

biology easily could have been omitted from a volume of platelet immunobiology had the editors adopted a narrower perspective. I'm glad they didn't. Much of what we know about the structure and function of platelet surface receptors has come from studies using immunochemical approaches. Although devoted for the most part to the platelet, the approaches outlined in these chapters are applicable to other cell systems.

The editors apparently gave the authors of individual chapters free rein. Contributions range from comprehensive literature reviews to brief overviews to lucid descriptions of an immunochemical approach to a single experimental problem. Most are written in the scholarly style to which we are accustomed, but others, for example the provocative chapter by George on platelet IgG, are written in a more proselytizing style. Although I appreciate the broader approach exemplified in *Platelet Immunobiology*, the eclecticism of the volume does give rise to some fragmentation and redundancy. All in all, this book fills a niche. It should find acceptance.

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## Some Other Books of Interest

**100 Years Exploring Life, 1888–1988.** The Marine Biological Laboratory at Woods Hole. JANE MAIENSCHIEIN. Selection and arrangement of photographs by Ruth Davis. Jones and Bartlett, Boston, 1989. xvi, 192 pp., illus. \$22.50.

Likely to be especially appealing as an orientation for summer sojourners, this informal centennial "testament" is focused on human rather than marine life in the environs of the Marine Biological Laboratory. An opening chapter, "Arriving at Woods Hole," begins by depicting the Friday night traffic jams of today and moves backward to describe the arrival of the MBL itself and the activities of Louis Agassiz, Spencer Fullerton Baird, Alpheus Hyatt, and others who played a role in the establishment of science in the area. Where and how visitors live and eat are the subject of another chapter, with perhaps more relish for the options that have been available for those who are "not too fussy" than for the increasing opportunities for utilizing "plenty of money," and with a digression on the one-time whaling and fishing activities of the town and an account of the hurricane of 1938. Accounts of buildings and budgets and the library and publications avoid bureaucratic detail and are enlivened by stories of a fire in which a cow rented by Thoms Hunt Morgan es-

caped and how a feckless student of Jacques Loeb's, beginning "with more zeal than knowledge," was with the aid of India ink made aware of the need "to reflect more deeply." A chapter entitled "The people" gives attention to administrators, scientific eminences, families thereof, miscellaneous retainers, and visitors, including Emperor Hirohito, who, unlike William Rainey Harper, was not hit with a piece of watermelon. The chapter "Doing science" explains some of the rationale of the enterprise but with attention to the day-to-day side—equipment, techniques, collecting excursions. The last two chapters describe extralaboratory diversions and "friends and relatives" of the MBL, including local supporters, other marine labs, the Coast Guard, and the apparently ambivalently regarded Woods Hole Oceanographic Institution. Maienschein, who previously edited a collection of the MBL's earliest Friday Evening Lectures (*Defining Biology*, Harvard University Press, 1986; see *Science* 234, 1595 [1986]), has in preparing this work drawn extensively on taped interviews and other materials in the MBL Archives, the source also of the many photographs that accompany the text. The serious Woods Hole aficionado will also want a copy of F. R. Lillie's 1944 *The Woods Hole Marine Biological Laboratory*, reprinted for the centennial as a supplement to volume 174 of MBL's *Biological Bulletin* and available from the *Bulletin* office for \$10.—K.L.

**A Neotropical Companion.** An Introduction to the Animals, Plants, and Ecosystems of the New World Tropics. JOHN C. KRICHER. Illustrated by Andrea S. LeJeune. Princeton University Press, Princeton, NJ, 1989. xii, 436 pp., illus. \$45; paper, \$16.95.

"For anyone sympathetic with the pursuit of natural history, a visit to a tropical region is a must," writes John Kricher. This book is addressed to such an audience: "to introduce you to what it is about the American tropics that makes me and my many colleagues want to keep returning and studying." The volume opens with an overview of tropical ecosystems. Then rainforest is described in two chapters, one of "first impressions" ("Imagine we are standing on Pipeline Road in the Canal Zone in Panama. . .") with some practical advice about health and safety, the other outlining the functioning of the forest—nutrient cycling, ecological succession, agriculture and its concomitants. A third chapter considers the rainforest as a "laboratory of evolution." Rainforest plants are then discussed as a source of beneficial drugs, with excursions into such subjects as animal feeding special-

izations and mimicry. There follow a summary of the neotropical avifauna and a "rain-forest bestiary" encompassing mammals, reptiles and amphibians, and invertebrates. Finally, the author briefly describes non-rainforest ecosystems: savannas and the mangroves, seagrasses, and coral reefs of coastal areas. An epilogue setting out current concerns about the "fate of the tropics," a glossary, lists of references cited and general works, and two indexes are included. Illustrated with black-and-white drawings of characteristic biological forms, the volume is attractively produced and compact enough to be easily portable for the traveler.—K.L.

## Books Received

**AIDS.** Profile of an Epidemic. Pan American Health Organization, Washington, DC, 1989. xviii, 365 pp., illus. Paper, \$36. Scientific Publication no. 514.

**Algae and Human Affairs.** Carole A. Lembi and J. Robert Waaland, Eds. Cambridge University Press, New York, 1989. viii, 590 pp., illus. \$67.50.

**Alternate Realities.** Mathematical Models of Nature and Man. John L. Casti. Wiley-Interscience, New York, 1989. xviii, 493 pp., illus. \$34.95.

**American High.** The Years of Confidence, 1945–1960. William L. O'Neill. Free Press (Macmillan), New York, 1989. xii, 321 pp. + plates. Paper, \$9.95. Reprint, 1986 ed.

**American Psychology in the Quest for Nuclear Peace.** Marilyn S. Jacobs. Praeger, Westport, CT, 1989. xxii, 181 pp. \$39.95.

**Amyloid and Amyloidosis.** Takashi Isobe *et al.*, Eds. Plenum, New York, 1988. xx, 885 pp., illus. \$135. From a symposium, Hakone, Japan, Oct. 1987.

**Analytical Aspects of Drug Testing.** Dale G. Deutsch, Ed. Wiley-Interscience, New York, 1989. xvi, 304 pp., illus. \$75. Chemical Analysis, vol. 100.

**Ancient Trade and Tribute.** Economies of the Sonoran Region of Mesoamerica. Barbara Voorhies, Ed. University of Utah Press, Salt Lake City, 1989. xiv, 336 pp., illus. \$30.

**Animal Sonar.** Processes and Performance. Paul E. Nachtigall and Patrick W. B. Moore, Eds. Plenum, New York, 1988. xvi, 862 pp., illus. \$125. NATO Advanced Science Institutes Series A, vol. 156. From an institute, Helsingør, Denmark, Sept. 1986.

**The Biolab Book.** Lundy Pentz. 2nd ed. Johns Hopkins University Press, Baltimore, 1989. x, 142 pp., illus. Spiral bound, \$10.95.

**Biology.** Exploring Life. Gil D. Brum and Larry K. McKane. Wiley, New York, 1989. xvi, 727 pp., illus., + index and appendices. \$49.

**Biology and Freedom.** An Essay on the Implications of Human Ethology. S. A. Barnett. Cambridge University Press, New York, 1989. xviii, 376 pp., illus. \$39.50.

**Biotechnological Applications of Lipid Microstructures.** Bruce Paul Gaber, Joel M. Schnur, and Dennis Chapman, Eds. Plenum, New York, 1988. \$79.50. Advances in Experimental Medicine and Biology, vol. 238. From workshops, Tenerife, Canary Islands, Jan. 1986, and San Sebastian, Spain, Oct. 1987.

**Biotechnology.** Vol. 6b, Special Microbial Processes. Hans-Jürgen Rehm, Ed. VCH, New York, 1989. xvi, 810 pp., illus. \$298.

**The Causes and Cures of Criminality.** Hans J. Eysenck and Gisli H. Gudjonsson. Plenum, New York, 1989. xvi, 309 pp. \$34.50. Perspectives on Individual Differences.

**Cell Surface Antigen Thy-1.** Immunology, Neurology, and Therapeutic Applications. Arnold E. Reif and Michael Schlesinger, Eds. Dekker, New York, 1989. xxvii, 618 pp., illus. \$99.75. Immunology Series, vol. 45.

**Cellular and Molecular Biology of Muscle Development.** Laurence H. Kedes and Frank E. Stockdale, Eds. Liss, New York, 1989. xxxvi, 1059 pp., illus. \$195; paper, \$69.50. UCLA Symposium on Molecular and Cellular Biology, vol. 93. From a symposium, Steamboat Springs, CO, April 1988.

**Chemistry.** John C. Bailar, Jr. *et al.* 3rd ed. Harcourt Brace Jovanovich and Academic Press, San Diego, CA, 1989. xvi, 116 pp., illus. \$38.

**Differential Geometrical Methods in Theoretical Physics.** K. Bleuler and M. Werner, Eds. Kluwer, Norwell, MA, 1988. xviii, 471 pp. \$108. NATO Advanced Science Institutes Series C, vol. 250. From a workshop, Como, Italy, Aug. 1987.

**Digging into the Past.** Edwin H. Colbert. Dembner, New York, 1989 (distributor, Norton, New York). viii, 456 pp., illus., + plates. \$25.

**Digital Filtering in One and Two Dimensions.** Design and Applications. Robert King *et al.* Plenum, New York, 1989. xx, 466 pp., illus. \$75.

**Digital Signal Processing.** Applications to Communications and Algebraic Coding Theories. Salvatore D. Morgera and Hari Krishna. Academic Press, San Diego, CA, 1989. xx, 233 pp., illus. \$37.95.

**Dinosaur Plots and Other Intrigues in Natural History.** Leonard Kristalka. Morrow, New York, 1989. 316 pp., illus. \$17.95.

**Diversity and Pattern in Plant Communities.** H. J. Daring, M. J. A. Werger, and H. J. Willems, Eds. SPB, The Hague, 1988. viii, 278 pp., illus. Paper, \$45. From a symposium, Utrecht, The Netherlands, July 1987.

**The Division and Segregation of Organelles.** Stephen A. Boffey and David Lloyd. Cambridge University Press, New York, 1989. xiv, 252 pp., illus. \$59.50. Society for Experimental Biology Seminar Series, vol. 35. Based on a seminar, York, U.K., 1987.

**The Domestic Cat.** The Biology of Its Behaviour. Dennis C. Turner and Patrick Bateson, Eds. Cambridge University Press, New York, 1989. x, 222 pp., illus. \$59.50; paper, \$22.95. Based on a symposium, Zürich, Switzerland, Sept. 1986.

**Drifting Continents and Shifting Theories.** The Modern Revolution in Geology and Scientific Change. H. E. LeGrand. Cambridge University Press, New York, 1989. vi, 313 pp., illus. \$52.50; paper, \$16.95.

**Dunk Driving.** An American Dilemma. James B. Jacobs. University of Chicago Press, Chicago, 1989. xxii, 259 pp. \$39; paper, \$12.95. Studies in Crime and Justice.

**Empirical Model Building.** James R. Thompson. Wiley, New York, 1989. xiv, 242 pp., illus. \$39.95. Wiley Series in Probability and Statistics.

**Environmentalism and the Future of Progressive Politics.** Robert C. Paehlke. Yale University Press, New Haven, CT, 1989. viii, 325 pp. \$25.

**Essentials of Modern Physics.** T. R. Sandin. Addison-Wesley, Reading, MA, 1989. xvi, 575 pp., illus. \$42.75.

**Evaporation Technology.** Principles, Applications, Economics. Reinhard Billet. VCH, New York, 1989. x, 317 pp., illus. \$125.

**Evolution.** The History of an Idea. Peter J. Bowler. 2nd ed. University of California Press, Berkeley, 1989. xvi, 432 pp. \$48; paper, \$15.95.

**Evolutionary Systems and Society.** A General Theory of Life, Mind, and Culture. Vilmos Csányi. Duke University Press, Durham, NC, 1989. xiv, 257 pp., illus. \$49.50.

**The Evolving Role of Statistical Assessments as Evidence in the Courts.** Stephen E. Fienberg, Ed. Springer-Verlag, New York, 1989. xviii, 357 pp. \$34.

**Existential-Phenomenological Perspectives in Psychology.** Exploring the Breadth of Human Experience. Ronald S. Valle and Steen Halling, Eds. Plenum, New York, 1989. xx, 355 pp., illus. \$45.

**The Fourier Integral and Certain of Its Applications.** Norbert Wiener. Cambridge University Press, New York, 1989. xviii, 201 pp. Paper, \$16.95. Cambridge Mathematical Library. Reprint, 1933 ed.

**Fragments for a History of the Human Body.** Michel Feher with Ramona Naddaff and Nadia Tazi, Eds. Zone, New York, 1989 (distributor, MIT Press, Cambridge, MA). 3 vols. 480 pp., illus., 552 pp., illus., and 578 pp., illus. Paper, each vol., \$19.95.

**Gangliosides and Cancer.** H. F. Oertgen, Ed. VCH, New York, 1989. xvi, 366 pp., illus. \$120. From a symposium, Nonnweiler/Trier, F.R.G., June 1988.

**Gardner's Whys and Wherefores.** Martin Gardner. University of Chicago Press, Chicago, 1989. x, 261 pp. \$19.95.

**Gender Differences at Work.** Women and Men in Nontraditional Occupations. Christine L. Williams. University of California Press, Berkeley, 1989. xviii, 191 pp. \$20.

**Genetic and Therapeutic Aspects of Lipid and Purine Metabolism.** Günther Wolfgram, Ed. Springer-Verlag, New York, 1989. xiv, 162 pp., illus. \$55.90. From a symposium, Munich, F.R.G., June 1988.

**Geography and Energy.** Commercial Energy Systems and National Policies. J. D. Chapman. Longman Scientific, Harlow, U.K., and Wiley, New York, 1989. xvi, 260 pp., illus. Paper, \$39.95. Themes in Resource Management.

**High Tech Holocaust.** James Bellini. Sierra Club Books, San Francisco, 1989. vi, 255 pp. Paper, \$10.95.

**Housing, Culture, and Design.** A Comparative Perspective. Setha M. Low and Erve Chambers, Eds. University of Pennsylvania Press, Philadelphia, 1989. xxii, 418 pp., illus. Paper, \$49.95; paper, \$29.95.

**Human Anatomy and Physiology.** Anthony J. Gaudin and Kenneth C. Jones. Harcourt Brace Jovanovich and Academic Press, San Diego, CA, 1989. xxxii, 867 pp., illus. \$36.

**Human Brain Electrophysiology.** Evoked Potential and Evoked Magnetic Fields in Science and Medicine. David Regan. Elsevier, New York, 1988. xxiv, 672 pp., illus. \$140.

**Integration of Mitochondrial Function.** John J. Lemasters *et al.*, Eds. Plenum, New York, 1988. xiv, 664 pp., illus. \$115. From a conference, Chapel Hill, NC, June 1987.

**Intellectual Compromise.** The Bottom Line. Michael T. Ghiselin. Paragon House, New York, 1989. xii, 226 pp. \$24.95.

**Intelligent Systems in a Human Context.** Development, Implications, and Applications. Linda A. Murray and John T. E. Richardson, Eds. Oxford University Press, New York, 1989. viii, 184 pp. \$39.95.

**The Jonglei Canal.** Impact and Opportunity. Paul Howell, Michael Lock, and Stephen Cobb, Eds. Cambridge University Press, New York, 1989. xxxii, 537 pp., illus. \$75. Cambridge Studies in Applied Ecology and Resource Management.

**Karst Hydrology.** Concepts from the Mammoth Cave Area. William B. White and Elizabeth L. White, Eds. Van Nostrand Reinhold, New York, 1989. xiv, 346 pp., illus. \$58.95.

**Knowledge-Based Risk Management in Engineering.** A Case Study in Human-Computer Cooperative Systems. Kiyoshi Niwa. Wiley-Interscience, New York, 1989. xii, 132 pp., illus. \$29.95. Wiley Series in Engineering and Technology Management.

**The Landfill.** Reactor and Final Storage. Peter Baccini, Ed. Springer-Verlag, New York, 1989. x, 438 pp., illus. Paper, \$49. Lecture Notes in Earth Sciences, vol. 20. From a workshop, Gerzensee, Switzerland, March 1988.

**Mechanism of Segmentation.** Vernon French *et al.*, Eds. The Company of Ecologists, Cambridge, U.K., 1983 (distributor, Biochemical Society Book Depot, Colchester, U.K.). iv, 254 pp., illus. \$75. *Development*, vol. 104 supplement. From a meeting, Bristol, U.K., April 1988.

**Mechanistic Principles of Enzyme Activity.** Joel F. Liebman and Arthur Greenberg, Eds. VCH, New York, 1989. xii, 404 pp., illus. \$89. Molecular Structure and Energetics, vol. 9.

**Megaherbivores.** The Influence of Very Large Body Size on Ecology. R. Norman Owen-Smith. Cambridge University Press, New York, 1989. xiv, 369 pp., illus. \$64.50. Cambridge Studies in Ecology.

**Metabolism and Enzymology of Nucleic Acids.** Including Gene Manipulations. Ján Zelinka and Jozef Balan, Eds. Plenum, New York, 1988. x, 312 pp., illus. \$65. From a symposium, Smolenice, Czechoslovakia, June 1987.

**Metal Ion Homeostasis.** Molecular Biology and Chemistry. Dean H. Hamer and Dennis R. Winge, Eds. Liss, New York, 1989. xx, 490 pp., illus. \$96. UCLA Symposia on Molecular and Cellular Biology, vol. 98. From a colloquium, Frisco, CO, April 1988.

**Metalinguistic Performance and Interlinguistic Competence.** David Birdsong. Springer-Verlag, New York, 1989. x, 246 pp. \$49. Springer Series in Language and Communication, vol. 25.

**Methods for the Oxidation of Organic Compounds.** Alcohols, Alcohol Derivatives, Alkyl Halides, Nitroalkanes, Alkyl Azides, Carbonyl Compounds, Hydroxyarenes and Aminoarenes. Alan H. Haines. Academic Press, San Diego, CA, 1988. xx, 467 pp., illus. \$33. Best Synthetic Methods.

**Methods of Surface Analysis.** J. M. Walls, Ed. Cambridge University Press, New York, 1989. x, 342 pp., illus. \$80.

**QSAR.** Quantitative Structure-Activity Relationships in Drug Design. J. L. Fauchère, Ed. Liss, New York, 1989. xxiv, 443 pp., illus. \$85. Progress in Clinical and Biological Research, vol. 291. From a symposium, Interlaken, Switzerland, Sept. 1988.

**Quantum Electronics.** Amnon Yariv. 3rd ed. Wiley, New York, 1989. xx, 676 pp., illus. \$66.26.

**Quantum Probability—Quantum Logic.** Itamar Pitowsky. Springer-Verlag, New York, 1989. x, 209 pp. \$24. Lecture Notes in Physics, vol. 321.

**Radioactive Waste Management.** Robert E. Berlin and Catherine C. Stanton. Wiley-Interscience, New York, 1989. xviii, 444 pp., illus. \$75.

**Rigid-Chain Polymers.** Hydrodynamic and Optical Properties in Solution. V. N. Tsvetkov. Consultants Bureau (Plenum), New York, 1989. xxii, 490 pp., illus. \$115. Macromolecular Compounds. Translated from the Russian by E. A. Korolyova.

**The Risk Assessment of Environmental and Human Health Hazards.** A Textbook of Case Studies. Dennis J. Paustenbach, Ed. Wiley-Interscience, New York, 1989. xx, 1155 pp., illus. \$125.

**Science à la Mode.** Physical Fashions and Fictions. Tony Rothman. Princeton University Press, Princeton, NJ, 1989. xii, 207 pp., illus. \$19.95.

**The Science of AIDS.** Readings from *Scientific American* Magazine. Freeman, New York, 1989. x, 135 pp., illus. Paper, \$9.95.

**Science, Technology, and Society.** Emerging Relationships. Rosemary Chalk, Ed. American Association for the Advancement of Science, Washington, DC, 1988. x, 262 pp. Paper, \$19.95; to AAAS members, \$14.95. Papers reprinted from *Science*, 1949–1988.

**Seabirds and Other Marine Vertebrates.** Competition, Predation and Other Interactions. Joanna Burger, Ed. Columbia University Press, New York, 1989. x, 339 pp., illus. \$45.

**Sexual Science.** The Victorian Construction of Womanhood. Cynthia Eagle Russett. Harvard University Press, Cambridge, MA, 1989. x, 245 pp. \$25.

**Simulated Annealing and Boltzmann Machines.** A Stochastic Approach to Combinatorial Optimization and Neural Computing. Emile Aarts and Jan Korst. Wiley, New York, 1989. xii, 272 pp., illus. \$49.95. Wiley-Interscience Series in Discrete Mathematics and Optimization.

**Topics for a Statistical Description of Radar Cross Section.** Andrew Lewis Maffett. Wiley-Interscience, New York, 1989. xviii, 373 pp., illus. \$49.95. Wiley Series in Remote Sensing.

**Transition Metal Catalyzed Polymerizations.** Ziegler-Natta and Metathesis Polymerizations. Roderic P. Quirk *et al.*, Eds. Cambridge University Press, New York, 1989. x, 868 pp., illus. \$80. From a symposium, Akron, OH, June 1986.

**Translating Programs into Delay-Insensitive Circuits.** J. C. Ebergen. Centrum voor Wiskunde en Informatica, Amsterdam, 1989. x, 216 pp., illus. Paper, Dfl. 33. CWI Tract 56.

**Ultra-Fast Silicon Bipolar Technology.** L. Treitinger and M. Miura-Mattausch, Eds. Springer-Verlag, New York, 1988. x, 167 pp., illus. \$34. Springer Series in Electronics and Photonics, vol. 27.

**The Ultrastructure of Polychaeta.** Wilfried Westheide and Colin O. Hermans, Eds. Fischer, Stuttgart, 1988 (U.S. distributor, VCH, New York). 494 pp., illus. \$77. Microfauna Marina, vol. 4.

**Underfoot.** A Geologic Guide to the Appalachian Trail. V. Collins Chew. Appalachian Trail Conference, Harpers Ferry, WV, 1988. x, 203 pp., illus. Paper, \$8.95.

**Viruses in Water Systems.** Detection and Identification. J. C. Block and L. Schwartzbrod. VCH, New York, 1989. xiv, 136 pp., illus. \$39.50. Translated from the French edition (Paris) by Luke A. Burke.

**Water Resources.** Issues and Strategies. Adrian McDonald and David Kay. Longman Scientific, Harlow, U.K., and Wiley, New York, 1989. xx, 284 pp., illus. Paper, \$36.95. Themes in Resource Management.

**When Did I Begin?** Conception of the Human Individual in History, Philosophy and Science. Norman M. Ford. Cambridge University Press, New York, 1989. xx, 217 pp., illus. \$32.50.

**A Workbook of Practical Exercises in Coastal Zone Management for Tropical Islands.** Peter R. Bacon, Compton A. Deane, and Allen D. Putney. Commonwealth Science Council, London, 1988. iv, 300 pp., illus. Paper, £14.

**Wildlife and the Public Interest.** Nonprofit Organizations and Federal Wildlife Policy. James A. Tober. Praeger, New York, 1989. xiv, 220 pp. \$39.95.

**The Works of Charles Darwin.** Paul H. Barrett and R. B. Freeman, Eds. New York University Press, New York, 1989 (distributor, Columbia University Press, New York). Vols. 11–20. Vols. 11–13, A Monograph of the Sub-Class Cirripedia. Vol. 14, Monographs of the Fossil Lepididae and the Fossil Balanidae. Vol. 15, On the Origin of Species, 1859. Vol. 16, The Origin of Species, 1876. Vol. 17, The Various Contrivances by Which Orchids are Fertilized by Insects. Vol. 18, The Movements and Habits of Climbing Plants. Vols. 19–20, Variation of Animals and Plants Under Domestication. Various pagings, illus., + plates. Each vol., \$95; the set, \$895.

**Writing a Successful Grant Application.** Liane Reif-Lehrer. 2nd ed. Jones and Bartlett, Boston, 1989. xviii, 282 pp. Paper, \$19.95.

## Products & Materials

### Scientific Graphics Software

ProPLOT 1.0 is a two-dimensional graphics program for scientists and engineers. Its Encapsulated PostScript output supports PostScript devices at their highest resolutions and can be merged into most PostScript-compatible word processing programs. Data and commands can be imported from any ASCII file. The program produces scatter, line, and bar graphs with linear, semi-log, or log-log scaling and optional grid lines. Data points may be joined by linear, spline, or Bézier curve segments. Text can have Greek, mathematical, or accented characters; justification; automatic line spacing; and multiple superscript and subscript levels. ProPLOT 1.0 operates on IBM PC family, PS/2, and compatible computers with 390 kilobytes of available random access memory; to preview plots, a video graphics adapter is necessary. \$169. Cogent Software. Circle 444.

### DNA Synthesizer for PCR

The PCR-MATE DNA synthesizer produces synthetic DNA for amplification by the GeneAmp polymerase chain reaction (PCR) process. The compact PCR-MATE can synthesize two primers in less than 4 hours. Neither high-performance liquid



chromatography nor gel purification is necessary for reliable PCR results. Because the specified sequence is abundantly represented among the synthesized primers, little preparation is required before use. The DNA synthesized is guaranteed to be 99.8% authentic compared to biologically derived sequences. Applied Biosystems. Circle 442.

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.

### Carbon Dioxide Incubator

A carbon dioxide incubator is available with a low-velocity circulation system that prevents contamination and reduces recovery time for temperature, humidity, and CO<sub>2</sub> concentration. The compact, stackable incubator holds as many as twenty-five 90-mm petri dishes on each shelf. The interior stainless steel fixtures can be removed without tools for autoclaving. Interior corners of the chamber are rounded, and the stainless steel humidifier pan is removable. Operation parameters are entered on the eight-keyed control panel on the door. One of these keys acts as a lock to prevent accidental changes of set values. ESPEC. Circle 433.

### Custom Precast Gels

Linear gradient polyacrylamide gels for electrophoresis can be individually cast in any gradient or nongradient formulation. Formulations are available for high, medium, and low molecular weight separations, and one formulation is for surveying a wide range of molecular weights. Gels can have preformed sample wells, if desired. The gels are available in three cassette sizes: 8 by 10 cm, 16 by 18 cm, and 18 by 20 cm. Gels can be 0.75 or 1.50 mm thick. Each gel is individually packaged and has a 4-month shelf life. Jule Biotechnology. Circle 434.

### HPLC of Biomolecules

System One and System Two are high-performance liquid chromatography (HPLC) systems for analyzing peptides and other biomolecules. These systems, which incorporate inert solvent delivery systems, can handle a 1- $\mu$ l injection of a 3- $\mu$ l sample. System One has one pump, and System Two, two pumps. The systems also come with a variable wavelength monitor, an autosampler, and appropriate columns. One software program controls all the instruments and evaluates data. Pharmacia LKB Biotechnology (Sweden). Circle 456.

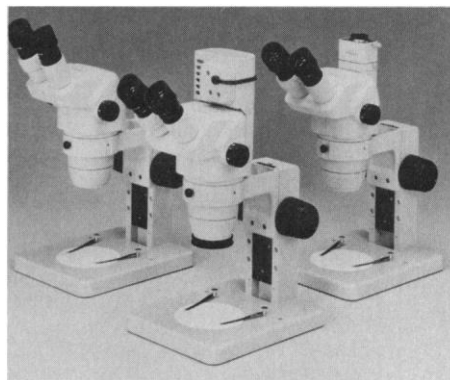
### Cytochromes P-450 Proteins and Antibodies

Two purified rabbit cytochromes P-450 are available: form 4 (IA1, polycyclic aromatic compound inducible) and form 2 (IIB1, phenobarbital inducible). Form 3a (IIE1, ethanol inducible) will be available soon. Also available are goat polyclonal antibodies to rabbit P-450. In the body, the P-450 enzymes participate in the biosynthesis

and degradation of steroids, the catabolism of fatty acids, and the detoxification of foreign substances, particularly those derived from plants. Oxford Biomedical Research. Circle 454.

### Zoom Stereo Microscopes

The three SZ series of compact stereo microscopes have extra-long working distances. The microscopes of the SZ60 series have a zoom ratio of 6.3:1 and a working distance of 100 mm. In the SZ40 series, the



microscopes have a zoom range of  $\times 0.67$  to  $\times 4.0$ , a working distance of 110 mm, and a choice of 45° or 60° binocular tube inclination. Both these series can be augmented by optional coaxial illumination or photo, television, or measuring attachments. In the third series, the SZ30 series, the zoom range is  $\times 0.9$  to  $\times 4.0$  and the working distance is 110 mm. Olympus, Precision Instrument Division. Circle 445.

### Literature

*More Time for Research* is a catalog of software programs for creating bibliographies and managing research grants and personnel. Niles & Associates. Circle 464.

*Capillary Column Accessories* is a catalog of capillary columns for chromatography, column connectors, ferrules, oxygen traps, autosampler syringes, and valves. Chemical Research Supplies. Circle 465.

*Disposables* is an 8-page brochure of pipettes, scintillation vials, and culture tubes for one-time use. Fisher Scientific. Circle 466.

*Bioconcepts* is a booklet published three times a year that features products for tissue culture, molecular biology, and electrophoresis. ICN Biomedicals, Research Products Division. Circle 467.

*1989 Electrophoresis Products* is a catalog of gels, gel-casting equipment, gel dryers, reagents, gel dyes, and other products for electrophoresis. Isolab. Circle 468.

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

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

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1515 Broadway  
New York, NY 10036  
Telephone: 212-730-1050

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**Box (give number)**  
**SCIENCE**  
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Washington, DC 20005

## POSITIONS WANTED

**Biochemist, Ph.D.,** 25 years of experience in proteinases, inhibitors, and protein purification. Fifty publications. Current subjects are new connective tissue proteinases. Japanese, single, permanent resident in U.S. Seeks academic/industrial research position, if possible, for gene studies of the new proteinases. Box 106, **SCIENCE**.

**Computer Scientist Interested in Biology, Ph.D.** in computer science, B.S. in physics. Experience and publications in system modeling, symbolic simulation, and AI applications in engineering, seeks research position in projects in macro-molecular assemblies, prefers California or East Coast. Box 111, **SCIENCE**.

**Free-Lance Computer Programmer** for research laboratories. Reasonable rates. Prefer C on a PC in New York Metro area. Background in neuroscience and behavioral pharmacology. Pat O'Connor, 1649 Springfield Avenue, Maplewood, NJ 07040.

## POSITIONS WANTED

**M.D.,** early retired (age 55) from drug industry seeks part-time or projects; excellent at data interpretation and medical writing for NDAs, etc. Telephone: 215-794-5581 or Box 86, **SCIENCE**.

**M.S. Biochemist/Medical Technologist** with 4 years of experience in hospitals and pharmaceutical industry. Hard-working professional looking for a challenging non-laboratory position in California. Box 112, **SCIENCE**.

**Teacher/Researcher, Ph.D.** Available for teaching position (semester, year, sabbatical replacement). Experienced in lecture and small group teaching: medical, graduate, and some undergraduate courses. Primary areas: immunology, virology, microbiology; secondary areas: molecular, cellular, general biology. Could assist part-time in research in many aspects of immunology, virology. Box 107, **SCIENCE**.

## POSITIONS OPEN

The Department of Pathology at the Wayne State University School of Medicine is seeking an **ANATOMIC PATHOLOGIST** at the level of assistant professor with special interest in obstetrical/gynecological and/or perinatal pathology in a hospital-based Department of Pathology. Responsibilities will include teaching and research as well as service. Candidates should be Board-certified or eligible in anatomic pathology, be eligible for licensure in the state of Michigan and exhibit scholarship potential. Interested candidates should send their curriculum vitae and three references to: **Joseph Wiener, M.D., Chairman, Department of Pathology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201.**

*An Equal Opportunity/Affirmative Action Employer.*

**ANATOMY FACULTY POSITION** (tenure-path) at the assistant professor level. All fields will be considered, although neuroscientists and cell biologists are especially encouraged. Candidates should have evidence of independence and promising research in cellular and/or molecular areas, enjoy collaboration, and have teaching ability/potential in anatomy. Excellent salary and start-up available. Applicants should send three or more personal references and their curriculum vitae to: **Dr. Richard Wiggins, Chair, Department of Anatomy, West Virginia University School of Medicine, 4052 HSN, Morgantown, WV 26506.** *Affirmative Action/Equal Opportunity Employer.*

## ASSISTANT PROFESSOR

Tenure-track position in Division of Endocrinology, Department of Medicine, and University of Virginia Cancer Center, M.D. or Ph.D. with postdoctoral experience in molecular endocrinology. Basic science joint appointment encouraged. Start date by agreement. Send curriculum vitae and references to: **Dr. M. A. Shupnik, Box 511, University of Virginia Health Sciences Center, Charlottesville, VA 22908.** *An Equal Opportunity/Affirmative Action Employer.*

Environment Canada in Saskatoon requires a **BENTHIC INVERTEBRATE ECOLOGIST** to undertake research projects on benthic invertebrates in aquatic systems aimed at investigating their role in the transfer of energy to higher trophic levels; determining their role in the control of primary producer biomass; and evaluate factors controlling their distribution and productivity. Interested candidates should have a doctorate degree and research experience as related to the position. Applicants should submit their résumés by 25 August 1989 to: **Doug Kenney, Public Service Commission of Canada, 1010-1867 Hamilton Street, Regina, Saskatchewan S4P 2C2.** Telephone: 306-780-7027, quoting reference #S-89-52-0067-0675-Z00.

## POSITIONS OPEN

**ASSISTANT PROFESSORS-PROTEINS AND MINERALIZATION.** Two tenure-track positions in the Mineralization Center. Postdoctoral experience favored. Positions co-appointed in the relevant academic department. One position requires experience with proteins, L.C., electrophoresis, automated sequencing, antibodies, protein/crystal interactions in carbonate systems; the other in an area of mineralization sciences; e.g., regulation of biocrystals, corrosion, polymers, or proteins. Both positions will include some proprietary research on synthesis and effects of mineralization inhibitors, and some teaching in the marine sciences Ph.D. program. Starting 9 months' salary around \$25,000, begin fall 1989 or later. Good benefits, funding, and incentives. Closing date for fall, 15 August 1989; winter or spring, 15 September 1989. Send résumé and names and addresses of three references to: **Dr. C. S. Sikes, Department of Biological Sciences, University of South Alabama, Mobile, AL 36688.** Telephone: 205-460-6331. *An Equal Opportunity/Affirmative Action Employer.*

## ASSISTANT, ASSOCIATE, OR FULL PROFESSOR-LEVEL POSITIONS IN VASCULAR CELL BIOLOGY

Several positions open in basic biomedical research on the staff of The Cleveland Clinic Foundation's Research Institute. Successful applicants would be expected to establish an independent research program and collaborative ties with existing independent laboratories involved in diverse aspects of vascular biology. Current areas of research interest include regulation of vascular cell gene expression, intracellular signaling pathways, lipoprotein-cell interactions, connective tissue production, vascular cell growth control, leukocyte-vessel wall interactions, and mechanisms of atherosclerotic and thrombotic disease. Candidates should have a Ph.D. or M.D. and a minimum of 3 years of postdoctoral experience. Applicants with experience in molecular biology or genetics, cell biology, or biochemistry (not necessarily related to vascular biology) will be given preference. Physician-scientists are also encouraged to apply.

The Cleveland Clinic Research Institute, which consists of nine departments comprising over 150 scientists including pre- and postdoctoral trainees, offers a stimulating and supportive environment for career growth, as well as competitive salary, excellent fringe benefits, and substantial space and funds for establishing or relocating a research effort. Applications accepted immediately. Send curriculum vitae, statement of research interests, and names of at least three references to: **Paul E. DiCorleto, Ph.D., Department of Vascular Cell Biology and Atherosclerosis Research FF4, Cleveland Clinic Research Institute, 9500 Euclid Avenue, Cleveland, OH 44195.**

*The Cleveland Clinic Foundation is an Equal Opportunity Employer.*

**BEHAVIORAL PSYCHOLOGY/TOXICOLOGY, NEUROSCIENCE.** Research Scholar position available immediately in the Directed Energy Bioeffects research program of the USAF School of Aerospace Medicine. Conduct independent research to assess the bioeffects of High Power Microwave Irradiation to establish health and safety standards for this new technology. Experience with the techniques of behavioral toxicology, neurochemistry, behavioral pharmacology, febrile seizures, kindling and stress analysis, startle, operant behavior, computer operant control and statistical packages is desired. Salary: \$35,500 with excellent benefits. Senior investigators may qualify for salary supplement. For further information, contact: **Director, AFHSD Scholarly Research Program, Operational Technologies Corporation, 5825 Callaghan Road, Suite 225, San Antonio, TX 78228.** Telephone: 512-684-0000. (Collect calls accepted.) *Equal Opportunity Employer.*

**CHIEF, TEXAS SALTWATER FISHERIES PROGRAM.** Desire Ph.D., major coursework in fisheries sciences, management/related fisheries field. One-year top-level supervisor, involved in collecting fisheries data. Have extensive administrative and technical experience in responsible position involving fisheries research, planning management. Salary: \$38,796 plus benefits; staff of 101; budget, \$4 million. Send curriculum vitae, five references to: **Dr. Gary C. Matlock, Smith School Road, Austin, TX 78744.** Additional information: 512-389-4857.

## POSITIONS OPEN

### UNIVERSITY OF COLORADO AT BOULDER ATMOSPHERIC/CLIMATE DYNAMICS

The Department of Geography and the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado at Boulder are seeking candidates for a tenure-track faculty position to begin in January 1990. The appointment, to be made jointly by the Geography Department and CIRES, is expected to be filled at the **ASSISTANT PROFESSOR** level, but candidates at all levels will be considered.

We are seeking an individual specializing in one of the following subject areas: climate dynamics, surface-atmosphere interactions, or radiative transfer processes relative to global climate. A commitment to both teaching (at undergraduate and graduate levels) and research is required.

Applicants should send curriculum vitae, evidence of past research and teaching experience (including teaching evaluations if available), and arrange to have three letters of recommendation sent to:

**Professor Robert E. Sievers, Director  
Cooperative Institute for Research  
in Environmental Sciences  
University of Colorado at Boulder  
Boulder, CO 80309-0216**

The search committee will begin reviewing applications on 15 August 1989 and continue until the position is filled.

*The University of Colorado has a strong institutional commitment to the principle of diversity. In that spirit, we are particularly interested in receiving applications from a broad spectrum of people, including women, members of ethnic minorities, and disabled individuals.*

### CHAIRPERSON DEPARTMENT OF HUMAN ANATOMY

The School of Medicine, University of California, Davis, invites applications and nominations for the position of Chairperson of the Department of Human Anatomy. The department currently comprises ten tenure-track faculty, is housed in a modern laboratory building, offers graduate training in cell biology, anatomy, and related disciplines, and is responsible for the teaching of gross, neuro- and microscopic anatomy and aspects of cell biology in the medical curriculum. Candidates must have a distinguished record of scholarship and professional achievement in some area of cell biology, as evidenced by publications and grant awards. They also must have leadership and administrative abilities and an interest in the departmental teaching mission. A commitment is required to building a strong, independent, extramurally funded research program in modern cell biology as well as to augmenting departmental research in this area; an opportunity to appoint a number of new faculty members if available. Implementation plans have been approved for four Biological Science Centers on the Davis campus, including a Center for Neurobiology and a Center for Molecular, Cell and Developmental Biology. Applicants should submit a letter of application, curriculum vitae, a summary of research goals, and the names of five references to: **Dr. FitzRoy E. Curry, Search Committee Chairperson, c/o Office of the Dean, School of Medicine, University of California, Davis, CA 95616.** This position will be "Open Until Filled"; applications must be received by 16 October 1989. *The University of California, Davis, is an Affirmative Action/Equal Opportunity Employer.*

### YALE UNIVERSITY SCHOOL OF MEDICINE ELECTROPHYSIOLOGY

**POSTDOCTORAL FELLOWSHIP** position is immediately available for a Ph.D. experienced in slice electrophysiology who will join a multidisciplinary team studying the anatomy, biochemistry, and electrophysiology of the human epileptic focus. Both hippocampal and neocortical seizure foci are carefully characterized preoperatively and provided for investigation. Animal models of seizure foci currently complement human studies.

Submit curriculum vitae, representative reprints, and three references by 15 August 1989 to: **Dennis Spencer, M.D., Chief, Neurological Surgery, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.**

*Yale University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### CHAIR DEPARTMENT OF PHARMACOLOGY EMORY UNIVERSITY SCHOOL OF MEDICINE

Emory University School of Medicine invites nominations and applications for the position of Chair of the Department of Pharmacology. Responsibilities include the direction, management, and continuing development of a department committed to excellence in research and teaching in a university setting. The faculty have teaching responsibilities for the M.D. degree program of the Medical School and also for the M.S. and Ph.D. degree programs offered through the Graduate School of Arts and Sciences. The department is involved in a diverse but interrelated research effort and soon will be relocated to quarters in the new Rollins Research Center on the campus. Candidates must hold the M.D. or Ph.D. degree with training in Pharmacology and a strong record in research. Previous academic and administrative responsibilities are required as well as demonstrated leadership capabilities. Salary is negotiable. Applications should include a current curriculum vitae and the names of appropriate references and should be submitted no later than 1 October 1989 to:

**Pharmacology Search Committee  
409 Woodruff Health Science Center  
Emory University School of Medicine  
Atlanta, GA 30322**

*Emory University is an Equal Opportunity/  
Affirmative Action Employer.*

**CLINICAL/MOLECULAR MICROBIOLOGIST POSITION**, Mayo Clinic in the Bacteriology Laboratory, Department of Laboratory Medicine and Pathology. Incumbent will direct a special tests area in the clinical laboratory and be expected to develop applications of molecular biology to clinical diagnostic testing. Applicants must have a doctorate (M.D. or Ph.D.), appropriate postgraduate experience, and interact well with clinicians. Please send curriculum vitae and names of three references to: **George G. Klee, M.D., Ph.D., Chairman, Clinical Microbiology Search Committee, Division of Laboratory Medicine, Mayo Clinic, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Employer.*

**COMPUTATIONAL LINGUIST** for Dayton area firm to study components, structure, and relationships within specified language to provide comprehension of its social functioning: prepare description of sounds, forms, and vocabulary of language. Contribute to development of linguistic theory. Apply linguistic theory to any of the following areas: development of improved methods in translation, including computerization; preparation of language-teaching materials, dictionaries, and handbooks; reducing previously unwritten languages to standardized written form; preparation of literacy materials. Perform major experiments and base research to validate and extend natural language work, grammar recognition tools, sentence syntax and discourse modeling. No experience required in above duties but applicants will qualify with the following: Ph.D. or ABD in computational linguistics and 6 months of research experience in computational linguistics/syntax grammar writing for natural language understanding by computers, using list processing language (LISP). Forty hours per week, 8:00 a.m. to 5:00 p.m., \$654 per week plus time and a half for overtime. Qualified applicants send résumé (no calls) to: **C. Bussard, JO#1201795, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

### EVOLUTION-POPULATION BIOLOGY (SEARCH REOPENED)

The Department of Biology at the University of Oregon is continuing its recruitment of **FACULTY** in population biology as outlined in the job description published in *Science* Vol. 241, 30 September 1988 and Volume 242, 7 October 1988. Applicants should forward curriculum vitae, brief description of research and teaching interests, recent publications, and three letters of reference to: **Evolution Search Committee, Department of Biology, University of Oregon, Eugene, OR 97403.** For additional information, call: **Michael Lynch, 503-686-4526.** Closing date: 30 September 1989. *The University of Oregon is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

The University of Michigan Medical School invites applications for **DIRECTOR OF PROTEIN CHEMISTRY CORE LABORATORY** with a **RESEARCH-TRACK FACULTY POSITION**. Candidates should have a Ph.D. in biochemistry or related field with a strong chemical background, postdoctoral research training, and direct experience in protein purification, amino acid compositional analysis, and amino acid sequencing, including manual Edman techniques and use of automated sequencers. Rank and salary dependent upon experience. The duties of the Core Director will be to lead a team of three to four highly skilled technical assistants in the design and implementation of innovative techniques as well as in carrying out routine analyses related to protein purification, characterization, and amino acid sequence determinations. While the Core Director will have a major responsibility in carrying out and supervising service-related analyses in collaboration with research laboratories, a significant amount of time will be available to carry out his/her own or collaborative research. Please send résumé to: **Dr. M. J. Coon, Chairman, Department of Biological Chemistry, University of Michigan Medical School, Box 0606, Ann Arbor, MI 48109.** *A Nondiscriminatory, Affirmative Action Employer.*

### ENVIRONMENTAL HEALTH SCIENTISTS

Rapidly expanding environmental and occupational health consulting firm in Boston area seeks experienced senior scientists in health risk assessment and toxicology, exposure assessment modeling, and environmental health policy analysis. Strong technical training, interdisciplinary skills, public policy experience desirable. Send résumé to: **Helen Smith, Eastern Research Group, 6 Whittemore Street, Arlington, MA 02174. Telephone: 617-648-7801.**

**EXPERIMENTAL PATHOLOGIST:** The Hepatitis Branch, Division of Viral Diseases, Centers for Disease Control, seeks an individual with recognized expertise in the pathology of viral hepatitis in both humans and non-human primate models of infection. Candidate initiates basic and applied research directed toward defining the pathomorphology and immunopathogenic mechanisms that occur in hepatitis A, hepatitis B, delta hepatitis, enterically transmitted non-A, non-B hepatitis, and parenterally transmitted non-A, non-B hepatitis. Candidate must have proven expertise in the interpretation of liver biopsies obtained from humans and non-human primates and must have proven expertise in the areas of immunopathology, virology, and molecular biology. M.D., Ph.D., D.V.M., or equivalent experience preferred. Salary range \$41,121 to \$74,303 depending on experience and qualifications. Send curriculum vitae, brief summary of research experience and names of three current references to: **Sharlyn Wilkinson, Centers for Disease Control, Personnel Management Office (D01), Atlanta, GA 30333.** For technical information related to the job, please contact: **Harold Margolis or Stephen Hadler at 404-639-2339.** Deadline for submission of application is 15 August 1989. *CDC is an Equal Opportunity Employer and provides for a smoke-free environment.*

### FACULTY POSITION, BASIC MICROBIOLOGY

The Department of Microbiology and Immunology at Baylor College of Medicine has two junior faculty positions available. We are seeking bacteriologists who can complement ongoing molecular pathogenesis work on genetics of bacterial virulence with other interests and capabilities. We desire to develop a concentration on protein-protein interactions between eukaryotic cells and microorganisms. Interest and abilities in protein chemistry and signal-transduction are preferred, but all candidates are welcome.

Positions are at the tenure-track assistant professor level with research space and start-up funds available now. Candidates are expected to develop an independent research program and participate in graduate and medical education. Salary and fringe benefits are competitive. *Baylor College of Medicine is an Equal Opportunity Employer.* Interested persons should submit curriculum vitae and the names of three references to: **Dr. Robert B. Couch, Department of Microbiology and Immunology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030.**



# BS/MS SCIENTISTS

## Biochemical Toxicology

For more than a century, scientists at ELI LILLY AND COMPANY have developed innovative, high quality pharmaceutical products. Lilly invests over \$500 million annually 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 for positions in the Toxicology Division. All positions will require a B.S. or M.S. in Biology, Pharmacology, Toxicology, Biochemistry, or Physiology, together with excellent organizational and communications skills.

- **Toxicologists** are needed who will actively participate in the design, execution and analysis of disposition studies utilizing the whole-body autoradiographic and dissection techniques to determine the tissue distribution, placental transfer and milk excretion of compounds. Experience with animal handling and surgery, computer science, and radiotracer methodologies is preferred.
- **Toxicologists** are needed who will have responsibility for establishing *in vivo* models for examining the effects of potential drug candidates on renal functions. Candidates will participate in the design, execution and analysis of *in vivo* and *in vitro* experiments to improve the understanding of the physiological and biochemical mechanisms of drug-induced renal injury and disease. Experience in physiological monitoring of renal function as well as renal cell biochemistry is preferred.

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 *résumé* to:

Ann Hinson  
Science Recruitment (BT992)  
Eli Lilly and Company  
Lilly Corporate Center  
Indianapolis, Indiana 46285



Equal Opportunity Employer

## POSITIONS OPEN

**EXECUTIVE DIRECTOR.** Sea World Research Institute, a private foundation, seeks a person to direct all research and associated programs, and to develop and manage finances. Candidates need an established scientific reputation in the biological sciences, demonstrated management ability, and skill in fund-raising. For further information, write to: **Frank Awbrey, Sea World Research Institute, 1700 South Shores Road, San Diego, CA 92109.**

**FACULTY POSITION** in molecular pathology. The University of Arizona Department of Pathology invites applications for a full-time tenure-track faculty position at the level of assistant professor, associate professor, or professor. Applicants may be either Ph.D. or M.D. and must have demonstrated research expertise in one of the fields of molecular immunology, molecular aspects of disease pathogenesis, or molecular genetics. The candidate will be expected to develop a strong competitive research program and to teach molecular aspects of pathology to graduate and medical students. Submit curriculum vitae and letters of interest to: **Dr. Ray B. Nagle, Chairman of Search Committee, Department of Pathology, Arizona Health Sciences Center, Tucson, AZ 85724.** Applications accepted until 1 October 1989 or when the position is filled. *The University of Arizona is an Equal Employment/Affirmative Action Employer.*

### FACULTY POSITION IN PHARMACOKINETICS THE UNIVERSITY OF MICHIGAN COLLEGE OF PHARMACY

Applications are invited for appointment to an assistant or associate professor position in pharmacokinetics at The University of Michigan College of Pharmacy. Candidates must possess the Ph.D. or equivalent degree and at least 2 years of relevant research experience at the postdoctoral level. This position requires the development of a vigorous research program and teaching at both the undergraduate and graduate levels. A detailed curriculum vitae, including a list of publications and current grant support, a description of current research interests, and three letters of recommendation should be addressed to: **Dr. Jennifer B. Dressman, College of Pharmacy, The University of Michigan, Ann Arbor, MI 48109-1065.** Preference will be given to those candidates submitting completed applications by 15 September 1989. *The University of Michigan is a nondiscriminatory, Affirmative Action Employer.*

### MEMBRANE PHYSIOLOGIST

The Department of Physiology and Neurobiology of the University of Connecticut at Storrs invites applications for an anticipated tenure-track assistant professorship for a membrane physiologist with strong interests in the molecular biology of transport mechanisms in animals. We are particularly interested in individuals with expertise in modern techniques of electrophysiology and molecular biology, quantitative interests in the description of membrane phenomena and a strong record of research accomplishments. The position will require participation in undergraduate and graduate teaching, development of an independent research program, and interaction with existing programs in renal physiology and neurobiology. Candidates should send curriculum vitae, description of research activities, and the names of three references to: **Dr. Guillermo Pilar, Department Head, Physiology and Neurobiology, University of Connecticut, 75 North Eagleville Road, Storrs, CT 06269.** *Affirmative Action/Equal Opportunity Employer (Search #9A248).*

### MOLECULAR BIOLOGIST

Positions are available at research associate/instructor/assistant-professor level for Ph.D.'s with experience in molecular biological techniques. Structure and expression of sperm surface molecules during spermatogenesis, fertilization and early embryonic development, and proteins of signal transduction pathways are of interest. Applicants should send curriculum vitae and names of three references to: **Dr. Rajesh K. Naz, Department of Obstetrics and Gynecology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.**

## POSITIONS OPEN



UNIVERSITY OF MANITOBA  
FACULTY OF SCIENCE

### INDUSTRIAL RESEARCH CHAIR IN FERMENTATION TECHNOLOGY

Applications are invited for a Senior tenured or tenure-track appointment effective 1 July 1990 as Industrial Research Professor in Fermentation Technology. The Chair has been established through a 5-year funding program from the Natural Sciences and Engineering Research Council in collaboration with an industrial sponsor. The Chairholder will be expected to take the lead in developing a research program in fermentation technology. Candidates must have an international status in the field and will be expected to interact in the research and development fields of ABI Biotechnology Inc.

The Chairholder will be expected to attract significant research contracts from industry to augment the substantial funding for equipment, research staff, and operating expenses which are available.

The applicant should have a Ph.D. degree and at least 10 years of industrial research experience or equivalent education and experience. Salary is negotiable. The Chair is primarily a research position, and as such teaching loads will be light with the emphasis on graduate student teaching and research.

*Both women and men are encouraged to apply. In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents.*

Applicants should arrange to have three letters of reference, curriculum vitae, recent reprints and a brief description of present and prospective research forwarded to: **P. Loewen, Chairman Search Committee, Department of Microbiology, The University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2.**

Applications and/or nominations will be accepted up to 30 September 1989, or until the position is filled.

**MICROBIOLOGIST/FISH DISEASE RESEARCH.** Research assistant to assist in a project concerning fish pathogens at the Hatfield Marine Science Center, Newport, Oregon, and the Department of Microbiology, Oregon State University (OSU), Corvallis. Require M.S. in microbiology or related field with experience in pathogenic bacteriology, virology, immunology, and production and testing of monoclonal antibodies. Full time for 2 years starting 1 September 1989. Send letter of application, résumé, and three references before 15 August 1989 to: **Dr. J. S. Rohovec, Department of Microbiology, Nash Hall, OSU, Corvallis, OR 97331-3804.** *OSU is an Affirmative Action/Equal Employment Opportunity Employer and complies with section 504 of the Rehabilitation Act of 1973 and has a policy of being responsive to the needs of dual-career couples.*

### MOLECULAR BIOLOGIST

The Department of Pathology, College of Veterinary Medicine, Oklahoma State University invites applications for a tenure-track research faculty position in molecular biology at the rank of **ASSISTANT** or **ASSOCIATE PROFESSOR**. Applicants should have a Ph.D. in molecular biology, microbiology, or biochemistry. Postdoctoral experience in molecular aspects of bacterial infection and immunity is preferred. Responsibilities include the development of a strong research program utilizing various aspects of molecular biology towards solving animal health problems important to veterinary medicine. The successful candidate will be invited to become a member of one or more of the interdepartmental research projects dealing particularly with *Pasteurella haemolytica* and *Brucella abortus*. Experience is desired in one or more of the following areas: recombinant DNA technology, protein expression, subunit vaccine development, or molecular genetics. Opportunity exists to collaborate with others in the College of Veterinary Medicine, Agricultural Experiment Station, and several other campus departments involved with molecular biology and infectious disease research. Application including curriculum vitae, statement of professional goals, and names of three references should be received by 15 August 1989. **Dr. A. W. Confer, Head, Department of Veterinary Pathology, College of Veterinary Medicine, Stillwater, OK 74078. Telephone: 405-744-6744.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**MOLECULAR BIOLOGIST.** Northeast Missouri State University has an **immediate opening** for a tenure-track position, starting August 1989 (negotiable), in molecular biology. Teaching responsibilities will include introductory biology (for majors and non-majors) and one of the following: Microbiology, genetics, or an upper-level specialty course. The successful candidate will show strong potential as a teacher and enthusiastically involve undergraduates and graduate students in research using modern molecular techniques. Laboratory space, basic instrumentation, and initial funding for research will be provided. The mission of Northeast Missouri State University is to provide the outstanding educational environment of a small liberal arts and sciences university while remaining economically accessible. The candidate must possess an excellent undergraduate record from a selective liberal arts and sciences institution, strong graduate experiences, and must display leadership and service qualities. *Women and minorities are especially encouraged to apply.* Please send letter of application indicating teaching and research goals, curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation to **Dr. L. Scott Ellis, Division of Science, Northeast Missouri State University, Kirksville, MO 63501. Telephone: 816-785-4597.** Complete applications will be accepted and reviewed until the position is filled.

### POSITION FOR MOLECULAR BIOLOGIST/GENETICIST

The Molecular Genetics Department of Northrup King Co. is recruiting a Ph.D. level molecular biologist/geneticist to conduct research with molecular markers (i.e., isozymes, RFLP's, etc.) in field and sweet corn. Experience in Southern blotting and plasmid preparation as well as a fundamental understanding of genetics is required. Computer knowledge and familiarity with DNA sequencing and PCR technology desirable. The position will be located at the Northrup King Research Center, Stanton, Minnesota; and starting salary will be commensurate with experience/accomplishments.

Send application/résumés to:

**Dr. Ed Weck  
Northrup King Co.  
Research Center  
Highway 19  
Stanton, MN 55081**

**MOLECULAR PHARMACOLOGY.** Mayo Medical School invites applications for a tenure-track **FACULTY POSITION** in the Department of Pharmacology, available 1 January 1990. Candidate should have primary interests in pharmacology and be pursuing these interests with the methods of molecular biology. Mayo will provide generous space and start-up funds in addition to an attractive package of salary and benefits. Academic rank will be determined by qualifications; established investigators are also encouraged to apply. Submit curriculum vitae with names and addresses of three or more referees to: **Stephen Brimijoin, Ph.D., Department of Pharmacology, Mayo Medical School, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Employer.*

**NMR SCIENTISTS**—The Department of Diagnostic Radiology at Yale University School of Medicine is seeking two suitably qualified scientists to undertake research in the area of NMR imaging and spectroscopy. The successful candidates will be expected to participate in, and further develop, the existing research programs in NMR imaging and spectroscopy, particularly in the areas of fast imaging and quantitation of blood flow. One appointment will be at the rank of assistant professor, and candidates should have a Ph.D. in physics, engineering, or similar and relevant postdoctoral experience, and be familiar with NMR applications in biomedicine. The second appointment will be a postdoctoral research fellowship for 2 years. A Ph.D. in physics, chemistry, or engineering is required. Applications for either position, including curriculum vitae and the names of two referees, or inquiries, should be sent to: **Dr. J. C. Gore, Director of NMR Research, Department of Diagnostic Radiology, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.** *Yale University is an Equal Opportunity/Affirmative Action Employer; applications from women and minority groups are encouraged.* Application deadline is 21 September 1989.

## **NAVAL RESEARCH LABORATORY**

### **Condensed Matter and Radiation Sciences Division**

## **THREE SENIOR RESEARCH SCIENTIST POSITIONS**

**At the GM-15 Level  
\$57,158 to \$74,303  
(Salary dependent on qualifications)**

### **ASSOCIATE SUPERINTENDENT**

Works with the Division Superintendent in planning, directing and administering a broad experimental and theoretical/computational program engaging 100 scientists and engineers in basic, applied, and military research and development. Duties include division administration, conceiving and finding sponsorship for programs, reviewing programs, performing studies, serving as an expert consultant, and presenting information to top level management. (ID # 46-012-14:BC).

### **HEAD OF DIRECTED ENERGY EFFECTS BRANCH**

Exercises technical leadership and supervision over 20 scientists engaged in experimental and theoretical research on the interactions of directed energy beams with matter. All phases of interaction are examined, including the energy coupling, the modification of physical properties, resultant physical state transformation and concomitant modes of damage. Defines tasks, makes personnel assignments, establishes priorities and milestones, and orchestrates the overall research effort to ensure goals are achieved within funding limitations. (ID # 46-020-14:BC).

### **HEAD OF DYNAMICS OF SOLIDS BRANCH**

Exercises technical leadership and supervision over 20 scientists engaged in experimental and theoretical research on the dynamics of solids, including electron excitations produced by photons and particles, phase and chemical changes driven by temperature, pressure and high energy density, and shock and flow induced at laser foci or by hypervelocity impact. Define tasks, makes personnel assignments, establishes priorities and milestones, and orchestrates the overall research effort to ensure goals are achieved within funding limitations. (ID # 46-021-14:BC).

Positions require bachelor's degree or higher (Ph.D. desirable) in Physics, Materials Science or Materials or Electrical Engineering, extensive research experience in the field of condensed matter and radiation science and technology and demonstrated managerial experience in a research environment.

Interested applicants should submit an Application for Federal Employment (SF-171) or detailed resumé indicating specific vacancy ID # for which applying on or before 31 August 1989 to:

**NAVAL RESEARCH LABORATORY**  
Civilian Personnel Division (S)  
Attn: ID #  
4555 Overlook Avenue, S.W.  
Washington, DC 20375-5000

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# **Baxter Hyland Division – A Vital Force In A Vital Industry**

## **RESEARCH & DEVELOPMENT**

Baxter Hyland Division's Research & Development group is located at a multi-million dollar facility equipped with state-of-the-art technologies. Here, professionals who bring expertise in biology, immunology, biochemistry, chemical engineering and other vital life science areas, are using applied and basic research techniques to develop biological products for the treatment of human disease.

In addition to working on new products or new applications for existing products, these multi-disciplined teams are responsible for exploring the ways in which new products might be manufactured. They initiate pilot plant studies for integrating new product manufacturing process with existing separation, filtration, and processing facilities.

We currently have openings in Cell Culture, Process Analysis and Product Formulation. Two new start-up operations in Molecular Biology and Immunology have also created several openings for scientists and lead scientists to join our team of professionals. Positions range from entry-level to managerial.

## **MANUFACTURING & PRODUCTION – Project Manager, Technology Transfer**

In this position, you will oversee the technical transfer of immunoaffinity purification processes developed for human plasma proteins, conduct feasibility and scale-up experiments in a pilot plant environment, and prepare reports/data analysis.

To qualify, you must have a technical degree or equivalent experience (Ph.D. in Protein Chemistry, or M.S. with 7+ years in protein purification); experience managing project activity; working knowledge of lab and production equipment; and demonstrated problem-solving, communication, and motivational skills. QA/GMP background desirable.

Our compensation plan reflects the strength and size of the worldwide Baxter Healthcare Corporation organization. To find out more, send your resume with salary history to: **Baxter Hyland Division, Human Resources (CG), 4501 W. Colorado Blvd., Los Angeles, CA 90039.** An Equal Opportunity Employer.

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**Baxter**



## POSITIONS OPEN

### MORPHOLOGY INVESTIGATOR, MASSACHUSETTS EYE AND EAR INFIRMARY (MEEI)

Opening for research associate (instructor) in ophthalmology to oversee EM laboratory within pathology laboratory at international center for treatment and research and a teaching hospital of the Harvard Medical School. The successful candidate will collaborate with pathologists and other scientists to design and conduct studies in ocular oncology. Qualifications include a Ph.D. in anatomy, pathology, morphology, or related field with 3 to 5 years of experience with TEM and SEM and a demonstrated outstanding ability for independent research.

*The Massachusetts Eye and Ear Infirmary is an Equal Opportunity/Affirmative Action Employer.*

Candidates should send statement of research and career goals, curriculum vitae, and representative publications to: **Frederick A. Jakobiec, M.D., Professor and Chairman, Department of Ophthalmology, MEEI, 243 Charles Street, Boston, MA 02114.**

### PHARMACOLOGY

The Department of Pharmacology, Division of Functional Biology, of the West Virginia School of Osteopathic Medicine (WVSOM) has immediately available a tenure-track position in pharmacology at **ASSISTANT OR ASSOCIATE PROFESSOR** level to teach cardiovascular and renal pharmacology to second-year medical students. Ph.D. required plus significant teaching experience and a demonstrated ability to conduct independent research. Some research funding available.

Rank and salary will be commensurate with qualifications. Send current curriculum vitae and three letters of recommendation to: **Chairperson, Pharmacology Search Committee, c/o Personnel Office, WVSOM, 400 North Lee Street, Lewisburg, WV 24901.** The position is available immediately.

*WVSOM is an Affirmative Action/Equal Opportunity Employer.*

### McMASTER UNIVERSITY DEPARTMENT OF BIOLOGY

The Department of Biology, McMaster University seeks a **PLANT MOLECULAR GENETICIST** specializing in the area of chromosome and/or genome evolution for a tenure-track position. The position is subject to final budgetary approval. Applicants should have a Ph.D., postdoctoral experience, and demonstrated research productivity. Candidates should submit curriculum vitae, a summary of research plans, and the names of three referees to: **Dr. S. F. H. Threlkeld, Chairman, Department of Biology, McMaster University, Hamilton, Ontario, Canada L8S 4K1.** Applications will be accepted until 31 August 1989.

**POSITIONS AVAILABLE**, Postdoctoral through assistant professor level. Gene expression and structure in colon cell differentiation and transformation. Forward résumé and names of references to: **Leonard H. Augenlicht, Ph.D., Molecular Oncology Program, Albert Einstein Cancer Center, Montefiore and Albert Einstein Medical Centers, 111 East 210th Street, Bronx, NY 10467.**

**POSTDOCTORAL FELLOW POSITIONS** at the National Institute on Drug Abuse (NIDA)/Addiction Research Center in the Laboratory of Neurobiology. Topics of research include: identification, characterization, and purification of peptide receptors; neurohormones involved in integrating the brain-endocrine-immune response to stress; neurotoxic and behavioral actions of amphetamine-related designer drugs. Salaries range from \$20,000 to approximately \$40,000 depending on experience and qualifications. Benefits and relocation expenses may be available. Previous postdoctoral experience acceptable but not necessary. Positions are available for both U.S. citizens (staff fellows) and foreign fellows. Send curriculum vitae, bibliography and two letters of reference to: **Dr. Errol B. De Souza, NIDA Addiction Research Center, P.O. Box 5180, Baltimore, MD 21224.** The ARC is an Equal Opportunity/Affirmative Action Employer M/F/H/V. ADAMHA is smoke-free.

## POSITIONS OPEN

**POSTDOCTORAL FELLOW**—Schering-Plough's Department of Pharmacology offers an outstanding Ph.D. scientist an opportunity to pursue research on the molecular biology of atherosclerotic lesion development. The successful candidate will have a background in molecular biology; experience with in situ hybridization preferred. Please send curriculum vitae and the names of three references to: **R. Blackburn, Box TM-89-49, Schering-Plough Research, 60 Orange Street, Bloomfield, NJ 07003.** We are an Equal Opportunity Employer.

**POSTDOCTORAL FELLOW POSITION(S) BIOCHEMICAL/MOLECULAR PHARMACOLOGIST** to study mechanisms of inhibitory neurotransmitter receptor effect or recognition and activation, specifically by opioid, GABA and  $\alpha_2$  receptor ligands, in collaboration with investigators at Stanford University. Experience in biochemistry or pharmacology with a background in cell culture and receptor signal transduction preferred. Send curriculum vitae and names of three references to: **Dr. Gilda Loew, Molecular Research Institute, 701 Welch Road, Suite 213, Palo Alto, CA 94304.**

*MRI is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWSHIP** (Invertebrates Zoology). Requires Ph.D. and demonstrated experience in the systematics of taxonomic groups of invertebrates, and the curation of museum collections. Primary responsibility is to conduct research, assist with curation of collection and educational activities. Send curriculum vitae, research proposal, and names, addresses, and telephone numbers of three references to: **Dolores Rogers, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118** by 15 September 1989. *Equal Opportunity Employer.*

**POSTDOCTORAL FELLOWSHIP** position available immediately for candidate with a background in neuroanatomy and/or molecular biology to participate in immunocytochemical and in situ hybridization studies of growth factor expression in brain. Contact: **Dr. Seth Finklestein, CNS Growth Factor Research Laboratory, Massachusetts General Hospital, Boston, MA 02214.**

**POSTDOCTORAL FELLOWSHIPS:** Applications are invited for postdoctoral fellowships in AIDS research at the New England Deaconess Hospital/Harvard Medical School. The regulation of HIV gene expression in various cell types is a major area of study. Candidates should have experience in cell or molecular biology. There is no citizenship restriction on this position.

Positions are available after September 1989 for a period of 2 to 3 years. Salary support and travel expenses are competitive. Send an application letter, curriculum vitae and names of references to: **Jerome E. Groopman, M.D., 110 Francis Street, Boston, MA 02215, Attention: Dr. Sunyoung Kim.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available to work on characterization of growth factor inhibitors. Research will involve protein chemistry, cell physiology, and molecular biology. Background in protein/peptide biochemistry preferred. Send curriculum vitae and names of three references to: **Dr. Lawrence S. Phillips, Emory University School of Medicine, 69 Butler Street, S.E., Atlanta, GA 30303.**

**POSTDOCTORAL POSITION:** To study G-proteins involved in coupling of receptors to phospholipase C using the *Xenopus* oocyte as the model system. Combination of molecular biologic and biochemical approaches will be used. *Position is funded by NIDA training grant and hence is restricted to U.S. citizens and permanent residents.* Send curriculum vitae and three letters of reference to: **Dr. R. Iyengar, Department of Pharmacology, Box 1215, Mount Sinai School of Medicine, One Gustave Levy Place, New York, NY 10029.**

## POSITIONS AVAILABLE

### VACCINE RESEARCH AND DEVELOPMENT BRANCH AIDS PROGRAM NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

The Acquired Immunodeficiency Syndrome (AIDS) Program of the National Institute of Allergy and Infectious Diseases, National Institutes of Health, is seeking immunologists, virologists, and molecular biologists to join its Vaccine Research and Development Branch. The Branch is divided into three sections: Basic Research Section, Preclinical Development Section, and Clinical Development Section. The Branch is responsible for planning and directing a federal program of research projects for the development of vaccines for the prevention of AIDS and its associated opportunistic infections. Major efforts presently underway include molecular studies of HIV, antigenic variation, correlates of immunity, reagent development, animal models, government-industry-academia cooperative vaccine groups, vaccine adjuvants, clinical trials of AIDS vaccines, international collaborative efforts, technology transfer and information exchange, data coordination, and social and public policy issues related to AIDS vaccine testing.

**Positions are currently available in the Preclinical Section for:**

- Chief, Preclinical Development Section
- Senior Scientist

Background in molecular biology, immunology, virology, clinical trials design, clinical epidemiology, or other related discipline is desirable. Experience with HIV or Simian Immunodeficiency Virus (SIV) would be helpful. Salary commensurate with training and experience. U.S. citizenship required. Send curriculum vitae, bibliography, and names of references to:

**Dr. Wayne C. Koff  
Chief, Vaccine Research and  
Development Branch  
NIAID / AIDSP  
6003 Executive Blvd.  
Room 234P  
Rockville, MD 20892**



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## COMPUTER-ASSISTED MOLECULAR DESIGN

The Research Department of Rhône-Poulenc Ag Company, a world leader in agricultural chemicals, has an immediate opening for a Ph.D. Chemist at its technical center in Research Triangle Park, NC.

We are looking for a person with formal training in medicinal, organic, or computational chemistry with experience and expertise in Computer-Assisted Molecular Design oriented towards the guidance of new synthesis and elucidation of mechanisms of action. Applications expertise in molecular modelling including computations and graphics is required. The applicant must be goal-oriented and be able to work well with an interdisciplinary team of chemists, biochemists, and insect and plant biological scientists. The successful candidate will be supported by excellent facilities and members of the R&D Systems group.

We offer salary commensurate with experience and an excellent benefits package. For prompt consideration, please forward resume including references to:

Employment Coordinator

**RHÔNE-POULENC AG COMPANY**  
PO Box 12014  
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### RESEARCH MATERIALS ENGINEER GS-13, \$41,121 to \$53,460 per annum

The Electronics Development Department is seeking individuals to fill the following vacancy.

#### \*Research Materials Engineer

Will lead and perform research projects in a joint Army-Navy effort to transform the "Art of Soldering" of electronic assemblies into a true science-providing analytical design guidelines to electronic hardware designers. Will assist in the development of a world-class microfactory to perform research and analysis studies on national level soldering problems.

\*One year of specialized experience equivalent to a GS-12 level Research Materials Engineer in Federal service which is relative to the above duties is required to qualify.

Interested applicants must submit a Personal Qualifications Statement (SF-171) or detailed resume indicating vacancy MSPA No. 121-89, on or before 29 September 1989 to:

**NAVAL WEAPONS SUPPORT CENTER, CODE 062-JM  
CRANE, INDIANA 47522-5006**

## RESEARCH SCIENTISTS Senior Computational Chemists Lilly Supercomputer Initiative



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For more than a century, scientists at ELI LILLY AND COMPANY have developed innovative, high quality pharmaceutical products. Lilly invests over \$500 million annually 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 with the following qualifications:

- Applicants should possess a doctoral degree preferably in chemistry or biochemistry and have significant experience in computational chemistry.
- Expertise in the application of molecular modeling to either large or small molecule problems with experience in molecular mechanics, molecular design, and QSAR techniques is desirable.
- Proficiency with high-performance graphics workstations and associated software is expected.

In addition, these scientists must have the leadership capabilities needed—technical, communication, interpersonal, and organizational skills—to build a research program.

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 *curriculum vitae* to:

John W. Crooks, Manager  
Ph.D. Recruitment (SCC)  
Eli Lilly and Company  
Lilly Corporate Center  
Indianapolis, Indiana 46285

# PCR

## OPPORTUNITIES AT ROCHE

### NEW DIAGNOSTIC RESEARCH & DEVELOPMENT GROUPS

Play a major role in the research,  
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**H**offmann-La Roche Inc. and Cetus Corporation have undertaken a joint effort to develop and commercialize *in vitro* human diagnostic products and services, based upon the GeneAmp Polymerase Chain Reaction (PCR). Over the last several years, PCR technology has taken DNA probe diagnostics by storm. The efficacy of PCR for sensitive diagnosis of infectious diseases, cancer, and genetic disorders is proven in hundreds of research publications.

Roche Diagnostic Systems successfully markets clinical microbiology and clinical chemistry diagnostic products, and includes Roche Biomedical Laboratories, a major nation-wide clinical reference laboratory.

Our new Director of Probe Development is building a multi-disciplinary team to participate in a winning combination of PCR technology and Roche product development and marketing expertise. There are significant opportunities at all levels for degreed candidates with diagnostic industry experience in the following areas:

#### ASSAY DEVELOPMENT

Responsible for optimization of PCR diagnostic formats. Experience in DNA probe assay or Immunoassay development and transfer to production/manufacturing required. Familiarity with sample processing, hybridization and detection methods also essential.

#### CLINICAL VIROLOGY/MICROBIOLOGY


Responsibilities include implementing PCR assays for the detection of human pathogens. Must be familiar with conventional culture and rapid methods for the detection of clinically relevant organisms. Experience with assay optimization and clinical trials required.

#### MOLECULAR BIOLOGISTS/ NUCLEIC ACID CHEMISTS

Develop and utilize hybridization techniques and formats. Extensive experience with PCR, nucleic acid hybridization, or synthesis of nucleic acid probes and primers required.

In return for your professional contributions, we offer competitive salaries commensurate with your experience and education, an outstanding benefits package and significant opportunities to have impact in an important venture. For consideration, please send your resume including list of publications and references, indicating area of interest, to: **Eleanor M. Malone, Department JL, Hoffmann-La Roche Inc., Nutley, New Jersey 07110**. We are an equal opportunity employer.

### Roche Diagnostic Systems

 a subsidiary of Hoffmann-La Roche Inc.

### MANAGING DIRECTOR PRODUCT DEVELOPMENT GROUP

Molecular Biosystems, Inc., a leader in genetic probe based *in vitro* diagnostics, has the following opportunity in the Product Development Group of the Diagnostics Division. We seek an individual with at least five years of experience in a commercial diagnostics company managing the development of novel *in vitro* assays. The position involves total responsibility for the development of new products and clinical trials. A Ph.D. degree in a relevant scientific area, such as Molecular Biology and/or Biochemistry is required. The successful candidate will have a proven record of creative research, project management, regulatory /FDA experience, and supervision of technical and scientific personnel. Molecular Biosystems, Inc., located in San Diego, California offers an excellent salary and benefits package with an opportunity to make major impact on the future growth of the company as a key member of senior management. For consideration, please send your resume and compensation history to:

**Molecular Biosystems, Inc.  
Human Resources Department  
10030 Barnes Canyon Road  
San Diego, CA 92121**

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**Molecular Biosystems, Inc.**

10030 Barnes Canyon Road, San Diego, California 92121  
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## GENOME SEQUENCING CONFERENCE

WOLF TRAP CONFERENCE CENTER

OCTOBER 24-26, 1989

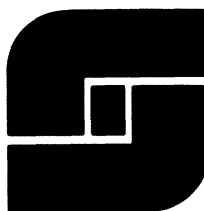
CALL FOR ABSTRACTS

The Genome Sequencing Conference is being held in the Washington, D.C. area and will bring together international experts to define the current state of the art in large-scale DNA sequencing, especially as it relates to genome sequencing projects. The conference will include discussion related to future developments that will impact on research in this area. Topics to be covered include vector strategy, use of PCR in cloning and sequencing, automation of all steps related to DNA sequencing, new hardware and software, computerized data analysis, and a presentation of large-scale sequencing projects currently underway or in planning stages. Those submitting relevant abstracts prior to the **September 1, 1989 deadline** will be given preference for the limited number of spaces available at the meeting.

*Co-chairs:* J. C. Venter (NIH) and C. T. Caskey (Baylor U.)

*Partial list of participants include:* W. Ansorge, B. Barrell, D. Benson, F. Blattner, S. Brenner, C. Burks, C. Cantor, R. Cathcart, E. Chen, D. Cohen, R. Davis, J. Devereux, R. Gibbs, P. Gilna, M. Guyer, S. Henikoff, L. Hood, M. Hunkapiller, T. Hunkapiller, E. Jordan, D. Lipman, W. McCombie, M. Olsen, M. Pearson, J. Peterson, E. Soeda, J. Sulston, M. Waterman, and J. Watson.

For further information write to:  
Genome Sequencing Conference  
P. O. Box 541  
Rockville, Maryland 20851  
FAX (301) 480-8588



## HEAD, BIOTECHNOLOGY DIVISION

With a staff of over 600, Southern Research Institute is an independent research organization engaged in state-of-the-art, interdisciplinary research in diversified areas such as cancer and viral disease cause and prevention, preclinical drug development and evaluation, environmental sciences, and aerospace materials research.

We have an immediate opportunity for a candidate with a proven record of productive, high-quality research activities to direct an expanding industrial microbiology and biotechnology group. Candidates must have a Ph.D. with postdoctoral training in microbiology, molecular biology, or biochemistry and a minimum of ten years' managerial experience in directing industrial biotechnology research operations. Qualified candidates must be thoroughly familiar with various biotechnology markets and skilled at formulating plans to meet the specific needs for advanced biotechnology research. Target markets include such areas as health care products and pharmaceuticals and environmental and bio-process technology.

The Birmingham metropolitan area, with a population of approximately one million, offers a mild, seasonal climate; abundant recreational and cultural opportunities; below average living costs and taxes; and a variety of convenient and attractive housing alternatives. To apply, send a c.v. to **Mr. Tracy E. Higgins, Dept. 414, Southern Research Institute, P. O. Box 55305, Birmingham, AL 35255.**

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## Food Research Funding Program \$25,000 For Promising Food Ideas

The NutraSweet Company is committed to the development of improved food choices for the consumer by the application of advanced technologies. Now, we are pleased to announce the initiation of a funding program to support academic research projects with grants in aid of food research.

We welcome proposals from any scientific discipline. Support may be given to research proposals which represent creative and original technology-based approaches to opportunities or problems of importance in food systems and food ingredients. (The program is not intended to support agricultural projects as such.)

Funding for each accepted project will be at a level of \$25,000 per annum for a maximum of two years.

Applicants are invited to submit a brief, non-confidential summary, of not more than 500 words, on their proposed project, together with a short outline of their previous accomplishments and publications, by September 15, 1989. Selected applicants will be invited to submit more detailed proposals shortly thereafter.

Further information about this program may be obtained from: **Dr. Bert Shelton, The NutraSweet Company, 601 E. Kensington Road, Mt. Prospect, Illinois 60056. (312) 506-2205** We are an equal opportunity employer m/f/h/v.

**The NutraSweet Company**





## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately to study developmentally regulated penicillin-binding proteins in *Bacillus subtilis*. Experience in molecular biology desired. Send curriculum vitae and names of three references to: **Dr. C. Buchanan, Department of Biological Sciences, Southern Methodist University, Dallas, TX 75275.** *Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL POSITION

Postdoctoral position to study the biochemistry and endocrine regulation of sex pheromone production in the housefly. A background in lipid biochemistry or insect physiology is preferred. Deadline: 1 September 1989. Send letter of application, résumé including a list of references to: **Dr. Gary J. Blomquist, Department of Biochemistry, University of Nevada, Reno, NV 89557-0014.** *Affirmative Action/Equal Opportunity Employer. UNR employs only U.S. citizens and aliens lawfully authorized to work in the United States.*

**POSTDOCTORAL POSITION** available in a large multidisciplinary group studying the control of respiration. Because of the diverse nature of our program, the individual will be introduced to a variety of state-of-the-art techniques and protocols. A competitive stipend is available for at least 3 years. Applicants should send a résumé and names of three potential references to: **Dr. D. T. Frazier, Chairman, Department of Physiology and Biophysics, College of Medicine, University of Kentucky, Lexington, KY 40536-0084.**

**POSTDOCTORAL POSITION** available now to investigate the molecular mechanisms controlling insulin gene expression. Both developmental and metabolic aspects of islet cell gene regulation are being studied. Applicants should have a Ph.D. or M.D. with training in molecular biology, biochemistry, or cell biology. Send curriculum vitae and names of three references to: **Dr. Larry G. Moss, Department of Cell Biology and Medicine, Baylor College of Medicine, One Baylor Plaza, 537E, Houston, TX 77030.**

*Baylor College of Medicine is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION IN MOLECULAR IMMUNOLOGY** to study somatic mutation of antibody variable genes. Biochemical research will focus on structural and enzymatic requirements for hypermutation of immunoglobulin genes from B lymphocytes. Experience in molecular biology, immunology, or biochemistry required. Please send résumé and names of references to: **Dr. P. J. Gearhart, Department of Biochemistry, Johns Hopkins University, 615 North Wolfe Street, Baltimore, MD 21205.**

**POSTDOCTORAL POSITION IN NEUROIMMUNOPHARMACOLOGY:** A National Institute on Drug Abuse (NIDA) training grant position is available immediately for investigation of the effects of opioids on various parameters of immune function and on resistance to infection in rodents. Expertise in immunology is required. Project will involve collaboration with a team of investigators, postdoctoral and predoctoral students in the Department of Microbiology and Immunology and the Department of Pharmacology who are interested in neuroimmune circuits. *Temple University is an Equal Opportunity Employer.* Send curriculum vitae and the names of references to: **Dr. Toby K. Eisenstein, Ph.D., Department of Microbiology and Immunology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, PA 19140.**

**POSTDOCTORATE POSITION—IMMUNOBIOLOGIST** is now available at Bay Area nonprofit research institute to conduct research in breast cancer antigens and immunotherapy with monoclonal antibodies. Applicant with experience in serum immunology, pharmacology, and/or radiobiology is being sought. Salary ranges from \$25,000 to \$32,000, based on experience. To apply, forward résumé and references to: **Roberto L. Ceriani, M.D., Ph.D., John Muir Cancer and Aging Research Institute, 2055 North Broadway, Walnut Creek, CA 94596.** Telephone: 415-943-1167.

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE** position available for qualified Ph.D. in the pharmacology and biochemistry of antineoplastic agents targeted against specific human cancer types. Studies will involve the modulation of anticancer agents with thymidylate synthase as the primary target. The focus will be on metabolism of reduced folates, modulation of reduced folate pools, and optimization of drug scheduling for therapeutic gain. Research will also identify factors that influence the regulation and turnover of thymidylate synthase in elucidating the importance of the enzyme as a therapeutic target. Candidates may have up to 5 years of postdoctoral experience. A strong background in biochemical pharmacology or biochemistry is advantageous. Send curriculum vitae and names of three references to: **Dr. J. A. Houghton, Laboratories for Developmental Therapeutics, Department of Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.** *Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATES.

Positions will be available 1 July 1989, in two ongoing projects. The first concerns the mechanism of action of DNA polymerases and reverse transcriptases, and the effects of nucleotide analogs on these enzymes. The research is related to the anticancer and antiviral activity of several nucleoside analogs. Candidates should have experience in enzyme kinetics, and preferably some experience with DNA research. Training will be provided in methods for studying DNA polymerases, including the use of transient state kinetics. The second position concerns the effect of single amino acid changes in an enzyme on the catalytic mechanism and binding of ligands. Candidates should have research experience in enzymology and preferably in biophysical chemistry. Training will be provided in methods for studying ligand binding, conformational equilibria and catalysis, including methods for the study of transient state kinetics. Candidates for both positions should have received their Ph.D. within the last 3 years, and may be requested to appear for an interview. Starting salary: \$22,000 or higher, depending on relevant experience. To apply, send curriculum vitae and three references to: **Dr. R. L. Blakley, Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.** *An Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH ASSOCIATES** in fish molecular genetics and gene transfer. Research positions are available to work with the Minnesota Transgenic Fish Group. This research is part of an ongoing collaborative effort of four laboratories to study piscine gene expression and the economic improvement of fish through gene transfer. One-year position with possibility of renewal for second and third years. Salary dependent upon qualification. Experience in molecular genetics or gene transfer desired. Send letter of application, curriculum vitae, and three references by 30 August 1989, to: **Dr. Kevin S. Guise, Leader, Minnesota Transgenic Fish Group, Department of Animal Science, 495 AnSci/VetMed Building, 1988 Fitch Avenue, St. Paul, MN 55108.** Telephone: 612-624-4277; FAX: 612-625-5789.

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

### POSTDOCTORAL TRAINING PROGRAM MOLECULAR BIOLOGY OF ION CARRIERS AND CHANNELS

**Drs. J. J. Gargus, R. B. Gunn, D. C. Eaton**

Training will focus on recombinant technology, gene isolation, sequence analysis, somatic cell gene transfer and oocyte expression systems, site-directed mutational analysis, electrophysiological and tracer flux analysis of somatic cells and oocytes. Research positions to coordinate with ongoing projects on the Na-K-Cl cotransporter, growth factor-activated ion channels, the epithelial Na channel, voltage-activated K<sup>+</sup> channels, anion exchangers and urea transporters. Ideal applicants would have either recombinant DNA experience, electrophysiological experience, or experience in tracer flux analysis. Send curriculum vitae and names of references to: **Dr. Jay Gargus, Department of Physiology, Emory University School of Medicine, Atlanta, GA 30322.** Telephone: 404-727-7402.

*Emory University is an Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH AND TEACHING POSITION**, research in biochemical toxicology, with emphasis on metabolism of neurotoxic insecticides in target and non-target tissues. Experience in xenobiotic metabolism and HPLC techniques desired. Also teaching upper/graduate level cell physiology course. Subject to annual renewal up to 5 years. Available January 1990. Send curriculum vitae and names of references to: **Dr. Janice Chambers, Department of Biological Sciences, Mississippi State University, Mississippi State, MS 39762.** *An Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATE.

Investigations on multienzyme complex regulated by phosphorylation. Function, regulation, and organization studies with purified complex, subcomplexes, components, and domains. Use monoclonal antibodies and site-directed mutagenesis. Prefer candidates with strong biochemistry and/or molecular biology background. If desired and qualified, the opportunity to do departmental teaching may arise. Send résumé to: **Professor Thomas E. Roche, Willard Hall, Department of Biochemistry, Kansas State University, Manhattan, KS 66506.** *KSU is an Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATES

Several positions are available to work on eicosanoids and gonadotropin regulation of reproductive endocrine functions. Candidates with experience in the following areas will be considered: protein chemistry, cell dispersion, culturing and micromanipulation techniques, eicosanoids synthesis and receptors, mono and polyclonal antibody production, inositol phospholipid metabolism, protein kinases, Ca<sup>2+</sup> fluxes, enzyme assays, smooth muscle contractions, and related techniques. If interested, contact: **Dr. Ch. V. Rao, Department of Ob/Gyn, 438 MDR Building, University of Louisville, Louisville, KY 40292.**

### HARVARD MEDICAL SCHOOL PROFESSOR OF BIOLOGICAL CHEMISTRY AND MOLECULAR PHARMACOLOGY

Applications are invited for the position of Professor of Biological Chemistry and Molecular Pharmacology at Harvard Medical School. Candidates should have strong credentials in the field of molecular biology of eukaryotic gene regulation during cell development and differentiation. Candidates working with organisms that allow combined use of biochemical and genetic approaches such as *Drosophila* are particularly desirable. Major responsibilities will include supervision of an active research program and teaching biochemistry to graduate and medical students. Applicants should submit curriculum vitae to: **Dr. Bernardo Nadal-Ginard, Cardiology Research, Enders 13, Children's Hospital, 300 Longwood Avenue, Boston, MA 02115.**

*Harvard Medical School is an Affirmative Action/Equal Opportunity Employer. Qualified women and minority candidates are encouraged to apply.*

**RESEARCH ASSISTANT PROFESSOR/INSTRUCTOR/RESEARCH ASSOCIATE.** Multiple openings to work on transcriptional control and mRNA processing. Experience in DNA recombinant and related molecular biology techniques is essential. Salary and other benefits are highly competitive. The Chicago Medical School is located near a very pleasant community, 38 miles north of Chicago. Send résumé and three names for references to: **Dr. S. T. Jacob, Professor and Chairman, Department of Pharmacology and Molecular Biology, The Chicago Medical School, 3333 Green Bay Road, North Chicago, IL 60064.** *Equal Opportunity Employer.*

**RESEARCH ASSOCIATES**—proteins, nucleic acids and mineralization. Two postdoctoral positions in the Mineralization Center. Structure and function of protein regulators of crystallization, surface-reactive peptides and polymers. Possibility of continuation and advancement, starting at \$25,000 annually, begin in fall 1989 or thereafter. Good funding opportunities, benefits, other incentives. Send résumé and names and addresses of three references to: **Dr. C. S. Sikes, Department of Biological Sciences, University of South Alabama, Mobile, AL 36688.** Telephone: 205-460-6331. *Equal Opportunity/Affirmative Action Employer.*

## NATIONAL INSTITUTES OF HEALTH FELLOWSHIP IN BRAIN LIPID METABOLISM

The Laboratory of Neurosciences, National Institute on Aging, Public Health Service, National Institutes of Health, invites applications for a Staff Fellowship position to study brain lipid metabolism in relation to development and aging. Research opportunities include:

- 1.) Examination of incorporation of precursors of brain lipids in animals in vivo, using quantitative pharmacokinetic and autoradiographic techniques
- 2.) Applying methods for subcellular and chemical fractionation of brain lipids
- 3.) Examining intermediary brain lipid metabolism
- 4.) Examining lipid composition of the human brain in relation to aging and Alzheimer's disease.

The position is that of a Staff Fellow, Senior Staff Fellow or Medical Staff Fellow, with salary commensurate with qualifications. Appointments vary in duration from 2 to 7 years and are tenure-track. The position is located in Bethesda, Maryland, and is available immediately.

Applications are invited from qualified individuals having a Ph.D., M.D., or combined degrees, and pertinent research experience. Applications from women and minorities are invited. Interested candidates should submit their Curriculum Vitae and two letters of recommendation to:

**Dr. Stanley I. Rapoport, M.D.**  
Chief, Laboratory of Neurosciences  
National Institute on Aging, NIH  
Building 10 Room 6C103  
9000 Rockville Pike  
Bethesda, Maryland 20892



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## BEHAVIORAL TOXICOLOGISTS AND BEHAVIORAL NEUROSCIENTISTS

Systems Research Laboratories, a 34-year-old research and development firm, is seeking applications for behavioral toxicologists and behavioral neuroscientists to work on projects with the U.S. Air Force concerning the effects of hazards on the behavior and physiology of animal models. Current interest is focused on, but not limited to, the bioeffects of microwaves. Positions are anticipated at all levels, including Technician, Scientist, Senior Scientist and Project Manager. U.S. citizenship required. **Positions are located in San Antonio, Texas.** Resumes should be sent to Systems Research Laboratories, Inc., Dept. TN, 2800 Indian Ripple Rd., Dayton, OH 45440-3696



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## LABORATORY LIAISON COORDINATOR

### TWO POSITIONS

Los Alamos National Laboratory, New Mexico  
Lawrence Livermore National Laboratory, California

The Office of the President of the University of California is expanding its Office of Laboratory Affairs in order to improve the effectiveness of University management of its Department of Energy National Laboratories. The Liaison Coordinator will be the focus of the enhanced liaison activities between the Office of the President and the Laboratory.

The Liaison Coordinator will maintain a thorough familiarity with the operation and management of the Laboratory and will recommend ways in which information exchange can best occur among the laboratories, the Office of the President, and the University campuses. The Coordinator will work with University and Laboratory senior management to advance the University's goals of sound, objective research, free inquiry, effective dissemination of information, protection of dissent, and public service. The Coordinator will analyze and advise on all issues at the Laboratory that are relevant to sound management by the University. He/She will coordinate with and assist University oversight committees reporting to the President of the University and the Board of Regents. The Coordinator will promote collaborative research between Laboratory staff and campus faculty and students, and develop new opportunities for increased interactions.

The University requests applications from individuals interested in creating and formulating this unique and challenging new position.

**REQUIREMENTS:** Individuals should possess a combination of technical experience, extraordinary interpersonal skills, good managerial judgment, and an aptitude for independent and innovative thought. Technical background and experience must be sufficient to understand the broad range of Laboratory research. The applicant selected will possess the ability to interact successfully with high-level administrators, managers, faculty members and technical personnel, and the capacity for innovative, consultative and collaborative work. A Department of Energy "Q" Clearance will be required. Although the Liaison Coordinator will be stationed at the Laboratory a major fraction of the time, frequent travel to Oakland, California, will be required.

**SALARY RANGE:** Commensurate with qualifications and experience. The University of California offers excellent benefits, which include a relocation package.

**APPLICATIONS:** Please direct an introductory letter, resume, and salary history, before September 15, 1989, to the following address (for Los Alamos location, send to the attention of Screening Committee A; for Livermore location, send to the attention of Screening Committee B): **Director of Personnel, University of California, Office of the President, 300 Lakeside Drive, 9th Floor, Oakland, California, 94612-3550.** EOE/AA



**UNIVERSITY OF CALIFORNIA**  
Office of the President

## POSITIONS OPEN

Baylor Research Foundation at Baylor University Medical Center in Dallas, Texas has an opening for a **RESEARCH ASSOCIATE** in the Cell Biology Laboratory for study of molecular motion during muscle contraction. Applicants should have a Ph.D. in biochemistry/biophysics; experience in proteins is advantageous, but not essential. The position is available immediately for at least 5 years. The salary is competitive. Send curriculum vitae and names of two references to: **Baylor Research Foundation, P.O. Box 710699, Dallas, TX 75226.** An Affirmative Action/Equal Opportunity Employer.

**RESEARCH ASSOCIATE** position for cell/developmental biologist to study epithelial mesenchymal interactions during a connective tissue differentiation (particularly during craniofacial development). Biochemical or molecular training preferred. \$30,000 plus per annum. Send résumés and three references to: **Dr. Michael Solursh, Department of Biology, University of Iowa, Iowa City, IA 52242.** The University of Iowa is an Equal Opportunity/Affirmative Action Employer.

**RESEARCH INSTRUCTOR POSITION.** Available immediately. Seeking applicants with a background and research interest in cellular and molecular physiology, preferably of nerve or muscle or membrane biophysics. Applicants must be U.S. citizen or permanent resident for eligibility on our N.I.H. training grant.

Candidates should submit curriculum vitae, a complete list of publications, a brief statement summarizing present and future research objectives, and three letters of reference to: **Nicholas Sperelakis, Ph.D., Chairman, Department of Physiology and Biophysics, College of Medicine, University of Cincinnati, Cincinnati, OH 45267-0576.**

The University of Cincinnati is an Affirmative Action and Equal Opportunity Employer.

### RESEARCH SCIENTIST/GENETIC ENGINEERING OF FLOWER COLOR

We are the world's largest independent agribiotech company. Position is available for an experienced molecular biologist in our floriculture research program. Responsible for the isolation of pigment genes and manipulation of their expression in flowers. Requires Ph.D. Please send résumé with three references to: **Richard Jorgensen, Ph.D., DNA Plant Technologies, Inc., 6701 San Pablo Avenue, Oakland, CA 94608-1239.** An Equal Opportunity Employer.

### RESEARCH STAFF FELLOWS AND SENIOR STAFF FELLOWS ADDICTION RESEARCH CENTER OF THE NATIONAL INSTITUTE ON DRUG ABUSE

Francis Scott Key Medical Center  
4940 Eastern Avenue  
Baltimore, MD 21224

Immediate openings for M.D.'s Ph.D.'s (or equivalent doctorate). Candidates should possess research and/or clinical training in psychiatry, psychopharmacology, psychology, or a related field. Previous clinical research experience is desirable but not essential for staff fellows. Experience and evidence of research competence is required for senior fellows. Candidates who also possess a strong background in experimental design and analysis are especially encouraged to apply. Primary responsibilities will include the scientific coordination of clinical studies of the effects of drugs used in treatment of drug dependence or biological factors in antisocial personality and vulnerability for drug dependence.

Applicants are generally appointed for an initial 2-year period which can be extended. Salary for fellows: \$28,852 to \$50,718; for senior fellows: from \$41,121 to \$75,500 dependent on training and experience. Applicants should respond by 30 July 1989 to:

**Jerome H. Jaffe, M.D.**  
Director,  
Addiction Research Center  
P.O. Box 5180  
Baltimore, MD 21224

Include recent curriculum vitae, and SF 171 "Application for Federal Employment," and the names of two references. Any additional questions should be directed to: **The Personnel Office, 301-550-1509.**

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## POSITIONS OPEN



### SCIENCE ITEM WRITERS

Opportunity for present or former science teachers (undergraduate college experience preferred) to work part-time at home writing questions for a testing program administered nationally by American College Testing (ACT). In addition to a strong background in science, the work requires precise writing to meet exacting standards.

For additional information, write as soon as possible to: **Editorial Manager, Test Development Department (S), ACT National Office, 2201 North Dodge Street, P.O. Box 168, Iowa City, IA 52243.** Please identify areas of specialization—biology (botany, zoology), chemistry (biochemistry, general), physical science (astronomy, earth science, geology, meteorology, mineralogy, oceanography), or physics. Include résumé to indicate formal education and teaching experience.

ACT is an Equal Opportunity/Affirmative Action Employer.

**SCIENCE WRITER**—With M.D. or Ph.D. in the biological sciences to write and edit research articles for new scientific publication located in Washington, D.C. Responsibilities will include staying up-to-date with current research through individual contacts with scientists and attending meetings. Appropriate academic and professional scientific background must also include excellent writing skills. Send letter, curriculum vitae, writing samples, and suggested story topics to: **Editor, The Journal of NIH Research, 2000 Pennsylvania Avenue NW, Suite 3700, Washington, DC 20006.**

Operon Technologies, Inc., a leading manufacturer of synthetic DNA, seeks **STAFF SCIENTIST** for production and R & D. Production includes synthesis of DNA, HPLC, gel electrophoresis, and DNA sequencing. R & D will be directed toward the development of future projects relevant to the biotechnology industry. Ph.D. degree is desired, but applicants with an M.Sc. or B.Sc. and considerable laboratory experience are encouraged to apply. Résumé to: **Operon Technologies, Inc., 1000 Atlantic Avenue, Suite 108, Alameda, CA 94501.**

**TENURE-TRACK FACULTY POSITION: BIOCHEMISTRY/MOLECULAR BIOLOGY.** Applications are invited for a position in the Department of Biochemistry. Candidates must have a Ph.D., postdoctoral experience, and a plan for an independent research program. The position also involves teaching at undergraduate, graduate and medical school levels. Send curriculum vitae and references to: **Chairman, Search Committee, The University of North Texas/Texas College of Osteopathic Medicine, Biochemistry Department, P.O. Box 13048, Denton, TX 76203.** UNT/TCOM is an Equal Opportunity/Affirmative Action Employer.

### UNIVERSITY OF NEW BRUNSWICK DEPARTMENT OF BIOLOGY

The Biology Department seeks to fill a **TENURE-TRACK POSITION** in developmental botany. Preference will be given to candidates who complement areas of specialization within the Department. These would include, but are not limited to, phycology, bryology, or pteridology. Applicants must have a Ph.D. and be committed to research and teaching. The successful candidate will be expected to develop a vigorous research program, interacting with existing researchers and participate in undergraduate and graduate education. Appointment would be at the assistant professor level.

Applicants should submit a letter of application, a statement of their research interests, and curriculum vitae with names of three potential referees to:

**Dr. Richard T. Riding, Chairman**  
Department of Biology  
University of New Brunswick  
Bag Service # 45111  
Fredericton, New Brunswick  
E3B 6E1

Closing date is 1 September 1989 or as soon as the position has been filled. In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. The University of New Brunswick is committed to the principles of employment equity.

## POSITIONS OPEN

### SCIENCE/HEALTH POLICY ANALYST UNITED STATES CONGRESS

Demanding analytical position currently available with congressional research agency for public policy studies. Analyst will work as part of a project team examining current issues in research, development, and science/health policy. Experience in, or knowledge of, biomedical research (neuroscience, mental illness, or aging) preferred. Master's or doctorate degree in relevant field required. Excellent analytical and writing skills essential.

Submit curriculum vitae, salary history, and three writing samples to: **Denise DeSanctis, Personnel Office, Office of Technology Assessment, U.S. Congress, Washington, DC 20510-8025** by 7 August 1989. Equal Opportunity Employer.

### TENURE-TRACK FACULTY POSITION GEOPHYSICS DEPARTMENT OF PHYSICS UNIVERSITY OF TORONTO

The Department of Physics plans to make one or possibly two tenure-track appointments, with starting date of 1 July 1990, at the rank of assistant professor. Candidates with demonstrated or potential excellence in research and teaching are sought. The geophysics group currently has faculty members working in argon and lead geochronology, rock and paleomagnetism, theoretical and experimental seismology, electromagnetic methods and applied geophysics, and crustal and mantle dynamics. Candidates in these or complementary fields are invited to apply. Applications consisting of curriculum vitae; list of publications; summary of research interests; a detailed research proposal; and the names, addresses, and FAX numbers of three referees should be sent as soon as possible and no later than 30 October 1989 to: **Professor M. B. Walker, Chair, Department of Physics, University of Toronto, Toronto, Ontario, Canada, M5S 1A7.** In accordance with Canadian Immigration requirements, this advertisement is directed to both Canadian citizens and permanent residents of Canada. The University of Toronto encourages both women and men to apply for this position.

### TRAUMA RESEARCH DIRECTOR NEW JERSEY TRAUMA CENTER DIVISION OF TRAUMA AND EMERGENCY MEDICAL SERVICES

Under the Director of the New Jersey Trauma Center, Division of Trauma and Emergency Medical Services, is responsible for managing the research activities of the Trauma Center. The Trauma Research Director bears primary responsibility for research project proposal preparation, design and execution. Additional responsibilities include administrative roles in budget preparation and instruction of employees and students concerning Trauma Center research projects as well as conducting lectures on various research topics. A Ph.D. in nursing, epidemiology, biostatistics, public policy, public health or other related field with three or more years of relevant work experience including publication in high-quality, peer-reviewed journals is required. **Box 110, SCIENCE.**

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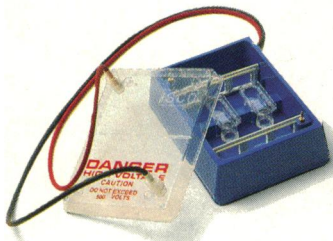
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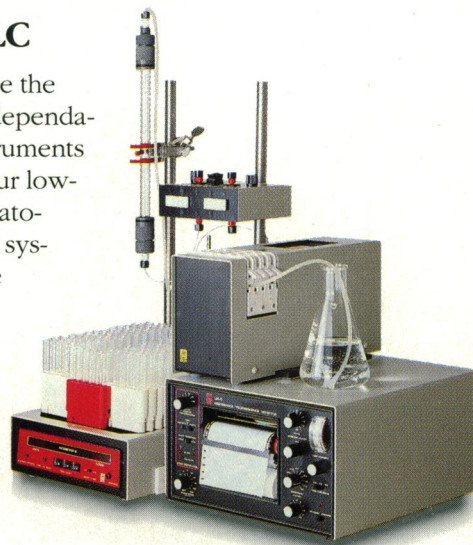


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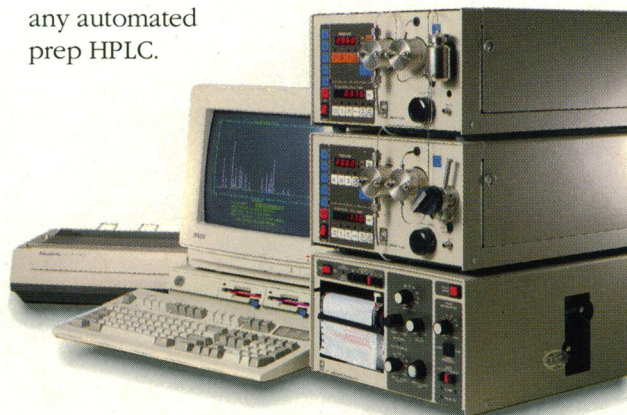
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