

an awareness of controversies, and ending on the frontiers of the topic. The looking-forward component is present in only a few chapters. Sargent and Gross enumerate a number of important questions to be answered about the adaptiveness of caretaking. Hawkins points to unresolved issues regarding the directionality of hearing, and Hara draws attention to unanswered questions in the evolution of alarm substances. Pitcher's conclusions on shoaling are clearly forward-looking. FitzGerald and Wootton had an advantage in that sticklebacks are the only fishes for which the literature begins to rival that of birds; thus there are now several contradictory findings to spur future research, as evidenced by their claim that reports of paternal male sticklebacks cannibalizing their own eggs may be incorrect.

The editor obviously spent considerable time pulling the chapters together and refining the presentations. But in such a large volume errors are unavoidable. Some authors regularly confuse "fish" with "fishes," and I found the number of typographic errors disconcerting at times, including the printing of one line twice in succession and omission of part of another on p. 192. But these are minor complaints. This is a marvelous and long overdue book.

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Books Received

Advances in Lattice Gauge Theory. D. W. Duke and J. F. Owens, Eds. World Scientific, Philadelphia, 1985. x, 441 pp., illus. \$63. From a conference, Tallahassee, FL, April 1985.

Advances in Space Plasma Physics. B. Buti, Ed. World Scientific, Philadelphia, 1985. xii, 476 pp., illus. \$72. From a college, Trieste, Italy, 1985.

Advisory Work in Crop Pest and Disease Management. J. Palti and R. Ausher, Eds. Springer-Verlag, New York, 1986. xx, 284 pp., illus. \$94. Crop Protection Monographs.

Advocacy in Health Care. The Power of a Silent Constituency. Joan H. Marks, Ed. Humana, Clifton, NJ, 1986. xx, 140 pp., illus. \$24.50. Contemporary Issues in Biomedicine, Ethics, and Society. From a conference, Bronxville, NY, March 1984.

AIDS. From the Beginning. Helene M. Cole and George D. Lundberg, Eds. American Medical Association, Chicago, 1986. xxxviii, 441 pp., illus. Paper, \$22.95. A collection of articles, news items, editorials and other material reprinted from the *Journal of the American Medical Association*, to which have been added three introductory essays.

America's Weather Warriors 1814-1985. Charles C. Bates and John F. Fuller. Texas A&M University Press, College Station, 1986. xxiv, 360 pp., illus., + plates. \$29.95.

Applications of Fluorescence in the Biomedical Sciences. D. Lansing Taylor *et al.*, Eds. Liss, New York, 1986. xviii, 639 pp., illus. \$90. From a meeting, Pittsburgh, PA, April 1985.

Biological Reactive Intermediates III. Mechanisms of Action in Animal Models and Human Disease. James J. Kocsis *et al.*, Eds. Plenum, New York, 1986. xvi, 1059 pp., illus. \$135. Advances in Experimental Medicine and

Biology, vol. 197. From a symposium, College Park, MD, June 1985.

Biomass Energy Development. Wayne H. Smith, Ed. Plenum, New York, 1986. xiv, 667 pp., illus. \$95. From a conference, Gainesville, FL, March 1985.

Biophilosophy. Analytic and Holistic Perspectives. Rolf Sattler. Springer-Verlag, New York, 1986. xvi, 284 pp., illus. Paper, \$30.

Biosensors. Today's Technology, Tomorrow's Products. M. Todd Jarvis. Technical Insights, Fort Lee, NJ, and SEAI Technical Publications, Madison, GA, 1985. vi, 155 pp. Paper, \$325.

Biotechnology. Laboratory to Marketplace. Norman R. Cohen Ed. Open University Press, Milton Keynes, UK, 1986. 2 vols. and study pack. Vol. 1, 197 pp., illus. Vol. 2, 155 pp., illus. In binder, £119.

Black Holes. The Membrane Paradigm. Kip S. Thorne, Richard H. Price, and Douglas A. Macdonald, Eds. Yale University Press, New Haven, CT, 1986. xiv, 367 pp., illus. \$40; paper, \$14.95.

The Bog Man and the Archaeology of People. Don Brothwell. British Museum Publications, London, 1986. 128 pp., illus., + plates. Paper, £5.95.

Cancer, Stress, and Death. Stacey B. Day, Ed. 2nd ed. Plenum Medical, New York, 1986. xxx, 362 pp., illus. \$34.50. Based on a symposium, Montreal, 1977.

Cell and Molecular Biology of the Cytoskeleton. Jerry W. Shay, Ed. Plenum, New York, 1986. xvi, 340 pp., illus. \$49.50.

Challinor's Dictionary of Geology. Antony Wyatt, Ed. 6th ed. University of Wales Press, Cardiff, UK, and Oxford University Press, New York, 1986. xviii, 374 pp. \$35; paper, \$15.95.

Characterization and Behavior of Materials with Submicron Dimensions. James T. Waber, Ed. World Scientific, Singapore, 1985 (U.S. distributor, Taylor and Francis, Philadelphia). xiv, 250 pp., illus. \$30. From a conference.

The Chimpanzees of Gombe. Patterns of Behavior. Jane Goodall. Belknap (Harvard University Press), Cambridge, MA, 1986. xiv, 674 pp., illus., + plates. \$30.

Cladistic Biogeography. Christopher J. Humphries and Lynne R. Parenti. Clarendon (Oxford University Press), New York, 1986. xii, 98 pp., illus. \$35. Oxford Monographs on Biogeography, 2.

Clockwork Garden. On the Mechanistic Reduction of Living Things. Roger J. Faber. University of Massachusetts Press, Amherst, 1986. xii, 268 pp., illus. \$25.

The Collins Encyclopedia of Animal Evolution. R. J. Berry and A. Hallam, Eds. Collins, London, 1986. xvi, 144 pp., illus. £9.95.

Dolphin Cognition and Behavior. A Comparative Approach. Ronald J. Schusterman, Jeanette A. Thomas, and Forrest G. Wood, Eds. Erlbaum, Hillsdale, NJ, 1986. xviii, 393 pp., illus. \$49.95; paper, \$24.95. Comparative Cognition and Neuroscience. Based on a conference, San Diego, CA, July 1983.

Dossier Society. Value Choices in the Design of National Information Systems. Kenneth C. Laudon. Columbia University Press, New York, 1986. xii, 421 pp., illus. \$45. CORPS (Computing, Organizations, Policy, and Society) Series.

Drug Dependence and Emotional Behavior. Neurophysiological and Neurochemical Approaches. A. V. Valdman, Ed. M. Sandler, Translation Ed. Consultants Bureau (Plenum), New York, 1986. xiv, 495 pp., illus. \$79.50. Translated from the Russian by L. R. Sandler.

Dynamical Systems and Nonlinear Oscillations. Gikó Ikegami, Ed. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). x, 267 pp., illus. \$33. World Scientific Advanced Series in Dynamical Systems, vol. 1. From a conference, Kyoto, Japan, July 1985.

Dynamics of Hierarchical Systems. An Evolutionary Approach. J. S. Nicolis. Springer-Verlag, New York, 1986. xvi, 397 pp., illus. \$66. Springer Series in Synergetics, 25.

Earth's Changing Surface. An Introduction to Geomorphology. M. J. Selby. Clarendon (Oxford University Press), New York, 1985. xvi, 607 pp., illus. \$39.95; paper, \$24.95.

The Earth's Electrical Environment. Geophysics Study Committee, National Research Council. National Academy Press, Washington, DC, 1986. xvi, 263 pp., illus. \$28.95. Studies in Geophysics.

The Ecology of the Forests and Woodlands of South Australia. H. R. Wallace, Ed. Government Printing Division, Adelaide, South Australia, 1986. 291 pp., illus., + plates. Paper, \$13.20. Handbook of the Flora and Fauna of South Australia.

Fundamental Virology. Bernard N. Fields and David M. Knipe *et al.*, Eds. Raven, New York, 1986. xvi, 768 pp., illus. \$49.50. Excerpted from *Virology*.

Future Computer and Information Systems. The

Uses of the Next Generation Computer and Information Systems. Akira Ishikawa. Praeger, New York, 1986. viii, 138 pp., illus. \$32.95.

Galaxies, Quasars and Cosmology. Li Zhi Fang and Remo Ruffini, Eds. World Scientific, Philadelphia, 1985. viii, 221 pp., illus. \$26. Advanced Series in Astrophysics and Cosmology, vol. 2. Based on a school, Bogota, Feb. 1984.

Gametogenesis and the Early Embryo. Joseph G. Gall, Ed. Liss, New York, 1986. xviii, 426 pp., illus. \$50. Symposium of the Society for Developmental Biology, 44 (Toronto, June 1985).

Genetic Engineering of Animals. An Agricultural Perspective. J. Warren Evans and Alexander Hollaender, Eds. Claire M. Wilson, Technical Ed. Plenum, New York, 1986. viii, 328 pp., illus. \$49.50. Basic Life Sciences, vol. 37. From a symposium, Davis, CA, Sept. 1985.

Ion Interactions in Energy Transfer Biomembranes. G. C. Papageorgiou, J. Barber, and S. Papa, Eds. Plenum, New York, 1986. x, 334 pp., illus. \$59.50. From a workshop, Athens, April 1985.

Ion-Selective Microelectrodes. Principles, Design and Application. Daniel Ammann. Springer-Verlag, New York, 1986. xvi, 346 pp., illus. \$75.

Kindling 3. Juhn A. Wada, Ed. Raven, New York, 1986. xx, 551 pp., illus. \$74. From a symposium, Vancouver, British Columbia, 1985.

Land and Its Uses—Actual and Potential. An Environmental Appraisal. F. T. Last, M. C. B. Hotz, and B. G. Bell, Eds. Plenum, New York, 1986. xii, 597 pp., illus. \$85. NATO Conference Series 1, vol. 10. From a seminar, Edinburgh, Sept. 1982.

Laser-Induced Dynamic Gratings. H. J. Eichler, P. Günter, and D. W. Pohl. Springer-Verlag, New York, 1986. xii, 256 pp., illus. \$53.50. Springer Series in Optical Sciences, vol. 50.

Lectures on Contemporary Syntactic Theories. An Introduction to Government-Binding Theory, Generalized Phrase Structure Grammar, and Lexical-Functional Grammar. Peter Sells. Center for the Study of Language and Information, Stanford University, Stanford, CA, 1985 (distributor, University of Chicago Press, Chicago). viii, 214 pp., illus. \$23.95; paper, \$11.95. CSLI Lecture Notes, no. 3.

Lewes String Theory Workshop. (Lewes, DE, July 1985.) L. Clavelli and A. Halprin, Eds. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). viii, 302 pp., illus. \$63.

Lie Methods in Optics. J. Sánchez Mondragón and K. B. Wolf, Eds. Springer-Verlag, New York, 1986. xiv, 249 pp., illus. \$22.30. Lecture Notes in Physics, 250. From a workshop, León, México, Jan. 1985.

A Life in Science. Nevill Mott. Taylor and Francis, Philadelphia, 1986. viii, 198 pp., illus. \$27.

Likeness to Truth. Graham Oddie. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Hingham, MA). xvi, 218 pp., illus. \$48.50. University of Western Ontario Series in Philosophy of Science, vol. 30.

Lipids. Chemistry, Biochemistry, and Nutrition. James F. Mead *et al.* Plenum, New York, 1986. viii, 486 pp., illus. \$69.50.

Looking at Vertebrates. A Practical Guide to Vertebrate Adaptations. Elizabeth Rogers. Longman, Essex, England, 1986 (U.S. distributor, Wiley, New York). xii, 195 pp., illus. \$24.95.

Machine Learning of Inductive Bias. Paul E. Utgoff. Kluwer, Boston, 1986. xviii, 165 pp., illus. \$37.50. Kluwer International Series in Engineering and Computer Science.

Mammalian Cell Technology. William G. Thilly, Ed. Butterworths, Boston, 1986. xiv, 223 pp., illus. \$39.95. Biotechnology Series, 8.

Manufacturing Simulation. A New Tool for Robotics, FMS, and Industrial Process Design. Richard K. Miller. SEAI Technical Publications, Madison, GA, 1985. vi, 148 pp., illus. \$415.

Marine Pollution. R. B. Clark. Clarendon (Oxford University Press), New York, 1986. xiv, 215 pp., illus. \$35; paper, \$17.95.

Nucleic Acid Chemistry. Improved and New Synthetic Procedures, Methods, and Techniques. Part 3. Leroy B. Townsend and R. Stuart Tipson, Eds. Wiley-Interscience, New York, 1986. xiv, 337 pp., illus. \$55.

Number Theory and Combinatorics. Japan 1984. Jin Akiyama *et al.*, Eds. World Scientific, Philadelphia, 1985. x, 446 pp., illus. \$56. From three conferences, Tokyo, Okayama, and Kyoto, Japan, Jan. and Feb. 1984.

Numerical Derivatives and Nonlinear Analysis. Harriet Kagiwada *et al.* Plenum, New York, 1986. x, 201 pp. \$35. Mathematical Concepts and Methods in Science and Engineering, vol. 31.

Nutrition and Development. Margaret Biswas and
(Continued on page 226)

Products & Materials

Gamma-Ray Analysis Software

MicroSAMPO is a gamma-ray analysis software package for IBM XT and AT personal computers. MicroSAMPO is adapted for personal computers from SAMPO, a spectral analysis program for mainframes. This version for personal computers has a menu-driven interface and interactive graphics. Also, it has highly accurate peak search and identification algorithms. Canberra Industries. Circle 573.

Graphics Software

GRAPHER is a menu-driven graphics program for illustrating large volumes of complex scientific data. The user chooses the graph type from among linear-linear, log-linear, linear-log, log-log, triangular, or high-low-close graphs. An unlimited number of data scales and data lines may be combined on one graph. Grid lines may be automatically generated. Data may be represented by five types of regression curves and four types of error bars. The user loads the data into the program's worksheet from the keyboard or from external data files generated by 1-2-3, dBase or a user-written program. The worksheet integrates data and text to create annotated graphs. Hard copy is printed in sections that may be attached to form a graph of any size. GRAPHER operates on the IBM-PC and compatible computers with at least 256 kilobytes of memory. Golden Software. Circle 580.

Mathematical Software

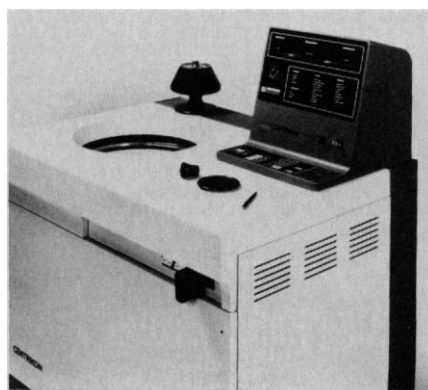
MATHPAK 87 contains over 130 routines that perform common mathematical operations such as matrix procedures, linear equations, vector and vector-scalar procedures, and eigenvalues and eigenvectors. The routines are written in assembly language and all can be called from a program. Routines execute up to 20 times as fast as equivalent routines written in a high-level language. MATHPAK 87 operates on IBM-

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compatible personal computers equipped with the 8087/80287 coprocessor and is available for Pascal (Turbo and Microsoft/IBM versions), Fortran (Microsoft/IBM, IBM Professional, and Lahey versions), and C (Lattice and Microsoft versions). Precision Plus Software. Circle 588.

Ultracentrifuge

The Centrikon T-1000 is a preparative ultracentrifuge. Fully controlled by microprocessor, it has a frequency-controlled direct drive with a built-in spindle stabilizer for low-viscosity gradient separations and a



slow-start program of independent mass for performed gradient trials. The Centrikon T-1000 has been designed to be safe, reliable, and simple to use and to provide reproducible results. Kontron Instruments. Circle 561.

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The Water Prodigy is a self-contained, benchtop water purification unit. It has been designed to meet the ultrahigh purity requirements of such fields as fluorescence analysis, ion chromatography, microbial analysis, and high-performance liquid chromatography. The Water Prodigy accepts either raw tap water or purified water from an external still or ion-exchange unit. This water is then deionized, and all microorganisms, organic contaminants, trace colloidal particles, and trace organic compounds are removed through reverse osmosis, adsorption, deionization, microfiltration, and photooxidation. The purified water continuously recirculates to eliminate static water zones, maintain water quality, and inhibit microbial growth. The Water Prodigy provides up to 0.5 liter/min of high-purity water, dispensed through a pen designed for fingertip control and single-handed operation. Labconco. Circle 582.

DNA Sequencing System

GemSeq K/RT is a system for dideoxy sequencing of plasmid DNA. With the Klenow DNA polymerase and avian myeloblastosis virus reverse transcriptase provided, one may obtain the most accurate and complete information on sequence. Each system also contains K/RT optimized reagents and SP6 and T7 promoter primers. Included with the system is a step-by-step manual for ^{32}P - and ^{35}S -dATP sequencing. Promega Biotech. Circle 581.

Protein Purification System

The ActiSep Immunoaffinity Purification System purifies monoclonal antibodies and recombinant proteins in one step without reducing their biological activity. This is accomplished with a new affinity support, which retains a very high immunoreactivity of bound protein, and with a nondenaturing eluant, which allows almost complete removal of fully active proteins from immunoadsorbents. Sterogene Biochemicals. Circle 584.

Literature

New Products Catalog describes laboratory equipment constructed of fluorocarbon resins such as Teflon. Berghof/America. Circle 579.

Guide to Custom Antibody Production describes polyclonal and monoclonal antibody production strategies as well as several ancillary immunological services available to research scientists. Berkeley Antibody. Circle 591.

Laboratory Specialty Equipment Catalog features racks, pipettes, beakers, tubing, cabinets, syringes, and other laboratory apparatus. Bolab. Circle 592.

Centrifugation Catalog presents 40 pages of micro- to ultracentrifuge tubes and accessories. Sarstedt. Circle 603.

Preparative Technology for Electron Microscopy is a catalog of tools, supplies, accessories, and laboratory equipment for electron microscopy. Over 2000 items are featured. Balzers. Circle 604.

Thermo Tracer 6T61 describes a highly sensitive thermal-imaging system with built-in computer processing capability. Mikron Instrument. Circle 605.

Standard Reference Materials Catalog 1986-87 lists more than 900 standard reference materials divided into three major groups: chemical composition, physical properties, and engineering materials. National Bureau of Standards. Circle 606.

(Continued from page 224)

Per Pinstrup-Andersen, Eds. United Nations University and Oxford University Press, New York, 1985. xviii, 190 pp., illus. \$18.95. Oxford Medical Publications.

Objectivity, Science and Society. Interpreting Nature and Society in the Age of the Crisis of Science. Paul A. Komisaroff. Routledge and Kegan Paul (Methuen), New York, 1986. x, 454 pp. \$55.

Purine and Pyrimidine Metabolism in Man V. Part A, Clinical Aspects Including Molecular Genetics. Festschrift for J. E. Seegmiller, W. L. Nyham, L. F. Thompson, and R. W. E. Watts, Eds. Plenum, New York, 1986. xviii, 616 pp., illus. \$89.50. Advances in Experimental Medicine and Biology, vol. 195A. From a symposium, San Diego, CA, July 1985.

Qu'As-Tu Fait de Ton Frère? Etudes de Criminologie Spéciale. Georges Kellens. Mardaga, Brussels, 1986. 189 pp. Paper, F140. Psychologie et Sciences Humaines, 154.

Radiation Dosimetry. Physical and Biological Aspects. Colin G. Orton, Ed. Plenum, New York, 1986. xii, 328 pp., illus. \$59.50.

Rationale of Beings. Recent Developments in Particle, Nuclear, and General Physics. Festschrift in Honor of Gyo Takeda. K. Ishikawa *et al.*, Eds. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). xvi, 309 pp., illus. \$64.

Real Time Programming 1985. G. M. Bull and T. J. Williams, Eds. Published for the International Federation of Automatic Control by Pergamon, New York, 1986. x, 110 pp., illus. \$40. From a workshop, West Lafayette, IN, Oct. 1985. Also published in *Annual Review in Automatic Programming*, vol. 13, part 1.

The Reasoning Criminal. Rational Choice Perspectives on Offending. Derek B. Cornish and Ronald V. Clarke, Eds. Springer-Verlag, New York, 1986. xiv, 246 pp., illus. \$39.50. Research in Criminology. From a conference, Cambridge, UK, July 1985.

Recent Advances in Aerodynamics. Anjaneyulu Krothapalli and Charles A. Smith, Eds. Springer-Verlag, New York, 1986. xii, 755 pp., illus. \$65. From a symposium, Stanford, CA, Aug. 1983.

Recent Development of Electron Microscopy. H. Hashimoto *et al.*, Eds. Japan Scientific Societies Press, Tokyo, 1986 (U.S. distributor, ISBS, Portland, OR). xiv, 284 pp., illus. \$52. From a seminar, Beijing, Oct. 1983.

Short-Term Sedentism in the American Southwest. The Mimbres Valley Salado. Ben A. Nelson and Steven A. LeBlanc. Maxwell Museum of Anthropology and University of New Mexico Press, Albuquerque, 1986. viii, 307 pp., illus. Paper, \$35. Maxwell Museum of Anthropology Publication Series.

Simulators for Nuclear Power. Jeffery Lewins and Martin Becker, Eds. Plenum, New York, 1986. xx, 224 pp., illus. \$49.50. Advances in Nuclear Science and Technology, vol. 17.

The Social Methods of AIDS. Method and Theory. Douglas A. Feldman and Thomas M. Johnson, Eds. Praeger (Greenwood), New York, 1986. x, 274 pp., illus. \$37.95.

Solar Passive Building. Science and Design. M. S. Sodha *et al.* Pergamon, New York, 1986. xxvi, 491 pp., illus. \$75. International Series on Building Environmental Engineering, vol. 2.

Spinal Afferent Processing. Tony L. Yaksh, Ed. Plenum, New York, 1986. xxiv, 550 pp., illus. \$79.50.

Standardization and Quantitation of Diagnostic Staining in Cytology. Mathilde E. Boon and L. P. Kok, Eds. Coulomb Press Leyden, Leiden, The Netherlands, 1986. 159 pp., illus. \$40.

Statistical Mechanics of Periodic Frustrated Ising Systems. R. Liebmann. Springer-Verlag, New York, 1986. viii, 142 pp., illus. \$12.70. Lecture Notes in Physics, 251.

Strategies and Advanced Techniques for Marine Pollution Studies. Mediterranean Sea. C. S. Gain and H. J.-M. Dou, Eds. Springer-Verlag, New York, 1986. xiv, 475 pp., illus. \$89. NATO Advanced Science Institutes Series G, vol. 9. From an institute, Beaulieu-sur-Mer, France, October 1984.

Strengthening Academic Science. David Eli Drew. With the assistance of Patricia Raymond. Praeger (Greenwood), New York, 1985. xvi, 284 pp., illus. \$37.95.

Technology in War. The Impact of Science on Weapon Development and Modern Battle. Kenneth Macksey. Prentice-Hall, New York, 1986. 224 pp., illus. \$19.95. An Arco Military Book.

Terminal Care. Richard Turnbull, Ed. Hemisphere, New York, 1986. xvi, 282 pp., illus. \$39.95. Series in Death Education, Aging, and Health Care. Based on a conference, Lower Hutt, New Zealand.

Personnel Placement

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ANATOMY/CELL BIOLOGY. The Department of Anatomy and Cell Biology in the Faculty of Medicine at the University of Alberta invites applications for up to five faculty positions. Applicants should have research expertise in cell or developmental biology, cellular neurobiology, or molecular biology. Scientists using innovative methods for analyzing cell structure are especially encouraged to apply. Applicants should have proven records of research achievement and will be eligible for funding by the Alberta Heritage Foundation for Medical Research. Candidates should be capable of teaching in graduate courses in cell or developmental biology or in medical school courses in histology or neuroanatomy. The majority of appointments will be made at the assistant or associate professor level, although applications from senior scientists will also be considered. Rank and salary will be determined according to University of Alberta guidelines. Successful candidates will be encouraged to carry on independent research programs but will also have the opportunity for collaborative interactions with several multidisciplinary research groups within the university. Deadline for receipt of applications is 30 November 1986.

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THE DEPARTMENT OF BIOLOGY, UNIVERSITY OF DALLAS, invites applications for an **ASSISTANT PROFESSOR**, tenure-track position beginning fall 1987. Ph.D. is required, with emphasis in animal physiology, proven teaching and research ability, and a strong commitment to undergraduate education and to the liberal arts. Duties include teaching physiology, cell biology, a course in one's expertise, participating in a team-taught biology course, and maintaining an active research program. Applicants should submit curriculum vitae and names of three references by 15 December to: **Dr. Frank Doe, Department of Biology, University of Dallas, Irving, TX 75061.**

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Burlington, VT 05401

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

OHIO UNIVERSITY DEPARTMENT OF CHEMISTRY AND PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY

A vacancy exists at the **ASSISTANT PROFESSOR** level for an animal molecular biologist to augment the research and teaching activities of the department and program. Generous start-up funds and support services are available for the appointment. Applicants should have a Ph.D. and postdoctoral experience in recombinant DNA technology and experience in the cloning of animal genes. Letters of application, curriculum vitae, and a statement of research interests and projects must be received by 15 December and applicants should also arrange for three letters of recommendation to be sent directly to: **Dr. P. Johnson, Department of Chemistry, Ohio University, Athens, OH 45701.** *Ohio University is an Affirmative Action/Equal Opportunity Employer.*

Tenure-track **ASSISTANT AND ASSOCIATE PROFESSOR** positions are available in the **Department of Pharmacology, University of Iowa, College of Medicine.** The Search Committee is particularly interested in individuals using techniques of molecular biology to solve pharmacological problems (receptors, effectors, hormone and drug actions, and human disease). Applications are also solicited in the areas of cardiovascular and endocrine science. Applications are invited from individuals who do not consider themselves "pharmacologists" in the traditional sense. *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.* State the position(s) applied for, submit curriculum vitae, and the names of three references to:

**Department of Pharmacology Search
Bowen Science Building
University of Iowa
College of Medicine
Iowa City, IA 52242**

DEPARTMENT OF BIOLOGY CASE WESTERN RESERVE UNIVERSITY

A tenure-track position at the **ASSISTANT PROFESSOR** level is available starting September 1987, in the area of **cell and molecular biology.** Candidates should have a strong commitment to research, undergraduate, and graduate education. Interested persons should submit curriculum vitae, plus a statement of current research interests, and have three letters of recommendation sent to: **Dr. Norman B. Rushforth, Chairman, Department of Biology, Case Western Reserve University, Cleveland, OH 44106.**

Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

BIOLOGY

ASSISTANT OR ASSOCIATE PROFESSOR, tenure-track, to begin 1 September 1987. Ph.D. required. Lewis and Clark College seeks an individual with broad background in developmental/molecular biology using modern cellular, molecular, and/or genetic approaches to investigate problems in differentiation or development. Develop and teach upper division lecture/laboratory courses in developmental biology and in a related area of interest. Share teaching of lower division biology sequence; eventually contribute to CORE Program for non-majors. Lewis and Clark College is a private liberal arts college with approximately 1500 undergraduates enrolled in 23 academic departments and several interdisciplinary programs. Applicants should demonstrate commitment to quality undergraduate teaching and a continuing program of scholarly inquiry. Applications must include: a letter of application, including a statement of educational philosophy and career goals; curriculum vitae; a syllabus that would be used in a developmental biology course; and three letters of reference. Applications must be received by 1 January 1987. Submit to: **Edwin R. Florance, Chair, Department of Biology, Lewis and Clark College, Portland, OR 97219. Telephone: 503-293-2726.** *Lewis and Clark College is an Equal Opportunity Employer and encourages the application of women and minority candidates.*

ASSISTANT PROFESSOR OF CHEMISTRY, Brown University in organic chemistry. Applications presenting evidence of exceptional qualifications in organic chemistry or closely related fields and promise for outstanding research and teaching at all levels of organic chemistry are invited. Postdoctoral experience is desirable. Applicants should submit complete curriculum vitae, including graduate and undergraduate transcripts, publication list, statement of research plans and requirements, and should have three letters of recommendation sent to: **Professor Paul G. Willard, Search Committee, Department of Chemistry, Brown University, Providence, RI 02912.** The deadline for filing applications is 15 November 1986. *Brown University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR IN HUMAN BIOLOGY. Tenure-track position beginning 1 February 1987 or 25 August 1987. Ph.D. required. Primary teaching responsibilities will be in Introduction to Human Biology, Exercise Physiology, and Comparative Physiology, with contributions to biology and graduate programs as needed. Opportunities are available for interdisciplinary teaching and research. Apply by 15 November 1986. Send curriculum vitae, transcripts (undergraduate/graduate), and three letters of reference to: **Dr. Joseph A. Mannino, College of Human Biology, ES-301F, University of Wisconsin-Green Bay, Green Bay, WI 54301-7001.** *Equal Opportunity/Affirmative Action Employer.*

ASSISTANT RESEARCH NEUROIMMUNOLOGIST, Department of Neurology, University of California, San Francisco. Candidate required to have at least 2 years of postdoctoral experience. This position requires extensive experience in acetylcholine receptor biochemistry, monoclonal antibody production (including anti-active site antibodies), immunocytochemistry, as well as the application of these techniques to the modification of signal transduction in vitro and in vivo. Candidate must have experience in signal transduction in the nervous system, specifically involving protein kinases and a mastery of kinetic measurements. Experience in developmental studies in the nervous system including application of molecular biology techniques to developmental neurobiology is required, specifically, messenger RNA preparation and translation in vivo and in vitro. Duties will include membrane protein purification, production of monoclonal antibodies, immunohistochemistry, and injection of proteins into living cells in culture. Salary range: \$34,600 to \$43,200; level to be commensurate with experience. Please submit complete curriculum vitae, including list of publications and names of three references, by 30 October 1986 to: **Dr. Adrienne S. Gordon, Ernest Gallo Clinic and Research Center, San Francisco General Hospital, Building 1, Room 101, San Francisco, CA 94110.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—ANATOMY

The **Department of Surgery/Section of Anatomy at Yale University School of Medicine** invites applications for a tenure-track position at the level of assistant professor. Responsibilities include development of a strong, independent research program and participation in the teaching of gross anatomy to medical students. Applicants should submit curriculum vitae, with a summary of present and future research interests, and request three letters of recommendation be mailed by 1 January 1987 directly to: **Dr. William B. Stewart, Department of Surgery, Section of Anatomy, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.** *Yale University is an Equal Opportunity/Affirmative Action Employer and all women and members of minority groups are encouraged to apply.*

ASSISTANT PROFESSOR IN PLANT BIOLOGY MARQUETTE UNIVERSITY

A tenure-track position is available 15 August 1987 in the Biology Department. Candidate must develop an independent research program in molecular, cellular, genetic, or physiological plant biology, and must be able to attract extramural support. Teaching responsibilities include an annual one-semester undergraduate course in plant biology and a graduate specialty course in alternate years.

Send curriculum vitae, names, and addresses of three references, and a one-page statement of current research interests to: **Dr. Peter Abramoff, Department of Biology, Marquette University, Milwaukee, WI 53233.** *An Affirmative Action/Equal Opportunity Employer.*

The **Yale University School of Medicine** is seeking applicants at the level of **ASSISTANT, ASSOCIATE, AND FULL PROFESSOR** for the Molecular Genetics Program of the newly created Center for Molecular Medicine. M.D. or Ph.D. degree required. Research in the program will focus on the molecular biology of the nucleus and gene expression, with potential application to human disease. Successful candidates will hold regular faculty appointments in one of the existing departments of the School of Medicine.

Salary and partial research support will be provided. Curriculum vitae should be submitted by 1 December 1986 to:

**Dr. Bernard Forget, Chairman
Molecular Genetics Search Committee
Department of Internal Medicine
Yale University School of Medicine
Box 3333
New Haven, CT 06510**
*Yale University is an Equal Opportunity/
Affirmative Action Employer*

PRINCETON UNIVERSITY— BIOSTRUCTURAL CHEMISTRY

As part of an expanding focus on the life sciences at Princeton University, the Departments of Chemistry and Molecular Biology invite applications for **ASSISTANT PROFESSORSHIPS** from individuals whose work emphasizes the structure and function of biologically important macromolecules (proteins, nucleic acids, polysaccharides, and phospholipids). More senior appointments could be considered in appropriate cases. These appointments will complement existing faculty interests in spectroscopy (Raman, ESR, and NMR), protein crystallography, bioorganic chemistry and nucleic acid chemistry, in addition to molecular genetics and cell biology. Application can be made to either department and should include a description of research interests, curriculum vitae, and three letters of recommendation and should be sent by 30 November 1986 to:

**Professor John T. Groves
Department of Chemistry
Frick Laboratory
Princeton University
Princeton, NJ 08544
or
Professor Jane Flint
c/o Laima Cole
Molecular Biology
Lewis Thomas Laboratory
Princeton University**

Princeton is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA) SCHOOL OF MEDICINE DEPARTMENT OF OPHTHALMOLOGY JULES STEIN EYE INSTITUTE

We are seeking applicants for an **ASSISTANT PROFESSORSHIP** in the neurophysiology of the visual and/or ocular motor systems. Candidates should have earned a Ph.D. in an appropriate field and have had at least 2 years of postdoctoral experience. Expertise in electrophysiologic, psychophysical, and/or anatomic techniques in trained animals is desirable. Opportunity is available to interact with ongoing, clinical studies of the ocular motor system.

Curriculum vitae, summary of research goals, and names of references should be sent to: **Robert D. Yee, M.D., Division of Neuro-Ophthalmology, Jules Stein Eye Institute, 800 Westwood Plaza, Los Angeles, CA 90024. UCLA is an Equal Opportunity/Affirmative Action Employer.**

POSITION: ASSISTANT SUPERINTENDENT SPECIAL EDUCATION (local education agency officer) ET-10105-3. **SALARY: \$49,206 to \$58,342. LOCATION: D.C. PUBLIC SCHOOLS DEPUTY SUPERINTENDENT'S OFFICE.**

DUTIES: Independently plans and implements the programs and services for the Office of Special Education. Determines methods of operation, and organizational structure. Directs and coordinates programs, services, and activities of a professional staff concerned with all areas of special education to include intellectual limitations, behavioral problems, speech problems, vision, hearing neurological, non-sensory physical impairments, and pupils with multiple handicaps. Responsible for developing and monitoring the budget for a comprehensive system-wide special education program, and works with a variety of advisory and advocacy organizations in furthering the goals and objectives of the program. Reviews and evaluates the programs and progress of handicapped students in non-D.C. public school facilities.

QUALIFICATIONS: Master's degree in special education from an accredited college or institution. Successful completion of a minimum of 12 semester hours in supervision and administration from an accredited college or institution. Five years of teaching experience, preferably in special education. Five years of experience as an assistant principal and/or principal or experience at a comparable administrative or supervisory level, two of which must be in the area of special education.

DESIRABLE: Extensive knowledge of current trends and practices in the field of special education. Ability to write reports, proposals, and evaluate and analyze programs in the special education field. Ability to communicate effectively both written and orally.

Candidates must submit the appropriate application form number 465 to: **The D.C. Public Schools, Division of Human Resource Management by C.O.B. 28 November 1986, 415 12th Street, NW, Room 706, Washington, DC 20004; telephone: 202-724-4080.**

NOTE: All candidates selected for positions in D.C. public schools must be residents of the District of Columbia or establish residency within 180 days of appointment.

ASSOCIATE RESEARCH SCIENTIST in the **Institute of Cancer Research** is available for research in the mechanism of mutation induced in eukaryotic cells by chemical carcinogens. Applicants should have a Ph.D. degree and a strong background in molecular biology. Send curriculum vitae, list of publications, and two letters of recommendation to: **Dr. D. Grunberger, Institute of Cancer Research, Columbia University, 701 West 168 Street, New York, NY 10032. An Equal Opportunity Affirmative Action Employer.**

BIOCHEMIST/PROTEIN CHEMIST needed immediately for purification, characterization, and cell biology of lysosomal enzymes. New Ph.D. or 1 to 2 years of postdoctoral experience. Protein characterization methods, HPLC, 2-D gels, and immunoblotting technique all assets. Project supported by National Gaucher Foundation. Apply by 31 October for immediate start. Send full résumé to: **Dr. Gary J. Murray, Laboratory of Molecular Genetics, Park Building, Room 435, National Institutes of Health, Bethesda, MD 20892.**

POSITIONS OPEN

ASSOCIATE PROFESSOR—BIOPSYCHOLOGY. THE PSYCHOLOGY DEPARTMENT, STATE UNIVERSITY OF NEW YORK AT BUFFALO (SUNY) anticipates an opening at the associate professor level in the area of biopsychology/neuroscience, beginning fall 1987. Candidates should have a strong record of publication and extramural support; area of specialization is open. The department occupies a new building with excellent laboratory facilities. Please send curriculum vitae (including names of three references), and a statement of research plans by 15 November 1986 to: **Dr. Elaine M. Hull, Biopsychology Search Committee, Psychology Department, Park Hall, SUNY/Bufalo, Amherst, NY 14260. SUNY is an Equal Opportunity/Affirmative Action Employer.**

GEORGIA INSTITUTE OF TECHNOLOGY BIOANALYTICAL FACULTY POSITION

Bioanalytical Faculty Position. The School of Chemistry, Georgia Institute of Technology, invites applications for a tenure-track position in bioanalytical/analytical biochemistry, starting September 1987. The position will be at the level of assistant professor, and will form part of a continuing expansion in the areas of analytical chemistry and biochemistry. Candidates from all developing areas at the interface between analytical and biochemistry are invited to apply, especially those with interests in analytical aspects of immunochemistry, enzymology, biochemical spectroscopy, and membrane receptors. Candidates will be expected to establish a dynamic research program, as well as teach courses in chemistry and biochemistry. Closing date for applications is 1 November 1986. A curriculum vitae, an outline of research plans, copies of graduate and undergraduate transcripts, and three letters of recommendation should be sent to: **Professor Robert A. Pierotti, Director, School of Chemistry, Georgia Institute of Technology, Atlanta, GA 30332-0400. Georgia Tech is an Equal Opportunity/Affirmative Action Employer.**

TWO BIOLOGY FACULTY POSITIONS

As part of a continuing program of growth and development, the Boston College Biology Department plans to fill two tenure-track positions at the assistant professor level by September 1987. These positions offer an exciting opportunity to participate in the growth of a department that has active graduate research programs in developmental biology, neurobiology, immunology, reproductive biology, and cell and molecular biology. During the past 2 years, we have added three new faculty members in these areas and we now seek two additional faculty members whose research would complement these areas.

The department has a commitment to teaching at both the graduate and undergraduate levels. One faculty member will be expected to make a contribution to this program in the area of mammalian physiology, and the other will contribute in virology, immunology, or molecular biology.

We offer a competitive salary and start-up funds. Candidates should have a Ph.D. and several years of postdoctoral experience. Applications, including three letters of reference solicited by the candidate, should be submitted by 1 December 1986 to:

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

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

CELL BIOLOGIST/ELECTRON MICROSCOPIST for tenure-track assistant professorship beginning 15 January 1987. Ph.D. in biological sciences required. Candidate should be broadly educated in cell biology; duties will include cell biology, electron microscopy, and courses in individual's specialty. Send résumé, a brief statement of professional goals, and the names, addresses, and telephone numbers of three references by 15 November 1986 to:

**Biology Search Committee
Sangamon State University
Springfield, Illinois 62794-0251**

Sangamon State is a senior level/master's university and an Equal Opportunity Employer.

POSITIONS OPEN

BIOCHEMIST WORCESTER POLYTECHNIC INSTITUTE (WPI) FALL 1987

The Department of Chemistry invites applications for a tenure-track faculty position in biochemistry beginning in the fall 1987. We seek applications for a position at the level of assistant, associate, or full professor. Strong preference will be given to candidates with interest in biotechnology, an area of active development at WPI and in the Worcester area. Applicants should have a Ph.D. degree, a strong experimental program, and a vigorous interest in undergraduate and graduate education. *Women and minorities are urged to apply.* To apply, submit complete résumé, including research plans and teaching interests, and three letters of recommendation to: **Dr. James W. Pavlik, Worcester Polytechnic Institute, Worcester, MA 01609. WPI is an Affirmative Action/Equal Opportunity Employer.**

BIOCHEMISTS

Tenure-track faculty positions at all ranks. Candidates should be interested in developing strong and independent research with long-term growth potential. Teaching includes medical, dental, and graduate students at a sizable medical complex. Biochemistry Department with excellent new facilities is undergoing substantial expansion. Salary commensurate with experience and competitive. Curriculum vitae, brief statement of present and future research interests, and three letters of recommendation should be sent to: **Dr. Robert D. Wells, Chairman, Department of Biochemistry, The University of Alabama at Birmingham, Schools of Medicine and Dentistry, University Station, Birmingham, AL 35294. An Equal Opportunity/Affirmative Action Employer.**

BIOLOGY: Associate or Assistant Professor needed to teach upper level courses in cellular/molecular biology, microbiology, and/or multisection introductory biology; participate in M.A./M.S. degree programs; assist in developing undergraduate biotechnology program; advise students and serve on college committees. Minimum requirements: associate professor, doctorate degree in the field and 6 years of teaching experience (3 on college level). Assistant professor (doctorate preferred) master's degree in the field, 30 hours beyond and 3 years of full-time teaching experience. Full-time, tenure-track appointment. Salary: \$22,500 to \$34,000. Starting date: 1 September 1987. To apply, send letter of application and résumé by 19 December 1986 to: **Director, Affirmative Action, Worcester State College, Worcester, MA 01602-2597. An Affirmative Action/Equal Opportunity Employer complying with Title IX of the Federal Laws and the Rehabilitation Act of 1973.**

CELL CULTURE/MOLECULAR NEUROBIOLOGY

Research associate/postdoctoral position for experienced cell culture biologist interested in applying recombinant DNA techniques to identify novel neurotrophic factors. Successful applicant will join a strong interdisciplinary group primarily examining CNS regeneration and repair. Previous experience in molecular biology is preferred, but not required. Salary to be commensurate with experience. Send curriculum vitae and three letters of recommendation by 15 November to: **Dr. Scott Whittemore, Department of Neurological Surgery (D4-6), University of Miami School of Medicine, 1501 Northwest 9th Avenue, Miami, FL 33136.**

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION NEUROANATOMY

Position for experienced neuroanatomist interested in spinal cord injury, CNS plasticity, and transplantation. Successful applicant will join a strong interdisciplinary group primarily examining CNS regeneration and repair. Previous experience in electron microscopy, autoradiography, immunohistochemistry, or transplantation is preferred, but not required. Salary to be commensurate with experience. Send curriculum vitae and three names for recommendation by 15 November 1986 to: **Dr. Vicky Holets or Dr. Ake Seiger, Department of Neurological Surgery, University of Miami School of Medicine, 1501 NW 9th Avenue, Miami, FL 33136.**

U.S. PATENT AND TRADEMARK OFFICE

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

QUALIFICATIONS: A full 4-year or longer professional curriculum in an accredited college or university leading to a Bachelor's Degree or higher with specific study in Molecular Biology, Biochemistry, Immunology or Cell Biology.

A Ph.D. is preferred. An equivalent M.S. degree with relevant research experience will be considered.

Research Experience in any of the following areas would be beneficial: DNA cloning, gene expression, sequencing techniques, hybridoma technologies, monoclonal antibody applications, cell culture, immunoassays, hybridization techniques, diagnostics and automation of clinical analysis.

SALARY: Dependent upon experience and qualifications.

LOCATION OF POSITION: Arlington, VA

For further information contact:

Nancy Strother
Patent and Trademark Office
Office of Personnel, C&E
CPK 1, Suite 700
Washington, D.C. 20231
703-557-1244

RESEARCH SCIENTISTS

The Monsanto Biological Sciences Department, located at the Life Sciences Research Center in suburban St. Louis, has immediate openings in its Molecular Genetics and Mammalian Biology Group in the following areas:

Molecular Biology

A Scientist with outstanding ability in molecular biology is needed to support our molecular genetics programs in human healthcare research. Initially the work will be in the area of isolation and characterization of genes for neuropeptide precursors and receptors. The ideal candidate will have a Ph.D or MD/Ph.D degree, post doctoral experience in molecular genetics and eukaryotic gene regulation, extensive experience in cDNA and genomic cloning including ability to develop novel cloning strategies and demonstrated ability to drive a project to a successful conclusion.

Receptor Biology

An individual with excellent skills in receptor biochemistry is needed to support our basic and applied research program in animal growth and nutrition. This challenging position will focus on solubilization and purification of functional membrane-bound protein hormone receptors. It will also involve the planning and supervision of work characterizing ligand and receptor structural features that are critical to hormone action. The successful candidate will possess a Ph.D and post doctoral experience and will have a published record of experience with receptor characterization and purification.

Interested candidates should send a resume and three letters of reference before November 1, 1986 to: **John Bussen; MONSANTO COMPANY; BB5B-WG; 700 Chesterfield Village Parkway; Chesterfield, MO 63198.** An Equal Opportunity Employer M/F/H/V.

Monsanto

TOXICOLOGIST



Rhône-Poulenc, Inc. is the rapidly growing U.S. subsidiary of the ninth largest chemical company in the world. Our Toxicology Group headquartered in the Agricultural Division at our Monmouth Junction, New Jersey facility, is expanding to meet the needs of our other divisions, as well as the increasing challenges of our crop protection business.

This entry level position is available December 1, 1986. The successful candidate will assist in establishing and maintaining toxicology programs for U.S. products; provide technical expertise to Marketing groups; assist in the design, monitoring, and reporting of all contracted laboratory studies; and assist in the preparation of regulatory-compliance documentation.

A Ph.D. in Toxicology or related discipline is required with zero to 2 years of related experience. A knowledge of aquatic and avian toxicology is also desirable.

We offer a competitive salary, attractive benefits and a chance to join a growing and dynamic organization in a position with opportunities for career growth. Please send resume, including salary history and requirements, to: Corporate Manager of Personnel, P.O. Box 125, Monmouth Junction, NJ 08852.

RHÔNE-POULENC INC.

Equal Opportunity Employer Male/Female

Research Assistant / Associate — Biochemistry —

Genentech, Inc., a leader in the field of biotechnology, has an opening in the Developmental Biology Dept. for an individual to work for the principal investigator on projects involving biochemistry and tissue culture.

Successful candidate will have experience in enzyme or protein purification and biochemical assays. Some experience with animal cell and tissue culture is desirable. A Bachelor's in Biochemistry and 4 years of experience or a Master's and 2 years of experience in the above area is essential.

Genentech offers competitive salaries and benefits coupled with the opportunity to make a significant contribution to our organization. Please send resume to Human Resources, Dept. #1371, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.



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Genentech, Inc.

POSITIONS OPEN

Applications are invited for the position of **CHAIR OF THE DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF MISSOURI-COLUMBIA**. The department has university-wide responsibilities for undergraduate, graduate, and professional education in biochemistry, and has multifaceted research programs that relate to agriculture, medicine and the life sciences, and contribute to an interdisciplinary program in molecular biology. The successful candidate will be expected to provide leadership in all phases of the mission of the department and to cooperate with a vigorous administration to advance biochemistry toward eminent status. Candidates should be recognized as leaders in biochemical research, and have strong credentials in teaching and administration. Applications should include curriculum vitae and the names of three references. Nominations are also requested. Closing date extended to 24 October 1986, or until suitable candidate is found. Submit to: **Dr. Warren L. Zahler, Chair, Search Committee, Department of Biochemistry, M121 Medical Sciences Building, University of Missouri-Columbia, Columbia, MO 65212.** *The University of Missouri is an Equal Opportunity/Affirmative Action Employer.*

HERBARIUM CURATOR

Permanent, full-time curator position is available beginning 1 January 1987. Bachelor's degree in botany or other life science and 3 years of related experience required. Prefers M.S. degree in above and advanced training in plant systematics and a knowledge of the flora of the SE U.S. Curatorial experience and knowledge of computers is desired. Minimum starting salary is \$20,439. Send letter of interest, curriculum vitae, and three letters of recommendation to: **Clemson University, Personnel Division, Gentry Hall, Clemson, SC 29634-5364.** Telephone: 803-656-3619. Last date for receipt of application, 1 December 1986. *Clemson University is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR ENVIRONMENTAL RESEARCH LABORATORY DULUTH, MN \$61,296 to \$66,232

U.S. Environmental Protection Agency (EPA) is seeking highly qualified candidates for the position of director, Environmental Research Laboratory, Duluth, MN. The director is responsible for the management of a research program on ecological systems, particularly to determine the exposure-effect relationships in freshwater ecosystems. Assists in the development of broad research policy and program guidelines and long-range research plans. Recommends specific projects and programs, including the resources and schedules required to accomplish them. Upon obtaining the resources, carries out the work either through its own facilities and field stations or under contract, cooperative agreement, or interagency agreement with other organizations.

To meet the requirements of the position, applicants must have research management experience and a bachelor's or higher degree in life sciences, physical sciences, or environmental engineering and must meet the **technical and executive qualifications** described in the vacancy announcement. Telephone or write for a copy of the vacancy announcement to: **Edna Morse, Environmental Protection Agency, SES and Executive Resources Unit, PM-224, 401 M Street, SW, Washington, DC 20460.** The telephone number is 202-382-3328.

Applications must be postmarked by 31 October 1986. *EPA is an Equal Employment Opportunity Employer.*

DIRECTOR, MOLECULAR BIOLOGIST LABORATORY—New York Medical College. The Cardiology Division and Department of Medicine, is seeking a career scientist to establish and direct a molecular biology laboratory dedicated to myocardial and cardiovascular function. The laboratory will be supported in part by an endowment fund established by the Cardiology Division. Faculty appointment will be at associate professor/professor level. Individuals with the appropriate training, background, and experience to act independently in this type of research should send inquiries and curriculum vitae to: **Dr. Michael V. Herman, Chief of Cardiology, New York Medical College, Valhalla, NY 10595.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CYTOGENETICIST

Abbott-Northwestern, an established, innovative hospital in the Minneapolis metropolitan area is seeking a **director** for its **Clinical Cytogenetics Laboratory**, a major component of its Perinatal Center. Major responsibilities include the supervision of the cytogenetic analyses of amniocytes and peripheral blood lymphocytes and the development of chorionic villus diagnoses. Further development in the pursuit of an independent research program is encouraged. Salary competitive and commensurate with experience.

Applicate must be Board-eligible/-certified in cytogenetics by ABMG or CCMG. Send curriculum vitae and three references to:

**The Perinatal Office
Attention: Search Committee
800 East 28 Street at Chicago Avenue
Minneapolis, MN 55407**

EXPERIMENTAL PLANT TAXONOMIST

Applications sought for staff position in systematics with specialization in biosystematics, cytotaxonomy, cladistics, or another experimentally oriented field. Position will involve development of a strong research program, preferably in plants of the Southwest or other similar Mediterranean-type regions. Some postdoctoral experience desirable. Duties include teaching in the graduate program in botany. Salary commensurate with experience. Letter of application, résumé, plan of proposed research, and three letters of recommendation should be received by 7 November.

**Search Committee
Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711
*An Equal Opportunity Employer***

EXPERIMENTAL PSYCHOLOGISTS

The Department of Psychology at the University of Maryland, College Park is seeking to enhance further the quality of its programs through the selective addition of four highly qualified faculty in tenure-track positions. The positions are as follows:

Senior level position in **Cognitive Psychology**. For best consideration, apply by 1 November 1986.

Open position in any area of **Experimental Psychology**. For best consideration, apply by 15 January 1987.

Senior level position in **Social Psychology**. For best consideration, apply by 1 November 1986.

Assistant Professor position in **Social Psychology**. For best consideration, apply by 15 January 1987.

For senior level positions, persons applying must have a record of significant research accomplishments and a history of extramural funding. For junior level positions, persons applying must have evidence indicating future research support.

All applicants should send curriculum vitae, representative reprints, and at least three letters of reference to: **Irwin L. Goldstein, Professor and Chair, Department of Psychology, University of Maryland, College Park, MD 20742.** Telephone calls are welcome: 301-454-6103.

FACULTY—ASSISTANT PROFESSOR—PHYTOPLANKTON OCEANOGRAPHER—The College of Marine Studies, University of Delaware, invites applications for a faculty position in biological oceanography. The position is available immediately and is a 12-month, tenure-track position at the assistant or associate professor level. We are looking for candidates who have interests in the study of phytoplankton in estuarine and coastal waters and who have a strong background in field research. The successful candidate is expected to collaborate with oceanographers in other disciplines. Responsibilities will include development of a vigorous research program, graduate level teaching, and student advisement. Candidates should submit a letter of application describing their research interests and background, current curriculum vitae, and the names and addresses of three references to: **Dr. George W. Luther, III, Search Committee Chairman, College of Marine Studies, UNIVERSITY OF DELAWARE, Lewes, DE 19958.** The closing date is 1 December 1986. *The UNIVERSITY OF DELAWARE is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ELECTROPHYSIOLOGIST

A manufacturer of scientific electronics is seeking a scientist with experience in the areas of intracellular/extracellular recording, voltage/patch clamp recording, and computer analysis techniques. Candidate must have excellent written communication skills. Please send résumé and three references to **Box 172, SCIENCE.**

FACULTY POSITION IN PROKARYOTIC MOLECULAR GENETICS

Applications are invited for junior tenure-track faculty positions in the Department of Microbiology. We are interested in applicants with research interests in prokaryotic molecular biology and/or bacterial genetics. Candidates should have made significant accomplishments in research and should be prepared to maintain an active, independent research program. Excellent salaries, start-up funds, and research facilities are available. Teaching responsibilities are minimal and include participation in courses for graduate, medical, and dental students. The department, among the most well funded in the nation, provides a stimulating scientific environment and administers several NIH Institutional Fellowship programs that are available to provide stipend support for predoctoral and postdoctoral students.

The basic science departments of the University of Alabama at Birmingham Medical Center continue to recruit outstanding faculty with strong research programs in biochemistry, cellular biology and physiology, immunology, animal virology, and other areas. A particular strength of the institution is the close cooperation between clinical and basic science researchers in areas such as cancer biology, arthritis and rheumatoid diseases, immunodeficiency disorders, bacterial and viral diseases, oral biology, and muscular-skeletal disorders.

Applicants should submit curriculum vitae, a statement of research plans, and the names of three people from whom letters of recommendation can be requested. Applications should be sent to: **Gillian Air, Chairman, Molecular Genetic Search Committee, Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL 35294.**

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITION

The Microbiology Department at the University of Texas at Austin has an opening for an **assistant professor**. Appointment at a higher rank is possible for a highly qualified individual. Of most interest are individuals studying **prokaryotic genetics or developmental processes in yeasts or other eukaryotes**. However, exceptional applicants interested in other areas of microbiology and molecular biology are encouraged to apply.

Please submit curriculum vitae, including names and addresses of three references, and a summary of research interests to: **Dr. William R. Folk, Search Committee Chairman, Microbiology Department, The University of Texas at Austin, Austin, TX 78712-1095.** *The University of Texas is an Equal Opportunity/Affirmative Action Employer.*

The Department of Ecology and Evolutionary Biology, University of California, Irvine (UCI), announces a new tenured (**Associate Professor**) or tenure-track (**Assistant Professor**) position for a **PLANT POPULATION ECOLOGIST**. We seek candidates with a balance between theory and experimentation, and whose research deals with the ecology and evolution of reproductive strategies in plants. Candidates with a genetic component to their studies will be welcome. We are looking for candidates only of exceptional merit, and postdoctoral experience is required. *UCI is an Equal Opportunity/Affirmative Action Employer.*

Please send letter of application, curriculum vitae, reprints (published) or manuscripts (in press) of key publications, statement of research interests and goals, and names, addresses, and telephone numbers of four references to:

**Search Committee
Department of Ecology and Evolutionary Biology
University of California
Irvine, CA 92717**

Candidates should arrange for references to submit letters of evaluation directly to the search committee.

Deadline for receipt of application and letters is 1 December 1986.

POSITIONS OPEN

FACULTY POSITIONS

- (1) BEHAVIORAL BIOLOGY AND
- (2) MICROBIAL GENETICS

Two full-time, tenure-track positions at **assistant/associate professor** level, starting fall 1987. Postdoctoral experience preferred. The appointees will be expected to establish strong research programs capable of attracting M.S. and Ph.D. students and extramural funding. Teaching responsibilities will include a graduate course in the appointee's specialty and involvement in the undergraduate program.

BEHAVIORAL BIOLOGIST with research interests at the molecular, cellular, or organismal level.

MICROBIAL GENETICIST with research interests in prokaryotic molecular genetics.

Submit curriculum vitae, short statement of research interests, and names of three referees by 10 November 1986 to: **Dr. George W. Kidder III, Chairman, Department of Biological Sciences, Illinois State University, Normal, IL 61761.**

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

FACULTY POSITIONS AT ARIZONA STATE UNIVERSITY: Applications are invited for assistant professorships in chemical crystallography, chemical education, electronic materials chemistry, and energetics of photosynthesis. Senior-level appointments in the former two areas will also be considered. Candidates should have outstanding potential for excellence in both research and teaching. Applicants should submit curriculum vitae, summary of past accomplishments, brief statement of research plans and teaching interests, and three letters of recommendation to: **Professor W. S. Glaunsinger, Chairman, Department of Chemistry, Arizona State University, Tempe, AZ 85287.** *Arizona State University is an Equal Opportunity/Affirmative Action Employer.* Review of applications will begin after 25 November 1986, and continue until filled.

FACULTY POSITIONS IN EUKARYOTIC MOLECULAR BIOLOGY

Applications are invited for tenure-track faculty positions in the general area of eukaryotic molecular biology at Purdue University. Salary and rank will be commensurate with qualifications and experience. Candidates must have postdoctoral training, a strong research record, and be capable of developing and continuing a vigorous research program. For consideration, send curriculum vitae, a statement of research interests, and the names and addresses of three references to:

**Eukaryotic Molecular Biology Search Committee
Department of Biochemistry
Purdue University
West Lafayette, IN 47907**
Equal Opportunity/Affirmative Action Employer

The Department of Ecology and Evolutionary Biology, University of California, Irvine (UCI), announces the reopening of a search for a **THEORETICAL EVOLUTIONARY ECOLOGIST** to join an expanding department at the tenure-track level of **assistant professor**. While the intent is to recruit a pure theorist to interact with our core of more empirically-oriented evolutionary biologists (quantitative genetics, microbial coevolution, life history, and genetic systems evolution), we will also welcome candidates whose theoretical studies are integrated with empirical research. The department's goal is to encompass studies of microbial, animal and plant systems, and candidates focusing on any of these or at their interfaces will be welcome. We are looking for persons only of exceptional merit, and postdoctoral experience is required. *UCI is an Equal Opportunity/Affirmative Action Employer.*

Please send letter of application, curriculum vitae, reprints (published) or manuscripts (in press) of key publications, statement of research interests and goals, and names, addresses, and telephone numbers of four references to:

**Search Committee
Department of Ecology and Evolutionary Biology
University of California
Irvine, CA 92717**

Candidates should arrange for references to submit letters of evaluation directly to the Search Committee.

Deadline for receipt of application and letters is 1 December 1986.

10 OCTOBER 1986

Group Managers/ Biostatistics

The Bristol-Myers Company, a worldwide leader in the research and development of pharmaceutical products, has challenging career opportunities for exceptional individuals to join our clinical cancer and cardiovascular research teams at its world headquarters research center located in Wallingford, Connecticut. Our new state-of-the-art research facility is centrally located in a beautiful Connecticut country setting which offers the cultural and recreational advantages for which New England is famous.

The successful candidates will participate in the development of novel cardiovascular and anti-cancer drugs and will coordinate and generate statistical reports of the efficacy and safety of these compounds for inclusion in U.S. and worldwide regulatory submissions. These key clinical positions require:

- **Ph.D. in Statistics or related field**
- **Three or more years of relevant experience in the cardiovascular, and anti-cancer areas**
- **Three or more years supervisory experience**
- **Outstanding computer skills, particularly SAS and 4th generation data base experience**
- **Excellent verbal and written communication skills**

Bristol-Myers offers competitive salary compensation and a comprehensive benefit package including relocation assistance.

For confidential consideration forward your resume, including salary history, in confidence to: **BRISTOL-MYERS COMPANY, Pharmaceutical Research and Development Division, P.O. Box 5100, 5 Research Parkway, Wallingford, CT 06492.** An equal opportunity employer.

Bristol-Myers

POST DOCTORAL SCIENTISTS

Plant Molecular Biology

The Plant Molecular Biology Group at Monsanto is seeking outstanding individuals to fill the following Post Doctoral positions.

Plant Biochemistry

The qualified candidate will possess a Ph.D in Biochemistry or a related discipline with proven expertise in protein purification/characterization. A good working knowledge of enzymology is essential. The selected candidate will be involved in research in the area of protein sorting in plant cells.

Gene Expression

The qualified candidate will possess a Ph.D in Molecular Biology or related discipline with proven expertise in recombinant DNA techniques. Knowledge of plant virology is desirable. The selected candidate will work on the molecular mechanisms involved in viral cross-protection or gene expression in plants.

Plant Genetics

The qualified candidate will possess a Ph.D in Plant Genetics, Biochemistry or Molecular Biology. The selected candidate will work on chemical and transposon induced mutagenesis in *Arabidopsis thaliana* followed by biochemical and molecular analysis of the mutations.

Send resume, three letters of reference and transcripts to: **John B. Bussen; MONSANTO COMPANY; BB5B-PD; 700 Chesterfield Village Parkway; Chesterfield, MO 63198.** An Equal Opportunity Employer M/F/H/V.

Monsanto

POSITIONS OPEN

The Department of Physiology and Biophysics at Louisiana State University in Shreveport invites applications for five tenure-track **FACULTY POSITIONS** at the level of assistant/associate professor. Candidates must have Ph.D. degree with demonstrated ability and commitment to both teaching and a strong independent research program. Successful applicants will have a proven record in one or more of the following research areas: gastrointestinal circulation, lipid absorption, lipoprotein metabolism, oxygen radical biochemistry, microvascular exchange, and blood flow regulation.

Submit curriculum vitae by 1 November 1986 with the names and addresses of three references to: **Head, Department of Physiology and Biophysics, Louisiana State University Medical Center in Shreveport, P.O. Box 33932, Shreveport, LA 71130. Affirmative Action/Equal Opportunity Employer.**

TWO FACULTY POSITIONS MCGILL UNIVERSITY DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS

The Department of Pharmacology and Therapeutics is undergoing a phase of growth and expansion and is now actively searching for candidates for two newly created academic tenure-track positions with expertise in the areas of molecular biology (recombinant DNA) and receptor topology (receptor binding radioautography). The level of the two positions will be anywhere from assistant to full professorship, with the minimum salary levels set by the university for academic staff as follows: assistant professor—\$30,622; associate professor—\$35,713 and full professor—\$44,300; with both the level and the salary being set commensurate with the qualifications and experience of the selected candidates. The department is searching for candidates with some international reputation, with a serious interest in neuropharmacology, and able to organize an independent research group. The department is very active in the areas of neuropharmacology, cardiovascular pharmacology, and electrophysiology, receptor pharmacology, neuropharmacology, developmental pharmacology, pharmacology of malignant diseases, reproductive medicine and pharmacology, toxicology, autonomic pharmacology, endocrine pharmacology, biochemical pharmacology, and bronchopulmonary pharmacology. Specialized facilities available include EM, tissue culture, electronics, photography, and advanced image analysis. The incumbents will be given some financial assistance to establish a laboratory and to purchase equipment, as well as statutory relocation assistance. Applicants should apply in writing, enclosing a curriculum vitae, the names and addresses of three referees, and a brief outline of proposed research to: **Dr. A. C. Cuello, Chairman, Department of Pharmacology and Therapeutics, McGill University, 3655 Drummond Street, Room 1325, Montreal, Quebec, Canada H3G 1Y6, by 30 November 1986, as the department is anxious to implement these positions as soon as possible.**

HUMAN GENETICIST, M.D. OR M.D./Ph.D., Board-eligible with research program in molecular biological approaches to inherited disease. Rank and salary commensurate with qualifications. Salary, start-up support for research, and protected research time assured. Appointment shared by Departments of Pediatrics and of Human Biological Chemistry and Genetics. Applications to: **David Rassin, Department of Pediatrics, University of Texas Medical Branch (UTMB) at Galveston, TX 77550. UTMB is an Equal Opportunity/Affirmative Action Employer.**

LABORATORY DIRECTOR

Tenure-track position: Reproductive biologist to direct in vitro fertilization laboratory—Ph.D. level position to direct laboratory and conduct research in new IVF-ET program. Experience in tissue culture and sterile technique mandatory. Previous IVF-ET experience preferable. Salary negotiable. For more information, send curriculum vitae to: **Sandra Ann Carson, M.D., Department of Obstetrics and Gynecology, University of Tennessee, 956 Court Avenue, Room D324, Memphis, TN 38163. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

FLOW CYTOMETER OPERATOR Life Science Research Assistant II/III Department of Biological Sciences Stanford University

Responsibilities involve highly sophisticated methods development and data interpretation for biological research involving a Coulter EPICS 753 flow cytometer. Duties include the use of independent initiative and theoretical judgment in the choice of appropriate methods and supervision of instrument maintenance. The research assistant will research the development of new techniques and uses of flow cytometry in various areas of the biological sciences, as well as provide instruction on use of the instrument. Serving as a special resource, the research assistant will act as a consultant to investigators in their use of the flow cytometer, supervise and schedule the use of the instrument, and ensure proper collection and handling of the data. Responsibilities also include maintaining a familiarity with current literature, performing literature searches for manuscript preparation, and providing original research contributions.

Candidates should have a masters of science in molecular biology or related field and/or equivalent experience in flow cytometry theory and instrumentation. Individual should have the theoretical knowledge and interpersonal skills necessary for supervising and interacting with a variety of users (graduate students, postdoctoral fellows, and faculty). Candidates should also have organizational and supervisory skills necessary for scheduling users and for supervising the proper maintenance of the instrument.

Applicants should send résumés to: **Dr. Robert T. Schimke, Department of Biological Sciences, Stanford University, Stanford, CA 94305. Stanford University is an Equal Opportunity Employer.**

BROCK UNIVERSITY DEPARTMENT OF BIOLOGICAL SCIENCES

A tenure-stream position for a **GENETICIST** is available from 1 July 1987. The appointee will be expected to teach molecular, transmission, and population genetics at the undergraduate level, to develop a strong research program in the area of his/her expertise, to supervise graduate students, and to interact with other faculty working at several different levels of biological organization. Salary and rank will be commensurate with qualifications. Applicants should submit a complete curriculum vitae by 31 October 1986, together with a statement of research and teaching experience, reprints of published research, and the names of three referees to: **Chairman, Genetics Search Committee, Department of Biological Sciences, Brock University, St. Catharines, Ontario, Canada L2S 3A1.**

MICROBIOLOGIST/ MOLECULAR BIOLOGIST

The Hope College Biology Department has a tenure-track position for a microbiologist/molecular biologist beginning August 1987. The appointment will be at a rank commensurate with qualifications. Applicants must have a strong interest in undergraduate liberal arts education. The successful candidate will teach in the general introductory course, an introductory microbiology course, and an appropriate upper level course. In addition, he/she will be expected to seek extramural funding to support an active research program which will involve undergraduate students. Preference will be given to candidates with postdoctoral experience.

Hope College is a distinguished christian co-educational, residential liberal arts college affiliated with the Reformed Church in America. Hope has maintained a strong tradition in science that involves both teaching and research. *Applications from women and minority persons are encouraged.*

Qualified applicants should arrange to have curriculum vitae, transcripts, a statement of teaching competencies, an outline of proposed research, and three letters of recommendation forwarded as soon as possible to:

**Dr. James M. Gentile, Chairman
Department of Biology
Hope College
Holland, MI 49423**

Deadline for completed applications will be 15 January 1987.

POSITIONS OPEN

IMMUNOLOGIST/MICROBIOLOGIST. The University of Nebraska Medical Center College of Dentistry invites applications for the 12-month, tenure-leading position of immunologist/microbiologist in the Department of Oral Biology beginning 1 January 1987. The candidate is expected to establish an active research program and teach graduate and undergraduate courses in immunology and microbiology. Ph.D. or equivalent with demonstrated research ability required. Salary and academic rank are commensurate with background, training, and experience. Submit letter of application and curriculum vitae by 1 November 1986 to: **Search Committee, College of Dentistry, Room 100, UNIVERSITY OF NEBRASKA MEDICAL CENTER, 40th and Holdrege, Lincoln, NE 68583-0740. The University of Nebraska Medical Center is an Equal Opportunity/Affirmative Action Employer.**

MOLECULAR BIOLOGIST (EUKARYOTIC)

The Biology Department, Creighton University, seeks a person who uses modern molecular approaches in a traditional biological subdiscipline. The successful candidate must hold a Ph.D. degree, have a commitment to independent, continuing research, and an enthusiastic instructional program. Initially, the candidate will be responsible for presentation of contemporary nucleic acid methodology in an upper-division laboratory course. Future participation in the introductory general biology course is anticipated. The normal teaching load is four courses per academic year. Participation in the graduate program (M.S.) is requisite.

This tenure-track, 9-month appointment will be at the assistant professor level. Summer teaching is optional. Application materials must be received by 7 November 1986. Applicants should send curriculum vitae, transcripts, and the names and addresses of three references to:

**Search Committee
Department of Biology
Creighton University
Omaha, NE 68178
Telephone: 402-280-2811**

Creighton University is an Affirmative Action/Equal Opportunity Employer.

MOLECULAR BIOLOGIST: A research position will be available 1 January 1987 in primate lipoprotein biochemistry and metabolism. Position requires a Ph.D. in biochemistry with three or more years of related experience for consideration as assistant scientist. Candidates having less experience will be considered for a postdoctoral appointment. Please send curriculum vitae and names of three references to: **Personnel Manager, Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.**

Equal Opportunity Employer, M/F

MOLECULAR GENETICS/STRUCTURAL BIOLOGY POSTDOCTORAL POSITION available immediately to join a group investigating the relationship between enzyme structure and function by site-directed mutagenesis and x-ray crystallography. Requires a strong background in molecular biology and/or enzymology. Salary commensurate with experience. Please send curriculum vitae, representative reprints, and the names of three references to: **Dr. David A. Agard, Department of Biochemistry and Biophysics, University of California, San Francisco (UCSF), San Francisco, CA 94143-0448. UCSF is an Equal Opportunity/Affirmative Action Employer.**

PHARMACOLOGY FACULTY POSITION

The University of Southern California, School of Pharmacy, has a tenure-track position in pharmacology at the assistant professor level. Candidates should have a Ph.D. in pharmacology, 2 years of postdoctoral experience, and research interests in behavioral or molecular neuropharmacology. Candidate will be expected to develop a fundable research program and teach in professional and graduate pharmacology courses. Send curriculum vitae and brief synopsis of research goals by 15 November to: **Jean C. Shih, Ph.D., School of Pharmacy, 1985 Zonal Avenue, Los Angeles, CA 90033-1086.**

Equal Opportunity Employer, M/F/H.

AUSTRALIA
CSIRO
RESEARCH FELLOW
CLOUDSEEDING/CLOUD MICROPHYSICS
AS\$35,889-AS\$48,734
DIVISION OF ATMOSPHERIC RESEARCH
ASPENDALE VIC

GENERAL: The Division of Atmospheric Research has a staff of 130 including 70 professional scientists and undertakes research into physical and chemical aspects of atmospheric phenomena and related areas. The Division is contracted to provide scientific direction for a 5 year cloud seeding operation soon to be commenced by one or more statutory bodies involved in the management and use of large scale water resources in southern Australia. A senior scientist is required to lead a small team providing scientific direction for the seeding operations.

DUTIES: Direct the scientific aspects of a 5-year pilot study on cloud seeding including, for example, specification of seeding agent, development of airborne delivery equipment, and investigation of meteorological and microphysical conditions appropriate for seeding. To assist with the interpretation of statistical analysis of rainfall data. To design and carry out cloud microphysical studies deemed necessary as an adjunct to the seeding operations. To liaise closely with the operational project Manager, external scientific consultants (if required) and to provide progress reports as required.

TENURE: 5 years. A further term may be negotiated. Australian Government superannuation benefits available.

QUALIFICATIONS: A PhD or equivalent qualifications, supported by evidence of proven research ability in practical and theoretical aspects of cloudseeding. Demonstrated capability to initiate and lead a research team is desirable.

APPLICATIONS: Stating relevant personal particulars, including details of qualifications and experience, the names of at least two professional referees and quoting reference No M7867 should be directed to:

The Chief
CSIRO
Division of Atmospheric Research
Private Bag No 1
MORDIALLOC VIC 3195
AUSTRALIA

By 4 weeks from date of publication

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

AIDS RESEARCH

Murex Corporation is a biotechnology company with research programs established in novel diagnostics and therapeutics product developments. Breakthroughs in our AIDS research program have created a need for new scientific positions in our Atlanta facilities to accomplish new product development and manufacturing. We are seeking to add the following persons to our professional staff:

R & D Manager

Ph.D. level with 3-5 years diagnostic product development experience. Excellent communication, research planning and follow through skills are required.

Scientists

All levels with immunology or infectious disease research experience desired. We offer an excellent scientific environment, competitive salaries and benefit packages to successful candidates.

Murex is located in the greater Atlanta, Georgia area and has modern, fully-equipped R & D facilities. We offer an exceptional opportunity for your continued professional and personal growth. For confidential consideration, please send your resume to:

Contact

Ms. Sandy Knighten, Murex Corporation, P.O. Box 2003, Norcross, GA 30091.

murexTM

POSTDOCTORAL APPOINTMENTS IN MECHANISMS OF TOXICOLOGY

The Lovelace Inhalation Toxicology Research Institute offers outstanding opportunities to recent (within last 36 months) doctoral degree graduates to train at its internationally recognized laboratory in Albuquerque, New Mexico. Two year appointments are available for individuals with the following training:

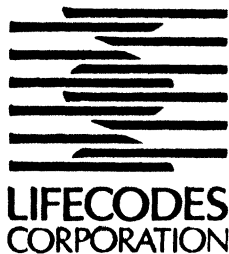
- Doctoral degree in fields such as Biochemistry, Pharmacology, Toxicology, Molecular Biology, Chemistry, Medicinal Chemistry, Biophysics, Experimental Pathology or related fields.
- Three to four years of laboratory experience of the type typically associated with rigorous doctoral degree program.

The successful applicants will have the opportunity to work with our multidisciplinary staff of 50 doctoral degreed scientists in a modern and well equipped research environment. A wide spectrum of activities are under way including research to understand the physical and chemical properties of airborne materials and how these properties influence their toxicity, the toxicokinetics of inhaled materials and mechanisms of toxicity in mammals using in vitro and in vivo systems. Major investigations focus on the biology and pathobiology of the respiratory tract with emphasis on studying mechanisms of induction of respiratory tract cancer.

These appointments will enhance the career options of individuals with good communications skills who desire to work in a multidisciplinary team environment. Starting stipend of \$20,000 per annum plus relocation and comprehensive health care benefits. U.S. Citizenship or permanent residency required. To apply, contact the Personnel Unit, Lovelace Inhalation Toxicology Research Institute, (505) 844-9431, or write to: P.O. Box 5890, Albuquerque, NM 87185.

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN



MOLECULAR BIOLOGISTS AND BIOCHEMISTS

Lifecodes Corporation, a rapidly growing biotechnology company, is seeking scientists for two challenging positions.

GROUP LEADER—Head a group developing sensitive nucleic acid detection systems. Requires very strong background in nucleic acid chemistry, evidenced by publication, plus demonstrated leadership ability.

RESEARCH SCIENTIST—Join a multi-disciplinary team applying recombinant DNA technology to medical diagnostics. Qualified applicants will have a recent Ph.D. in one of the biological sciences and should have experience with a wide range of recombinant DNA techniques.

Lifecodes Corporation is located in Westchester, NY, only 30 minutes from midtown Manhattan.

To apply, send your curriculum vitae along with the names and telephone numbers of three references to:

Dr. Jeffrey Glassberg
Lifecodes Corporation
4 Westchester Plaza
Elmsford, NY 10523

MOLECULAR NEUROBIOLOGIST

The Department of Biology at the University of Michigan seeks applications from individuals in the area of molecular neurobiology for a tenure-track position at the level of assistant professor. Collegiate approval of this position is pending. This appointment will begin in September 1987. Our preference is for an individual applying modern molecular techniques to the study of the neurobiology of an organism with well-defined genetics. Postdoctoral experience is required. The successful candidate will be expected to develop an extramurally-funded research program and to participate in the undergraduate and graduate teaching programs of the department. Applications should include curriculum vitae, publications list, reprints, and a brief statement of future research plans. Applicants should also arrange to have three individuals send letters of recommendation. The deadline for receipt of applications is 15 December 1986. All materials and letters should be addressed to:

Chair, Neurobiology Search Committee
Department of Biology
The University of Michigan
Ann Arbor, MI 48109-1048

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

PHYSICAL OCEANOGRAPHY/ COASTAL DYNAMICS

The Marine Science Program and Department of Geology of the University of South Carolina announce a tenure-track faculty position open to all areas of physical oceanography or coastal dynamics. Areas of particular interest include, but are not limited to: theoretical or numerical modeling, applied physical oceanography, sediment transport, and benthic boundary layer processes. Salary and rank are dependent upon qualifications. Applicants must have a Ph.D. degree and a strong commitment to teaching and research. Submit résumé, a brief statement of research interests, and names, addresses and telephone numbers of three references to: **Dr. Steven Kuehl, Chairman, Search Committee, Marine Science Program/Department of Geology, University of South Carolina, Columbia, SC 29208**, before 15 November 1986. *The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PEDIATRIC NEPHROLOGY FELLOW DEPARTMENT OF PEDIATRICS CEDARS-SINAI MEDICAL CENTER LOS ANGELES, CA

PEDIATRIC NEPHROLOGY FELLOW: Cedars-Sinai Medical Center, a 1015-bed, acute-care, research and teaching hospital affiliated with the University of California, Los Angeles (UCLA), School of Medicine, is seeking candidates for fellowship in pediatric nephrology. The program offers comprehensive training in all aspects of pediatric nephrology, but will give preference to applicants who seek intensive focused training in laboratory investigation leading to a career as an independent clinical investigator. Interested individuals should send their curriculum vitae and three letters of reference to:

Dr. Stanley C. Jordan, Director
Pediatric Nephrology and
Transplantation Immunology
Cedars-Sinai Medical Center
Room 4310, 8700 Beverly Boulevard
Los Angeles, CA 90048

Cedars-Sinai Medical Center is an Equal Opportunity Employer.

PEDIATRIC IMMUNOLOGIST DEPARTMENT OF PEDIATRICS CEDARS-SINAI MEDICAL CENTER LOS ANGELES, CA

PEDIATRIC IMMUNOLOGIST: Cedars-Sinai Medical Center, a 1015-bed, acute-care, and research and teaching hospital affiliated with the University of California, Los Angeles (UCLA), School of Medicine, seeks an academically oriented individual to establish and direct the new Pediatric Immunology Division. The successful candidate would be expected to develop productive programs in research, teaching, and clinical services. Interested individuals should send their curriculum vitae and three letters of reference to:

David L. Rimoin, M.D., Ph.D.
Director, Department of Pediatrics and the
Medical Genetics-Birth Defects Center
Cedars-Sinai Medical Center
Room 4310, 8700 Beverly Boulevard
Los Angeles, CA 90048

Cedars-Sinai Medical Center is an Equal Opportunity Employer.

PH.D IN MOLECULAR BIOLOGY DESIRED FOR POSITION IN AN ONCOLOGY RESEARCH LABORATORY

To initiate research program involving: growth factors, oncogenes, and gene rearrangements in both solid and hematologic malignancies.

Individual with several years of postdoctoral experience, as well as record of independent, original research preferred.

Send curriculum vitae and reference letters to: **Larry Nathanson, M.D., 222 Station Plaza North, Room 300, Mineola, NY 11501.**

POSTDOCTORAL FELLOW

The Research Department at the Olin E. Teague Veterans' Center, Temple, TX, 76501 has an opening for a postdoctoral fellow to work with the molecular aging of cell membranes and immunology. A background in membrane protein and glycoprotein structure and function preferred. Position is for 3 to 5 years, with potential of a staff position. Starting salary range \$17,824 to \$21,804. This position is a VA and Texas A&M University position. Contact **THE RESEARCH DEPARTMENT, Telephone: 817-778-4811, Extension 5137.**

POSTDOCTORAL LABORATORY SCIENTIST POSITION—is available immediately. This position involves clinical chemistry methods development and basic research. The candidate is also responsible for performance of some specialized endocrinological and toxicological determinations. Background in chemical or biological sciences with GC/MS experience useful. Starting salary \$20,000. Send curriculum vitae, references, and research interests to: **Dr. Lemuel J. Bowie, Director, Division of Clinical Biochemistry, Evanston Hospital, 2650 Ridge Avenue, Evanston, IL 60201. Equal Opportunity Employer, M/F.**

POSITIONS OPEN

PLANT BIOLOGY

Over the next 5 years, the Department of Biology at the University of Utah anticipates filling several faculty positions in the plant sciences in areas of biochemistry, development, physiology, and genetics. At present, we seek two candidates for regular, tenure-track appointments in these subdisciplines (rank open). The successful candidates will be expected to establish active research programs and to participate in undergraduate and graduate teaching. Our preference at this time is in the areas of plant physiology and plant development; however, the areas of specialization are less important than overall evidence of excellence and outstanding potential. We do hope to appoint two colleagues who can establish productive interactions with existing programs in molecular biology, genetics, and ecology.

Address applications or nominations to:

Dr. James Ehrlinger, Chairman
Search Committee
Department of Biology
University of Utah
Salt Lake City, UT 84112

Please send résumé, copies of recent publications, and three letters of reference. The deadline for applications is 15 November 1986.

The University of Utah is an Equal Opportunity/Affirmative Action Employer. These positions are subject to final budgetary approval.

PLANT EVOLUTIONARY BIOLOGIST

The Department of Biological Sciences, University of California, Santa Barbara, invites applications for an anticipated tenure-track position at the assistant professor level beginning 1 July 1987. Ph.D. required. Applicants' primary research interests must be in evolutionary biology and they must have a strong understanding of plant biology and principles and mechanisms of evolution. Teaching will include an introductory course in plant biology and an advanced course in the person's area of specialization. Applicants should send curriculum vitae, a statement of research interests, and arrange to have at least three letters of reference sent to: **The Chairman, Department of Biological Sciences, University of California, Santa Barbara, CA 93106.** Applications must be postmarked no later than 1 December 1986. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL CLINICAL TOXICOLOGY POSITION

Opening for individual with strong analytical chemistry background to collaborate with multidisciplinary investigators in Clinical Toxicology Section. Ongoing projects include reduction of toxicity of antineoplastic drugs, immunomodulating agents evaluation, antimicrobial drug development, pharmacology of neuroleptics, and toxicokinetics of metals. Experience with HPLC, GC, GC/MS, atomic absorption, and NMR/MRI desirable. Appointment in university Department of Pathology with opportunity for developing an independent research program. Send curriculum vitae and names of three references to: **Dr. Donald J. Cannon, Toxicology Laboratory (113T/NLR), VA Medical Center, North Little Rock, AR 72114. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOW POSITION

A 2-year position for a postdoctoral fellow is available in the laboratory of **Dr. Leonard Share** of the Department of Physiology and Biophysics of the University of Tennessee, Memphis. Candidates should have a Ph.D. or M.D. degree, and a research interest in the neural control of vasopressin secretion or the role of vasopressin in hypertension and cardiovascular regulation. This position is funded by a training grant from the National Institutes of Health. **Applicants must, therefore, be citizens or permanent residents of the United States.**

Send curriculum vitae, a brief statement of research interests, and the names of three references to: **Dr. Leonard Share, Professor, Department of Physiology and Biophysics, University of Tennessee, Memphis, TN 38163. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL ANALYTICAL CHEMIST

Travenol's Clinical Chemistry research group now seeks an individual to support our continued success in blood delivery products. This position will focus on the development of methods for blood and other biological fluids to compensate for the presence of known interfering substances.

Ongoing and new research will include developing, validating and implementing clinical methods. Qualifications include a Ph.D. in Analytical Chemistry with a strong background in method development. Ability to design and report careful scientific studies is essential. Knowledge of clinical methods, biological pathways, and use of personal computers is desirable.

We provide state-of-the-art instrumentation and an excellent salary and benefits plan in our modern facility northwest of Chicago. For confidential consideration, please send your resume with salary history to:



Staffing/Manpower Planning
Travenol Laboratories, Inc.
Dept. NL
P.O. Box 490
Round Lake, IL 60073

Equal Opportunity Employer

MOLECULAR IMMUNOLOGY DIRECTOR

CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY

THE CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY, a specialized cancer research and treatment center, is seeking a DIRECTOR for its Institute of Molecular Immunology. A national leader in the development and application of immunological approaches to cancer treatment is sought to direct the current and future program of this laboratory research unit, including the recruitment of scientific personnel. Special consideration will be given to those individuals with interest in monoclonal antibodies and immunochemistry. Excellent laboratory facilities are available to the successful candidate expected to develop a vigorous research program. Applicants must hold a Ph.D. or M.D. degree and have administrative experience as well as excellent credentials in research with a history of strong extramural funding.

The Center is located on the Newark campus of the University of Medicine and Dentistry of New Jersey (UMDNJ) and is closely affiliated with several of UMDNJ's research and educational programs. The Institute Director is eligible for a senior faculty appointment at the New Jersey Medical School of UMDNJ. In close proximity are excellent opportunities for educational, research, and cultural exchange among the many outstanding institutions within the greater New Jersey-New York metropolitan area. Ample housing exists in several adjacent communities and within short commuting distances of both the Center and New York City.

Applications, to include curriculum vitae, bibliography, a statement of career and research goals and the names of three references, should be sent to:

David M. Goldenberg, Sc.D., M.D.
President

Center for Molecular Medicine and Immunology
1 Bruce Street, Newark, New Jersey 07103

An Equal Opportunity Employer

The Department of Biology at Memphis State University invites applications and nominations for an endowed **CHAIR OF MOLECULAR BIOLOGY**. Applicants are being sought for the full professor level. The candidate should be a recognized scholar with a record of significant achievements in molecular biology research. Expertise should include the application of recombinant DNA techniques to problems in viral, microbial, animal or plant molecular biology. A Ph.D. in microbiology, genetics, biochemistry, molecular biology, immunology or related field is required.

The appointee will be expected to be a catalyst in developing a center of excellence in molecular biology, to supervise and contribute to the education of graduate students and postdoctoral associates, and to interact with other research programs. Considerable funds are available to help equip and operate a laboratory. Appointment effective as negotiated.

Applications should include curriculum vitae, statement of research interests and the names of three references. Direct applications and inquiries to **James F. Payne, Molecular Biology Search Committee, Biology Department, Memphis State University, Memphis, TN 38152**. Applications will be accepted until a suitable candidate is found.

BIOCHEMICAL PARASITOLOGIST

The newly created Biochemical Parasitology group of the Merck Sharp & Dohme Research Laboratories Division of Merck & Co., Inc., has an open position for an experienced biochemist with a strong interest in parasitological research.

The incumbent is expected to establish quality basic research programs aimed at identifying novel approaches to the control of parasitic infection, particularly related to veterinary medicine. The candidate should have research interest in the biochemistry of neurotransmitter receptors of helminths and arthropods.

The successful candidate must have at least two years of post doctoral research experience in biochemistry and molecular biology, a strong interest in applying their skills to problems of parasitic infection, and a desire to participate in an interdisciplinary approach to drug discovery.

Salary, benefits and growth potential are excellent. Those interested in becoming a candidate to join a highly success-oriented group, please send resume to **Mr. Lou Ballester, MERCK & CO., INC., P.O. Box 2000, WBD-214, Rahway, New Jersey 07065**. An Equal Employment Opportunity Employer.



Merck & Co., Inc.

POSITIONS OPEN

ANF BIOCHEMISTRY POSTDOCTORAL

Two postdoctoral positions are available in the Molecular Biology Institute at San Diego State University to study the biochemistry and pharmacology of atrial natriuretic factor (ANF). Applicants should have experience in one or more of the following: molecular biology, peptide hormone biochemistry, and receptor biochemistry. Send curriculum vitae and three letters of recommendation to: **Dr. Christopher Glembofski, Department of Biology, San Diego State University, San Diego, CA 92182.**

POSTDOCTORAL POSITION available in January for neurophysiological studies of the mammalian visual system. Background in electrophysiology essential, experience with standard neuroanatomical techniques and computer programming desirable. Send curriculum vitae and names of three references to:

Dr. Joseph G. Malpeli
Department of Psychology
University of Illinois
603 East Daniel Street
Champaign, IL 61820

POSTDOCTORAL POSITION available immediately to study the role of macrophages and lymphokines in immunity to blood stages of malaria. Experience in cell-mediated immunity preferred. Salary commensurate with experience. Send curriculum vitae and the addresses and telephone numbers of three references to:

Dr. Hannah L. Shear
Department of Medical and Molecular Parasitology
New York University Medical Center
550 First Avenue
New York, NY 10016

POSTDOCTORAL POSITION. To work on the biophysics of phyllotaxis and the construction of flowers. Two or more of the following skills are sought: cytoskeletal immunofluorescence, EM, light microscopy, hand dissection, and modeling. Position open. Contact: **Paul B. Green, Department of Biological Sciences, Stanford University, Stanford, CA 94305. Telephone: 415-723-1663.**

POSTDOCTORAL POSITION available to study the molecular biology of aging of the immune system, especially with respect to genes and proteins of the major histocompatibility complex (MHC). Ph.D. in immunology, molecular biology, biochemistry, or related field required. Starting salary \$21,000, plus 21 percent fringe benefits. Position available immediately. Please send curriculum vitae and names of three references to:

Dr. Carol M. Warner
Department of Biochemistry
Iowa State University
Ames, IA 50011

POSTDOCTORAL POSITION: available immediately to study mechanisms of hormone autonomy and hormone action using plant tissue culture systems. Experience in plant hormone analysis, protein isolation and characterization, and/or plant tissue culture preferred. Interested candidates should send curriculum vitae and the names of three references to: **Dr. William L. Pengelly, Department of Chemical and Biological Sciences, Oregon Graduate Center, Beaverton, OR 97006-1999. Equal Opportunity Employer.**

Applications are invited for tenure-track positions at the ASSISTANT AND ASSOCIATE PROFESSOR levels, as well as a **POSTDOCTORAL POSITION.** Candidates for the professorial positions will be expected to teach, as well as develop a productive, independently funded research program in neuropharmacology, biochemical pharmacology, toxicology, or chemotherapy. The postdoctoral position is in neuropharmacology. Curriculum vitae, statement of research plans, and names of three references should be sent by 1 December 1986 to: **Dr. M. Ebadi, Professor and Chairman, Department of Pharmacology, College of Medicine, University of Nebraska Medical Center, 42nd & Dewey Avenue, Omaha, NE 68105. Affirmative Action/Equal Opportunity Employer.**

SEARCH EXTENDED

POSITIONS OPEN

POSTDOCTORAL POSITION available to study transport mechanisms in liver endothelial and parenchymal cells. Current work is focused on understanding the structure and regulation of hepatic endothelial fenestrae and the relation between hepatocellular cytoskeletal components and transport processes, particularly phosphorylation. Experience in membrane transport, protein chemistry, and/or phosphorylation techniques is desirable. Send curriculum vitae to: **Dr. Irwin M. Arias (address below).**

POSTDOCTORAL POSITION available immediately to study cholesterol and bile acid metabolism using biochemical and immunological approaches. Experience in protein purification, tissue culture, or monoclonal antibody production desirable. Send curriculum vitae and names of three references to: **Dr. Laura Liscum (address below).**

TUFTS UNIVERSITY
Department of Physiology
136 Harrison Avenue
Boston, MA 02111

POSTDOCTORAL POSITION available to be part of an ongoing research project to investigate the structure, function, and regulation of the human liver drug-metabolizing enzymes. Strong background in protein biochemistry, hydrophobic proteins, and immunochemistry required. Send résumé and names of three references to: **Dr. Steven Wrighton, Division of Clinical Toxicology and Environmental Medicine, Box 267, MCV Station, Medical College of Virginia, Richmond, VA 23298-0001.**

UNIVERSITY OF WISCONSIN MADISON POSTDOCTORAL RESEARCH

POSTDOCTORAL POSITION to participate in studies of the molecular biology of the synthesis of P-450 cytochromes in mammalian cells. Recent Ph.D. in biochemistry, pharmacology, or molecular biology required. Send résumé and names of three references to: **Dr. Colin R. Jefcoate, Department of Pharmacology, University of Wisconsin Medical School, 1300 University Avenue, Madison, WI 53706.**

POSTDOCTORAL POSITION

One (possibly two) year position beginning October 1986 or until filled. Ph.D. with training in genetics, cell biology, developmental biology, ecology, or physiology. Salary: \$22,100 (\$16,500 stipend, \$3,200 health insurance, \$2,400 retirement). Seventy-five percent (three quarters/terms) research and 25 percent teaching (one quarter/term of freshman biology). Send curriculum vitae and three letters of recommendation to: **Dr. Woon H. Jyung, Chairman, Department of Biology, University of Toledo, Toledo, OH 43606; Telephone: 419-537-2065. Affirmative Action/Equal Opportunity Employer.**

The Division of Biology at Kansas State University has a **POSTDOCTORAL POSITION** available immediately for investigation of the biologically active regions of staphylococcal extracellular protein toxins. Project will involve molecular mutagenesis by in vitro techniques and evaluation of the protein products in animal model systems. Degree in microbiology and some background in recombinant DNA techniques is desirable. Salary and benefits at nationally competitive levels. Interested candidates can send curriculum vitae to:

Dr. John Iandolo
Division of Biology
Ackert Hall
Kansas State University
Manhattan, KS 66506

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

POSTDOCTORAL POSITIONS, MEMBRANE BIOLOGY AND BIOPHYSICS. Areas of interest include peptide hormone action on cell surfaces and effects of physical properties of membranes on biological function. Highly qualified individuals with appropriate background and interests send full curriculum vitae and names of two references to: **Dr. R. M. Epand, Department of Biochemistry, McMaster University Health Sciences Centre, 1200 Main Street West, Hamilton, Ontario, Canada L8N 3Z5.**

POSITIONS OPEN

POSTDOCTORAL POSITION. A 3-year position is available to study cytochrome P-450 involved in steroidal metabolism in insects. Ph.D. in biochemistry required. Application deadline is 15 November 1986. Applicants should submit curriculum vitae and arrange to have two letters of reference sent directly to: **Dr. M. Agosin, Department of Zoology, University of Georgia, Athens, GA 30602. An Equal Opportunity/Affirmative Action Institution.**

POSTDOCTORAL POSITION FOR RESEARCH ON STELLAR OPACITIES

A postdoctoral position is available immediately for research on the calculation of improved stellar opacities and their application to problems of stellar pulsation in collaboration with **Dr. D. Mihalas.** Applicants should have a strong background in a related field, such as theoretical atomic physics, or the theory of stellar atmospheres and interiors, and must have extensive experience in programming supercomputers both interactively and in batch operation. The management and use of large datasets will play an important role in this work, and applicants must have significant skills in such activities. Salary is in the range of \$25,000 per year. The appointment is initially for 1 year, but may be renewable for an additional 2 years. Applicants should send a résumé and the names of three references to: **Dr. D. Mihalas, Department of Astronomy, University of Illinois, 1011 West Springfield Avenue, Urbana, IL 61801, before 15 November 1986.**

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

POSTDOCTORAL POSITION OR RESEARCH ASSOCIATE

Available immediately. Ph.D. or M.S. biophysics or physical chemistry to study biophysical properties of hemoglobin by fluorescence spectroscopy, lasers, and stopped-flow apparatus (original optical design). Send curriculum vitae and three names of references to: **Dr. R. E. Hirsch, Department of Medicine, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.**

POSTDOCTORAL POSITION: An immediate opening to investigate herpesvirus transformation. Experience in tissue culture, DNA transfections, protein mapping, and molecular biology is essential. Send curriculum vitae and names of three references to: **Dr. Leonard Rosenthal, Georgetown University Medical Center, 3900 Reservoir Road, NW, Washington, DC 20007. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION—Research on pharmacokinetics and pharmacodynamics of dichloroacetate and its metabolites, especially oxalate, in relation to biochemical and clinical effects in man; project directed by **Drs. S. H. Curry and P. W. Stacpoole.** Background in analytic chemistry, pharmacology, or pharmacy required. Telephone: 904-392-4447 for details or send curriculum vitae to: **Stephen H. Curry, Ph.D., Box J-494 JHMH, University of Florida, Gainesville, FL 32610.**

POSTDOCTORAL POSITION available immediately—enzymology and molecular biology of repair of DNA radiation damage in yeast in laboratory with major focus on radiation and oxidative damage. Two yeast repair enzymes are currently under study. Experience in molecular biology or DNA enzymology an asset. Send curriculum vitae and names of three references to: **Professor Bruce Dimple, Department of Biochemistry and Molecular Biology, Harvard University, Cambridge, MA 02138.**

POSTDOCTORAL POSITION available to study the IP₃-sensitive Ca²⁺ regulation system in sea urchin egg. Experience in receptor assay, ion transport measurements, digital image processing, and/or microinjection technique is preferred. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.* Send curriculum vitae and references to: **Dr. Hon Cheung Lee, Department of Physiology, 6-255 Millard Hall, 435 Delaware Street SE, University of Minnesota, Minneapolis, MN 55455.**

IMMUNOLOGISTS/IMMUNOCHEMISTS/ TUMOR AND CELL BIOLOGISTS CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY

The **CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY**, a specialized cancer research and treatment center, is recruiting for **senior and junior researchers**. The Center is devoted to basic and applied multidisciplinary research aimed at improving the management and control of cancer and allied diseases. Potential candidates should be experienced in biochemical, genetic, and molecular biological techniques to study problems in the areas of molecular immunology, immunobiology, and molecular genetics. Special consideration will be given to those individuals with interest in tumor immunity, immunochemistry, tumor imaging and therapy, tumor biology, and tumor genetics. Excellent laboratory facilities are available to successful candidates expected to develop independent and vigorous research programs. Applicants must hold a Ph.D. or M.D. degree and have demonstrated excellence in research. The levels of appointment and salary are commensurate with qualifications and experience. Junior research candidates will be expected to indicate evidence of their potential by a publication record appropriate to their experience, as well as letters of recommendation. Senior research candidates must show evidence of a strong research accomplishment and grant support. **Postdoctoral candidates** are invited to apply.

The Center is located on the Newark campus of the University of Medicine and Dentistry of New Jersey (UMDNJ) and is closely affiliated with several of UMDNJ's clinical research and educational programs. In close proximity are excellent opportunities for educational, research, and cultural exchange among the many outstanding institutions within the greater New Jersey-New York Metropolitan area. Ample housing exists in several adjacent communities and within short commuting distances of both the Center and New York City.

Applications, to include curriculum vitae, bibliography, a statement of career and research goals and the names of three references should be sent to:

David M. Goldenberg, Sc.D., M.D.
President

Center for Molecular Medicine and Immunology
1 Bruce Street, Newark, New Jersey 07103

An Equal Opportunity Employer

AUSTRALIA CSIRO

RESEARCH SCIENTIST/SENIOR RESEARCH SCIENTIST A\$28,107-A\$41,339 DIVISION OF HORTICULTURAL RESEARCH MERBEIN VIC

FIELD: Root Morphogenesis/Rootstock Improvement.

GENERAL: The aim of the Division's research is the improvement of woody perennial horticultural crops in Australia. Emphasis is placed upon the development of new techniques for the selection and breeding of improved plant types and on understanding the complex interactions between plant performance and the environment.

LOCATION: The Division has laboratories at Adelaide, South Australia (Headquarters), Merbein (Vic.) and Darwin (NT). The successful applicant will be located in Merbein.

DUTIES: The Division has a small group involved with rootstock breeding, selection and evaluation, with emphasis on development of improved salt tolerant rootstocks of grapevines and citrus. As a member of this group, the appointee will undertake research on root morphogenesis and anatomy in relation to the tolerance of rootstocks to sub-optimal soil conditions, particularly salinity. Collaboration with on-going research on the implications of genetic variations in root structure and function for ameliorating adverse rootzone effects on rootstock performance is envisaged.

QUALIFICATIONS: A PhD in Botany, Horticulture or Agriculture with specialist training in microscopic techniques. Experience in research on root morphogenesis and/or anatomy would be desirable.

TENURE: Indefinite with Australian Government superannuation benefits available.

APPLICATIONS: Stating relevant personal particulars, including details of qualifications and experience, the names of at least two professional referees and quoting reference No 2958, should be directed to:

The Chief
CSIRO Division of Horticultural Research
GPO Box 350
ADELAIDE SA 5002
AUSTRALIA

By 4 weeks from date of publication

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

BS/MS RESEARCH ASSOCIATES

Advancement in research and new product development is a keynote in the success of Abbott Laboratories, a \$3.5 billion healthcare leader. Currently, we offer opportunities in the following areas:

Behavioral Neuroscience

An opportunity exists for a BS/MS level researcher with experience in small animal neurosurgery and behavioral testing. Familiarity with neuroanatomy and personal computers will be an asset. **Job #1.**

Neuropharmacology

This position involves general biochemical experience. Qualified candidates will have a BS/MS in Biology or Biochemistry and a minimum of 2 years experience in radioreceptor bindings, radioimmunoassay and related Biochemistry techniques. **Job #2.**

Cardiovascular Pharmacology

This individual will conduct hemodynamic studies in large and small animals to assess the cardiovascular actions of new drugs. A BS/MS in a biological science and 2 years experience in conducting live animal experiments and familiarity with equipment used in physiological recording and biochemical and radiochemical assays are required. Experience in thrombolytic drugs desirable. **Job #3.**

A second position exists which will involve research studies to include the effects of anti-hypertensive agents in lab animals. Qualified candidates will have a BS/MS Degree with a theoretical background in Cardiovascular Pharmacology or Physiology. Experience in standard in vitro and in vivo cardiovascular techniques, computer data analysis, and surgical skills are required. **Job #4.**

Abbott is headquartered in an attractive suburban area on the Lake Michigan shoreline just 30 miles north of Chicago. In addition to an exceptional scientific environment, we offer an excellent salary and benefits package including profit sharing and stock retirement plan. For confidential consideration, send resume with salary history, specifying job number, to: **Patricia Handy/Corporate Placement.** Abbott is an Affirmative Action Employer.

MEETING BOUND?

Abbott representatives will be at the Society for Neuroscience meeting in Washington, DC from November 9-13. To be considered for an interview at the meeting, please send your resume today.

ABBOTT
ABBOTT PARK IL 60064

"HEALTH CARE WORLDWIDE"

POSITIONS OPEN

POSTDOCTORAL POSITION available to work in the area of chemical carcinogenesis. Previous experience in this area, or in enzymology and organic chemistry desirable. Please send curriculum vitae and the names of three references to: **Dr. Trevor M. Penning, Department of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA 19104.**

POSTDOCTORAL POSITION available immediately for work on the purification and study of the mechanism of a microsomal, membrane-bound enzyme. Experience required in enzyme purification, preferably of membrane-bound enzymes. Send résumé and names of two references to: **Professor Richard B. Silverman, Department of Chemistry, Northwestern University, Evanston, IL 60201.**

POSTDOCTORAL POSITION CELL BIOLOGY/NEUROBIOLOGY MOLECULAR BIOLOGY

Postdoctoral position is available for a recent Ph.D. cell biologist/neurobiologist interested in studying the structure and function of spectrin and protein 4.1 subtypes in mammalian brain [*J. Cell Biol.* 102, 2088 (1986)]. Applicants should have a good background in protein isolation and characterization techniques. Experience in working with cytoskeletal proteins, antibody production and characterization, immunohistochemical techniques, and immunoelectronmicroscopic techniques is desirable. Salary will depend upon previous experience. Applicants should submit their curriculum vitae, description of relevant experience, and three letters of reference to:

**Dr. Steven R. Goodman, Director
Cell and Molecular Biology Center
The Milton S. Hershey Medical Center
The Pennsylvania State University
P.O. Box 850
Hershey, PA 17033**

POSTDOCTORAL POSITION available immediately to study the electrophysiology of cardiac atrial tissue. Techniques will involve patch/whole cell voltage clamp to record ionic currents from single atrial myocytes. Candidate should have a recent Ph.D. and background in cellular electrophysiology. Persons interested should send summary of research activities, curriculum vitae, and name of three references to: **Stephen Lipsius, Ph.D., Department of Physiology, Loyola University Medical Center, Maywood, IL 60153. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available now with **Dr. Stuart Smith** to study structure-function relationships and regulation of expression of lipogenic enzymes. Methods in use include enzyme and peptide isolation and characterization, DNA cloning and sequencing, site-directed mutagenesis, and gene synthesis. Salary \$22,000 to \$28,000, depending on qualifications. Send résumé and letters of recommendation to: **Ruth Robinson, Director, Employment Services, CHILDREN'S HOSPITAL, 747 52nd Street, Oakland, CA 94609.**

Equal Opportunity Employer

POSTDOCTORAL POSITIONS available now in established program to study the molecular interactions between peptides and microorganisms. Development of antifungal agents and the biology of yeast peptide pheromones are projects funded by NIH grants. Send curriculum vitae and three letters of reference to: **Dr. Jeffrey M. Becker, Department of Microbiology, University of Tennessee, Knoxville, TN 37996-0845. An Equal Opportunity/Affirmative Action Employer.**

SENIOR TECHNICIAN position available with **Dr. Stuart Smith** in laboratory using techniques in protein chemistry, enzymology, and molecular biology. Expertise in several of the following areas is desirable: HPLC enzyme and peptide purification and characterization, immunochemistry, DNA cloning and sequencing, computer programming, and instrument maintenance. Salary \$25,000 plus, depending on qualifications. Send résumé and letters of recommendation to: **Ruth Robinson, Director, Employment Services, CHILDREN'S HOSPITAL, 747 52nd Street, Oakland, CA 94609.**

Equal Opportunity Employer

POSITIONS OPEN

POSTDOCTORAL POSITION (3 YEARS) available immediately to investigate the mechanisms by which tumor virus transformation causes a specific cell surface oligosaccharide change [*J. Biol. Chem.* 261, 10772 (1986)]. Studies include glycosyltransferase (GlcNAcT V) purification, oligosaccharide structural studies, and intercellular adhesion assays. Very competitive salary. Send curriculum vitae to: **Dr. Michael Pierce, Department of Anatomy and Cell Biology (R-124), University of Miami Medical School, P.O. Box 016960, Miami, FL 33101.**

POSTDOCTORAL POSITION available immediately for NIH-funded project on the central neural control of gastric motility and acid secretion. Prior neurophysiological experience is mandatory. Salary range: \$17,000 to \$20,000, depending upon experience.

Send curriculum vitae and three references to: **Dr. Richard C. Rogers, Department of Physiology, The Ohio State University, College of Medicine, 333 West 10 Avenue, Columbus, OH 43210. Deadline is 10 October 1986.**

An Equal Opportunity Employer

POSTDOCTORAL POSITION available for 2-year period beginning 1 January 1987 to study animal cognition, serial learning in particular. Applicants should have experience in conducting behavioral research with monkeys and with experimental protocols run by computer. Knowledge of C and computer graphics is desirable. Opportunities available for independent (but relevant) research. Candidates should send curriculum vitae, statement of current research interests, and three letters of reference to: **Dr. H. S. Terrace, Columbia University, Schermerhorn Hall, Box 27, New York, NY 10027. Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS

Postdoctoral positions (two) available immediately at **Emory University, Department of Pathology, Atlanta, GA.** Study the molecular genetic mechanisms of MHC Class I gene expression on spontaneous B-cell lymphomas in mice (i). Study the immunopathogenic mechanisms and elucidation of myocardial autoantigens involved in virus-induced heart muscle disease using a murine model (ii). Stipend—\$18,000 to \$23,000, based on experience. U.S. citizens/residents please send curriculum vitae, and three letters of reference to: **Dr. Kirk W. Beisel, Room 703 Woodruff Memorial Building, Department of Pathology, Emory University School of Medicine, Atlanta, GA 30322. An Affirmative Action/Equal Opportunity Employer.**

The University of California, San Diego (UCSD), has an immediate **POSTGRADUATE RESEARCH POSITION** for a recent Ph.D. in immunology. The candidate will study the use of monoclonal antibodies in diagnosis and monitoring of cancer patients. Experience in hybridoma technology and immuno-histochemistry desirable. Salary commensurate with UCSD salary scale. Interested individuals should send curriculum vitae with a list of three references no later than 15 October 1986 to: **Alice L. Yu, M.D., Ph.D., Department of Pediatrics, UCSD Medical Center T-008-C, 225 Dickinson Street, San Diego, CA 92103. Equal Opportunity/Affirmative Action Employer.**

The California Space Institute of Scripps Institution of Oceanography invites applications for a **POSTGRADUATE (POSTDOCTORAL) RESEARCHER** in the area of satellite image processing and analysis, for 2 years with the possibility of extension beginning 1 December 1986, or soon thereafter. The position involves the development and application of pattern recognition (and possibly artificial intelligence) methods to the analysis of satellite images to retrieve meteorological and oceanographic information. The applicant must have a Ph.D. or equivalent degree in applied meteorology, applied oceanography, applied mathematics, or statistics. Experience in digital image processing and statistical analysis of geophysical data is desirable. The salary range is \$24,972 to \$27,360, commensurate with experience. Applicants should submit résumés, including the names and addresses of at least three references to: **Dr. Catherine Gautier, California Space Institute, A021 UCSD, La Jolla, CA 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION is available immediately for an individual to develop synthetic methods for preparing amino acid derivatives for biochemical and toxicological investigations and as antineoplastic agents. Candidate must have skills in organic and/or natural products chemistry. Send curriculum vitae and three names of references to: **Dr. Gerald A. Rosenthal, Graduate Center for Toxicology, University of Kentucky, Lexington, KY 40506. Telephone: 606-257-2652. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS available immediately. (i) **biochemist**, experience in isolation and purification of protein and membrane is preferred. (ii) **biophysicist**, knowledge in membrane transport, thermodynamics, and fluorescence spectroscopy is preferred. Salary \$20,000 to \$23,000 per year. Grant funded position through Health Research, Inc. Please send curriculum vitae to: **Biophysics Laboratories, Wadsworth Center for Laboratories and Research, New York State Health Department, Empire State Plaza, Albany, NY 12201.**

PROFESSOR OF AUDITORY NEUROSCIENCE AND OTOLARYNGOLOGY

The University of Virginia School of Medicine seeks to recruit a distinguished professor of auditory neuroscience and otolaryngology to be jointly appointed to the newly established Department of Neuroscience and the Department of Otolaryngology/Head and Neck Surgery. The individual will be Director of Auditory Research of the Department of Otolaryngology/Head and Neck Surgery, and will contribute to the graduate and medical teaching of the Department of Neuroscience. Excellent space and start-up funds are available, and the successful candidate may be appointed to an endowed chair in neuroscience. Significant opportunities exist for future recruitment of junior/intermediate level faculty. Address inquiries and letters of interest to:

**R. Cantrell, M.D., and
O. Steward, Ph.D., Co-chairmen
Neuroscience/Otolaryngology Search Committee
University of Virginia
School of Medicine, Box 230
Charlottesville, VA 22908**

PROFESSOR AND HEAD OF FOOD SCIENCE, University of Georgia, Georgia Station, Experiment (Griffin), Georgia. The University of Georgia is seeking a dynamic individual to lead the Department of Food Science at the Georgia Station. The department has 11 full-time research faculty, 20 support personnel, and a strong graduate program. **QUALIFICATIONS:** Earned doctorate in food science or closely related discipline, scholarly research record, and commitment to basic and applied research, as well as to graduate education; demonstrated leadership qualities and ability to communicate effectively. **APPLICATION DEADLINE:** 10 December 1986. Send detailed dossier of work experience, plus four letters of reference. Nominations are welcomed. To apply or for further information, contact: **Dr. Brahm P. Verma, Chair, Search Committee, University of Georgia, Georgia Station, Experiment, GA 30212-5099. Telephone: 404-228-7217. The University of Georgia is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH APPOINTMENTS are occasionally available with individual faculty members of the **Departments of Chemistry and of Chemical Engineering at the University of California, Berkeley, CA 94720.** Appointments are normally made for a year, but with the possibility of renewal for a second. Highly qualified persons are invited to apply for positions to be assumed at the time of, or shortly after, the completion of doctoral studies. A single application should be addressed to the faculty member with whom the applicant prefers to be associated. (In the event that no position is available with that faculty member, the application will be circulated to other faculty members with similar research interests.) Arrangements should be made for one confidential letter of reference to be sent by the person best able to judge the applicant's research achievements and potential. Applications should include a résumé, a brief statement of research experience, interests and goals, and the names and addresses of two additional references. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

Plant Biotechnology Research

The Plant Genetics department at Pfizer Central Research, in conjunction with numerous plant breeding stations worldwide, conducts research and development for DeKalb-Pfizer Genetics, a leading agricultural seed company. The Plant Genetics department has openings for two PhD-level scientists to join multi-disciplinary teams working on the genetic improvement of corn and soybeans in the following areas:

Tissue Culture

You will have responsibility for managing an applied research effort to generate and study tissue culture-induced genetic variants. You will also be expected to establish a basic research program in the areas of protoplast isolation, culture and plant regeneration. You must have extensive experience in monocot tissue culture in addition to strong formal training in plant biology and genetics at the PhD level. Preference will be given to those applicants who have demonstrated the ability to manage laboratory research and to interface with whole-plant breeders.

Cell Biology

You will be responsible for the design and implementation of a research program to transfer novel genetic traits into corn and soybeans. In this position you will interface with specialists in molecular biology and tissue culture. You must have experience in plant cell transformation; experience in molecular biology is also desirable.

These positions offer excellent opportunities for professional recognition and career development. We offer an excellent salary, benefit and relocation package plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume, including the names, addresses and phone numbers of three professional references to: J.K. Larson, PhD, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.



An equal opportunity employer

MECHANICAL ENGINEER/ RESEARCH PHYSICIST

GM-13, \$37,599—\$48,876

(Salary dependent upon qualifications)

The Laboratory for Computational Physics is seeking a Mechanical Engineer or Physicist to perform theoretical analysis and provide computational support for the Energetic Materials Program. Duties involve development of shocks and shock induced reactions in condensed phases and the chemical kinetics of energetic materials.

Qualifications: A degree in Mechanical Engineering or Physics (an advanced degree is highly desirable) plus at least 3 years of research experience which required application of the following: knowledge of computational fluid dynamics of compressible/incompressible flows, chemical kinetics, radiation transport, demonstrated ability to develop multidimensional numerical methods to produce working simulation programs (application of vectorization techniques for use on class six computers is highly desirable).

To Apply: Submit a Personal Qualifications Statement (SF-171) by 31 October, 1986, to:

NAVAL RESEARCH LABORATORY

Civilian Personnel Division
Attn: Announcement No. 44-010-11.1:BC (S)
4555 Overlook Avenue, S.W.
Washington, D.C. 20375-5000

AN EQUAL OPPORTUNITY EMPLOYER

U.S. CITIZENSHIP REQUIRED

PLANT PATHOLOGIST

Rohm and Haas Company has an immediate opening in its Agricultural Chemicals Research Department (Fungicides) for an experienced plant pathologist. This position is at our Corporate Research Center in Spring House, PA — about twenty miles north of center-city Philadelphia.

The plant pathologist will be responsible for testing and evaluating experimental fungicides in the greenhouse and in the field. This scientist will also aid regional R&D and marketing staffs in assessing the commercial potential of new fungicides. Direction of technical assistants is involved. Only nominal travel is required.

We are looking for a Ph.D. plant pathologist with several years of experience in screening and assessing fungicides under greenhouse and field conditions. A strong background in applied plant pathology is important, as is familiarity with U.S. and European markets for fungicides. You must be an excellent technical writer and possess effective interpersonal skills.

Rohm and Haas offers an excellent program for salary and benefits. We maintain a research environment that is well-funded and conducive to professional excellence. Whenever possible, we promote from within.

To be considered, please forward a detailed resume, listing references, in confidence to:

Recruiting and Placement #2386



An Equal Opportunity Employer M/F.

DIRECTOR — MOLECULAR BIOLOGY

The Pharmaceutical Products Division of Abbott Laboratories is conducting an international search for an established investigator to head a newly formed molecular biology group. The role of this group will be to initiate programs of fundamental significance in areas of prokaryotic and eukaryotic molecular biology. This expansion is backed by major corporate support and is based on the recognition that successful development of new therapeutic entities relies heavily on the highest quality fundamental research.



We are seeking individuals with a minimum of 5 years experience post-doctoral, conducting independent research in either an industrial or academic laboratory. Resources are available for the successful candidate to recruit and lead a highly trained research team into areas of molecular biology that will include new applications as well as complement ongoing drug design programs. Expertise in any area of molecular or cellular biology will be considered; however, the multidisciplinary nature of our investigative programs makes a broad background highly desirable. In addition to a proven record of scientific accomplishment, managerial skills are essential.

Abbott Laboratories is a diversified healthcare company with annual sales of \$3.5 billion. Principal offices and pharmaceutical research operations are located in an attractive suburban community near Lake Michigan, just 30 miles north of Chicago. We provide a benefits package which includes profit sharing and stock retirement plan. For consideration send a resume in confidence to: Patricia Handy/Corporate Placement, Dept. S/10-10. Abbott is an Affirmative Action Employer.



ABBOTT
ABBOTT PARK IL 60064
"HEALTH CARE WORLDWIDE"

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CENTER FOR PHARMACEUTICAL SCIENCES AND TECHNOLOGY

Eight new tenure track faculty positions at various professional levels are available in the University of Kentucky College of Pharmacy, Center for Pharmaceutical Sciences and Technology (CPST). The Center, which is in a start-up phase, is multidisciplinary in nature, with special emphasis on developing liaisons with the pharmaceutical industry and also promoting economic development in the Commonwealth of Kentucky.

The University is located in the city of Lexington in the internationally famous Bluegrass area of Kentucky. The CPST is housed in a new College of Pharmacy building with modern laboratory facilities and office and classroom space.

The Center provides a unique opportunity for individuals with a Ph.D. in most of the pharmaceutical sciences (drug targeting & delivery, medicinal chemistry, pharmaceutical analysis, pharmaceutical technology, pharmaceuticals, pharmacodynamics and toxicology) to join a challenging and demanding operation expanded with the potential for growth as the Center expands and diversifies its mission.

Salary for these positions is dependent upon experience and qualifications. A comprehensive benefits package is offered. These positions are available over the next ten months. Interested candidates should forward a curriculum vitae with the names and addresses of three references to **Dr. Arthur Miodzeniec, Director and Search Committee Chairman, Center for Pharmaceutical Sciences and Technology, College of Pharmacy, University of Kentucky, Lexington, KY 40536-0082. An Affirmative Action/Equal Opportunity Employer.**

**UNIVERSITY OF KENTUCKY
COLLEGE OF PHARMACY**

POSITION

VETERINARY EPIDEMIOLOGIST— SC/86/14

The International Laboratory for Research on Animal Diseases (ILRAD), Nairobi, Kenya, is an internationally funded major institution with the mandate of developing improved methods of control for important diseases of livestock. The diseases under study are trypanosomiasis and theileriosis. The multidisciplinary research programme includes biochemistry, molecular biology, immunology, cell biology, pathology, parasitology, electron microscopy and entomology with appropriate supporting units. Applications are invited for the position of Veterinary Epidemiologist (Ref.: SC/86/14) to join a newly established unit to assess the factors related to the control of animal diseases and to determine the economic, social and environmental implications of improved disease control.

Applicants should have a first degree in Veterinary Science, a doctorate in Veterinary Epidemiology and 3-5 years post doctoral research experience. Preference will be given to candidates with knowledge and experience in the development, use and evaluation of vaccines for the control of ruminant disease in Africa or similar tropical environments. Experience should include the design and analysis of disease surveys from farm to national level and multidisciplinary research with anthropologists, biological scientists and economists. Knowledge of computer systems for data analysis and systems development, and fluency in both English and French will be advantageous.

This is an international staff position and the salary will be paid in US Dollars. Moving, housing, commutation and education allowances are paid and there are medical and retirement benefits. Applicants should include current curriculum vitae and the names and addresses of three referees. Applications, citing the position reference number, should be sent by 31st October 1986 to:

**The Chief Personnel Officer
ILRAD
P.O. Box 30709
NAIROBI, KENYA**

U.S. DEPARTMENT OF ENERGY
OFFICE OF HEALTH AND
ENVIRONMENTAL RESEARCH

Alexander Hollaender DISTINGUISHED Postdoctoral Fellowship Program

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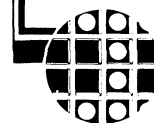
Deadline January 20, 1987

INVITRON

CELL CULTURE SUPERVISOR

A mammalian cell culture manufacturing company seeks a supervisor in the cell culture production department. Extensive previous experience with both anchorage dependent and independent cells is required along with a BS in Biology or a related science. Previous supervisory experience of 3 to 5 years in a pharmaceutical GMP/GLP environment is desirable. This is a hands on position requiring supervision of 4 to 5 professional technicians in a sterile contained environment. For immediate consideration please submit your resume to:

**Mike Harris
INVITRON
CORPORATION**
8000 Maryland Ave.
Suite 860
St. Louis, MO 63105



An Equal Opportunity Employer

HOFFMANN-LA ROCHE

Diagnostics Bio-Analytical Chemists

Roche Diagnostic Systems has two challenging positions available in the Clinical Chemistry Reagent Development Group. These positions will involve developing stable liquid chemistry reagents for use on automated clinical chemistry analyzers. The ideal candidates should possess the following qualifications:

Senior Scientist/Scientist

- PhD, MS, or BS in Biochemistry, Biophysical Chemistry, or Analytical Chemistry.
- Up to 10 years experience in the diagnostics industry with a proven record of accomplishments.
- Experience in stabilizing enzymes, coenzymes, and substrates in aqueous solutions.

Please send your resume, including salary history, to: Ms. Fran Newman.



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POSITIONS OPEN

PROFESSOR AND HEAD DEPARTMENT OF MICROBIOLOGY THE UNIVERSITY OF TENNESSEE KNOXVILLE, TENNESSEE

QUALIFICATIONS: Doctoral degree in microbiology, or closely allied biological science; demonstrated productivity in microbiological research and excellence in teaching; administrative experience or evidence of administrative ability. **RESPONSIBILITIES:** To provide leadership in teaching, research, and administration in a department which serves both the College of Liberal Arts and the College of Veterinary Medicine. **STARTING DATE:** 1 September 1987. **APPLICATIONS:** Applicants should submit a letter of interest accompanied by a curriculum vitae, a description of the applicant's research program, and career objectives, and the names, addresses, and telephone numbers of five individuals who can evaluate the applicant's qualifications for the position. All materials should be sent to: **Dr. Dewey Bunting, Chairman, Search Committee, Department of Microbiology, University of Tennessee, Knoxville, TN 37996-0845.** **CLOSING DATE:** 1 January 1987. *The University of Tennessee is an Affirmative Action/Equal Opportunity Institution.*

POSTDOCTORAL RESEARCH at The National Center For Toxicological Research. NCTR's research mission is to study the biological effects of potentially toxic chemicals. Doctoral degree within last 3 years preferred. Stipend is \$23,000 to \$30,000, depending on research area and experience. Contact: **ORAU Postgraduate Program at NCTR, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831; telephone: 615-576-3190.** *Equal Opportunity Program open to U.S. citizens or PRA.*

The program of the growth factors and cell differentiation in leukemia and cancer seeks a **POSTDOCTORAL RESEARCH ASSOCIATE** to work in areas of lymphokines, immunology, monoclonal antibodies, and cell and molecular biology. The program investigates the interaction of tumor and immunity and their regulators in basic and applied areas. Applicant should have a recent doctoral degree and strong background in protein chemistry preferred. Send résumé and names of references to: **Professor J. W. Chiao, Department of Medicine, New York Medical College, Valhalla, NY 10595.** The laboratory is located in Westchester County, north of New York City.

POSTDOCTORAL RESEARCH ASSOCIATE: A position for a molecular biologist is immediately available in the Department of Pediatrics. Major initiatives in the pathogenesis of cystic fibrosis and in the isolation of the CF gene are in progress. Applicant should be familiar with recombinant DNA techniques. Submit résumé and three letters of reference to: **Dr. Douglas S. Holsclaw, Jr., M.D., Chief, Cystic Fibrosis Research Center, Hahnemann University, Broad and Vine, Philadelphia, PA 19102.**

POSTDOCTORAL RESEARCH POSITION available immediately to study the structure, function, conservation, and regulation of expression of initiation factor three of *Escherichia coli*. Experience with recombinant DNA techniques, especially DNA sequencing, is strongly preferred. Competitive salary and benefits. Send curriculum vitae to: **Dr. Ira Schwartz, Department of Biochemistry, New York Medical College, Valhalla, NY 10595.** Telephone: 914-993-4064.

The Basic Science Departments (Cell Biology and Neuroanatomy, Biochemistry, Microbiology, Pathology, Pharmacology, and Physiology), Medical School, University of Minnesota, periodically have openings for **POSTDOCTORAL TRAINING**. For information about possible openings in these programs, write, specifying department of interest, to:

University of Minnesota Medical School
Box 293 UMC
420 Delaware Street SE
Minneapolis, MN 55455
Attention: James C. Nelson

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

POSITIONS OPEN

UNIVERSITY OF WISCONSIN MADISON POSTDOCTORAL RESEARCH

Postdoctoral position to participate in studies of the molecular biology of the synthesis of P-450 cytochromes in mammalian cells. Recent Ph.D. in biochemistry, pharmacology, or molecular biology required. Send résumé and names of three references to: **Dr. Colin R. Jefcoate, Department of Pharmacology, University of Wisconsin Medical School, 1300 University Avenue, Madison, WI 53706.**

NATIONAL SCIENCE FOUNDATION (NSF)

NSF's Division of Ocean Sciences is seeking qualified applicants for the position of **PROGRAM DIRECTOR** for the Biological Oceanography Program. The position is in the excepted service and will be filled on either a permanent, rotator, or temporary basis. The per annum salary range for the permanent or temporary position will be at the GH-15 level, \$52,262 to \$67,940. The salary range for the rotator position will be \$45,000 to \$70,000 (currently limited by statute to \$68,700). The rotator candidate receives a leave of absence from his/her employer and salary is set in accordance with NSF's Circular Number 167, Rotator Program. The Biological Oceanography Program provides support for scientists primarily from academic institutions to pursue fundamental research in biological oceanography. The selected candidate will carry out program planning, proposal evaluation, administration of research grants, and liaison with other federal agencies. Applicants should have a Ph.D. or equivalent experience in biological oceanography or a closely related biological science. In addition, 6 to 8 years of successful scientific research beyond the Ph.D. is required. Field experience in an academic institutional program is highly desirable. For information on how to apply, telephone: **Catherine Handle at 202-357-7840.** Hearing-impaired individuals should telephone: **202-357-7492.** *NSF is an Equal Opportunity Employer.*

RESEARCH AND SPECIAL PROJECTS COORDINATOR BIOTECHNOLOGY INSTITUTE THE PENNSYLVANIA STATE UNIVERSITY

The university invites applications for a research and special projects coordinator for institute members. Work includes proposal and newsletter preparation, speech writing, workshop coordination, and oral presentations to faculty, industrial clients, and general public. Applicants with a Ph.D. and research or marketing experience in area relevant to biotechnology are preferred. Computer expertise, business knowledge, and grant experience helpful. Excellent writing and speaking abilities, plus exceptional communication and interpersonal skills are essential. Individual will report to the institute director, have considerable responsibility, and will be instrumental to continued development of major institute programs. Salary is competitive for this renewable position. Submit curriculum vitae, a brief description of relevant experience, and arrange to have three letters of recommendation sent to: **Dr. Jean E. Brechley, Director of Biotechnology, The Pennsylvania State University, 105A South Frear Building, University Park, PA 16802.** Applications will be received until 1 November 1986, or thereafter until the position is filled. *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE

Perform research in the area of molecular biology. This work involves construction of DNA libraries by cloning DNA in plasmid vectors, transformation of bacterium *Escherichia coli* with the plasmid DNA, and characterizing them by genetic and molecular biology techniques. Requires a Ph.D. in microbiology or molecular biology, plus 2 years of experience after Ph.D. This experience can be in any "setting" as long as it is (or was) paid experience and in direct line with the aforementioned research activity as described. Ph.D. dissertation should be in plasmids. Salary, \$21,000 per year, 40 hours per week, 9:00 a.m. to 5:00 p.m., Monday thru Friday. Send résumé to: **Illinois Job Service, 910 South Michigan Avenue, Room 333, Chicago, IL 60605.** Reference number 6200-L. Attention: **Leon Donegan.** *An Employer-Paid Ad.*

POSITIONS OPEN

NMR SPECTROSCOPY

A **RESEARCH ASSISTANT PROFESSORSHIP** is available for studies of protein and nucleic acid structure, dynamics, and function. Candidates should be expert in 2D NMR methodology, have a strong background in physics and physical chemistry, and postdoctoral experience with major protein and/or nucleic acid structure-function issues. The position will provide major access to 500-MHz spectrometers, collaborations with active group, competitive salary, and teaching opportunities. Please send curriculum vitae and have three reference letters forwarded to: **S. W. Englander, Department of Biochemistry and Biophysics, University of Pennsylvania G3, Philadelphia, PA 19104.** *Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSISTANT II. Responsible for enzyme purification, kinetic studies, assay of enzymes, and enzyme rate studies. Train new students in basic biochemical laboratory techniques. Requires B.S. degree in biochemistry and 1 year biochemical laboratory experience, or M.S. degree in biochemistry in lieu of B.S. degree and experience. Salary: \$1176 per month, 40-hour work week. Send résumé by 10 November 1986 to: **Dr. Paul F. Cook, Department of Biochemistry, North Texas State University, P.O. Box 13048 NTSU, Denton, TX 76203.**

RESEARCH ASSISTANT/ASSOCIATE. Position in cancer pharmacology/tumor biology laboratory. B.Sc., plus advanced degree preferred. Two years of experience in one or more of: tissue culture, tumor stem cell assays, HPLC, DNA alkaline elution, and microspectrofluorometry. Salary range: \$18,000 to \$24,000. Contact: **Dr. Thomas Chan, Lynn Hall, Purdue University, West Lafayette, IN 47907.** *Purdue University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE

Position available immediately for Ph.D. or M.D. to study the effects of steroid hormones on cholinergic cells in mammalian brain. A background in neuroscience is preferred; person should have experiences with one or more of the following procedures: immuno-cytochemistry, quantitative autoradiography, neural track tracing techniques, and muscarinic receptor binding. Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Lynwood Clemens, Ph.D., Department of Zoology, Michigan State University (MSU), East Lansing, MI 48824.**

MSU is an Affirmative Action/Equal Opportunity Institution

RESEARCH ASSOCIATE to join a large and varied group of scientists performing coordinated research into the structure-function relationships of a variety of organogenic proteins. Applicant must have a Ph.D. and 6 years of postdoctoral experience in relevant field. Maintain, manage, and develop protein sequencing and amino acid analysis facilities. Isolate, purify, and characterize specific proteins, available in picomolar quantities. Employ chemical, physical, biological, and computer techniques for such characterization. Extensive expertise and an active interest in: purification, chemical, physicochemical, and biochemical characterization of proteins; metalloproteins; protein sequencing; protein evolution; managing and developing analytical facilities for protein structure. Expertise in automated chromatography, particularly amino acid analyses, peptide and protein separation and identification, plus proven ability to perform chemical and other modifications and to characterize the products by physicochemistry, ultracentrifugation, moving boundary electrophoresis, and circular dichroic spectrophotometry are indispensable. Salary: \$43,000 per annum. Send résumés to: **Division of Employment Security, Hurley Building, Boston, MA 02144,** and refer to job reference number 6772.

RESEARCH ASSOCIATE/ POSTDOCTORAL POSITIONS

Insulin/growth factor regulation of tyrosine/serine phosphorylation. Experience preferred in protein purification, fragmentation, analysis, and recombinant DNA techniques including expression in mammalian cell culture. Salary commensurate with experience. Send curriculum vitae and three letters of support to: **J. Avruch, Howard Hughes Medical Institute, Diabetes Unit, Massachusetts General Hospital, Boston, MA 02114.**

FACULTY POSITIONS IN IMMUNOLOGY

The Immunology Program at the Memorial Sloan-Kettering Cancer Center and the Sloan-Kettering Division of the Cornell University Graduate School of Medical Sciences is seeking applications from immunologists for several tenure-track faculty positions. The potential candidate should be using modern genetic, biochemical and molecular biological techniques to study problems in the areas of immunology and immunogenetics. The specific rank of appointment will be commensurate with the candidate's experience and achievements. This is an expanding program consisting of 18 faculty members with diverse interests in the areas of immunogenetics, cellular immunology and tumor immunology, who are committed to basic research and the training of graduate students. Excellent start up funds and space available.

Please submit your curriculum vitae, a brief statement of present and future research goals and the names of three references to:

Dr. Osias Stutman
Chairman, Immunology Program
Sloan-Kettering Institute
1275 York Avenue
New York, New York 10021



An Equal Opportunity/Affirmative Action Employer

PROTEIN CHEMIST

Seragen, Inc. is a rapidly growing biotechnology company in the Boston area which is committed to basic and applied research and development of therapeutic drugs.

We are seeking a staff scientist for our Analytical Biochemistry Group with a Ph.D in chemistry or biochemistry and at least three (3) years post doctoral experience in purification of proteins using HPLC, comparative HPLC peptide mapping, and microsequencing of proteins and peptides. The candidate should have proven written communication skills as demonstrated by relevant publications. Additionally, the candidate must be able to manage a growing microanalytical group including teaching micromethodology to others, as well as function as an effective individual contributor.

Seragen's affiliation with many local research institutions provides a unique opportunity for active collaboration with academic researchers.

Qualified candidates should send their curriculum vitae and salary requirements to: **Director of Human Resources, Seragen, Inc., 128 Spring Street, Lexington, MA 02173.**

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SERAGEN

We Said NO. So You Could Say YES!

IGEN, INC. turned down a major pharmaceutical firm's offer to purchase us because we believe IGEN can become one of the major diagnostics and pharmaceuticals companies of the future. If you have experience or work for companies such as Abbott, American Hospital Supply, Becton-Dickinson, Bristol-Meyers, Ciba-Geigy, Dupont, Eli Lilly, Hoffmann-La Roche, Johnson and Johnson, Merck Sharp and Dohme, Pfizer, or Schering-Plough and are ready for the challenge and excitement of building a major company, contact IGEN, INC. We are a rapidly growing biotechnology firm dedicated to the development of proprietary diagnostics systems and pharmaceuticals.

VICE-PRESIDENT OF DEVELOPMENT

As the Vice-President of Development the professional chosen will direct an ambitious team working on the development of immunodiagnostic and DNA probe assays. Further responsibilities will include clinical trials of products developed and a close relationship with manufacturing and research to affect the successful transfer of technology to products.

The Ph.D. selected will report to the President and will directly influence the development of new products and the enhancement of existing products.

If you are a senior executive from a top firm, ready to help reshape the industry with an energetic organization, while earning a salary commensurate with your experience and expertise, this is the position for you.

IGEN, INC. welcomes discussions of these opportunities with curious qualified candidates who may not be currently exploring employment alternatives. **Call in confidence to our Director of Human Resources at (301) 984-7964, or send your resume with salary history in confidence to: IGEN, INC., Department SM-1010, 1530 East Jefferson Street, Rockville, Maryland 20852.**

VICE-PRESIDENT OF RESEARCH

IGEN, INC. is now seeking a high level executive who will direct a team of scientists working on projects involving chemistry, molecular biology, immunology and clinical assay research. This position will have budget responsibility, will work closely with marketing to target research programs and will coordinate activities with legal counsel.

IGEN, INC. An Emerging Leader in Biotechnology

An Equal Opportunity Employer

POSITIONS OPEN

RESEARCH ASSOCIATE for medical school in northwest Ohio to conduct research to study association of familial spontaneous pneumothorax with alpha 1 antitrypsin levels and histocompatibility antigen type. Assist in establishing role of computed tomography for detection of pleural blebs in relation to spontaneous pneumothorax in the past. Correlate pulmonary pathology with pulmonary function tests, human leukocyte antigen type and alpha 1 antitrypsin levels; relate findings to experimentally produced emphysema in dogs. Requires Ph.D. or ABD in radiology. Ph.D. program must have included training/instruction in pulmonary pathology, including role of alpha 1 antitrypsin in emphysema. Should have done prior research involving canine lung pathology as evidence by publication presentation. No experience required. 40 hours per week. Salary: \$20,000 per year. Qualified applicants only send résumé with this ad to: **B. Phillips, JO number 0276665, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

RESEARCH ASSOCIATE/POSTDOCTORAL position to collaborate in the study of the reflex control and influence of vascular capacitance in cardiovascular homeostasis. Applicant should have doctorate with experience in cardiovascular physiology or biomedical engineering. Supported by 5-year NIH grant. Submit résumé and names of references to: **Dr. Carl F. Rothe, Department of Physiology, MS-374, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46223. Equal Opportunity/Affirmative Action Employer, M/F.**

RESEARCH ASSOCIATE IN PHARMACOLOGY

The Department of Pharmacology of Southern Illinois University School of Medicine has an open position for a research associate, available immediately for at least 2 years. Continuance of position is contingent upon grant funds. The NIH-funded project is to participate in studies aimed at understanding brain mechanisms involved in epilepsy and investigating the actions of new anticonvulsant drugs. Minimum qualifications: Ph.D. in pharmacology or neurophysiology. Recording experience, especially in chronic animals, is highly desirable. Submit résumé with names and addresses of three references to: **Dr. Carl Faingold, Department of Pharmacology, Southern Illinois University School of Medicine, P.O. Box 3926, Springfield, IL 62708.** Applications must be received by 10 November 1986. *Southern Illinois University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE POSITION available April 1987 for 1 year (possibly renewable for 2) of study of the organization of the basal ganglia using immunocytochemical methods and intracellular recording and HRP labeling. M.D., Ph.D., or equivalent required, and experience in neuroanatomical techniques including immunocytochemistry, HRP methods, electron microscopy, and the PhAL method. Send curriculum vitae and names of three references to: **Richard Penny, Department of Anatomy, School of Medicine, East Carolina University, Greenville, NC 27858-4354. Affirmative Action/Equal Opportunity Employer.**

RESEARCH DIRECTOR—The Childrens Hospital of Los Angeles, the major pediatric research and teaching facility of the University of Southern California, School of Medicine, is building a new 118,000-square-foot multidisciplinary research building and seeks an established investigator (M.D. or Ph.D.) to provide scientific leadership for the hospital's overall research program and to develop an individual research program. The successful candidate will receive an appropriate faculty appointment at the University of Southern California, School of Medicine and will be the recipient of an endowed chair at the Childrens Hospital of Los Angeles. Applications with curriculum vitae and list of three references should be sent to:

**Robertson Parkman, M.D.
Division of Research Immunology/BMT
Childrens Hospital of Los Angeles
4650 Sunset Boulevard
Los Angeles, CA 90027**

The Childrens Hospital of Los Angeles and the University of Southern California, School of Medicine are Equal Opportunity/Affirmative Action Employers.

POSITIONS OPEN

RESEARCH ASSOCIATE IN NEUROBIOLOGY. Position available immediately to study the effects of membrane lipid modification on the expression and function of ion channels in cultured cells. Research will involve patch clamp of ion channels, ligand binding studies, and analysis of membrane lipid composition. Send curriculum vitae and names of three references to: **Dr. Robert E. Sheridan, Department of Pharmacology, Georgetown University, Washington, DC 20007.**

RESEARCH INQUIRIES INVITED

The Smokeless Tobacco Research Council, Inc. invites inquiries regarding grant applications.

The council sponsors independent research into questions of smokeless tobacco and health. Research support is through a program of grants-in-aid.

Grant applications are evaluated by the Scientific Advisory Board to the council and will be judged solely on the basis of scientific merit and relevance.

Deadlines for submission of grant applications are 31 December for 1 July funding and 30 June for 1 January funding. Address inquiries or requests for applications to:

The Smokeless Tobacco Research Council, Inc., 420 Lexington Avenue, New York, NY 10170. Telephone: 212-697-3485.

RESEARCH MICROBIOLOGIST

Beecham Laboratories, a leading manufacturer of veterinary biologicals, has an opening for an innovative research microbiologist. Experience in virology or protein chemistry and vaccine development preferred. Send résumé and salary requirements to: **Hans Draayer, Manager, Research and Development Department, East Lincoln Road, White Hall, IL 62092. Beecham Laboratories is an Equal Opportunity Employer.**

RESEARCH SCIENTIST III (IMMUNOLOGY AND EPIDEMIOLOGY OF DESIGNATED VIRAL DISEASES)

A position is available in the Viral and Rickettsial Disease Laboratory, California Department of Health Services, Berkeley, CA, to direct and conduct highly specialized research and development of diagnostic tests for diseases of public health importance, including AIDS and related diseases. The starting salary is \$3846 per month. The position requires either 3 years of experience in California State Service as a research scientist II, or 4 years of appropriate research experience in the last 7 years in the stated specialty or a closely related field, and a doctoral degree in virology or a closely related field. Expertise in the development and use of viral immunoassays, cell hybridization, cell culture methods and characterization of viral genomes and proteins, experimental designs for studying viral pathogenesis and immunopathology, and rapid viral detection methods is desirable.

Selection of the candidate will be on the basis of a competitive State Civil Service examination, followed by job interviews. The final postmark date for submission of application is 29 October 1986. Applications with résumé are to be sent to: **Division of Laboratories, California State Department of Health Services, 2151 Berkeley Way, Berkeley, CA 94704.** Application forms are available at any California State Personnel Board Office or you may obtain an application by contacting the Division of Laboratories at telephone: **415-540-2408. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH SCIENTIST

The Department of Neurology at the University of Massachusetts Medical Center is seeking a research scientist trained in the investigation of the neurobiology of aging and dementia. A broad background in anatomic, histological, and immunohistochemical techniques is required, as well as competence in computer applications. A knowledge of the neurobiology of aging is necessary for this position. Experience in scientific writing is advantageous. The applicant must be capable of carrying out research independently, and in collaboration with others. Apply to: **Dr. David Drachman, Department of Neurology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, MA 01605.**

An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

RESEARCH PHYSICAL SCIENTIST/RESEARCH CHEMIST. The Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC, invites applications for a research position to develop and evaluate methods and instruments to measure air pollutants. Applicants should have the ability to research and develop diverse analytical instrumentation to detect trace levels of airborne chemical pollutants. The position also requires research on new scientific concepts that may lead to improved analytical sensitivity and selectivity for measuring toxic chemicals in air. Candidates should have an advanced degree or equivalent in chemistry or an allied field. Position starts at the GS-11 level (\$26,381 to \$34,292) with promotion potential to the GS-13 level (\$37,599 to \$48,876). Send SF-171 (available at most post offices and federal government laboratories) to: **Shirley Bowens, U.S. Environmental Protection Agency, Personnel Management Division (MD-29), Research Triangle Park, NC 27711. EPA is an Equal Opportunity Employer.**

M.D. with experience in metabolism and mathematical modeling for position as **RESEARCH SCIENTIST.** Contact: **Dr. Robert Wolfe, Shriners Burns Institute, 610 Texas Avenue, Galveston, TX 77550. Equal Opportunity Employer, M/F/H.**

SENIOR RESEARCH SCIENTIST

Cardiac Pacemakers Inc. has an immediate opening for a senior research scientist with a M.D./Ph.D. in electrical engineering, physiology, or biomedical engineering with previous experience in defibrillator research and/or clinical applications. This individual will be responsible for conducting research in the areas of electrophysiology and defibrillation, with emphasis in clinical applications.

RESEARCH SCIENTIST

You will qualify with a M.S./Ph.D. in electrical/biomedical engineering with experience in signal analysis and systems control. Specific experience in cardiac electrogram signal analysis preferred.

Send résumés to our Personnel Department, **Cardiac Pacemakers, Inc., 4100 North Hamline Avenue, P.O. Box 64079, St. Paul, MN 55164-0079.**

An Equal Opportunity/Affirmative Action Employer

SENIOR RESEARCH TECHNICIAN

Experience in protein and lipid biochemistry. Familiarity with the use of radioisotopes in receptor binding assays and with purification of apolipoproteins desirable. Send curriculum vitae and references to: **HOWARD HUGHES MEDICAL INSTITUTE, Personnel Department, Box J, 703 Wintrobe Building, University of Utah Medical Center, Salt Lake City, UT 84132.**

SENIOR SCIENTIST DIAGNOSTIC PRODUCTS R&D

Difco Laboratories Research and Development Center has an opening for an experienced scientist in microbiological diagnostic R&D. A Ph.D. in microbiology or biochemistry is required, with experience in commercial diagnostic product development and/or postdoctoral training in related clinical microbiology areas. Emphasis will focus on detection of bacteria, bacterial components, and/or products in body fluids. Proven leaders with good innovative skills will be given preference. Please send your résumé, publication list, desired salary, and salary history to: **D. J. Schafer, Difco Laboratories R&D Center, 1180 Ellsworth Road, Ann Arbor, MI 48104. Equal Opportunity Employer, M/F.**

COURSES

9 to 10 December: THE BIOTECHNOLOGY DIVISION OF FISHER SCIENTIFIC is sponsoring two evening tutorials on "Some Do's, Don'ts, and How to's in Cell Culture" to be held at the Washington Convention Center in conjunction with the annual meeting of the American Society for Cell Biology. For further information, write to: **S. Daniel Makover, Ph.D., Fisher Scientific, 711 Forbes Avenue, Pittsburgh, PA 15219 or telephone: 412-562-1702.**

Research Scientists

T Cell Sciences, Inc., a biotechnology based health care company located in Cambridge, Massachusetts, is seeking Research Scientists with expertise in the following areas to contribute to our innovative research projects investigating the applications of T cell related products to disease states.

Immunology/ Biochemistry Senior Scientist

Ph.D. with experience in biochemistry and hybridoma technology. Projects involve the use of monoclonal antibodies in identifying the structure and functional relationships of T cell antigen receptors.

Senior Scientist

Ph.D. with experience in immune regulation, T cell differentiation and lymphokines. Responsibilities include development and characterization of antibodies and identification of their clinical utilities.

Molecular Biology Senior Scientist (Ph.D.) Associate Scientists (MS/BS)

Candidates should have strong recombinant DNA background with emphasis on RNA, gene library construction, sequencing, RNA probes and/or *in situ* hybridization techniques. Responsibilities include the study of disease associations through gene cloning and characterization.

Senior Scientist (Ph.D.) Associate Scientists (MS/BS)

Candidates should have a strong recombinant DNA background with emphasis on gene splicing, transfection, mammalian cell culture, recombinant screening and characterization techniques. Responsibilities include the production of recombinant proteins through a variety of expression vectors and systems.

Cellular Immunology Associate Scientists (MS/BS)

Candidates should have a strong background in cell mediated immunity. Experience with T cell functional assays and T cell cloning preferred.

T Cell Sciences, Inc., an equal opportunity employer, offers comprehensive medical/dental plans and competitive salaries. Please send your resume in confidence to: **Personnel Manager, T Cell Sciences, Inc., 840 Memorial Drive, Cambridge, MA 02139.**

**T CELL
SCIENCES**

Molecular Biologist/ Nucleic Acid Biochemist

Syva, a subsidiary of Syntex, is a leader in the medical diagnostics field — developing, manufacturing and marketing tests to diagnose infectious diseases and to detect and quantify clinically significant substances in patients' body fluids. We currently have an opportunity available for a research scientist in our nucleic acid probes group.

You must have a PhD in Molecular Biology or Biochemistry and specific skills in gene cloning, library construction and screening, DNA sequencing, and nucleic acid hybridization. Knowledge of non-radioactive labeling detection methods in hybridization diagnostics would be a plus.

Syva offers a competitive salary and benefits package and a stimulating research environment where scientific excellence and achievement are highly rewarded. For confidential consideration, please send your

resume, publications list and three references to Syva, Professional Staffing, Dept. DP/SCI, P.O. Box 10058, Palo Alto, CA 94303. An equal opportunity employer.



OSU

College of Agriculture

The Department of Horticulture at The Ohio State University is instituting a **Center of Excellence in Post-production Quality**. The objective of this program is to improve the quality of horticultural commodities produced, processed or marketed in the State of Ohio through a directed, basic science approach. To institute this program four new faculty positions (any rank) will be filled within the next year. The four positions are:

- **BIOCHEMIST/PHYSIOLOGIST:** It is preferable that this position or the Molecular Biologist work in some aspect of food processing or engineering.
- **MOLECULAR BIOLOGIST:** Biotechnology of Horticultural Crops.
- **DEVELOPMENTAL PLANT PSYCHOLOGIST:** Preference given to interest in working with woody plants.
- **PHYSIOLOGICAL GENETICIST:** Preference given to expertise amenable to a vegetable system.

Applications, including cover letter, resume, transcripts, and three letters of reference will be reviewed beginning November 1, 1986 or until a suitable candidate is found.

To obtain position descriptions or for more information about any of these positions contact:

Dr. Robert A. Kennedy, chairman, Department of Horticulture, The Ohio State University, 2001 Fyffe Ct., Columbus, OH 43210-1096 (614) 422-3850

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

COURSES

MOLECULAR ENDOCRINOLOGY AND TECHNIQUES FOR HORMONE ACTION

22 to 27 February 1987

This course will consist of lectures in methodology with comprehensive syllabus covering receptors, gene transcription, mRNA and protein synthesis, recombinant DNA, protein hormones, and cyclic nucleotides.

Co-directors: W. T. Schrader and B. W. O'Malley

Fee: \$365 (\$245, fellow)

For further information, contact:

Bonnie Cuthbert
Department of Cell Biology
Baylor College of Medicine
Houston, TX 77030
713-799-6200

DEADLINE—30 January 1987

COURSE ON TISSUE CULTURE IN NEUROBIOLOGY 1 TO 8 MAY 1987 UNIVERSITY OF SASKATCHEWAN, SASKATOON, SASKATOON, CANADA

It will deal with isolation and culturing of neurons, astrocytes, oligodendrocytes, Schwann cells, and established cell lines. Quantification in cultures will be emphasized and cell nutrition, differentiation, interaction, and identification will be discussed. In addition, a number of procedures applicable to the study of neural cells in cultures will be demonstrated. Mornings will be devoted to lectures and examination of cultures, afternoons to laboratory work, and evenings to demonstrations and discussions.

Guest faculty: J. E. Bottenstein (University of Texas, Galveston); R. P. Bunge (Washington University); M. Manthorpe (University of California at San Diego); G. Moonen (University of Liege, Belgium); and R. P. Saneto (University of California at Los Angeles). Resident Faculty: R. M. Devon, S. Federoff, D. Munoz-Garcia, A. Richardson, S. Richardson, W. Walz and H. C. Wang. This course is intended primarily for scientists and senior graduate students. Accommodations and meals will be available in university residences. Registration fee, \$250.00. Applications should be submitted before 15 January 1987. Participation will be limited to 24 persons. Early registration is advised.

Applications and inquiries should be directed to:

Dr. S. Federoff
Department of Anatomy
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0, Canada
Telephone: 306-966-4075

TRAINING PROGRAM

MOLECULAR PARASITOLOGY TRAINING PROGRAM

Meharry Medical College has been awarded a NIH Molecular Parasitology Training Grant. In collaboration with Vanderbilt University, graduate and postgraduate students will be trained in molecular, biochemical, and immunological aspects of African trypanosomiasis, Chagas' disease, schistosomiasis, malaria, and leprosy. The initial faculty of this training program includes (i) Dr. George C. Hill, African trypanosomiasis; (ii) Dr. Frank Hatcher, Chagas' disease; (iii) Dr. P. J. Patel, leprosy; (iv) Dr. Clint Carter, schistosomiasis; and (v) Dr. Daniel Colley, schistosomiasis.

Candidates with strong interests in parasitic diseases should apply immediately. Stipends for graduate students will be \$6,552 the first year, plus payment of tuition and fees. Stipends for postgraduate students with no previous experience will be \$15,996. The positions are open only to U.S. citizens or permanent residents. Please send a letter stating research interest, curriculum vitae, and three letters of recommendation to:

Dr. George C. Hill
Program Director
Molecular Parasitology Training Program
Division of Biomedical Sciences
Meharry Medical College
Nashville, TN 37208
Equal Opportunity Employer

SYMPOSIUM

The Ninth International Symposium of Flavin and Flavoproteins will be held on 7 to 12 June 1987 on the campus of Emory University, Atlanta, GA. For further information, contact: Dr. D. B. McCormick (chairman) or Dr. Dale E. Edmondson (co-chairman). Department of Biochemistry, Emory University School of Medicine, Atlanta, GA 30322.

GRADUATE TRAINING

GRADUATE TRAINING IN BIOCHEMISTRY AND BIOPHYSICS at the University of Hawaii. Join our active Medical School Department engaged in numerous research projects of interest and importance. Unique geographical and cultural setting. Predoctoral teaching and research assistantships available September 1987 to qualified applicants. Write to: **Chairman, Department of Biochemistry and Biophysics, University of Hawaii, Honolulu, HI 96822. An Equal Opportunity Employer.**

FELLOWSHIPS

UNITED STATES-ISRAEL FELLOWSHIP PROGRAM—BARD—The United States-Israel Agricultural Research and Development Fund has initiated a binational postdoctoral fellowship program promoting cooperative agricultural research between postdoctorates from the United States and scientists from Israel and vice versa. Grant applicants should be citizens of either the United States or Israel, should have fulfilled the requirements for a Ph.D. within the last 3 years (postdoctorates) and should have no other sources of support. The deadline for applications is 1 December of each year. For information on application procedures, contact: **Yair Guron, Executive Director, at either: BARD, P.O. Box 6, Bet Dagan 50250, Israel, Telephone: 972-3-955133 or BARD, U.S. Department of Agriculture, Building 005, BARC-West, Beltsville, MD 20705. Telephone: 301-344-2605.**

POSTDOCTORAL FELLOWSHIP available immediately for NIH-funded research in cellular immunology. Project involves the role of autoreactive T-lymphocytes and their lymphokines in the pathogenesis of graft versus host disease and autoimmune diseases. Background in cellular immunology or biochemistry is required. Send curriculum vitae and three references to: **Robertson Parkman, M.D., Division of Research Immunology, Childrens Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, CA 90027. Affirmative Action/Equal Opportunity Employer.**

THE HEBREW UNIVERSITY OF JERUSALEM Jerusalem, Israel

THE BERMAN FELLOWSHIP AND SCHOLARSHIP PROGRAM

THE FORCHHEIMER FOUNDATION THE LADY DAVIS FELLOWSHIP TRUST

The Hebrew University of Jerusalem offers a number of **POSTDOCTORAL FELLOWSHIPS** for the 1987 to 1988 academic year in humanities, social sciences, natural sciences, agriculture, and medicine.

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

Every application is considered for all funds.

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

Completed application forms must be returned by 1 December 1986.

POSTDOCTORAL FELLOWSHIP. To study the effects of spaceflight and simulated weightlessness on immune function, the interferon system, and resistance to infectious diseases. Salary competitive. Send curriculum vitae and names and addresses of three references to: **Dr. Gerald Sonnenfeld, Department of Microbiology and Immunology, School of Medicine, University of Louisville, Louisville, KY 40292. The University of Louisville is an Equal Opportunity Employer.**

FELLOWSHIPS

THE HEBREW UNIVERSITY OF JERUSALEM THE GOLDA MEIR FELLOWSHIP FUND

The Hebrew University of Jerusalem offers a number of **POSTDOCTORAL FELLOWSHIPS** for the 1987 to 1988 academic year in the humanities, social sciences, natural sciences, agriculture and medicine.

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

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

Completed application forms must be returned by 1 December 1986.

POSTDOCTORAL FELLOWSHIP. NIH-funded traineeship available immediately, latest possible starting date 31 March 1987. To study molecular basis for metabolic effects of insulin and exercise in skeletal muscle. Limited to American citizens or permanent residents. Apply to: **Neil Ruderman, M.D., D. Phil, Boston University School of Medicine/University Hospital, E-211, 75 East Newton Street, Boston, MA 02118.**

CONFERENCES

The New York Academy of Sciences Conference on: MESOLIMBIC AND MESOCORTICAL DOPAMINE SYSTEMS 4 to 6 May 1987 Biscayne Bay Marriott, Miami, FL

This conference brings together preclinical and clinical neuroscientists to compare and contrast data and hypotheses regarding the physiological and pathological functions of the mesocorticolimbic dopamine system. Presentations will include the anatomy, physiology, neurochemistry, neurotransmitter interactions, and neuropsychiatric relevance of the mesocorticolimbic dopamine system.

There will be contributed poster sessions. The deadline for submission of abstracts is 15 November 1986. A 200-word summary of work to be presented should be sent to: **Dr. Peter Kalivas, Washington State University, Department of Veterinary Pharmacology, Pullman, WA 99164-6520.**

Chairs: **Dr. Peter Kalivas,**
Washington State University
and
Dr. Charles B. Nemeroff,
Duke University Medical School

Inquiries should be addressed to **Conference Department, The New York Academy of Sciences, 2 East 63 Street, New York, NY 10021.**

The New York Academy of Sciences Conference on: THE TERMINAL NERVE: STRUCTURE, FUNCTION, AND EVOLUTION to be held at 2 East 63 Street New York City 2 to 4 February 1987

The terminal nerve (nervus terminalis) is a cranial nerve associated with the olfactory-vomeronasal system and basal forebrain. Identification of a luteinizing hormone-releasing hormone containing component, which may control reproductive function and development, has resulted in recent interest in the structure. The conference will cover the nerve and related areas, including its functions, clinical significance, and evolutionary history.

There will be contributed poster sessions in connection with this conference. The deadline for the submission of abstracts is 15 November 1986. Abstracts of 200 words, or less, should be sent to: **Marlene Schwanzel-Fukuda, The Rockefeller University, 1230 York Avenue, New York, NY 10021.**

For program and registration information, please contact: **Conference Department, The New York Academy of Sciences, 2 East 63rd Street, New York, NY 10021.**



The Howard Hughes Medical Institute
and
The National Institutes of Health
again announce
**The Program for Research Opportunities for
Medical Students
1987-88**

HHMI-NIH Research Scholars can spend 9-12 months in one of the 1,000 research laboratories located at the
NATIONAL INSTITUTES OF HEALTH, Bethesda, MD.

Salary, fringe benefits and travel will be provided.

Further information and application forms may be obtained by writing to the
Howard Hughes Medical Institute, Research Scholars Program, 9101 Old Georgetown Road, Bethesda, Maryland 20814.

Applications invited from students in all American Medical Schools.

Your request for the application information should be received by December 31, 1986.

Final deadline for return of all application materials is January 15th, 1987.

BIOTECHNOLOGY RESEARCH OPPORTUNITIES

Battelle is seeking applicants for several key positions in its expanding international biotechnology operations. Openings currently exist at Battelle's Columbus Division for the following positions.

SENIOR IMMUNOCHEMIST/IMMUNOLOGIST—To develop and lead programs on novel immunoassay systems. The position requires a PhD and 5-10 years experience in immunoassay development with emphasis on configuration of enzymes/antibodies in solid phase systems. The successful candidate will lead a team of scientists developing new immunoassay systems.

CLINICAL CHEMIST or IMMUNOCHEMIST—To join a multi-disciplinary immunoassay development team and solve problems of instrumentation of immunoassays. The position requires a PhD and experience in immunoassay development and instrumentation.

ENZYMOLOGIST/BIOCHEMIST—To examine problems in enzymatic signal transduction as part of a multi-disciplinary immunoassay development team. The position requires a PhD and 0-2 years postdoctoral experience in protein purification or enzyme assay development.

IMMUNOPARASITOLOGIST/EXPERIMENTAL PATHOLOGIST—To join a team exploiting genetic engineering techniques for the development of animal and poultry vaccines. The position requires a PhD and 0-2 years of postdoctoral experience in immunoparasitology.

SENIOR MOLECULAR BIOLOGIST—To develop and direct programs in the cloning expression of therapeutically active enzymes. The position requires a PhD and 5-7 years of experience in cDNA cloning and expression of foreign genes and previous experience in directing a scientific team.

SENIOR MICROBIOLOGIST—To develop and direct programs in microbial biotransformations for product development or for biodegradation of toxic waste. The position requires a PhD and 5-7 years of experience in microbial physiology and previous experience in directing a scientific team.

Battelle offers a challenging, team-oriented working environment and an attractive salary and benefits package. If interested, please send resume to: **Richard Shaw, Employment Dept. R-6, Battelle Columbus Division, 505 King Avenue, Columbus, Ohio 43201-2693. An Equal Opportunity/Affirmative Action Employer M/F/H.**



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