville, PA 17822-2601.** *Equal Opportunity Employer M/F/H.*

SYSTEMS SCIENTIST RADIO ASTRONOMY SOFTWARE

A major scientific research organization is seeking a radio astronomer to develop specialized computer programs for processing and analyzing radio astronomical data. Primary responsibility will involve writing Astronomical Image Processing System (AIPS) software for reducing and analyzing data from Very Long Baseline Interferometry (VLBI) spectral line observations. Applicants should be knowledgeable in interferometric observing and data reduction techniques as demonstrated by published research. Prior programming experience in Fortran is essential and should include significant experience involving at least one major program package in astronomical computing. Position will allow for individually guided research up to one quarter time.

Position requires a Ph.D. in radio astronomy or astrophysics plus a minimum of 4 years of experience in astronomical computing. Applicants possessing a combination of education and experience which approximates a Ph.D. degree are also invited to apply.

The position is full-time, 40 hours per week, and carries a starting salary of \$36,550 per year in addition to a full complement of fringe benefits. Working hours are 8:30 to 5:00 Monday through Friday. *Applications from women, minorities, or handicapped individuals are especially encouraged.*

Please forward résumé to:

Virginia Employment Commission
Department 3008
1202 Franklin Road, S.W.
Roanoke, VA 24002-0061
Job Order No. VA 812 2692

ASSISTANT/ ASSOCIATE INVESTIGATOR

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

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

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

Send resume and three letters
of recommendation to:

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



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Equal Opportunity Employer M/F

GILEAD SCIENCES

Gilead Sciences, a pioneer in the field of *genetic targeting*, is designing novel compounds that selectively inhibit gene expression for use in human therapeutics. Talented, highly-motivated individuals should apply:

RESEARCH SCIENTIST - Organic Chemists/Molecular and Cellular Biologists - Ph.D. and M.S. level organic chemists with strong synthetic research experience will join our chemistry group to develop novel heterocyclic compounds and nucleotide derivatives. Molecular and cellular biologists with strong nucleic acid-related research experience are sought to study cellular and viral gene expression and the cellular recognition, uptake and transport of exogenous compounds.

POSTDOCTORAL SCIENTIST - Highly-qualified graduates are being sought as postdoctoral scientists to work on challenging projects in the synthetic organic chemistry group and the molecular and cellular biology group. Especially productive postdoctoral scientists can expect to be recruited for full-time research scientist positions.

RESEARCH ASSOCIATES - B. S. level chemists and biologists with one or more years of research experience are needed. Chemists should be skilled in liquid chromatography or organic synthesis; biologists in molecular biology and tissue culture.

Gilead Sciences offers a challenging research environment with excellent salary, benefits and a location in the San Francisco Bay Area. Strict confidentiality is assured. Please send C.V. and reference information to: **Dr. Jeffrey Bird, Ph.D. Gilead Sciences, Inc. 344 Lakeside Drive, Foster City, CA 94404**



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Chemical Engineering Post-Doctoral Associate

The Departments of Chemical Engineering at MIT and Pathology of Harvard Medical School have a position for a post-doctoral fellow in a vigorous research program studying growth factors and the extra-cellular matrix. Post-doctoral candidates should have experience in biochemistry, protein biochemistry, cell biology or related fields.

Applicants should submit curriculum vitae and names of three references to: **Professor Robert Langer, Department of Chemical Engineering, MIT, Bldg. E25-342, 77 Massachusetts Avenue, Cambridge, MA 02139.**

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Institute of Technology

RESEARCH SCIENTISTS ANALYTICAL BIOCHEMISTRY

Amgen has immediate opportunities for Research Scientists in Analytical Biochemistry to participate in the development of methods for protein characterization and protein stability using normal and reversed phase HPLC and other analytical techniques.

Qualified applicants for these positions must have a Ph.D. in Biochemistry or a related discipline with an emphasis in analytical methods and instrumentation.

Amgen is a dynamic and growing organization providing an exciting and innovative research environment as well as an attractive location northwest of Los Angeles. **Amgen** also offers an excellent compensation and benefits package.

Qualified candidates should send a c.v., including references, in confidence to:

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1900 Oak Terrace Lane
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CA 91320

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POSTDOCTORAL FELLOWSHIPS IN MOLECULAR AND CELL BIOLOGY

Postdoctoral Fellowships are available in the Genetics and Biochemistry Branch, National Institute of Diabetes, and Digestive and Kidney Diseases, National Institutes of Health. Applications are invited from individuals of the highest caliber with Ph.D., M.D., or M.D., Ph.D. degrees. Current research interests of the staff include:

- Biosynthesis and targeting of lysosomal enzymes, the reconstitution of the cellular protein folding machinery, and the molecular genetics of Tay-Sachs disease (**Rick Proia**)
- Eukaryotic DNA repair, molecular mechanisms of toxin action, and mechanisms of nuclear and cytoplasmic localization of proteins and nucleic acids in *Xenopus* (**Eric Ackerman**)
- Molecular mechanisms of homologous recombination in higher eukaryotes, the biochemistry of nucleic acid-protein interactions and the formation and recognition of DNA mismatches (**Peggy Hsieh**)
- Biochemistry of homologous recombination in eukaryotes and prokaryotes, immunoglobulin gene rearrangements in cell-free systems, gene targeting and gene disruption in mammalian cells and structure/function studies of the CD4 protein, the HIV receptor (**Dan Camerini-Otero**)

Interested candidates should send a letter stating their interests, their curriculum vitae and list of publications, and the names and addresses of three references to:

Dr. R. Daniel Camerini-Otero
Chief, Genetics and Biochemistry Branch
Building 10, Room 9D-15
9000 ROCKVILLE PIKE
National Institutes of Health
Bethesda, Maryland 20892
Telephone: (301) 496-2710



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THE UNIVERSITY OF SYDNEY AUSTRALIA

Applications and expressions of interest are invited for the following Chairs in the Faculty of Veterinary Science which will become vacant in January 1990.

Chair of Veterinary Pathology Reference no. 48/19

The Department is responsible for teaching, research and diagnostic services in the field of Clinical Pathology, Microbiology and Parasitology. Veterinary qualifications or experience in teaching pathology to Veterinary Science students would be desirable.

Chair of Veterinary Physiology Reference no. 48/03

Veterinary qualifications or experience in teaching physiology to Veterinary Science students would be desirable.

GENERAL INFORMATION: Intending applicants should obtain detailed statements of information concerning the Chairs from the Registrar, address below.

Salary will be at the rate of A\$63,397 per annum.

The University reserves the right not to proceed with any appointment for financial or other reasons.

METHOD OF APPLICATION: Applications, in duplicate, quoting reference no., including curriculum vitae, list of publications and the names, addresses and FAX numbers of three referees, to the Registrar, Staff Office, University of Sydney, NSW 2006 Australia, FAX (612) 692 4316.

Applications close: 8 March 1989.

Equal employment opportunity is University policy.

RESEARCH ASSOCIATE Biological Process Development

E.R. Squibb & Sons, is a Fortune 200 Company and an internationally recognized leader in the research, marketing and manufacture of innovative pharmaceuticals and related health care products. Currently, we have a position available at our New Brunswick, NJ facility for a Research Associate.

Our successful candidate will possess an MS in Biochemistry, Microbiology, or Bioorganic Chemistry along with 1 to 3 years relevant experience. Specific responsibilities of this position will include:

- Enzymic and/or microbial molecular transformation of organic compounds to prepare chiral synthons.
- Identification of enzyme sources and characterization of enzymes by isolation and purification.
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We offer a very competitive compensation package and participation in our comprehensive benefits program. Interested candidates should submit their resume, including salary history to: **E.R. Squibb & Sons, Dept. LH/E12088, P.O. Box 191, New Brunswick, NJ 08903.** An equal opportunity employer.



GENE TRANSFER RESEARCH

WASHINGTON DC AREA

Genetic Therapy, Inc., is a recently established, rapidly growing company at the forefront of developing gene transfer techniques for gene therapy applications. Our researchers, in collaboration with major US Government and academic labs, are involved in retroviral-mediated gene transfer research, and cell implant techniques, to achieve somatic gene therapy in a variety of clinical applications.

We have immediate positions available for **Research Scientists** at the Ph.D. or M.D. level. Experience in recombinant DNA techniques, retrovirology, immunology, cell biology or protein purification is required.

We also have positions for **Research Associates** with BS or MS qualifications, and some expertise in mammalian cell culture, *in vitro* virus assays, flow cytometry and cellular immunological techniques.

Please send your resume, together with names and addresses of two references to:



Genetic Therapy, Inc.
Personnel Manager
19 Firstfield Road
Gaithersburg, MD 20878

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Research Assistants/ Associates

Molecular Biology/Biochemistry

Genentech, Inc., a leader in the field of biotechnology, has opportunities available for Research Assistants/Associates. Working on programs to discover new human pharmaceuticals, these positions offer a challenging opportunity to be a key team participant.

Typical requirements include a BS/MS in Biochemistry, Molecular Biology, or closely related scientific field. Candidates must have a minimum of 2 years' experience in one or more of the following areas: molecular biology techniques including cDNA cloning; expression and DNA sequencing; biochemical techniques; and basic research techniques such as mammalian tissue culture and ELISA assays.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to Yvonne Davino, Human Resources Dept. DG, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer. Women and minorities are encouraged to apply.

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Anticancer Therapy Research

The Pfizer Central Research anticancer drug discovery team has a position for a PhD biologist interested in exploiting novel targets to develop new antitumor drugs. Recent findings in oncogenes, signal transduction and cellular growth regulation provide exciting opportunities to explore new approaches to cancer therapy.

We are looking for a scientist with experience in one of these areas who is interested in a collaborative, project team-oriented approach to research. Experience in cancer therapy research would be of value. Formal training should include a PhD in Biochemistry, Pharmacology, or Cell Biology with a minimum of 2 years postdoctoral training.

This position offers an excellent opportunity for professional recognition and career growth. We also offer competitive compensation, benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and description of research accomplishments to: Dr. Jerry K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.



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POSITIONS OPEN

SCIENTISTS

Excellent career opportunities immediately available with client companies, located throughout the United States seeking entry through senior-level **Research, Product Development, Technical Management, Marketing and Manufacturing professionals.** Confidentiality assured. Qualified, serious candidates only.

Send résumé/curriculum vitae to:

Mr. Jeff Dean
Marcus and Associates
272 North Bedford Road
Mt. Kisco, NY 10549

The Department of Biological Sciences at Texas Tech University seeks to fill **TWO TENURE-TRACK POSITIONS.** Candidates must hold the Ph.D. degree; postdoctoral experience is highly preferred. Successful applicants are expected to develop strong externally funded research programs, attract graduate students and interact with other faculty in their appropriate area.

CELL BIOLOGY. Applicants working with animal, plant or protistan systems will be considered although preference will be given to candidates in regulation of gene expression, neuroscience, mechanisms of development, hormone action, or regulation of metabolism. Teaching duties include cell biology and an advanced specialty course.

ECOLOGY. Applicants should be dedicated to developing an active research program in the areas of plant-animal or animal-microbe interactions. Teaching duties include general ecology and an advanced specialty course. A letter of application, curriculum vitae, statement of research goals and three letters of recommendation should be sent 15 February 1989 to: **Dr. L. Roberts, Cell Biology Program** or **Dr. M. R. Willig, Ecology Program, Biological Sciences, Texas Tech University, Lubbock, TX 79409.** An Equal Opportunity/Affirmative Action Employer.

TROPICAL BOTANISTS: Positions starting fall 1989 in two of the following areas: (i) Biology of cycads or palms; (ii) comparative biology dealing with tropical angiosperms; and (iii) systematics of palms or cycads. One postdoctoral and one Ph.D. permanent researcher will be chosen from applicants. Send résumé, names of three references, and one-page statement of proposed research projects to: **Botany Positions, Fairchild Tropical Garden, 10901 Old Cutler Road, Miami, FL 33156,** before 1 March 1989.

WILDLIFE BIOLOGY/ZOOLOGY (FULL-TIME, TENURE-TRACK)

Assistant or associate professor to teach undergraduate courses in wildlife management, field biology, ornithology, and general zoology. Development of a research program. A Ph.D. in wildlife management or related field required. Demonstrated commitment to research. Submit a letter of application, curriculum vitae, official transcripts and three current letters of reference (including telephone numbers) to: **Dr. William G. Kimmel, Chairman, Department of Biological and Environmental Science, California University of Pennsylvania, California, PA 15419.**

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

ASSISTANTSHIPS

ASSISTANTSHIPS GRADUATE PROGRAM IN NEUROSCIENCE

The Neuroscience Program at University Hospital at The Milton S. Hershey Medical Center of the Pennsylvania State University has assistantships available in August 1989. This interdepartmental program is designed to confer a Ph.D. degree with a major in neuroscience. Participating faculty have established research programs in molecular biology of the nervous system, neurophysiology, neuroendocrinology, behavioral science, neuropharmacology, neurovirology, and cerebral blood flow and metabolism. Interested candidates are invited to apply to: **Dr. Robert B. Page, Director, Neuroscience Program, P.O. Box 850, Hershey, PA 17033.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

TEACHING OVERSEAS: The Department of Biology at the American University of Beirut, Beirut, Lebanon (AUB), invites applications for faculty positions at the level of assistant professor, available 1 October 1989 in the following fields: Comparative vertebrate anatomy, botany, ecology, and zoology.

Applicants should hold the Ph.D. degree, and will be expected to engage in both teaching and research. Postdoctoral experience desirable.

Appointments are normally made for a 3-year period. Interested persons should send curriculum vitae and three letters of recommendation by 31 March 1989 to: **Dean, Faculty of Arts and Sciences, American University of Beirut, c/o New York Office of AUB, 850 Third Avenue, 18th Floor, New York, NY 10022.**

AUB is an Equal Opportunity/Affirmative Action Employer.

U.S. passports are presently invalid for travel to, in or through Lebanon, and for residence in Lebanon, by order of the Department of State, and therefore applications from individuals who would travel to or reside in Lebanon on a U.S. passport cannot at this time be considered.

GRADUATE STUDIES

GRADUATE TRAINING IN VIRAL ONCOLOGY AND IMMUNOLOGY. Stipends are available for students pursuing a Ph.D. in molecular oncology or immunology beginning September 1989. The principal interests of participating faculty are viral and cellular oncogenes, growth control, and molecular, cellular and tumor immunology.

Students will be supported chiefly by an NIH programmatic training grant, requiring U.S. citizenship or resident status. Limited funding is also available outside of this source. Information and application forms available from: **Dr. R. B. Carroll, Graduate Student Advisor, Department of Pathology, New York University Medical School, 550 First Avenue, New York, NY 10016.** NYU is an Equal Opportunity Employer.

GRANTS

RESEARCH GRANTS IN MEDICINAL HERBS

Applications invited to evaluate the medicinal properties of any of the following herbs: ginger, thyme, *Nigella sativa*. Send curriculum vitae with publications and pre-proposal to: **The Director, Zayed Institute for Immunological Research and Medicinal Plants, 4000 East 3rd Street, Callaway, FL 32404.** Telephone: 904-785-0408. Deadline 28 February 1989.

INTERNSHIP

NASA PLANETARY BIOLOGY INTERNSHIPS. The Marine Biological Laboratory, Woods Hole, Massachusetts, invites applications from graduate students and seniors accepted to graduate programs for awards of \$2000 plus travel to participate in research at NASA centers and collaborating institutions for approximately 8 weeks. Typical intern programs include: global ecology, remote sensing, microbial ecology, biomineralization, origin and early evolution of life. Application deadline: 1 March 1989. For information/applications, contact: **Michael Enzien, Planetary Biology Intern Program, Boston University, Department of Biology, 2 Cummings Street, Boston, MA 02215.** An Equal Opportunity/Affirmative Action Institution.

SYMPOSIUM

BELTSVILLE SYMPOSIUM XIV THE RHIZOSPHERE AND PLANT GROWTH 8-11 May 1989

For a preliminary program schedule and registration materials, call: 301-344-1727 or write to:

Ms. M. Blackwell
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SYMPOSIUM

INTERNATIONAL SYMPOSIUM BIOCHEMICAL AND STRUCTURAL DYNAMICS OF THE CELL NUCLEUS 26-28 June 1989, Taipei, Taiwan, Republic of China

Organizers: Shu Chien and Cheng-Wen Wu
The Institute of Biomedical Sciences
Academia Sinica, Taipei, Taiwan

The program of the symposium includes: (a) Architecture and Structural Components of the Cell Nucleus; (b) Dynamics of Assembly-Disassembly of Nuclear Lamina and Envelope; (c) DNA- and RNA-binding Proteins; (d) Nucleo-cytoplasmic Transport; and (e) Proliferation and Differentiation Dependent Nuclear Proteins. In addition to lectures by invited speakers, the meeting will also include poster presentations by participants. Lectures by invited speakers will be published.

Registration: The deadline for registration and abstract submission is 15 April 1989. The total number of participants will be limited to 200. The registration fee is US\$150. The meeting will be held at the Institute of Biomedical Sciences, on the grounds of Academia Sinica. Lodging accommodations are available at the Academia Sinica Activities Center. For registration forms and other information, contact: **Ms. Jennifer Wu, Room 530, Institute of Biomedical Sciences, Academia Sinica, Taipei, 11529, Taiwan.** Telephone: 886-2-782-9214; FAX: 886-2-782-5573.

TROPICAL DISEASES SYMPOSIUM MEHARRY MEDICAL COLLEGE NASHVILLE, TENNESSEE 2 May 1989

Meharry Medical College, School of Graduate Studies, Division of Biomedical Sciences, will hold its Sixth Annual Tropical Diseases Symposium entitled "Recent Advances in Immunology and Biochemistry of Tropical Diseases" on Tuesday, 2 May 1989. Speakers attending this 1-day symposium will include:

J. Kazura, Case Western (Immunity to *Brugia* antigen); **D. Colley,** Vanderbilt University (Idiotypic networks in Schistosomiasis and Chagas' disease); **P. Brennan,** Colorado state (New developments in leprosy); **K. Stuart,** Seattle Biomedical Research Institute (RNA editing); **K. Joiner,** NIH (Complement and cell invasion by *T. cruzi* and *L. major*); **S. Turco,** University of Kentucky (*Leishmania* lipophosphoglycan); **T. McCutchan,** NIH (*Plasmodium* ribosomes).

The registration fee is \$30; \$10 for students. For further information, please contact:

Dr. George C. Hill
Professor and Director
Division of Biomedical Sciences
Meharry Medical College
1005 D. B. Todd Jr. Boulevard
Nashville, TN 37208
Telephone: 615-327-6193

This symposium is supported by an NIH training grant with predoctoral and postdoctoral positions available.

TRAINING PROGRAM

PRE- AND POSTDOCTORAL TRAINING IN CELLULAR AND BIOCHEMICAL TOXICOLOGY CORNELL UNIVERSITY

Pre- and postdoctoral positions, supported by the National Institute of Environmental Health Sciences (NIEHS), are available through the Environmental Toxicology Program. Areas of emphasis in the training program include nutritional toxicology, biochemical toxicology and metabolism, cellular and genetic toxicology, immunotoxicology, and food toxicology. Fellowships are available on a competitive basis to applicants (U.S. citizens and permanent residents only) with training in chemistry, biochemistry, pharmacology, or the biological sciences. To apply for a NIEHS Fellowship, send curriculum vitae, academic records, and three letters of reference to: **Dr. Stephen E. Bloom, Training Grant Director, Cornell University, Toxicology Program, 215 Rice Hall, Ithaca, NY 14853.** Affirmative Action/Equal Opportunity Employer.

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PRE- AND POSTDOCTORAL FELLOWSHIPS TRAINING PROGRAM IN TROPICAL DISEASES

MEHARRY MEDICAL COLLEGE

An NIH-sponsored program has been established at Meharry Medical College, directed to areas of research dealing with molecular biology and immunological approaches to Tropical Diseases. Specific areas of interest include:

F. Villalta	Molecular interactions between <i>Trypanosoma cruzi</i> and host cells
F. Hatcher	Immunology of Chagas' Disease
M. Valenzuela	Structure and replication of kinetoplast DNA networks
D. Wilson	Isolation of malaria receptors
G. Hill	Molecular and biochemical basis of differentiation in African trypanosomes
G. Kidane	Gene expression and host-parasite interactions in <i>Leishmania</i>
C. Carter	Molecular biology and immunology of schistosomiasis
D. Colley	Immunoregulation in schistosomiasis, Chagas' disease
P. Patel	Immunology of leprosy
J. Bhorjee	Characterization of nuclear proteins in trypanosomes

Some faculty members are at Vanderbilt University.

Postdoctoral fellows will train in any of the areas above. Formal course work, together with journal clubs and seminars, are available to provide trainees with a detailed understanding of both molecular biology and immunological approaches to Tropical Diseases. A program of graduate education in tropical diseases leading to the Ph.D. or M.S. degree is available in the School of Graduate Studies. Applicants must have U.S. citizenship or permanent residency. **Minority individuals are encouraged to apply.** Predoctoral candidates can receive information on the graduate program from the address below. Postdoctoral candidates should send a letter of interest, *curriculum vitae* and the names of two references to:

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- Formulating an overall registration strategy.

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Position is located in Slater, Iowa, and will entail extensive travel throughout US and Canada, and possibly Central and South America.

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TRAINING PROGRAM

CELLULAR BIOLOGY OF THE HEART POSTDOCTORAL TRAINING

NIH-funded postdoctoral positions for training in cellular biology of the heart are available in the Department of Physiology at the College of Medicine of Penn State University. A broadly based, multidisciplinary program is offered to provide a background in the cell biology, molecular biology, biochemistry and physiology of cardiac disorders, in addition to specific laboratory training. The research interests of the training faculty, who are members of the Departments of Physiology and Medicine, include the role of polyamines, the extracellular matrix and other regulatory factors in control of cellular growth and differentiation; regulation of protein and RNA synthesis and degradation; transmembrane signaling mechanisms; receptor-ligand interactions; control of cellular transport; and mechanisms of neural regulation of vascular function. Highly-qualified individuals, who hold a Ph.D. or M.D. and are U.S. citizens, may apply by submitting their curriculum vitae, a statement of career goals, and the names of three references to: **D. Eugene Rannels, Ph.D., Program Director, Department of Physiology, The Milton S. Hershey Medical Center, Penn State University, P.O. Box 850, Hershey, PA 17033.** *Affirmative Action/Equal Opportunity Employer. Women and minorities encouraged to apply.*

FELLOWSHIPS

INTERNATIONAL GEOSPHERE- BIOSPHERE PROGRAM POSTDOCTORAL FELLOWSHIPS

Applications are invited for postdoctoral fellowships for work with the ICSU International Geosphere-Biosphere Program (IGBP). The fellows will work at the institution of the chairperson of the various IGBP sub-committees and help to develop research and implementation plans for the newly initiated international projects to study "Global Change". The following areas will be emphasized in association with the different sub-committees of the IGBP:

- Terrestrial Biosphere-Atmospheric Chemistry
- Marine Biosphere-Atmospheric Interactions
- Biospheric Aspects of the Hydrological Cycle
- Effects of Climate Change on Terrestrial Ecosystems
- Global Analysis, Interpretation and Modeling
- Global Changes of the Past
- Data and Information Systems
- Geosphere-Biosphere Observatories

Applicants should have a recent Ph.D. in a topic of relevance to questions of environmental changes in our global system in terrestrial, marine or atmospheric sciences. Although based in the country of the chairperson, the fellow will be expected to travel to other countries as part of his/her duties. A good command of English is a prerequisite.

Résumé, statement of interest relating to one of the topics being developed, and three letters of reference should be received before 28 February 1989 and be submitted to: **Professor Thomas Rosswall, Executive Director—IGBP, Royal Swedish Academy of Sciences, Box 50005, S-104 05 Stockholm, Sweden.**

PREDOCTORAL FELLOWSHIPS: ANIMAL REPRODUCTION, MICROBIOLOGY, IMMUNOLOGY

Colorado State University invites applications for the Ph.D. program in animal biotechnology, emphasizing biomolecular aspects of animal reproduction and disease diagnosis and prevention. Candidates will apply modern techniques of molecular biology, molecular genetics, molecular immunology, and genetic engineering to enhance animal productivity and disease resistance, to develop novel diagnosis techniques, and explore and manipulate gene regulation and expression in economically important animal species. Multiyear, \$15,000 annual USDA Graduate Fellowships are available. Outstanding applicants should provide a statement of goals, interests, and relevant experience, college transcripts, GRE scores, and three letters of recommendation to: **Dr. G. D. Niswender, Associate Dean for Research, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO 80523.**

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FELLOWSHIPS

PRIZE POSTDOCTORAL FELLOWSHIP

The Center for Photochemistry and Photobiology at the University of Chicago invites applications for the James Franck Postdoctoral Fellowship for 1989. The James Franck Fellow will work on an interdisciplinary project dealing with photochemical reaction centers from bacteria, cyanobacteria, green algae or plants using a combination of the techniques of molecular genetics, biochemistry, absorption and magnetic resonance spectroscopy, x-ray crystallography, and ultrafast spectroscopy. Faculty supervisors include **Professors G. Closs, G. Fleming, M. Garavito, R. Haselkorn, G. Lamppa, L. Mets and J. Norris.** The fellowship carries a 12-month stipend of \$32,000. There are no restrictions on age, citizenship, or length of time since the Ph.D. was earned. Please address inquiries to: **R. Haselkorn, Director of the Center, 920 East 58th Street, Chicago, IL 60637.**

HARVARD SCHOOL OF PUBLIC HEALTH INTERDISCIPLINARY PROGRAMS IN HEALTH POSTDOCTORAL FELLOWSHIPS



The Program in Environmental Health and Public Policy invites applications from promising graduates of advanced degree programs in the natural or social sciences. The program focuses on the scientific and analytical foundations for environmental decisions. In addition to conducting individual research, fellows are encouraged to collaborate with each other and faculty members on projects of mutual interest. Recent group projects have considered approaches for regulation of toxic air pollutants, strategies for environmental monitoring and implications of distributions of susceptibility.

Fellows will be appointed for a term of 1 year starting September 1989. Award may be renewed. Applications deadline: 10 March 1989. Decisions announced in April.

For information write to:

Professor John S. Evans
Attention: Fellowships
Harvard School of Public Health
665 Huntington Avenue
Boston, MA 02115
Telephone: 617-732-1258

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FELLOWSHIPS

MINORITY MEDICAL RESEARCH FELLOWSHIPS

The Minority Medical Faculty Development Program, sponsored by The Robert Wood Johnson Foundation, has up to eight new positions available beginning in 1990. The program offers 4-year postdoctoral research fellowships to physicians from underrepresented minority groups (blacks, Mexican Americans, native Americans, and mainland Puerto Ricans) who have demonstrated superior academic and clinical skills and who are committed to careers in academic medicine and biomedical research. Each Fellow selected will receive an annual stipend of up to \$50,000 and a \$25,000 annual grant toward support of research activities.

In addition to the above eligibility requirements, applicants must be U.S. citizens and have completed their formal clinical training by the time of entry into the program.

Applications for appointment in 1990 must be submitted by 3 April 1989. Interviews with selected applicants will be carried out in July 1989; and successful candidates will be notified in December 1989.

For further information and application materials, contact: **Harold Amos, Ph.D., Director, Department of Microbiology and Molecular Genetics, Harvard Medical School, 25 Shattuck Street, Boston, MA 02215.** Telephone: 617-732-1947.

POSTDOCTORAL FELLOWSHIPS IN INTER- DISCIPLINARY RESEARCH

in the biomedical and behavioral sciences: A training program has been funded to promote interdisciplinary research in mental retardation and developmental neurobiology. Fellows collaborate with research scientists on human/non-human research in neuroanatomy, neurochemistry, neuroendocrinology, psychopharmacology, neurology, genetics, and behavioral psychology. Available 1 September 1989 for 1 to 2 years. Ph.D. or M.D. plus evidence of interdisciplinary research potential required. Send curriculum vitae, representative reprints, and three references to: **J. S. Kizer, M.D., CB# 7250, 241 Biological Sciences Research Center, University of North Carolina, Chapel Hill, NC 27599.** Deadline: 15 April 1989.

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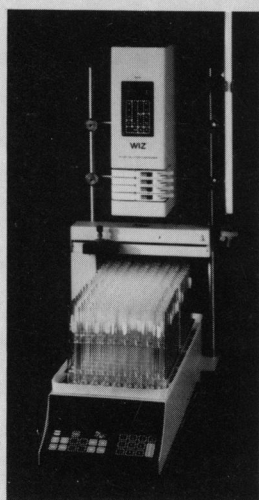
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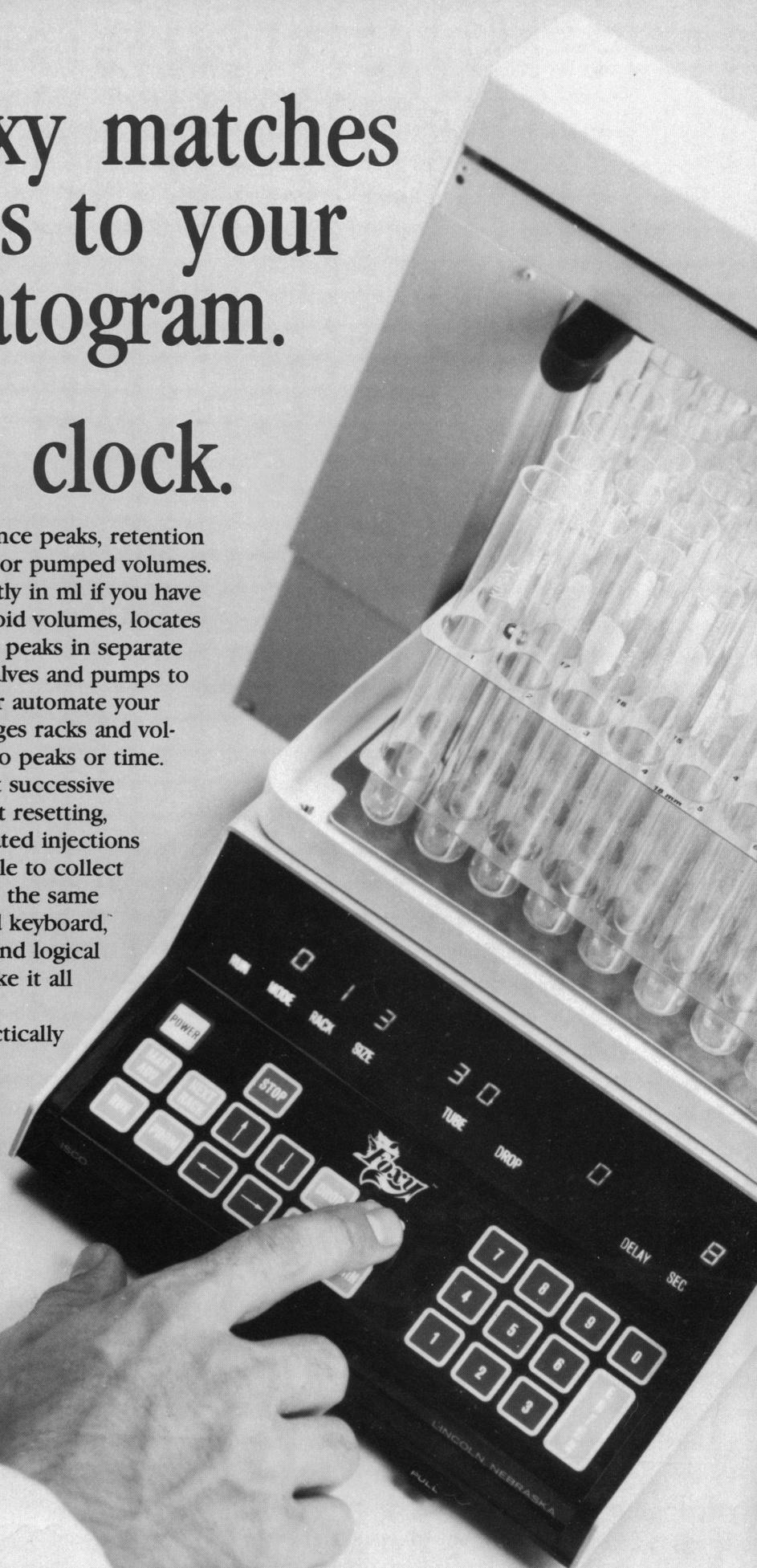
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Krisbna Mallia
Dr. Mallia is the Associate Director of Research at Pierce.

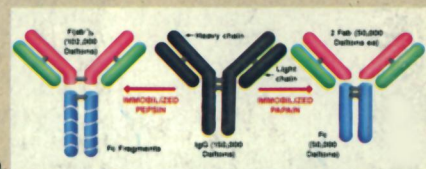
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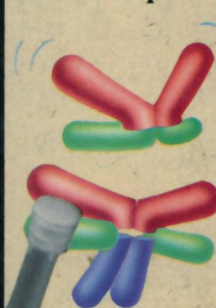
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