

erates a series of models (employing partial differential equations) aimed at illuminating the influence of pest movement on patterns of crop damage.

Six chapters delve into the theoretical background of principal pest control tactics. The most satisfying of these chapters, indeed in my opinion the best in the entire volume, is that by Kogan on plant defense strategies and host-plant resistance. Kogan masterfully weaves historical developments in insect-plant interaction theory with host-plant resistance theory and practice, treating in depth such fundamental ideas as coevolution and sequential evolution between plants and insects and the chemical nature of genetically based and environmentally induced plant defense. Sean Duffey and Ken Bloem examine in detail whether host-plant resistance to insects can be used compatibly with biological control agents in IPM programs. Through a physiological approach, they demonstrate convincingly for some plants that complexes of compounds (both secondary and primary) thought to be advantageous agriculturally because they confer resistance to pest depredations actually can be detrimental to these purposes by having even stronger negative effects on parasitoids and pathogens that attack the pests. This contribution is valuable also for its illustration of how an imaginative reductionist approach can aid in formulating new theory. In a chapter on the ecology of insect-pathogen interactions, Robert May outlines factors that govern whether a pathogen of an insect is capable of maintaining itself within a host (pest) population and keeping that population at a comparatively low level. Like Strong, May emphasizes the difficulties that nonlinearities and dynamic complexities inherent in any relation between a host and its enemies pose for pest management decisions. Two chapters, one by Donald Herzog and Joseph Funderburk on ecological bases for habitat management and cultural control in insect pests and the other by Robert Metcalf on the ecology of chemical control of insect pests, are well-rounded reviews tracing historical and recent developments. Both underscore the need for greater appreciation of evolutionary and ecological relationships among webs of plants, herbivores, and natural enemies of herbivores for environmentally compatible cultural and chemical management approaches. The last chapter in this section, by George Kennedy, illustrates how strategies for managing arthropod-transmitted virus diseases of crops that have not been generated by ecological theory have nonetheless proven consistent with predictions emerging from theory.

The book concludes with two chapters having broad concern. David Pimentel, in

providing an overview of economic losses due to pests in the United States and the monetary, environmental, and social costs of pest control, describes how crop losses due to insect pests since the 1940s have nearly doubled despite a ten-fold increase in insecticide use. Even though this loss has been appreciably offset by increased crop yield, it points to a need for greater consideration of ecological factors. In the final chapter and one of the best, Paul Risser compares system stability and fundamental processes such as patterns of nutrient flow in natural and agricultural ecosystems. He concludes that essential though only partial understanding of agroecosystems can be gained from natural systems and that useful approaches are most likely to arise from models that anticipate the needs of agriculture not only on local but also on regional and global scales.

In sum, the book provides much insight into a range of theoretical ecological concerns bearing directly or indirectly on pest management strategies and tactics. It can be highly recommended to all ecologists and others interested in IPM. I had hoped it might also serve as the much-needed new textbook for courses in IPM. For that purpose, however, it is too heavily weighted toward insects and too little toward weeds and plant diseases. Moreover, there is no treatment of theories of sampling pest and natural enemy abundance or theories relevant to decisions on need for intervention to prevent pest damage. These are fundamental concerns of current IPM practice.

RONALD J. PROKOPY

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Books Received

Agriculture and Environment. The Physical Geography of Temperate Agricultural Systems. David J. Briggs and Frank M. Courtney. Longman, New York, 1987 (distributor, Wiley, New York). xiv, 442 pp., illus. \$44.95.

Algorithmic Methods for Artificial Intelligence. Michael Griffiths and Carol Palissier. Chapman and Hall, London, 1987 (U.S. distributor, Methuen, New York). 144 pp., illus. \$34.50; paper, \$19.95.

Algorithms. Their Complexity and Efficiency. Lydia Kronsjö. 2nd ed. Wiley-Interscience, New York, 1987. xiv, 363 pp., illus. \$49.95. Wiley Series in Computing.

American Wildlife in Symbol and Story. Angus K. Gillespie and Jay Mechling. Eds. University of Tennessee Press, Knoxville, TN, 1987. 251 pp., illus. \$24.95.

Analytic and Geometric Aspects of Hyperbolic Space. D. B. A. Epstein, Ed. Cambridge University Press, New York, 1987. iv, 323 pp., illus. Paper, \$29.95. London Mathematical Society Lecture Note Series, 111. Based on symposia, Warwick and Durham, U.K., 1984.

Angiogenesis. Mechanisms and Pathobiology. Daniel B. Rifkin and Michael Klagsbrun, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1987. x, 161 pp., illus. Paper, \$30. Current Communications in Molecular Biology. From a conference, Cold Spring Harbor, NY, Nov. 1986.

Beyond the Acropolis. A Rural Greek Past. Tjeerd H. van Andel and Curtis Runnels. Stanford University

Press, Stanford, CA, 1987. xiv, 221 pp., illus. \$27.50.

Binding Constants. The Measurement of Molecular Complex Stability. Kenneth A. Connors. Wiley-Interscience, New York, 1987. xiv, 411 pp., illus. \$69.95.

Biological Effects and Health Implications of Radiofrequency Radiation. Sol M. Michaelson and James C. Lin. Plenum, New York, 1987. xii, 675 pp., illus. \$79.50.

Biological Macromolecules and Assemblies. Vol. 3, Active Sites of Enzymes. Frances A. Jurnak and Alexander McPherson, Eds. Wiley-Interscience, New York, 1987. xii, 564 pp., illus. \$84.95.

The Biology and Evolution of Lungfishes. William E. Bemis, Warren W. Burggren, and Norman E. Kemp, Eds. Liss, New York, 1987. viii, 383 pp., illus. \$49.50. Also published as *Journal of Morphology*, Supplement 1 (1986). Based on a symposium, Denver, CO, Dec. 1984.

The Collected Papers of Albert Einstein. Vol. 1, The Early Years, 1879–1902. John Stachel, Ed. Princeton University Press, Princeton, NJ, 1987. lxi, 433 pp., illus., + plates. \$52.20. English translation, available only with main volume. Anna Beck, Translator. xxii, 196 pp. Paper, \$22.50; microfiche, \$10.

Combinatorial Theory and Statistical Design. Gregory M. Constantine. Wiley, New York, 1987. xvi, 472 pp., illus. \$52.95. Wiley Series in Probability and Mathematical Statistics.

Content-Addressable Memories. Teuvo Kohonen. 2nd ed. Springer-Verlag, New York, 1987. xiv, 388 pp., illus. Paper, \$39.50. Springer Series in Information Sciences, vol. 1.

Contributions to Modern Calculus of Variations. Lamberto Cesari, Ed. Longman Scientific, Harlow, U.K., and Wiley, New York, 1987. iv, 231 pp., Paper, \$39.95. Pitman Research Notes in Mathematics, 148. Based on a symposium, Bologna, Italy, May 1985.

The Control of Follicle Development, Ovulation and Luteal Function. Lessons from In Vitro Fertilization. Frederick Nafolin and Alan H. DeCherney, Eds. Raven, New York, 1987. xii, 354 pp., illus. \$49.50. Sero Symposium Publications from Raven Press, vol. 35. From a symposium, Paris, April 1986.

Crystallography in Molecular Biology. Dino Moras *et al.*, Eds. Plenum, New York, 1987. x, 443 pp., illus. \$79.50. NATO Advanced Science Institutes Series A, vol. 126. From an institute, Bischofsberg, France, Sept. 1985.

Current Topics in Pulmonary Pharmacology and Toxicology. Vol. 1. Manfred A. Hollinger, Ed. Elsevier, New York, 1986. xii, 225 pp., illus. \$45.

Defects in Crystals. E. Mizera, Ed. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). xvi, 564 pp., illus. \$72. From a school, Szczark, Poland, May 1985.

Depression Prevention. Research Directions. Ricardo F. Muñoz, Ed. Hemisphere (Harper and Row), New York, 1987. xvi, 301 pp., illus. \$49.95. Series in Clinical and Community Psychology.

Electromagnetic and Acoustic Scattering by Simple Shapes. J. J. Bowman, T. B. A. Senior, and P. L. E. Uslenghi, Eds. 2nd ed. Hemisphere (Harper and Row), New York, 1987. xx, 728 pp., illus. \$110.

The Emerging Service Economy. Orio Giarini, Ed. Pergamon, New York, 1987. xii, 298 pp., illus. \$30.

EMP Interaction. Principles, Techniques, and Reference Data. K. S. H. Lee, Ed. Revised ed. Hemisphere (Harper and Row), New York, 1986. xxviii, 744 pp., illus. \$75.

Uncertainty in Risk Assessment, Risk Management, and Decision Making. Vincent T. Covelto *et al.*, Eds. Plenum, New York, 1987. x, 538 pp., illus. \$85. Advances in Risk Analysis, vol. 4. From a workshop, Knoxville, TN, Sept.–Oct. 1984.

Volcanic Successions Modern and Ancient. A Geological Approach to Processes, Products and Successions. R. A. F. Cas and J. V. Wright. Allen and Unwin, Boston, 1987. xviii, 528 pp., illus. Paper, \$39.95.

Volcanism in Hawaii. Robert W. Decker, Thomas L. Wright, and Peter H. Stauffer, Eds. U.S. Government Printing Office, Washington, DC, 1987 (available from Books and Open-File Reports Section, U.S. Geological Survey, Denver, CO). Vol. 1, xiv pp. + pp. 1–839, illus. Vol. 2, x pp. + pp. 841–1667, illus. \$95. Geological Survey Professional Paper 1350.

Webb Society Deep-Sky Observer's Handbook. Vol. 6, Anonymous Galaxies. Kenneth Glyn Jones, Ed. Enslow, Hillside, NJ, 1987. xviii, 137 pp., illus. Paper, \$12.95.

Wildfowl in Great Britain. Myrfin Owen, G. L. Atkinson-Willes, and D. G. Salmon. 2nd ed. Cambridge University Press, New York, 1986. xiv, 613 pp., illus. \$59.50.

Products & Materials

Experimental Optimization Software

SIMPLEX-V 2.2 is an interactive, menu-driven computer program for rapid experimental optimization. As many as 12 continuous variables may be adjusted simultaneously with a modified sequential simplex algorithm. The program can accept as many as four responses, use an optional user-defined starting simplex from existing experimental information, and produce ASCII files for export to word-processing and other software packages. SIMPLEX-V 2.2 operates on the IBM PC family and compatible computers. Statistical Programs. Circle 576.

Reagents for Biotin Labeling

Two high-purity reagents for labeling carbohydrates and proteins with biotin are available. Both contain spacer arms to limit steric hindrance and to maximize detection or isolation of the labeled molecules. One reagent is a hydrazide derivative for coupling biotin to carbohydrate structures after periodate oxidation or for attaching biotin to carboxyl groups by means of a carbodiimide coupling procedure. The other reagent couples biotin to primary amino groups on proteins or other molecules by means of an *N*-hydroxysuccinimidyl group. Both reagents are supplied as stable dry powders. Vector Laboratories. Circle 569.

HPLC Software

The Dynamax HPLC Method Manager software automates high-performance liquid chromatography, controls gradients, and collects and analyzes chromatographic data. Peak areas and heights are displayed on the screen as soon as they are calculated. The program has pull-down menus and multiple-screen windows, on which function controls and status information are displayed simultaneously. Rainin Instrument. Circle 570.

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

Separatory Funnel Platforms

Four models of adjustable separatory funnel platforms are available for benchtop and floor-model shakers. The platforms adjust to hold funnels from 500 ml to 2 liters at the



angles needed to achieve the desired shaking action. Smaller funnels may be accommodated by hand adjustment of the main support posts. The funnels are held by vinyl-coated clamps. From smallest to largest, the models hold 2, 4, 10, and 16 funnels. Lab-Line Instruments. Circle 574.

Culture Dish for High Magnifications

A Teflon tissue-culture dish that allows viewing of cells under culture conditions at high magnifications is available. Oil immersion objectives with a $\times 100$ magnification may be used. Standard glass coverslips with adherent cells are secured to the dish by an aluminum ring with a bayonet fitting. The dish is reusable and resistant to sterilization procedures. Medical Systems. Circle 571.

Antibacterial Antiviral Wipes

Cide Swipes are presaturated wipes that contain antibacterial and antiviral agents. No mixing, dispensing, or special disposal is needed; a built-in applicator that prevents skin contact eliminates the need for gloves or applicators. To use, open the package, wipe the surface, and throw away. Cide Swipes come in boxes of 50 wipes. Lab Products. Circle 572.

Calculator-Emulation Software

The Lascaux1000 is a calculator software program that incorporates dimensional analysis. Units of measurement are entered along with the numbers, which may be in fractional, decimal, or scientific format. The Lascaux1000 automatically performs any conversions. It recognizes more than 150 fundamental units of measurement and is

equipped with more than 200 physical constants, and the user may add others. Calculations are checked for validity; for example, the program will reject attempts to extract the square root of cubic feet. The package comes with both a pop-up version and a nonresident version of the program. Lascaux1000 is available for IBM PC and compatible computers with at least 320 kilobytes of random-access memory. Lascaux Graphics. Circle 573.

Beads for ELISA, RIA

Ultraclean frosted polystyrene beads are available for enzyme-linked immunosorbent assays and radioimmunoassays. These beads have been manufactured without mold-release agents or other additives commonly used in manufacturing plastics. All beads are supplied with certification. The beads have diameters of either 1/4 inch (0.64 cm) or 5/16 inch (0.80 cm) and may be purchased in quantities as small as 100 or as large as hundreds of thousands. Interfacial Dynamics. Circle 579.

HPLC-Grade Water Purifier

The HPLC-816 produces 7 liters of purified water for high-performance liquid chromatography applications. The benchtop unit reduces organic contamination in deionized and distilled water to one part per billion by ultraviolet radiation, eliminating ghost peaks and shifting base lines. Vanguard International. Circle 577.

Literature

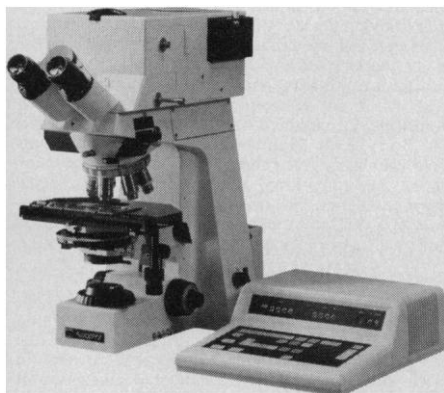
Reagents for Laboratory Immunology is a product and price list of more than 700 reagents that react to human, mouse, rat, and other animal proteins. Nordic Immunological Laboratories. Circle 582.

Adjuvants... is a catalog featuring an adjuvant prepared from *Saccharomyces cerevisiae*, a stable viscous homogeneous aluminum hydroxide gel, an anhydrous lipid base with adjuvant properties, and a surface-active adjuvant hemolytic to red blood cells. Accurate Chemical & Scientific. Circle 584.

Monoclonal Antibodies to Human Leucocyte Antigens is a poster that illustrates primary reactivities of reagents with cells in normal human peripheral blood, including T helper-inducer cells, T cytotoxic-suppressor cells, natural killer cells, B cells, and monocytes. Becton Dickinson Immunocytometry Systems. Circle 587.

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1333 H Street, NW
Washington, DC 20005

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Anatomist, Ph.D. 1984. Publications in neuromuscular physiology and histochemical, electromyographic, and morphometric aspects of feeding and locomotion; NIH postdoctoral fellow; teaching experience in gross anatomy, histology, embryology, and anthropology; seeks tenure-track academic position. Box 146, SCIENCE.

Multitalented Toxicology Team—2 Ph.D., Board-certified, forensic toxicologists with over 25 years of combined experience, looking for an opportunity in academia, industry, or government. Proficient with GC/MS, HPLC, TLC, RIA, UV/VIS qualitative and quantitative techniques. Teaching, research, publications, QA/QC, friends in high places, the works. Box 149, SCIENCE.

Ph.D. Extensive experience in the field of molecular genetics and cytogenetics, seeking academic or industrial position. Box 150, SCIENCE.

Physiology, Ph.D. with several years of teaching experience in general human physiology, research experience in exercise physiology, electrolyte balance studies, spirometry, and body fat. Box 142, SCIENCE.

POSITIONS OPEN

ACADEMIC ENDOCRINOLOGIST

The Endocrine-Metabolism-Nutrition Unit of the University of Vermont College of Medicine invites applications at the assistant professor level for a physician-investigator to develop an independent research program studying energy metabolism and its hormonal and nutritional regulation in man. The successful candidate should have experience in analytical methods (isotopes) as well as in vivo techniques (turnover methodology using tracers, energy metabolism using indirect calorimetry, computer expertise in data acquisition and analysis, insulin clamp, muscle biopsy). The successful candidate must have proficiency in clinical teaching, and documented capacity to secure independent funding. A record of publications in peer review journal is highly desirable. *Given the qualifications outlined, women and members of the U.S. minority groups would be given first consideration.* Contact: Edward S. Horton, M.D., Chairman, Department of Medicine, 311 Fletcher House, Medical Center Hospital of Vermont, Burlington, VT 05401. Application deadline date 1 December 1987.

ANATOMY: ASSISTANT PROFESSOR, Ph.D. The Department of Anatomy, Life Chiropractic College, invites applications for the position of assistant professor beginning September 1987. Applicants would be expected to teach gross and/or neuroanatomy. Salary is dependent upon qualifications and experience. Send curriculum vitae with references to: Dr. Macon Weaver, Chairman, Department of Anatomy, Life Chiropractic College, 1269 Barclay Circle, Marietta, GA 30060.

ANIMAL BEHAVIOR ASSISTANT PROFESSOR

Broadly trained applicants are desired with backgrounds in physiological and/or biochemical bases of animal behavior for a 3-year, tenure-track appointment requiring a Ph.D. degree. Postdoctoral experience desirable. Teaching responsibilities will include courses in animal behavior or related fields. Faculty are expected to conduct active research programs in which qualified undergraduates may be involved. Start-up funds for research are provided. Position available 1 July 1988. Please send curriculum vitae, statement of research/teaching interests, and names and addresses of three references by 6 November 1987 to: William C. Grant, Jr., Chair, Department of Biology, Williams College, Williamstown, MA 01267.

An Equal Opportunity/Affirmative Action Employer, Williams College especially welcomes applications from women and minority candidates.

ASSISTANT CHEMIST AND INSTRUCTOR OF DIAGNOSTIC RADIOLOGY

The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute has an opening for a chemist in the Division of Diagnostic Imaging to participate in a research project on microencapsulation. The position requires a Ph.D. degree in chemistry, physical chemistry, biochemistry, or pharmacology.

Interested applicants should send a current curriculum vitae to:

Sidney Wallace, M.D.
Diagnostic Radiology, Box 57
UT M. D. Anderson Hospital
1515 Holcombe Boulevard
Houston, TX 77030

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ASSISTANT PROFESSOR OF ANATOMY

The Department of Anatomy, University of Saskatchewan, College of Medicine, invites applications for a faculty position at the assistant professor level. Applicants should be experienced in gross anatomy, neuroanatomy, and ideally histology, and have a special interest in teaching physical therapy students. An interest in kinesiology is desirable. Applicants must have a strong research program. *In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.*

Application, including curriculum vitae, names of three referees, and an outline of proposed research and previous teaching experience should be submitted to: Dr. G. D. Burkholder, Department of Anatomy, College of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, S7N 0W0.

POSITIONS OPEN

ASSISTANT PROFESSOR DEPARTMENT OF BIOLOGY SAINT PETER'S COLLEGE

Department of Biology—assistant professor—starting 1 January 1988. Ph.D. required, college teaching experience preferred. Must be able to teach introductory level courses and at least one of the following: genetics, immunology, virology. Résumé, transcripts, and three letters of reference by 3 November 1987 to: **Dr. Marjorie Collier, Saint Peter's College, 2641 Kennedy Boulevard, Jersey City, NJ 07306.**

Saint Peter's College is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR. An opening is available for a tenure-track faculty position in molecular biology at the Department of Biological Sciences, Rutgers University—Newark Campus. Applicants with major interests in immunology or virology are especially encouraged to apply. At least 3 years of postdoctoral experience is required. This position carries a light teaching load commensurate with a major research effort. Excellent start-up funding opportunities are available. Please send a brief description of research interests and plans, curriculum vitae and three letters of recommendation to: **Dr. Harvey H. Feder, Chairman, Department of Biological Sciences, Rutgers University, 101 Warren Street, Newark, NJ 07102.** Deadline for applications 31 January 1988.

Rutgers University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR BIOCHEMISTRY AND MOLECULAR BIOLOGY SUNY HEALTH SCIENCE CENTER AT SYRACUSE

We invite applications for a tenure-track assistant professor position. Outstanding candidates in all areas of biochemistry and molecular biology will be considered with preference given to investigators using novel approaches to important research problems in the areas of molecular endocrinology and protein structure. Applicants must have postdoctoral experience, demonstrated research productivity and a commitment to excellence in teaching medical and graduate students. Send letter of application (with curriculum vitae and summary of research plans) and have three letters of reference forwarded to: **Dr. John J. Lucas, Chair, Search Committee, Department of Biochemistry and Molecular Biology, State University of New York Health Science Center at Syracuse, 750 East Adams Street, Syracuse, NY 13210.** Deadline for receipt of résumés: 15 December 1987.

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Missouri—Department of Oral Biology, University of Missouri—Kansas City, School of Dentistry. Full-time, tenure-track position at the **ASSISTANT PROFESSOR** level available 1 July 1988. Responsibilities include development of independent research in microbiology and/or immunology with extramural funding and teaching at both predoctoral and graduate levels. Applicants must have a Ph.D. and special consideration will be given to applicants with D.D.S., D.M.D., or equivalent degrees, particularly if advanced education has been attained in a recognized dental specialty. *Equal Opportunity/Affirmative Action Employer.* Send letter of application and curriculum vitae to: **Dr. Jack L. Stewart, Associate Dean, University of Missouri—Kansas City School of Dentistry, 650 East 25th Street, Kansas City, MO 64108-2795.**

ASSISTANT PROFESSOR: Applications are invited for a position at the level of assistant professor (tenure track) in the Department of Chemistry at Stanford University with primary research and teaching interests in the general area of inorganic chemistry. Applicants must be strongly motivated toward creative research and have a commitment to teaching at the undergraduate and graduate levels. In applying, please send curriculum vitae, list of publications, a brief statement of research interests (three pages or less), and, in addition, have three letters of recommendation sent to: **Professor John Ross, Chairman, Department of Chemistry, Stanford University, Stanford, CA 94305.** *Stanford is committed to Equal Opportunity through Affirmative Action in Employment, and we are especially eager to identify minority persons and women with appropriate qualifications.* Applications should be received by 6 November 1987.

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOCHEMISTRY CHEMISTRY DEPARTMENT MONTANA STATE UNIVERSITY

Biochemistry position, tenure-track, assistant professor (higher ranks considered). Must have a Ph.D. in a molecular area of biological sciences. Postdoctoral experience is preferred. Demonstrated ability for creative research and the promise of effective teaching of biochemistry courses at the undergraduate and graduate levels and of establishing a vigorous well-supported research program. Preference given candidates who strengthen existing areas of molecular genetics, nucleic acid chemistry, protein chemistry, molecular pathology and toxicology, molecular ecology, bioregulators, transmembrane signaling, and/or cytoskeletal element research. Screening of applications has begun and will continue until a suitable applicant is hired. Applicants should send a letter of application, résumé, reprints of representative papers, a summary of research plans, and three letters of reference to: **Biochemistry Search Committee, Department of Chemistry, Montana State University, Bozeman, MT 59717.** Attention: **Diane Hewitt.** *Montana State University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR, BIOCHEMISTRY THE JOHNS HOPKINS UNIVERSITY

Applications and nominations are invited for a tenure-track position which is open to biochemists or molecular biologists that have significant research accomplishments in the area of growth factor or vitamin control of gene expression. Candidates who employ molecular approaches in their research are especially encouraged to apply. The successful candidate will be expected to conduct a vigorous research program and to participate in teaching graduate students. Send curriculum vitae, representative reprints, a succinct description of research plans, and the names, addresses, and phone numbers of three references to: **Dr. Roger McMacken, Chairman, Biochemistry Search Committee, Department of Biochemistry, The Johns Hopkins University, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, MD 21205.** Applications received prior to 15 December 1987 will receive full consideration. *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR OF BIOCHEMISTRY

The Department of Biochemistry of Kansas State University hopes to make several tenure-track appointments during the next 3 years. We intend to assemble a cluster of people active in the area of protein structure and function, including, for example, protein crystallography, molecular dynamics, and site-directed mutagenesis. One position will be filled in the fall of 1988. Candidates should have postdoctoral experience and published work in an appropriate area, should be prepared to establish an independent, externally funded research program, and should be capable of teaching biochemistry to undergraduate and graduate students. Applications including a résumé, a statement of research plans, and the names of three references should be sent by 1 December 1987 to: **David J. Cox, Head, Department of Biochemistry, Willard Hall, Kansas State University, Manhattan, KS 66506.**

An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR NEUROBIOLOGY

The Department of Biology, Rice University, invites applications for a tenure-track appointment in neurobiology, starting in the 1988 to 1989 academic year. Applicants should have a strong interest in developing an independent research program. Particular areas of interest are related to intercellular communication and include developmental neurobiology, neuroendocrinology, and synaptic physiology. Qualified candidates in other areas of neurobiology will be seriously considered on their merits. Applicants should forward curriculum vitae and a general statement of future research interests to: **Chairman of Neurobiology Search Committee, Department of Biology, Rice University, P.O. Box 1892, Houston, TX 77251.** Applicants should also arrange for three letters of recommendation to be sent to this address. *Rice University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR BIOMATHEMATICAL SCIENCES DEPARTMENT

Theory of molecular structure and function; looking for a scientist with outstanding research potential. Specific experience is desirable, but not essential. Send curriculum vitae to: **Lois Tanallo, Personnel Department, Mount Sinai Medical Center, 19 East 98th Street, New York, NY 10029-6574.** *An Equal Opportunity Employer.*

ASSISTANT PROFESSOR CELLULAR BIOLOGY

The Department of Biology, Rice University, is soliciting applicants for an assistant professorship that will become available for the academic year 1988 to 1989. Of special interest are individuals with demonstrated research ability in the area of cellular signaling mechanisms but exceptional applicants in other areas of cellular biology working at the molecular level will also be considered. Applicants should send a résumé and a brief outline of future research to: **Cell Biology Search Committee, Department of Biology, Rice University, P.O. Box 1892, Houston, TX 77251.** Applicants should also arrange for three letters of reference to be sent to this committee. *Rice University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR MOLECULAR BIOLOGY

The Department of Biochemistry, West Virginia University Medical Center invites applications for a tenure-track position to begin July 1988. Applicant must have postdoctoral experience and demonstrated expertise in molecular biology. Send curriculum vitae, a statement of research interests, and the names and addresses of three references to:

**Biochemistry Search Committee
West Virginia University Medical Center
Morgantown, WV 26506**

Application deadline: 30 November 1987 or until position filled. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR OF ENDOCRINOLOGY: Tenure-track position—doctorate in endocrinology with approaches (such as molecular biology) that interface with cardiovascular or nervous systems. Successful candidate is expected to develop a vigorous, independent research program. Teaching responsibilities include a graduate course in area of expertise and participation in a professional course in the veterinary medical curriculum. Send curriculum vitae, bibliography, and names of three references by 1 December 1987 to: **Dr. Charles D. Barnes, Department of VCAPP, Washington State University, Pullman, WA 99164-6520.** *Washington State University is an Equal Opportunity/Affirmative Action Employer. Protected group members are encouraged to apply and identify their status.*

ASSISTANT RESEARCH PHYSICIST OR ASTRONOMER EUV INSTRUMENTATION AND PHYSICS

The Space Astrophysics Group at the University of California, Berkeley has two positions available for research scientists. The positions are for 2 years beginning November 1987, with a high likelihood of extension. One position is for the development of thin film filters and the second is to supervise the calibration, testing and development of instruments for Extreme Ultraviolet Explorer Satellite. The positions will require theoretical and analytic work in the design and testing of novel instrumentation for use in the EUV.

A Ph.D. in physics or astronomy or related fields with experience in space instrumentation is required. Laboratory experience with x-ray and EUV gratings, spectrometers, detectors, and other testing and calibration techniques is helpful.

Send résumé and three letters of recommendation by 31 October 1987 to:

**Dr. Roger Malina
Space Sciences Laboratory
University of California
Berkeley, CA 94720**

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

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR BIOCHEMISTRY UNIVERSITY OF ILLINOIS, CHICAGO COLLEGE OF MEDICINE

The Department of Biological Chemistry is reopening its search for a tenure-track assistant/associate professor position effective academic year 1988 or later. The candidate is expected to establish an independent research program in the area of biochemistry and biophysics of signal transduction with specific emphasis on molecular mechanisms. The Department is research oriented with a commitment to graduate and biomedical education. Applicants should provide curriculum vitae, the names of three people for references, and a statement of research interests and plans by 1 December 1987. Send applications to: **Dr. James C. Vary, Department of Biological Chemistry, University of Illinois at Chicago, College of Medicine, 1853 West Polk Street, Chicago, IL 60612.** *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT OR ASSOCIATE PROFESSOR OF ANATOMY

The Department of Anatomy, The Ohio State University, is seeking candidates for a tenure-track position at the assistant or associate professor level. The department has strong research programs in cell biology and neuroscience. We are seeking an individual who could contribute to these programs. Candidates must have a Ph.D. or M.D., a strong independent research program in cell, molecular, or developmental biology and at least 2 years of postdoctoral experience. Teaching responsibilities will be in histology/cell biology. Send curriculum vitae and three letters of reference by 1 December 1987 to: **James S. King, Ph.D., Professor and Chairman, Department of Anatomy, 333 West 10th Avenue, Columbus, OH 43210.** *An Equal Opportunity/Affirmative Action Employer.*

ASSOCIATE RESEARCH SCIENTIST MOLECULAR BIOLOGY

Ph.D. in biochemistry, molecular genetics, or a related field required for projects involving molecular basis for radiation-induced cellular transformation, mutagenesis, and gene regulation in mammalian cells. Applicants should have good background in recombinant DNA techniques. Send credentials and recent reprints to: **Dr. Eric J. Hall, Director, Radiological Research Laboratory, Columbia University, 630 West 168th Street, New York, NY 10032.** *An Equal Opportunity/Affirmative Action Employer.*

Tulane University School of Medicine—Seeking **ASSOCIATE PROFESSOR OR PROFESSOR** of Medicine in the Endocrine Section of the Department of Medicine to fill the newly established Tullis-Tulane Alumni Chair of Diabetes. The individual selected must be Internal Medicine Board-Certified and Endocrine/Metabolic-Board Certified. The position involves teaching, patient care, and research responsibilities. Apply to: **C. Y. Bowers, M.D., Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, LA 70112.** Include updated curriculum vitae. *Tulane University is an Affirmative Action/Equal Employment Opportunity Employer.*

CELLULAR IMMUNOLOGIST: Applications are invited for a faculty position at the assistant professor level in the Division of Infectious Diseases of the Department of Medicine at the Indiana University School of Medicine, Indianapolis, Indiana. Applicants should have a Ph.D. (or equivalent) degree and at least 2 years of postdoctoral research. The candidate will join a research group actively investigating membrane structure and antigenic expression in *Chlamydia trachomatis*, and the role of the immune response in infections with this agent. Studies to be undertaken initially include antigenic specificity in the cellular immune response and the role of different effector cells in limiting chlamydial replication. However, candidates will be expected to develop a competitively funded research program of their own design within 3 years of appointment. The position offers an excellent opportunity for an individual interested in performing independent research as part of a multidisciplinary group. Send curriculum vitae and names of three references to: **Robert B. Jones, M.D., Ph.D., Department of Medicine, 545 Barnhill Drive, Indianapolis, IN 46223.**

POSITIONS OPEN

BIOCHEMIST/PHYSIOLOGIST ASSISTANT/ASSOCIATE PROFESSOR

A full-time tenure-track position is available for a basic scientist with an earned doctorate in biochemistry and with courses in physiology to participate in the teaching of these two courses to freshman medical students. Development of a research program is expected. One to 2 years of postdoctoral experience is desirable. Applicants should send curriculum vitae and names/addresses/telephone numbers of three references to: **B. H. Ragatz, Ph.D., Chairman, Search Committee, Fort Wayne Center for Medical Education, Indiana University School of Medicine, 2101 Coliseum Boulevard East, Fort Wayne, IN 46805.** *Indiana University is an Equal Opportunity/Affirmative Action Employer, and Contractor, M/F.*

BIOCHEMIST

The Sanders-Brown Center on Aging at the University of Kentucky invites applications for a tenure-track faculty appointment for a biochemist with research interests related to stroke (e.g., lipid/cholesterol metabolism, ischemia, action of trophic factors, molecular neurobiology, etc.). This position is part of a major multidisciplinary initiative in stroke research at the University. The successful candidate will have an academic appointment in the Department of Biochemistry or another appropriate department within the University. A letter of interest, a recent curriculum vitae, and names of three references should be submitted to: **David R. Wekstein, Ph.D., Associate Director, Sanders-Brown Center on Aging, 101 Sanders-Brown Building, University of Kentucky, Lexington, KY 40536.** *The University of Kentucky is an Equal Opportunity Employer.*

BIOLOGY: ASSISTANT PROFESSOR, beginning fall semester 1988. Candidates must have a Ph.D., and be committed to teaching undergraduates in biochemistry, immunology, microbiology, and related areas. Research, especially involving undergraduates, is encouraged, but the primary responsibility will be teaching. Jacksonville University is an independent, liberal arts institution with an enrollment of 2400. Applicants should send curriculum vitae, official transcripts, and three letters of reference by 20 November 1987 to: **Dr. Kenneth Hoover, Chairman, Search Committee, Department of Biology, Jacksonville University, Jacksonville, FL 32211.** *Jacksonville University is an Affirmative Action/Equal Employment Opportunity Institution.*

BIOLOGY LECTURER, 3 years, non-tenure-track. Ph.D., microbiology; prefer abilities in plant pathology, microbial ecology; perhaps DNA recombinant technology; teaching in microbiology, introductory botany and zoology, specialty courses; research interests in desert biology and arid land plant productivity. Starting 1 January 1987. Salary: \$18,459. Major responsibilities teaching. Review begins 1 November 1987. Send curriculum vitae, transcripts, and three letters to: **A. Michael Powell, Department of Biology, Sul Ross State University, Alpine, TX 79832.** Telephone: 915-837-8112. *An Affirmative Action Equal Opportunity Employer.*

BIostatistician for pharmaceutical research company to provide statistical support for design and analysis of clinical trials of experimental compounds. Prepare statistical analyses and reports for FDA applications.

Must have M.S. in applied statistics plus 1 year of biostatistical experience and demonstrated proficiency in use of general linear hypothesis and non-parametric procedures, SAS and a programming language together with theoretical background in design of experiments involving animals or clinical trials. \$34,000 per year.

Job site/interview, Palo Alto, California. Send this ad and résumé to: **Job No. CR 10052, P.O. Box 9560, Sacramento, CA 95823-0560**, not later than 31 October 1987.

Department of Psychology, University of New Orleans, is continuing its search for a **CHAIRPERSON** to begin fall 1988. The department has 20 faculty members, and Ph.D. programs in applied biopsychology and applied developmental psychology. Applicants with record of superior research accomplishments, a consistent history of extramural funding, and administrative experience should send curriculum vitae and have letters of reference sent to: **Jack McLean, Ph.D., Professor and Chair, Department of Psychology, University of New Orleans, New Orleans, LA 70148.** *The University of New Orleans is an Equal Opportunity Institution.*

POSITIONS OPEN

The Department of Biological Sciences, University of Notre Dame, invites applications for full-time, **TENURE-TRACK POSITIONS, IN CELL BIOLOGY AND MOLECULAR GENETICS** beginning September 1988. The appointments will be made at the assistant professor level although a higher rank, depending on qualifications, will be considered.

CELL BIOLOGY: We solicit applications from individuals who use modern biochemical/molecular techniques to address fundamental problems at the cell level. Particular areas of interest are cellular immunology, membranes, and/or differentiation. However, qualified cell biologists with other research interests will be seriously considered.

MOLECULAR GENETICS: Applicants should have a strong background in modern molecular biology working with either prokaryotic or eukaryotic plant or animal systems. The area of research expertise is open.

The potential ability of the candidates to interact with and complement current faculty interests in cell, molecular, and developmental biology will be important. We seek outstanding individuals who will initiate and maintain vigorous research programs. Responsibilities include the direction of graduate students and formal teaching at both the undergraduate and graduate levels. The undergraduate offering may be a course in the applicant's area of expertise, or may entail participation in an introductory biology sequence.

We offer seed money, modern research space, outstanding animal care facilities, ready access to major equipment such as TEM, SEM, FACS, macromolecular synthesizers, and sequencers, and a competitive salary. Submit curriculum vitae, names of three references, and a statement of research and teaching interests by 15 December 1987 to: **Morton S. Fuchs, Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556.** *Notre Dame is an Affirmative Action/Equal Opportunity Employer.*

CELL AND MOLECULAR BIOLOGY COLUMBIA UNIVERSITY

The Department of Biological Sciences of Columbia University seeks to make **TWO FACULTY APPOINTMENTS**, in the general areas of protein structure and function and developmental biology, effective on or after 1 July 1988. Applicants are invited at either the junior or senior level and are requested to respond before 1 January 1988. Curriculum vitae, including the names of three references, should be sent to: **Faculty Search, 600 Fairchild Center, Columbia University, New York, NY 10027.**

Columbia University is an Equal Opportunity/Affirmative Action Employer.

CHAIRMAN DEPARTMENT OF MUSCULOSKELETAL RESEARCH RESEARCH INSTITUTE OF THE CLEVELAND CLINIC FOUNDATION

A search committee of the Cleveland Clinic Foundation is seeking interested candidates for the position of a Chairman for the Department of Musculoskeletal Research within the Research Institute of the Foundation.

The department enjoys a very large modern facility with new laboratories and has strong institutional support. The department is currently active in research in the areas of biomaterials, biomechanics, rehabilitation and biochemistry. It is expected that the chairman will maintain an active research program and collaborate with related departments at the Cleveland Clinic.

Applicants must be distinguished scientists of national and international reputation with a solid scientific background and demonstrated leadership and administrative skills. Candidates should be in possession of a M.D. or Ph.D. degree.

The Research Institute of The Cleveland Clinic Foundation is comprised of seven departments, with over 70 staff scientists and more than 80 pre- and postdoctoral trainees devoted to basic biomedical research.

The position is immediately available with an attractive salary and excellent benefits.

The Cleveland Clinic Foundation is an Equal Opportunity Employer.

Applicants should send their curriculum vitae to: **Dr. Fawzy G. Estafanous, Chairman, Search Committee for Chairman of Musculoskeletal Research, The Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH 44106.**

POSITIONS OPEN

CHAIR AND PROFESSOR DEPARTMENT OF BOTANY MIAMI UNIVERSITY

Miami University invites nominations of, and applications from, outstanding and innovative scholars to chair the department of 16 faculty. Individuals should possess an exceptional record of leadership and productivity in teaching and research.

Nominations and applications should be sent to:

Dr. Gilbert Gordon
Volwiler Research Professor in
Chemistry and Chair of
the Botany Search Committee
College of Arts and Science
140 Upham Hall
Miami University
Oxford, OH 45056

Materials to be submitted include a letter of intent, résumé, and a list of five references. Initial consideration of credentials will commence 7 December 1987.

Equal Opportunity in Employment and Education

CLINICAL PATHOLOGY CHIEF. The successful candidate for this position will be Chief of a new Interdepartmental Division of Clinical Pathology and Laboratory Medicine, and Director of the Clinical Laboratories of University Hospital. Administrative, service, teaching, and research qualifications are preferred. Primary academic appointment in Department of Pathology with joint appointment in other cognate departments possible. Board certification in clinical pathology necessary. Faculty rank and salary according to qualifications. Closing date for applications: 1 December 1987. Applications including curriculum vitae and names of three references should be sent to:

L. E. Gerschenson, M.D., Professor and Chair
Department of Pathology
University of Colorado Health Sciences Center
4200 East Ninth Avenue, Box B216
Denver, CO 80262

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

NATIONAL SCIENCE FOUNDATION WASHINGTON, D.C. DIVISION OF ADVANCED SCIENTIFIC COMPUTING

NSF's Directorate for Computer and Information Science and Engineering is seeking qualified applicants for the position of Director, Division of Advanced Scientific Computing. The Division is responsible for supporting the operation of national supercomputer research centers, providing supercomputing time, programming support services and training to the nation's research community. In addition, it supports research to improve software for supercomputing and explores alternative computing technologies for advanced applications. Appointment to this Senior Executive Service position may be on a career or a 1- to 3-year limited term basis with a salary range of \$64,700 (ES-1) to \$73,400 (ES-4).

Applicants must have a Ph.D. or equivalent professional experience in a field of science or engineering related to the NSF mission; demonstrated experience in activities relating to the use of supercomputers in the federal government and scientific/engineering research communities; and the ability to achieve organizational objectives through the supervision and management of subordinates.

Applicants should contact **Margaret Cademartori: 202-357-7601** [hearing impaired individuals may call: **TDD 202-357-7492**] to request Announcement EP 87-10 (Career Appointment) or EP-87-20 (Limited Term Appointment) for complete qualification requirements and application procedures. Applications must be received by 30 November 1987.

An Equal Opportunity Employer.

DIRECTOR—RESEARCH AND DEVELOPMENT (M.D. certified AP/CP)—Interested parties should have minimum of 5 years of experience in flow cytometry and cell imaging combined with fine needle aspiration cytopathology and morphologic hematology. The scientist will be responsible to develop his/her own research interest which should ultimately lead to the development of clinical assays of high utility. Applicants must have proven leadership capabilities as demonstrated by previous group management experience. **Box 152, SCIENCE.**

POSITIONS OPEN

DEPARTMENT HEAD AND COMPUTING DIRECTOR BIOMETRICS AND INFORMATION SYSTEMS CENTER (BISC) UNIVERSITY OF NEBRASKA—LINCOLN INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES (IANR)

BISC programs include statistical consulting and research, data processing, teaching, extension, and computer support. The Head is expected to provide leadership in the development of the Center, and to administer the teaching, research, and extension programs. As computing director, the head will administer current IANR computing programs, provide leadership for the future development of these programs, and coordinate these activities with the University-wide computing network.

Requires Ph.D. in statistics or biometry with experience in the application of statistics to agriculture. Must have an aptitude for computing resources development.

Inquiries, letter of application, three letters of reference and résumé are to be submitted by 1 December 1987 (or until suitable candidates apply thereafter) to: **Dr. Robert F. Mumm, Search Chair, 103 Miller Hall, University of Nebraska—Lincoln, Lincoln, NE 68583-0712. Telephone: 402-472-2903.**

Affirmative Action/Equal Opportunity Employer

DEPUTY DIRECTOR MEDICAL RESEARCH SERVICE

The Veterans Administration invites applications for the position of Deputy Director, Medical Research Service. The Medical Research Service currently has a budget of about \$180 million and supports biomedical and behavioral sciences research of over 2500 VA scientists, 75 percent of whom are physicians. It is strongly committed to support of patient-oriented research across the entire spectrum from basic science to clinical application of new knowledge. The Director and Deputy Director are responsible for policy development, peer review management of all investigator-initiated research studies and budget formulation and distribution. Candidates are expected to be nationally recognized scientists, and must have an established record of scholarly achievement. The position is only open to U.S. citizens with the M.D. degree. Salary is \$72,500 and additionally special pay up to \$24,818.

Qualified applicants are invited to send curriculum vitae, bibliography, and the names, addresses, and telephone numbers of three respondents by 30 November 1987 to: **Richard J. Greene, M.D., Ph.D., Assistant Chief Medical Director for Research and Development (15), Veterans Administration, 810 Vermont Avenue, NW, Washington, DC 20420.**

The Veterans Administration is an Equal Opportunity Employer.

DIRECTOR OF CELL BIOLOGY RESEARCH

Faculty position in molecular and cellular pathobiology. The Department of Pathology of Tulane University School of Medicine in New Orleans invites applications for a faculty position to strengthen its program in molecular biology. This is a tenure-track position at the level of assistant professor, associate professor, or full professor. The successful candidate, Ph.D. or M.D. with experience in molecular biology and/or immunology, will continue and expand his/her independent research program. In addition he/she will develop and direct the Central Pathology Research Unit, and collaborate with the pathology faculty. Equipment, technical help, and start-up funds will be provided by the Department. Submit curriculum vitae, representative reprints, and name of three references by 30 November 1987 to: **Michael A. Gerber, M.D. Professor and Chairman, Department of Pathology, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, LA 70112. Tulane Medical Center is an Equal Opportunity/Affirmative Action Employer.**

ENGINEERING AND PUBLIC POLICY joint appointments are available with the Department of Electrical and Computer Engineering and the Department of Mechanical Engineering for candidates who hold a Ph.D. in engineering and wish to teach and pursue technical and policy-related research on topics such as telecommunications policy, policy issues in information technology, industrial policy, flexible manufacturing, robotics, and design. Send résumé, references and sample of writing to: **Professor M. Granger Morgan, Head, Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, PA 15213.**

POSITIONS OPEN

DIRECTOR, DEPARTMENT OF MEDICINE PRESBYTERIAN—UNIVERSITY OF PENNSYLVANIA MEDICAL CENTER

Presbyterian—University of Pennsylvania Medical Center is seeking applicants for the position of Director of its Department of Medicine. Presbyterian is an independent 318-bed facility which has a major teaching and research affiliation with the University of Pennsylvania. A full-time academic position with the University is an option. Duties of the position include administration of the clinical department and teaching program, program development, and physician and housestaff recruitment. Involvement in clinical research activities is preferred. Applicants should submit their curriculum vitae to:

Benjamin M. Quigg, Jr.
Chairman, Board of Trustees
Presbyterian—University of
Pennsylvania Medical Center
39th and Market Streets
Philadelphia, PA 19104

Presbyterian—University of Pennsylvania Medical Center is an Equal Opportunity/Affirmative Action Employer.

ECOLOGY-EVOLUTION

The Department of Biology at the University of Oregon is expanding its program in Ecology and Evolution and seeks a **DIRECTOR** to lead this expansion. The position will be filled and salaried at the associate professor or professor level (tenured) and is open in any area of ecology and evolution. The Director will have significant Departmental resources, including new positions to recruit in this area. The selected candidate will be expected to have a strong, funded current research program, and to fit in with and coordinate the existing and future group. Send curriculum vitae, description of research interests, recent publications, three letters of reference, and names, addresses, and telephone numbers of three additional references to: **Ecology and Evolution Search, Department of Biology, University of Oregon, Eugene, OR 97403.** More information may be obtained by calling: **Dr. R. A. Capaldi, Head, Department of Biology, 503-686-4526**, or by writing: **Chair, Search Committee. Closing date: 15 November 1987. The University of Oregon is an Equal Opportunity/Affirmative Action Employer.**

ECOSYSTEM BIOLOGIST. The Ecosystems Research Center at Cornell University has an opening for a research staff scientist with broad interests. Preference will be given to a terrestrial ecosystem biologist. The successful candidate will be expected to develop a research program in coordination with Cornell faculty and staff and to participate in the environmental policy activities of the Center. The position is open at any level, but at least some postdoctoral experience is desired. The position is open after 15 February 1988. Submit a letter of application, a résumé, and the names, addresses, and telephone numbers of three references by 15 December 1987 to: **R. W. Howarth, Ecosystems Research Center, Corson Hall, Cornell University, Ithaca, NY 14853.**

ENDOCRINOLOGIST—Full-time, clinical, teaching, research position available 1 July 1988 for physician to manage patients with entire spectrum of endocrinological problems including diabetes. Requires minimum of 3 years as endocrine fellow in accredited program; publication record on clinical and basic endocrine disorders; expertise in peptide purification, radioimmunoassay, and peptide physiology; familiarity with molecular biology techniques. Research focus is oncologic endocrinology. Minimum salary \$45,763 per annum. Reply to: **Personnel Service (05B), V.A. Medical Center, 508 Fulton Street, Durham, NC 27705.**
An Equal Opportunity Employer.

The Environmental Defense Fund (EDF), a national nonprofit environmental organization, seeks an **ENVIRONMENTAL SCIENTIST** with expertise in groundwater and soils to work on policy and research issues relating to hazardous waste and waste disposal. Experience and knowledge of Resource Conservation and Recovery Act (RCRA) essential; good communication skills required. One-year position. Salary: \$20,000. Send résumé and writing sample to: **Kathie Stein, EDF, 1616 P Street, N.W., Washington, DC 20036.**

DIAGNOSTICS R&D

We represent an exciting, young company involved in the development and manufacture of novel, non-isotopic, diagnostic test kits for rapid detection of a variety of infectious diseases. Located in a beautiful, coastal New England setting, this publicly-owned company offers a unique opportunity to influence the future direction of the organization. Dynamic growth has created immediate openings.

INFECTIOUS DISEASE MANAGER

Qualified candidates for this senior executive research management position will have a PhD, a solid background in microbiology with 5 or more years of commercial development experience. Familiarity with a variety of immuno-diagnostic assay formats is a real plus. You must be resourceful and have excellent managerial, leadership, and communication skills as you will have responsibility for several products.

IMMUNO-DIAGNOSTIC GROUP LEADERS

These positions require ambitious, results-oriented PhD scientists with very high energy levels and strong interests in developing rapid immunoassays. Candidates should have either commercial experience or post-doctoral training.

STEROID & DRUG ASSAYS

To qualify, you must have developed non-isotopic immunoassays for antibiotics, reproductive steroids or related areas.

BACTERIAL PATHOGEN DETECTION

This position requires a strong background in microbiology, infectious disease, immuno-diagnostics as well as isolation and purification of microbial antigens and enzyme coupling.

Compensation package includes a generous salary, benefits, relocation, and potential equity. If you would like to be considered for these positions, please call (617) 237-3962 or forward your resume to David M. Bacharach, Jr., Management Consultant, 31 Woodfield Road, Wellesley MA 02181. Our client is an equal opportunity employer.

NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES GENETICS PROGRAM BRANCH

Director, Genetics Program Branch

This is a civil service position in the Senior Executive Service (SES) with a salary range from \$64,700 to \$73,400 (Physicians may be eligible for a Physicians' Comparability Allowance up to \$10,000 per year)

The Director, Genetics Program Branch, has overall responsibility for planning, organizing and administering a large (about \$187 million/year) program of grants, contracts, and both individual and institutional fellowship awards, designed to foster and support biomedical research and research training in the fields of genetics and related molecular biology.

Position information and qualifications requirements may be obtained by contacting:

Howard R. Chernoff, Personnel Officer
National Institute of General Medical Sciences
5333 Westbard Avenue
Westwood Building, Room 9A-13
Bethesda, MD 20892
(301) 496-7161

Applications (Application for Federal Employment/SF-171, CV, and Bibliography) must be submitted to above address and postmarked not later than October 31, 1987. U.S. citizenship is required.

An Equal Opportunity Employer

Scientists

Play An Important Role In Drug Discovery To Combat Human Disease.

We're CIBA-GEIGY, a world leader in the pharmaceuticals industry. Our significant commitment to research has been critical to our success. We're currently seeking a Scientist to support our ongoing efforts in drug discovery.

Enzymology (Dept. 434)

Working in the enzymology group, you will study enzyme structure/function with particular emphasis towards the use of molecular biology as a tool. You will become part of a team of professionals dedicated to the state-of-the-art research, with the purpose of exploiting enzyme mechanisms to find therapeutic agents to combat human disease. A BS, preferably an MS, in Biochemistry or a related discipline, with research experience in the field of enzymology is required. Strong analytical skills are necessary; experience in the techniques of cloning, subcloning, restriction site analysis, fragment isolation and mammalian cell culture are desirable.

Cell Metabolism (Dept. 436)

You will study culture cells or tissues under defined conditions and analyze the effects of modulators on the metabolism of cells. Using both classical and modern techniques, you will also purify metabolites and cellular components, and assay enzyme activities in biological fluids, as well as compile and analyze data. An MS in Biology and 1-3 years' experience in analytical biochemistry, including a background in purification techniques and tissue cultures, are required.

In return for your expertise, we offer competitive salaries, excellent benefits and an environment that promotes both personal and professional growth. Please forward your resume, with salary history and requirements, indicating appropriate department number, to: Ms. Virginia G. Jordan, The Pharmaceuticals Division, CIBA-GEIGY Corporation, 556 Morris Avenue, Summit, NJ 07901. We are an equal opportunity employer m/f/h/v.

Science Serving Mankind

CIBA-GEIGY

POSITIONS OPEN

ENTOMOLOGIST ORNAMENTAL HORTICULTURE

The Department of Entomology, University of California, Davis, announces a tenure-track faculty position in applied entomology (11 months plus 1 month of paid vacation) at the assistant or associate professor/entomologist level. Ph.D. in entomology or related discipline required. Appointee must become involved in undergraduate and graduate instruction and advising in entomology, supervise graduate students, and participate in the Graduate Program in Plant Protection and Pest Management. Appointee will be expected to develop a mission-oriented research program directed toward management of arthropod pests of ornamental plants. Fundamental research is also encouraged. Applicants should submit letter of application, curriculum vitae, summary of teaching and research goals, list and reprints of publications, and names and addresses of three referees to: **Dr. L. E. Ehler, Chair of Search Committee, Department of Entomology, University of California, Davis, CA 95616**, no later than 15 December 1987.

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

ENVIRONMENTAL BIOPHYSICIST. The Department of Soil Science, University of Wisconsin-Madison invites applications for a position at the assistant, associate, or full professor level. Candidates should have a demonstrated ability to integrate quantitative descriptions of the physical/chemical processes in the soil and atmosphere with biological processes in developing unified plant-environment models, and to incorporate these concepts into research and instructional programs. Some background in micrometeorology is required. Send curriculum vitae and a letter describing research and teaching experience and interests, and have three letters of reference sent by 14 December 1987 to: **Dr. R. B. Corey, Department of Soil Science, 1525 Observatory Drive, University of Wisconsin, Madison, WI 53706; Telephone: 608-262-0380.** *An Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION METEOROLOGY, tenure-track, assistant or associate professor, beginning fall 1988. All teaching/research will be considered, but expertise in climate dynamics and/or remote sensing, with applications to operational forecasting is preferred. Minimum qualifications: Ph.D. in atmospheric science. Send résumé, transcripts, three letters of recommendation, and statements of teaching philosophy and research plans by 15 January 1988 to: **Chair, Meteorology Department, San Jose State University, San Jose, CA 95192-0104.**

FACULTY POSITIONS THE EYE RESEARCH INSTITUTE OF RETINA FOUNDATION

The Eye Research Institute is seeking a new faculty member at the assistant scientist level with interests in the mechanisms governing proliferation and migration of retinal pigment epithelium, elaboration of extracellular matrix, or degeneration of the vitreoretinal interface which could be applied to the study of proliferative vitreoretinopathy. Research experience should include cell biology, physiology, or biochemistry. The Institute encourages collaboration with both basic scientists and clinician researchers. Initial funding is available for salary and research costs. Curriculum vitae and letter of interest should be forwarded to:

**Sheldon Buzney, M.D.
Search Committee
Eye Research Institute
20 Staniford Street
Boston, MA 02114**

The Eye Research Institute is seeking an additional assistant scientist level Ph.D. cell biologist-microbiologist to join active eye research group. Specific areas of interest will involve corneal inflammation, ulceration and wound healing. Experience in cell culture, immunofluorescence and monoclonal antibody techniques required. Salary commensurate with experience. Appointment at Harvard Medical School will be sought. Send curriculum vitae and reprints to:

**Kenneth Kenyon, M.D.
Search Committee
Eye Research Institute
20 Staniford Street
Boston, MA 02114**

Equal Opportunity/Affirmative Action Employer M/F/V/H and others.

POSITIONS OPEN

ENVIRONMENTAL CHEMIST. A Ph.D. chemist with a strong background in chemical ecology or biogeochemistry to join an interdisciplinary research team studying the ecology of streams, rivers, and watersheds. The applicant's research interest should emphasize natural organic chemicals in ecosystems and preferably processes affecting the translocation and transformation of organic compounds in surface water, groundwaters, and soils. Candidates should have broad research interests and strengths in theoretical and analytical aspects of both organic and inorganic environmental chemistry. The full-time research position provides 100% support for 2 years. The scientist will be expected to develop a continuing research program, with substantial extramural funding. Send résumé, transcripts, statement of research interests, representative publications, and names of three references by 1 December 1987 to: **Search Committee, Stroud Water Research Center, Academy of Natural Sciences, R.D. #1, Box 512, Avondale, PA 19311.** *The Academy is an Equal Opportunity Affirmative Action Employer.*

ENVIRONMENTAL SCIENTIST

Texasgulf Chemicals Company, Aurora, North Carolina, has an immediate opening for an environmental scientist.

The ideal candidate will have a M.S. degree in a biological science, and have an interest in dealing with wetlands mitigation projects, reclamation revegetation studies, and general environmental studies. Primary responsibilities will include obtaining appropriate regulatory permits both state and federal for all the company's wetlands and reclamation activities.

Excellent salary and benefit package. If interested, send résumé to:

**Mike Gwynn
Texasgulf
P.O. Box 48
Aurora, NC 27806**

Equal Opportunity Employer M/F

FACULTY POSITION—The School of Medicine of East Carolina University invites applications for the position of Professor in the Department of Pharmacology. Applicants must have demonstrated excellence in alcohol research, particularly in neurotransmitter and electrophysiologic and/or electropharmacologic involvement. Successful applicants must have current grant support and be a nationally recognized leader in the field. Please send curriculum vitae, a brief description of research plans, and three letters of recommendation by 15 December 1987 to: **Dr. Wallace R. Woole, Chairman, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27858.** *An Equal Opportunity/Affirmative Action Employer.*

PENN STATE FACULTY POSITIONS BIOMOLECULAR STRUCTURE AND FUNCTION

Applications are invited for two tenure-track positions at any level as part of an expanded research concentration in the area of biomolecular structure and function. Candidates are being sought in each of the following areas: (1) protein crystal structure determination and (2) theoretical/computational studies of biological macromolecules. The University has made a major commitment in this area including laboratory space and equipment necessary for the individual research programs such as x-ray diffractometer including area detector and computer graphics system. The positions will be available in either the Department of Chemistry, the Department of Molecular and Cell Biology, or as joint appointments in these departments. Joint affiliation with the newly formed Penn State Biotechnology Institute is also a possibility. Applicants should have the background, motivation, and ability to develop vigorous, productive research programs and to be excellent teachers. Reply to: **Search Committee for Biomolecular Structure and Function, Department of Chemistry, 152 Davey Laboratory, Box 12, University Park, PA 16802.** Please indicate the area for which you are applying. Include a detailed curriculum vitae, statement of research interests, and up to three recent representative reprints. In addition, the applicant should ask three individuals to send letters of reference directly to us. Review of applications will commence in November 1987. Deadline for receipt of applications is 15 January 1988 or until suitable candidates are identified. *Equal Opportunity/Affirmative Action Employer.*

ORGANIC CHEMIST

Celgene Corporation, a leader in the application of biotechnology and chemical technology to the production of fine and specialty chemicals is currently seeking an innovative organic chemist with proven experience in the identification and development of routes to a variety of fine and specialty chemicals.

The successful candidate will have a PhD in organic chemistry, outstanding credentials, and at least five years experience in the synthesis of products and/or intermediates for the pharmaceutical, agrochemical or flavors and fragrances industries. In addition, knowledge of biological chemistry would be an asset.

Candidates should send a detailed resume to:

**Department SB-C
Celgene Corporation
7 Powder Horn Drive
Warren, NJ 07060**



University of California, Davis CELLULAR NEUROBIOLOGY TRAINING PROGRAM

Funding is available to support qualified individuals for training in cellular neurobiology at both postdoctoral and predoctoral levels. Successful applicants will join a young, vigorous neurobiology group that is highly interactive and in which collaborations are common. We particularly encourage participation of trainees in projects involving the expertise of two or more training faculty:

Hilary Anderson, Development of insect nervous systems
Richard Carlsen, Cell biology of axonal and muscle regeneration
Leo Chalupa, Prenatal development of mammalian visual system
Carol Erickson, Morphogenesis and differentiation of neural crest
Mark McNamee, Molecular biology of ACh receptors
Brian Mulloney, Generation and modulation of motor patterns
Pamela Pappone, Biophysics of ion channels
Robert Sobey, Retinal physiology
Barry Wilson, Cholinesterases and neurotoxicology
Martin Wilson, Cell biology of the retina

For more information, contact Dr. Brian Mulloney, Director, Cellular Neurobiology Training Program, Department of Zoology, University of California, Davis, CA 95616, or phone (916) 752-7468.

UCD is an Equal Opportunity / Affirmative Action Institution.

Dean of Natural Sciences and Mathematics University of Southern California

The University of Southern California is an urban, private research university with a student body of over 30,000. USC has in recent years experienced sharp growth both in size and in the excellence of its programs. These improvements have been especially conspicuous in the College of Letters, Arts and Sciences. We seek a Dean of Natural Sciences and Mathematics with the vision and leadership needed to facilitate their continuance and acceleration.

The Division of Natural Sciences and Mathematics of the College has seven major core departments. It also includes interdisciplinary organizations concerned with Neurosciences, Marine and Coastal Studies, Earth Sciences, and Lasers, linked not only with the Social Sciences but also with the Schools of Medicine and Engineering. Its Dean (along with the Deans of Humanities and of Social Sciences) reports to the Dean of the College of Letters, Arts, and Sciences. The Dean of Natural Sciences and Mathematics oversees academic programs, facilitates interdisciplinary and multidisciplinary endeavors, is responsible for a budget of about \$21,000,000, and hires faculty and some research staff.

QUALIFICATIONS: The Dean will be a distinguished researcher and teacher in one of the core Natural Science disciplines, and will become a tenured full professor of the appropriate department. The five-year renewable term begins either July 1, or September 1, 1988.

Send nominations (with a CV if possible) or applications (with CV and names, addresses, and telephone numbers of three to five references) to:

Dr. Joan Nay, Assistant to the Dean
College of Letters, Arts, and Sciences
University of Southern California
Los Angeles, CA 90089-4012

USC is an equal-opportunity/affirmative action employer

DEADLINE: January 3, 1988



The Department of Biochemistry and Molecular Biology of Merck Sharp & Dohme Research Laboratories currently has two senior level positions available to join a group studying protein growth factors. Qualified candidates should have Ph.D. in biochemistry or a related area plus two or more years of postdoctoral experience. Candidates will be considered who have extensive experience in one or more of the following areas:

PROTEIN BIOCHEMIST

Experience in protein purification and characterization, including protein sequencing, to identify, purify and characterize novel growth factors, genetically altered forms of known factors or growth factor receptors.

CELL BIOLOGIST

Experience in the characterization of cells as sources and targets for specific growth factors, receptor binding, signal transduction and interactions among protein growth factors at the cellular level.

MOLECULAR BIOLOGIST

Experience in cloning, expression and/or site-directed mutagenesis to study the genetic structure, function and control of novel and previously recognized protein growth factors.

Merck Sharp & Dohme Research Laboratories are located in Rahway, New Jersey approximately 25 miles from New York City. Our salaries, benefits, and growth potential are excellent.

Interested candidates should submit their resume with the names of three references and salary requirements to: **Ms. Jacqueline A. Eiermann, Merck & Co., Inc., P.O. Box 2000, R80M-TL1, Rahway, New Jersey 07065.**

Equal Opportunity Employer



MERCK & CO., INC.

NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE MOLECULAR NEUROPHARMACOLOGY

Applications are invited from scientists having a Ph.D. and/or M.D. degree and postdoctoral experience to lead a National Institute of Health Intramural research section studying pharmaceutical approaches to the modification of genetic expression in the mammalian central nervous system. Experience in relevant aspects of molecular biology, cell biology, protein chemistry and neuropharmacology is desirable. Position may be at the senior staff fellow (tenure tract) or General Schedule (tenured) level, with a salary of \$17,000 to \$47,788 annum, depending on qualifications. Further position information and qualifications requirements may be obtained by calling Ms. Chris Steyer on (301) 496-6334.

Please direct written inquiries to Chief, ETB, NIH, NINCDS, 10/5C103, 9000 Rockville Pike, Bethesda, MD 20892 or telephone 301-496-7993.

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

HEAD OF EXPERIMENTAL PATHOLOGY

H

offmann-La Roche, an established leader in the pharmaceutical and health care/medical research industries, has an attractive opportunity for an experienced Pathologist to join our Department of Toxicology and Pathology.

As Head of Experimental Pathology, you will provide leadership in the investigation of pathogenic mechanisms occurring in toxicological studies with drugs. There will also be a significant opportunity for multidisciplinary collaboration in pharmaceutical discovery and development.

You must possess a D.V.M., M.D. or equivalent training with board certification in Pathology, a proven record of accomplishments as evidenced by a significant publication record, and experience in laboratory animal pathology.

We offer an excellent compensation and benefits package, an attractive relocation policy, all the resources of a research-intensive company, and a convenient suburban location 12 miles from New York City. For confidential consideration, please send your resume to: **Eleanor M. Malone, Professional Employment and Staffing Specialist, Dept. EP, Hoffmann-La Roche Inc., Nutley, New Jersey 07110.** We are an equal opportunity employer.



Hoffmann-La Roche

Working Today For A Healthier Tomorrow.

POSITIONS OPEN

FACULTY POSITION

The Microbiology Department of The University of Texas at Austin has an opening for an assistant professor. Appointment at a higher rank will be considered for individuals with an outstanding record of independent research. We wish to add additional faculty interested in the molecular biology and biochemistry of yeasts, or in the molecular mechanisms of pathogenesis. However, highly qualified individuals with interests in molecular biology outside of these areas also will be considered. This is an outstanding opportunity to join an excellent Department during a period of expansion. Please submit curriculum vitae, including names and addresses of three references and a summary of research interests to: **Microbiology Department Search Committee, The University of Texas at Austin, Austin, TX 78712-1095. The University of Texas is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITIONS IN CELLULAR AND MOLECULAR BIOLOGY

Applications are invited for a tenure-track position in the Department of Cell Biology and Anatomy at Northwestern University Medical School. This position is at the assistant or associate professor level. Applicants must have a Ph.D., M.D., or equivalent degree, with research experience in cellular and/or molecular biology. Applicants will be screened with respect to their ability to carry on vigorous research programs, and to participate in the teaching of graduate and medical students. Send complete curriculum vitae, brief description of research interests, and at least three letters of recommendation by 1 December 1987, to: **Dr. Robert D. Goldman, Department of Cell Biology and Anatomy, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611. Northwestern University is an Equal Opportunity/Affirmative Action Employer, and invites applications from all qualified individuals.**

FIRE CHEMISTRY RESEARCH LEADER: Responsible for research in describing and quantifying combustion processes and resulting smoke emissions under variable forest and rangeland fire conditions. A Ph.D. is highly desired, and at least three additional years of experience is required. This research is stationed at the Intermountain Fire Sciences Laboratory in Missoula, Montana. It addresses problems of national and international importance. For information about how to apply, write: **U.S. Forest Service, Personnel Management, 324 25th Street, Ogden, UT 84401 or telephone: 801-625-5300. Equal Opportunity Employer.**

IMMUNOLOGIST—EXPERIMENTAL PATHOLOGIST

A tenure-track position exists at the assistant professor or associate professor level for an immunologist interested in investigating immune defense mechanisms. The successful candidate will be provided the opportunity to develop his/her own independent research program and to interact with other researchers engaged in studying immunity to infectious agents, tumors, and allografts.

Trudeau Institute is a free-standing, not-for-profit pure research institute located on the shore of Saranac Lake, 10 miles from Lake Placid, New York.

Send résumé and the names of three references to:

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

Wanted for a southern Florida newly formed hospital-based clinical research program oriented towards obesity, diabetes mellitus, and hypertension, a full-time independent **INVESTIGATOR** with a Ph.D. in applied physiology or nutrition. Expertise in body composition and metabolism highly desirable. Applicants should have had at least 3 years of postdoctoral training with evidence of productivity. **Box 151, SCIENCE.**

LABORATORY MANAGER

Avian toxicology contract laboratory is seeking an experienced professional to manage a rapidly growing testing facility. Successful candidate should have a broad background in animal sciences, animal toxicology, or environmental testing. Must have a Ph.D. or M.S. with experience. Send résumé and salary requirements to:

**Wildlife International Ltd.
305 Commerce Drive
Easton, MD 21601**

POSITIONS OPEN

LIMNOLOGIST—Environmental and Chemical Sciences (ECS), Inc. is seeking an M.S. or Ph.D. limnologist with expertise in primary productivity and phytoplankton ecology. Strong written and oral communication skills are essential. A background in applied statistics and computer usage is desirable. Closing date 13 November 1987. Send résumé and the names, addresses, and telephone numbers of three references to **Dr. William Starkel, ECS, Inc., P.O. Box 1393, Aiken, SC 29802.**

MACROMOLECULAR CRYSTALLOGRAPHY UNIVERSITY OF CALIFORNIA, BERKELEY

The Department of Chemistry and the Department of Biophysics invite applications for **TWO FACULTY POSITIONS** (pending final budgetary approval), one at the associate professor or professor level and the other at the assistant professor level. The appointments are to be effective within the next 2 years. Applicants should have a Ph.D. degree or equivalent and relevant prior experience in x-ray crystallography of biological macromolecules. Faculty duties will include research in structural molecular biology, supervision of graduate student and postdoctoral research, and teaching at the undergraduate or graduate levels. The successful candidate will be part of an expanding, interdisciplinary structural biology group at Berkeley that also includes members of the departments of molecular biology and biochemistry. Applications should include: a letter specifying qualifications and current research interests, curriculum vitae, a list of publications, representative reprints, and the names and addresses of persons whom we may contact for letters of recommendation. Applications will be processed as soon as they are received, but should arrive no later than 15 February 1988. They should be addressed to: **Professor Robert Glaeser, Biophysics Department, Donner Laboratory, University of California, Berkeley, CA 94720.**

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

MAGNETOENCEPHALOGRAPHY ENGINEER/PHYSICIST

Albuquerque Veterans Administration Medical Center, University of New Mexico and Los Alamos National Laboratories is seeking an engineer or physicist to become Technical Project Leader of the new Veterans Administration/Los Alamos National Laboratories/University of New Mexico Clinical MEG Program. A magnetically shielded room with seven sensor SQUID will be at both the VAMC and LANL. Applicant must have M.S. or Ph.D., with 3 years of experience and research productivity in medical engineering, bioengineering, or medical physics. Applicant should have background in medical imaging, signal processing, and data acquisition systems; must also be interested in working with a team to study the medical possibilities of the MEG. Salary dependent upon applicant's experience. University of New Mexico faculty appointment possible. Send résumé and name of three references to: **Larry E. Davis, M.D., Chief, Neurology Service, Veterans Administration Medical Center, 2100 Ridgecrest Drive SE, Albuquerque, NM 87108. An Affirmative Action/Equal Opportunity Employer.**

MEDICAL ONCOLOGIST/IMMUNOLOGIST: Full-time position for a Clinical Investigator in the Department of Medicine, University of Tennessee Medical Center at Knoxville. Major responsibilities include active participation in patient care, teaching, and research. NIH and ACS immunology basic and clinical research program concerning multiple myeloma, amyloidosis, and related diseases. Internal medicine and state Board certification or eligibility desired. Position requires a minimum of 3 to 5 years of postdoctoral clinical and research experience, demonstrated leadership capabilities, and ability to conduct independent research involving cellular/molecular immunology. Position available immediately. Salary, including fringe benefits, and academic rank commensurate with education and experience. Letter of application, curriculum vitae, and names and addresses of three reference sources should be sent to: **Alfred D. Beasley, M.D., Chairman, Department of Medicine, University of Tennessee Medical Center at Knoxville, 1924 Alcoa Highway, Knoxville, TN 37920. Equal Employment Opportunity/Affirmative Action/Title IX/Section 504 Employer.**

POSITIONS OPEN

MICROBIOLOGIST

The Department of Microbiology, Medical College of Ohio, seeks candidates for a tenure-track position. The successful applicant will be expected to develop an independent, competitively funded research program focusing on the genetics or molecular biology of prokaryotes, and to participate in the department's graduate/professional teaching programs. Applicants should have a doctoral degree, and at least 2 years of postdoctoral experience. Send curriculum vitae, research interests, and three references to:

**Dr. Earl H. Freimer, Chairman
Department of Microbiology
Medical College of Ohio
Toledo, OH 43699**

The Medical College of Ohio is an EEO/Affirmative Action M/F Employer and Educator.

MOLECULAR BIOLOGIST VIROLOGIST

Florida Atlantic University invites applications for a tenure-track faculty position at the assistant professor level starting in August 1988. A **MOLECULAR GENETICIST/MOLECULAR BIOLOGIST**, with expertise in recombinant DNA technology, or a **VIROLOGIST** are sought to establish graduate research and teaching programs in respective subject areas. Responsibilities also include undergraduate teaching. Forward curriculum vitae, reprints, transcripts, statement of research goals, and three letters of recommendation to: **Dr. G. Alex Marsh, Chairman, Department of Biological Sciences, Florida Atlantic University, Boca Raton, FL 33431.** Applications should be received by 15 December 1987. *FAU is an Affirmative Action/Equal Opportunity Institution.*

MOLECULARBIOLOGISTS/PATHOLOGISTS.

Junior and Senior tenure-track positions available for research-oriented individuals. Successful applicants must possess the M.D. or Ph.D. degrees, and will be expected to establish independent research programs meriting extramural support. Teaching responsibilities are modest, and involve both medical and graduate education. Junior candidates must have at least 2 years of postdoctoral research experience, with evidence of outstanding research potential in molecular or cellular biology. Senior candidates must have an established record of research excellence with extramural funding support. Excellent laboratory facilities, together with necessary start-up funds, are available. Individuals should submit curriculum vitae, a statement of professional goals, and the names of three references to: **Dr. William F. Willoughby, Chairman, Department of Pathology, University of South Carolina, School of Medicine, Columbia, SC 29208. The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.**

NEUROBIOLOGY RESEARCH SYNAPTIC REGULATION AND ION CHANNELS MECHANISMS OF EPILEPSY

Two positions available at either **POSTDOCTORAL FELLOW** or **JUNIOR FACULTY** level for research in mechanisms of physiological or pharmacological regulation of inhibitory and excitatory synaptic function in mammalian central neurons, especially in relation to mechanisms underlying epileptic events. We are seeking individuals with a Ph.D. or M.D. and experience in intracellular recording, voltage clamping, patch clamping, or neuropharmacology to join a multidisciplinary group which uses computer-assisted electrophysiological techniques to study CNS neurons in tissue culture. Areas of current interest include: (i) the regulation of GABA-mediated inhibition from the level of channels to synaptic events (including the effects of neuropeptides and steroid hormones on inhibition), (ii) the organization and control of excitatory transmission in mammalian cortex, and (iii) an analysis of synapse formation and local network interactions among identified mammalian central neurons in culture. Send curriculum vitae, names of three references, and a statement of interests to: **Dr. Marc Dichter, Department of Neurology, Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104. The University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer.**

NATIONAL CANCER INSTITUTE
National Institutes of Health, Public Health Service
CANCER PREVENTION FELLOWSHIP PROGRAM, CPFP

The DIVISION OF CANCER PREVENTION AND CONTROL is accepting applications for CPFP. The primary purpose of this program is to attract individuals from a multiplicity of health science disciplines into the field of cancer prevention and control research. The program provides for: participation in DCPC Cancer Control Academic Program (a formal four-month course in cancer prevention and control); 20 months at NCI working directly with individual preceptors on ongoing cancer prevention and control projects and the NCI Year 2000 Goals; one year at a DCPC-approved cancer control program or State Health Department (may be optional). Funding permitting, up to 10 Fellows will be accepted for up to three years of training, beginning on August 28, 1988.

APPLICANTS MUST (BY THE DEADLINE): (1) Possess an M.D. or D.O. degree from an accredited medical school in the U.S., Puerto Rico, or Canada. (Foreign medical graduates—American citizens or Resident Aliens who have received their medical degree from a medical school outside the U.S., Puerto Rico and Canada and that is listed in the World Health Organization's *World Directory of Medical Schools*—must be certified by the Educational Commission for Foreign Medical Graduates [ECFMG]. Current certification, ECFMG or Foreign Medical Graduate Examination in the Medical Sciences [FMGEMS], is required for all foreign medical graduates.) Must have satisfactorily completed an internship (PGI) approved by the Council on Medical Education. (However, application will be accepted when internship is an integral part of medical school curriculum or incorporated as part of residency training.) —OR— Possess other accredited U.S., Puerto Rican, or Canadian doctoral degree (Ph.D., Dr. P.H., D.D.S., etc.) in a discipline related to cancer prevention and control research; biomedical, medical, nutritional, public health or behavioral sciences. (Foreign doctoral graduates must provide documented evidence that the foreign education is comparable to doctoral education received in accredited institutions noted above.); (2) Possess U.S. citizenship or be a resident alien eligible for citizenship within four years; (3) Complete and return the application packet by the deadline (including arranging for official academic transcripts and four, current, original letters of reference to be sent directly by the academic institutions and referees to the CPFP Coordinator).

For questions concerning the program's scientific or administrative aspects, please call Dr. David Poskanzer or Ms. Nancy Garner, respectively. Application packets may be obtained by sending a *POSTCARD* with your name and home address to **CPFP Coordinator, NIH/NCI/DCPC/CCAB, Blair Building, Room 4A05, 9000 Rockville Pike, Bethesda, MD 20892-4200**, or call (301) 427-8788. Please do not send any material until after you have read the instructions in the application packet.

DEADLINE FOR RECEIPT OF APPLICATIONS: JANUARY 15, 1988
(The NIH is an Equal Opportunity Employer)

RESEARCH ASSOCIATE
East-West Center

The East-West Center is a public, nonprofit educational institution with an international board of governors. Some 2,000 fellows, graduate students, and professionals in business and government each year work with the Center's international staff in cooperative study, training, and research. The Center was established in 1960 by the United States Congress, which provides principal funding. Support also comes from more than 20 Asian and Pacific governments, as well as private agencies and corporations.

Applications are being accepted for a position as a Research Associate in the Center's Environment and Policy Institute (EAPI), the chief concern of which is the maintenance of environmental quality and the productivity of resource endowments in light of regional population growth and economic development. The position is a full-time limited appointment up to three years with the possibility of renewal. The Research Associate will conduct collaborative, interdisciplinary, multinational research and other activities pertaining to the science-based aspects of renewable resources management and use for the development of land-use policy in such fields as forestry, agriculture, and biological diversity. Responsibilities include organizing research-related conferences and workshops; promoting interaction among scientists, government officials, representatives of donor and technical assistance agencies, and managers of resource development programs; seeking sources of external financial support; advising EWC degree-student grantees; and maintaining liaison with research activities at centers in the Asia-Pacific region.

REQUIRED QUALIFICATIONS: Ph.D. in a natural science concerned with land utilization and management and at least five years of appropriate professional or research post-Ph.D. experience; or M.S. or M.F. degree and at least ten years of relevant professional and research post-degree experience. A strong publications record and working proficiency in the English language. Experience in the Asia-Pacific region with first-hand knowledge of at least one country in the region as shown by publications and institutional affiliations or other evidence.

PREFERRED QUALIFICATIONS: Professional and research experience in developing countries. Experience in collaborative projects that involved individuals from the United States and different Asian and Pacific countries.

SALARY RANGE: \$32,567 to \$50,338 per year, depending on qualifications, plus cost-of-living allowance currently at 22.5% (subject to change). An attractive benefits package is also offered.

Submit resume with cover letter which includes institute and title of position you are applying for, a narrative description detailing relevance of your qualifications and background to the responsibilities of the position, and names and addresses of three professional references. Applications must be postmarked by **November 30, 1987**. Send to: **Karen Lam, Personnel Office, Dept. 19, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96848.**

An Equal Employment Opportunity/Affirmative Action Employer

Research Associate

A non-profit, educational and research institution has non-tenure-track position available at the Research Associate level in the Division of Infectious Diseases. The candidate is expected to develop a research program in the area of human cellular immune responses to dengue virus infections, requiring expertise in virologic techniques, for example, preparation of dengue viral antigens, development of suitable MHC-defined target cells infected with virus, etc., and immunologic techniques such as specific assays for T cell proliferation, antibody development, MHC-restricted virus-specific cytotoxic T lymphocyte activity.

The individual is expected to generate extramural funds to support research activities. Minimum requirements include PhD or MD degree and at least 2 years of relevant post-doctoral experience, demonstrated ability to produce specific assays for defining humoral and cellular immune responses to virus infections including the development of MHC-defined virus-infected target cells to detect specific cytotoxic T lymphocytes, and the methodology for generating dengue specific T cell responses in vitro. Annual salary is \$31,199 for a 5 day/40 hr. week (9:00 A.M. - 5:00 P.M., Monday-Friday). Qualified applicants apply by resume only to: Massachusetts Department of Employment Security, C.F. Hurley Building, Boston MA 02144, Case #71050. An Equal Opportunity/Affirmative Action Employer.

NEW ENGLAND BIOLABS

A small, informal biotechnology company on the ocean 20 miles north of Boston that specializes in the production and cloning of restriction endonucleases has openings for:

MOLECULAR PARASITOLOGIST (POST DOCTORAL POSITION) - an individual with experience in molecular biology and/or immunology. Projects will involve the cloning and characterization of filarial antigens.

MICROBIOLOGIST/FERMENTATION SPECIALIST - an individual with prior experience in growth of a variety of microorganisms in 25 to 100 liter fermentations. Cell disruption and protein purification experience would be useful. Good mechanical skills and a B.S. in microbiology or related field required.

Candidates please submit curriculum vitae with three references to:

New England Biolabs, Inc.
Human Resources
32 Tozer Road
Beverly, MA 01915-5510



POSITIONS OPEN

NMR SCIENTIST/SOFTWARE SPECIALIST: Diasonics, a leader in NMR medical imaging seeks a Ph.D. scientist to join its ongoing spectroscopy program. In addition to a good knowledge of NMR physics, and familiarity with both imaging and spectroscopy, the position requires several years of experience writing software for the control of spectrometer hardware functions and the manipulation and display of NMR data. The successful candidate will participate in applications work as well as instrument development, in the setting of a small research group. Please mail résumé in confidence to: **Byron Clendenen, Diasonics MRI, 533 Cabot Road, South San Francisco, CA 94080. An Equal Opportunity Employer.**

The New York State Psychiatric Institute's Center for Neurobiology and Behavior, affiliated with Columbia University, seeks a **NEUROBIOLOGY POSTDOCTORAL RESEARCH ASSOCIATE** to study central synapses between identified classes of mammalian neurons, addressing questions related to learning, plasticity, and psychosis. Familiarity with dissociated cell culture, neurophysiology, and immunohistochemistry, desirable. Available 1 January 1988; salary 30K range. Résumés and inquiries to: **Personnel Office, c/o Dr. Stephen Rayport, Center for Neurobiology and Behavior, Box 62, 722 West 168th Street, New York, NY 10032. An Affirmative Action/Equal Opportunity Employer.**

NEUROMAGNETISM LABORATORY

Two positions are available for **RESEARCHERS** with strong technical background to help operate newly established magnetoencephalography laboratory dedicated to the exploration of sensorimotor and cognition brain function. The lab, in addition to EEG instrumentation, includes a seven-channel SQUID system supported by an HP processor (UNIX) and a magnetically shielded room.

Experience in signal processing instrumentation and computer science are highly desirable. Salary range \$20,000 to \$40,000 depending on qualifications. Send curriculum vitae, explicit description of skills and work experience, sample publications (if available), and names of three references no later than 1 November 1987 to: **Andrew C. Papanicolaou, Ph.D., Division of Neurosurgery, E-17, The University of Texas Medical Branch, Galveston, TX 77550.**

Ph.D. Roger Williams General Hospital seeks a researcher with a Ph.D. in molecular or cellular biology. The candidate must qualify for a position on the faculty of Brown University as Assistant Professor of Medicine (research). He or she must have skills and interest in the areas of tumor biology that will complement an active anticancer drug development program. Experience with molecular biology and the molecular basis for drug action will be helpful. It is expected that 100% of the successful candidate's time will be devoted to research. *Roger Williams General Hospital is an Equal Employment Opportunity/Affirmative Action Employer.* Please send curriculum vitae by 30 November 1987 to: **Paul Calabresi, M.D., Chairman, Search Committee, Roger Williams General Hospital, 825 Chalkstone Avenue, Providence, RI 02908.**

U.S. DEPARTMENT OF ENERGY (DOE) PHYSICIST/CHEMIST

The DOE's Material Sciences Division, Office of Basic Energy Sciences, is seeking a physicist (GS-1310-15) or chemist (GS-1320-15) who possesses a high degree of knowledge of basic research in materials, physics and chemistry to manage and evaluate technical programs. Responsibilities deal with the development and operation of major facilities such as synchrotron radiation and neutron sources with considerable time devoted to proposal and ongoing project evaluations. The program area involves solid state physics and materials chemistry in neutron scattering, synchrotron radiation, new materials, preparation, experimental studies and theoretical modeling of properties of solids, engineering physics, high temperature and surface properties of solids. Contacts are with universities, national/international laboratories and other federal agencies. U.S. citizenship required. Salary range for GS-15 is from \$53,830 to \$69,976. Duty station: Germantown, Maryland. Send SF-171, application for federal employment, or direct inquiries to: **Mary A. Smith, Office of Personnel Operations, GTN, MA-205.4, U.S. Department of Energy, Washington, DC 20545; Telephone: 301-353-5591.**

The Department of Energy is an Equal Opportunity Employer.

POSITIONS OPEN

PHYSICS AND ASTRONOMY: Tenure-track position available at the **ASSISTANT PROFESSOR** level beginning 15 August 1988. Applicants must have a Ph.D., be committed to excellence in teaching undergraduate physics courses, and be prepared to develop an active research program in which students can be involved. Current areas of research in the department are astrophysics, biophysics, nuclear physics, optical physics, physics pedagogy, radiological physics, and surface physics. Same start-up funds for research are available. Review of completed applications will begin 8 January 1988. Position will remain open until filled. Send curriculum vitae (including lists of publications and external grants awarded), a statement of research interests, and names of at least three references to: **Office of Academic Affairs, Physics and Astronomy Search, Western Kentucky University, Bowling Green, KY 42101. An Affirmative Action/Equal Opportunity Employer.**

PHYSIOLOGIST/BIOCHEMIST: Postdoctoral position with large established laboratory interested in the application of NMR spectroscopy to cardiac bioenergetics. Candidates should be skilled in cardiac physiology and have experience working with several in vivo models of cardiac performance. NMR background useful but not essential. Please send curriculum vitae and references to: **Ms. Michele Locker, Department of Biochemistry/Biophysics, University of Pennsylvania, School of Medicine, D501 Richards Building, Hamilton Walk, Philadelphia, PA 19104-6089.**

PHYSIOLOGY-CELL BIOLOGY SENIOR POSITION

We are seeking applicants with established records of excellence in teaching and research in cell and molecular biology or physiology with a cellular emphasis. Rank and term of appointment to be negotiated depending on credentials. Teaching responsibilities will include courses in physiology or cell biology. Faculty are expected to conduct active, research programs in which qualified undergraduates may be involved. Start-up funds for research are provided. Position available 1 July 1988. Please send curriculum vitae, statement of research/teaching interests, and names and addresses of three references by 15 January 1988 to: **William C. Grant, Jr., Chair, Department of Biology, Williams College, Williamstown, MA 01267.**

An Equal Opportunity/Affirmative Action Employer, Williams College especially welcomes applications from women and minority candidates.

PLANT CELLULAR/MOLECULAR BIOLOGIST: The Botany/Biology Department at North Dakota State University is seeking candidates for an open assistant professor position. The successful candidate must have a Ph.D. and demonstrated an ability to conduct independent research in a area of plant cellular biology. Individuals using the modern methods of molecular biology will be given preference. The successful candidate will be expected to maintain a vigorous, independent research program through external funding, and to contribute to the graduate and undergraduate teaching program in cellular biology. Interaction is expected with others on campus in the recently organized cellular and molecular biology group. Applications, including curriculum vitae, a statement of research interests, a statement of teaching goals, and three reference letters should be sent by 15 December 1987 to: **Search Committee, Botany/Biology Department, North Dakota State University, Fargo, ND 58105. Equal Opportunity/Affirmative Action Employer.**

POSITION IN COMPUTATIONAL COGNITIVE SCIENCE

The Brown University Department of Cognitive and Linguistic Sciences seeks to fill a tenure-track **ASSISTANT PROFESSOR** faculty position in computational cognitive science starting 1 July 1988. Applicants whose specialty area is in computational approaches to cognition including vision, motor control, speech and language production and comprehension, or other areas where there is a strong computational and theoretical orientation to the problems of cognition will be considered. Ph.D. is required. Applicants should send curriculum vitae, recent reprints, statement of research interests, and three letters of reference to: **Professor James Anderson, Chair, Search Committee, Department of Cognitive and Linguistic Sciences, Box 1978, Providence, RI 02912 before 1 December 1987.**

Brown University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

PLANT PHYSIOLOGY

The Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder, anticipates an opening for a tenure-track faculty position in plant physiology at the **ASSISTANT PROFESSOR** level beginning in the fall of 1988. The department seeks an individual who will develop and maintain a vigorous research and teaching program. The specific field of plant physiological research is open, although it is hoped that the successful candidate will fit into the broad themes of the department. Teaching responsibilities are flexible, but applicants should be broadly trained and capable of offering advanced courses in plant physiology. Applicants should provide by 1 December 1987, only a statement of research and teaching interests, curriculum vitae, and the names of four persons from whom recommendations can be requested, to:

**Dr. Russell Monson
Chair, Plant Physiology Search Committee
Department of Environmental, Population and Organismic Biology
Campus Box 334
University of Colorado
Boulder, CO 80309**

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

PLANT PHYSIOLOGIST/PLANT ECOLOGIST

Applications are invited for the position of **RESEARCH SCIENTIST** (rank open) for the Biological Sciences Center, one of five research centers of the Desert Research Institute, a division of the University of Nevada System. The Biological Sciences Center is currently pursuing regional ecosystem studies, global changes research, and programs addressing biosphere-atmosphere interactions for government and industry.

Applicants must have a Ph.D. in plant sciences, professional experience beyond the Ph.D., a strong publication record, and the proven ability to attract research funding. Grant support and generous start-up funds are immediately available. A research background emphasizing plant-atmosphere interactions and/or remote sensing is highly desirable.

Salary is commensurate with qualifications and includes an excellent benefit package. Applications must be received by 20 November 1987. Send curriculum vitae, statement of research interests, and names of three references to: **Personnel Office, Desert Research Institute, P.O. Box 60220, Reno, NV 89506.** For additional information contact: **Dr. Carl Fox at 702-673-7322. DRI is an Affirmative Action/Equal Opportunity Employer.**

PLANT CELL BIOLOGIST: Applications are invited for a 10-month, tenure-track appointment, rank open, for a plant cell biologist with a strong background in biochemistry, cytochemistry, and/or molecular biology. The successful candidate is expected to conduct a rigorous research program, primarily supported by extramural funding, in the area of light regulation and photosynthesis with biotechnology development potential. Teaching responsibilities include developing courses in photosynthesis/photobiology. Applicants must have a Ph.D. degree and postdoctoral research experience. Send a current résumé, graduate transcripts (only if you received the Ph.D. less than 5 years ago), statement of research goals, reprints and/or manuscripts of completed work, and names and addresses of four references by 1 December 1987 to: **Chairman, Plant Cell Biologist Search Committee, Department of Botany, University of Maryland, College Park, MD 20742. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE POSITION AVAILABLE. The Cardiology Section is seeking a candidate with biochemical interests featuring lipid analysis in large animal ischemic/reperfusion protocols. Experience in subcellular preparations or enzymes is desired. Contact: **A. James Liedtke, M.D., Head, Cardiology Section, University of Wisconsin Hospital and Clinics, Madison, WI 53792. The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSITION IN BACTERIAL PATHOGENESIS

Tenure-track position for established or promising investigator to create a program in bacterial pathogenesis with emphasis upon surface reactions and/or molecular genetics, in a department already strongly committed to research in inflammation, host defense, and molecular virology in the basic and clinical perspectives. Ample space and equipment as well as initial funding for technical help have been committed. Rank and salary based upon individual qualifications. Please address inquiries along with curriculum vitae by 1 February 1988 to:

Henry Gewurz, M.D.

Chairman

Department of Immunology/Microbiology
Rush Medical College
1653 West Congress Parkway
Chicago, IL 60612

Rush is an Equal Opportunity/Affirmative Action Employer.

DEPARTMENT OF PATHOLOGY UNIVERSITY OF BRITISH COLUMBIA (UBC) VANCOUVER, B.C., CANADA

POSTDOCTORAL POSITION available immediately for the study of antioxidant enzymes and oxidant injury in eukaryotic cells. A Ph.D. degree and academic training in biochemistry, cell biology, or equivalents are required.

Candidates should have specific experience, supported by publications in peer-reviewed journals, in the study of oxygen free radicals or reactive oxygen metabolites. Salary is commensurate with Medical Research Council rates for the Ph.D. degree and years of experience. Partial support is available for candidates sponsored by other agencies.

Please send curriculum vitae with application letter to:

Dr. Anne P. Autor
Professor of Pathology, UBC
Associate Director, Pulmonary
Research Laboratory
St. Paul's Hospital
1081 Burrard Street
Vancouver, B.C. Canada V6Z 1Y6

POSITIONS OPEN

POSTDOCTORAL AND GRADUATE STUDENTS

For American Cancer Society funded project to study delivery of anticancer agents to ovarian cancers using monoclonal antibodies to gonadotropin receptors. At least 2 years of support at or above \$19,000 per year plus benefits, starting immediately. Experience in biochemical/immunochemical techniques plus an interest in molecular endocrinology. Please send curriculum vitae and two letters of reference by 30 November 1987 to: Dr. Jay Wimalasena, Department of Physiology and Biophysics, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105-1065. Telephone: 402-559-6484. A graduate student position is also available to study the molecular biology of gonadotropin receptors in the female. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW. Program relating CNS to atherogenesis. Protein purification and cell culture experience required. Small animal surgery helpful. Available immediately. Contact: William H. Gutstein, M.D., New York Medical College, Department of Pathology, Valhalla, NY 10595. Telephone: 914-993-4154. *New York Medical College is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL ASSOCIATE

A postdoctoral research position in the area of fungal molecular biology is available immediately in the Department of Bacteriology-Biochemistry. Research will involve the cloning of genes involved in lignin degradation between various wood-rotting, filamentous fungi. Applicants must have a Ph.D. in microbiology, biochemistry, molecular biology, or a related field, and experience with recombinant DNA techniques. Experience with fungal systems is desirable. Salary is competitive and negotiable. Submit application letter, curriculum vitae, and three letters of reference by 30 October 1987 to:

Ronald L. Crawford, Professor and Head
Department of Bacteriology and Biochemistry
University of Idaho
Moscow, ID 83843
Telephone: 208-885-7966

The University of Idaho is an Equal Opportunity Employer and Educational Institution.

POSITIONS OPEN

POSTDOCTORAL POSITION available for highly motivated individual with appropriate experience to participate in a collaborative program involving three labs at PHRI to study various aspects of the molecular biology, enzymology, and immunology of the human immunodeficiency virus (HIV) *pol* gene products. Salary will be commensurate with experience. Send curriculum vitae and names of three references to either: Dr. Karl Drlica, Dr. Ellen Murphy, or Dr. Abraham Pinter, The Public Health Research Institute, 455 First Avenue, New York, NY 10016.

POSTDOCTORAL POSITION available immediately for patch electrode and micropipette specialist to study transduction in olfactory receptor neurons as part of a vigorous research group in a newly equipped laboratory. Salary range is \$19,000 to \$23,000. Send curriculum vitae, a brief statement of research experience, and names of three references to: Dr. Robert C. Gesteland, Neurobiology Division, Department of Anatomy and Cell Biology (ML 521), University of Cincinnati Medical Center, Cincinnati, OH 45267. *Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately on NIH-sponsored research program to investigate mechanisms of excitation-contraction coupling in airway smooth muscle. Project will include the use of intracellular Ca^{2+} indicators, mechanical perturbations and electrophysiological techniques. Excellent stipend and fringe benefits. Submit curriculum vitae, statement of research interests, and names of three references to: Dr. S. J. Gunst, Department of Physiology, Mayo Clinic/Foundation, Rochester, MN 55905. *An Equal Opportunity/Affirmative Action Institution.*

POSTDOCTORAL POSITION available 1 January 1988. Studies of vasopressin and adenylate cyclase system. Experience in affinity labeling and affinity isolation techniques is desirable. Applicants should send curriculum vitae to: Lois Tarallo, Personnel Department, Mount Sinai Medical Center, 19 East 98th Street, New York, NY 10029-6574. *An Equal Opportunity Employer.*

Polymer/ Protein Chemist

Schering-Plough has created an environment that fosters achievement as it strengthens your research capabilities. If you want to join some of the scientific community's finest thinkers, investigate this opportunity within the **Physical and Analytical Chemistry R&D** area:

PRINCIPAL SCIENTIST—Responsibilities will include methods development on complex protein mixtures with strong emphasis on HPLC. Requires a PhD in Analytical Chemistry, 3-5 years' post doctoral experience (preferably industrial), and strong written and oral communication skills. Some supervisory experience is desirable, but not essential.

We offer a fully commensurate salary and attractive benefits package. Please forward your resume in confidence to: Schering-Research, P.O. Box PH-87-27, 2000 Galloping Hill Road, Kenilworth, NJ 07033. We are an equal opportunity employer.



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NATIONAL SCIENCE FOUNDATION

NSF's Division of Biotic Systems and Resources (BSR) is seeking qualified candidates for the position of Staff Associate, Scientific Coordinator for Long-Term Ecological Research (LTER). The incumbent in this position will assume responsibility for certain activities related to LTER, especially for a major portion of the Ecosystem Studies Program's activities in connection with coordination and synthesis among LTER projects and between LTER and other research efforts, and other administrative duties. The position will be filled on a rotational or temporary basis for one or two years and is excepted from the competitive civil service. Salary for the rotation position ranges from \$50,000 to \$72,000* per annum (*current statutory limit). Otherwise, salaries for temporary employees are set at NSF's AD-IV Level (equivalent to GS-15).

Applicants should have a Ph.D. or equivalent experience in field of ecology appropriate to Ecosystem Studies. Applicants should also be able to document significant experience (e.g., research grants, project participation, publications) in the performance of multidisciplinary, multi-investigator, integrated the Ph.D. is required.

Applicants should send SF-171, Application for Federal Employment, or resumes to: **National Science Foundation, Personnel Administration Branch, Room 208, 1880 G. St., NW., Washington, DC 20550. Attn: Catherine Handle.** For further information call 202/357-7840. Hearing impaired individuals should call (202) 357-7492. NSF is an Equal Opportunity Employer.

KAROBIO

KaroBio AB is a recently formed biotechnology company that primarily employs molecular biology and other biotechnology methodology for research in the area of infectious diseases, bone and calcium metabolism, and steroid antagonists. KaroBio benefits from a closely integrated relationship with the well-established biotechnology firm, California Biotechnology Inc.

KaroBio has excellent opportunities for qualified individuals at all levels with expertise in:

- Molecular Biology
- Cell Biology
- Protein Biochemistry

KaroBio will be located at the Huddinge Hospital in suburban Stockholm, and will operate in collaboration with the Karolinska Institute's recently established Center for Biotechnology. We offer a competitive compensation and benefits package within a stimulating research environment. Please submit curriculum vitae and names of three references to our affiliate: Human Resources, Attn: MFPc; California Biotechnology Inc., 2450 Bayshore Parkway, Mountain View, CA 94043. An equal opportunity employer.

POSITIONS OPEN

POSTDOCTORAL POSITION

Available to study the transcriptional activation of the *ihvC* gene and the simultaneous repression of the *ihvY* gene by the cooperative binding of the *ihvY* protein at adjacent operator sites in the divergent-overlapping *ihvY-ihvC* promoter region of *Escherichia coli* [R. Wek and G. W. Hatfield, *J. Biol. Chem.* **261**, 2441-2450 (1986)].

Applicants trained in either protein chemistry or molecular genetics seeking additional training in either of these cognate areas are encouraged to apply. UCI is located in a desirable coastal area of Southern California.

Send inquiries to:

G. Wesley Hatfield, Ph.D.
Department of Microbiology and Molecular Genetics
University of California, Irvine
Irvine, CA 92717

An Affirmative Action Equal Opportunity Employer

POSTDOCTORAL POSITION—Available immediately. EM, immunofluorescence, and biochemistry of developing dental follicle. Part-time teaching in anatomy labs. Excellent research facilities and ample research time. Starting salary \$20,800. Send curriculum vitae and names of three references by 1 November 1987 to: Gary E. Wise, Ph.D., Chairman, Department of Anatomy, Texas College of Osteopathic Medicine, 3516 Camp Bowie, Fort Worth, TX 76107-2690. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION to study surface antigens of *Haemophilus* and/or trichomonads. Project includes antigen purification/characterization, definition of systemic and mucosal immunity, and gene cloning. Qualifications: recent Ph.D. in immunochemistry/biochemistry/molecular biology and interest in host-parasite relationships. Salary commensurate with experience. Funding for 2 to 3 years. Submit résumé and three letters of reference to: Dr. L. Corbeil, Pathology Department, H811F, University of California San Diego Medical Center, 225 Dickinson Street, San Diego, CA 92103.

POSTDOCTORAL POSITION available early 1988 to study the role of DNA repair in resistance of human tumors to therapeutic alkylating agents. This NIH-funded project focuses on DNA cross-link formation and repair. Experimental approaches include: purification and characterization of DNA-repair enzymes, alkaline elution assay for cross-links, cell culture and monoclonal antibody production. A recent Ph.D. in biochemistry or related discipline, with experience in any of these areas is preferred. Salary range: \$22,000 to \$25,000. Send curriculum vitae, names, and phone numbers of three references to: Thomas P. Brent, Ph.D., Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. *Equal Opportunity Employer.*

POSTDOCTORAL POSITION for work on the design, construction and testing of retroviral vectors capable of gene insertion into murine bone marrow and other tissues as part of an anti-cancer strategy [*Cancer Res.* **46**, 5276 (1986)]. Recombinant DNA experience desirable. Competitive salary. Please send curriculum vitae and names of three references to: Dr. Frederick L. Moolten (151), Veterans Administration Medical Center, Bedford, MA 01730. Telephone: 617-275-7500. *The VA is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to participate in USDA-funded study of environmental stress effects on the physiology and biochemistry of photosynthetic carbon metabolism. Ph.D. required. Applicants with expertise in gas exchange are desired; experience in biochemistry would be helpful. The position is for a maximum of 2.5 years at \$20,000 per year to start. Send curriculum vitae, official transcripts, and three letters of recommendation to: Dr. Jeffrey R. Seemann, Department of Biochemistry, University of Nevada, Reno, NV 89557. Telephone: 702-784-6031. Application deadline: 30 November 1987.

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITIONS IN MOLECULAR PARASITOLOGY

Several positions are immediately available with the University of California, San Francisco and University of California, Berkeley Intercampus Program in the molecular biology, genetics, and molecular and cellular immunology of parasitic organisms. The Intercampus Program provides a unique research environment with focus encompassing the biology and pathogenesis of a broad range of parasitic models from *Chlamydia* to helminths. Successful candidates will join an active multidisciplinary research consortium dedicated to applying contemporary technologies to problems of parasitic diseases. Candidates should have a Ph.D. or equivalent with experience in molecular genetics, immunology, biochemistry, pharmacology, or parasitology.

Submit curriculum vitae, summary of research interests, and names of three references to: Dr. Nina Agabian, Intercampus Program, Molecular Parasitology, University of California, Laurel Heights Campus, Suite 150, San Francisco, CA 94143-1204.

The University of California is an Equal Opportunity/Affirmative Action Employer. Application deadline: Open until filled.

POSTDOCTORAL POSITION available immediately to investigate structure-functional relationships of retrovirus reverse transcriptase and integrase proteins. Studies include protein chemistry, collaborative project on protein crystallography, site-directed mutagenesis, and retrovirus replication and integration. Send curriculum vitae with names of three references to: Dr. Duane Grandgenett, Institute for Molecular Virology, St. Louis University, 3681 Park Avenue, St. Louis, MO 63110.

An Equal Opportunity Employer/M/F/V/H.

POSTDOCTORAL POSITION available in the Department of Pathology, University of Saskatchewan to study immunoglobulin and T cell receptor gene rearrangement in lymphoid malignancies. A study of oncogene expression in selected hemopoietic malignancies is also being carried out. Salary will be commensurate with experience.

Send application and curriculum vitae to: Dr. L. Skinnider, Department of Pathology, Health Sciences Building, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0.

POSTDOCTORAL POSITION available immediately in theoretical kinetic problems in biology. Computing experience is essential. Applicant should have a good background in chemistry, physics, and mathematics. Salary is comparable to NIH postdoctoral level. Please send curriculum vitae along with names of three references to: Dr. T. Ree Chay, Department of Biological Sciences, University of Pittsburgh, Pittsburgh, PA 15260.

POSTDOCTORAL POSITION—MOLECULAR BIOLOGY. Available immediately, to study genetic regulation of *T. brucei* differentiation to the insect-infective form. Emphasis on effects of oncogenes and growth factors. Background in molecular biology, protein chemistry, or parasitology desirable. Two years of support available on NIH training grant for U.S. citizen, non-citizen national, or permanent resident. Reply with curriculum vitae and three references to: Dr. Charles E. Davis, H811F, University of California, San Diego Medical Center, 225 Dickinson Street, San Diego, CA 92103.

POSTDOCTORAL POSITION: Immediate opening for Ph.D. with 0 to 3 years of experience to investigate structure/function of plasma proteins, fibronectin and/or complement C1. New modern facility. \$21,000 to \$27,000 per year. Send curriculum vitae to: Dr. K. C. Ingham, American Red Cross R&D, Biochemistry Department, 15601 Crabbs Branch Way, Rockville, MD 20855. Telephone: 301-738-0731.

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately in synaptic physiology and pharmacology in insects. Main focus is the use of peptide and polyamine toxins from arthropod venoms to characterize ion channels and receptors operating at the neuromuscular junction. Model preparations involving identified neurons expressing amino acid and peptide transmitters are available for study. Applicants with a background in electrophysiology and experience with microelectrode recording, iontophoresis, whole-cell and patch clamping are encouraged to apply. Send résumé and names of three references to: Dr. M. E. Adams, Division of Toxicology and Physiology, University of California, Riverside, CA 92521.

POSTDOCTORAL POSITION to study regulation of growth and maturation of mast cells. Large research group studying cell growth, biology, and cell-cell interaction. Background in cell culture and protein isolation, purification, and identification by chemical and molecular biological methods required. Opening as of 1 January 1988. Salary \$18,000 to \$22,000. Send résumé and three references to: Warren M. Gold, M.D., Cardiovascular Research Institute, Box 0130, San Francisco, CA 94143.

POSTDOCTORAL POSITION available for cell biologist/biochemist with 1 to 2 years of experience to study mechanisms of angiogenesis in vitro. Applicant should be familiar with tissue culture techniques, electrophoresis, and immunochemistry. Background in biochemistry of extracellular matrix desirable. Send curriculum vitae and the names of three references to: Roberto F. Nicosia, M.D., Ph.D., Department of Pathology, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, PA 19129. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION. Available 1 February 1988 to study the growth rate-dependent regulation of *Escherichia coli* central metabolism genes. Experience in bacterial genetics and recombinant DNA techniques is essential. Send curriculum vitae, description of research accomplishments, and names of three references to: Dr. Richard Wolf, Department of Biological Sciences, University of Maryland Baltimore County, Catonsville, MD 21228. *UMBC is an Equal Opportunity/Affirmative Action Employer. Qualified minorities and women are encouraged to apply.*

TWO POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE POSITIONS available immediately. One position is for work on the role of cyclic nucleotides and calcium in the control of intestinal electrolyte transport. The second position is for work on the regulation of insulin release in pancreatic β cells. Candidates should have Ph.D. or equivalent degree with experience in biochemistry, physiology, or pharmacology. Applications including curriculum vitae and the names of three references should be sent to:

Dr. Geoffrey W. G. Sharp, Chairman
Department of Pharmacology
NYS College of Veterinary Medicine
Cornell University
Ithaca, NY 14853-6401

Applications must be received by 15 November 1987. Salary range: \$17,600 to \$19,500.

Cornell University is an Affirmative Action/Equal Opportunity Employer/Educator.

POSTDOCTORAL POSITION available for biochemical/cell biological studies on the structure, purification, and regulation of adenosine receptors. Recent Ph.D. in biochemistry, pharmacology, or molecular biology required. Experience with membrane-bound receptor systems useful. Send curriculum vitae and names of three references to: Dr. Gary L. Stiles, Department of Medicine, P.O. Box 3444, Duke University Medical Center, Durham, NC 27710.

POSTDOCTORAL POSITION available January 1988 to employ techniques of biochemistry, cell biology, and molecular biology to study intracellular cholesterol metabolism in macrophages. Background in cell biology and molecular biology desirable. Send curriculum vitae to: Dr. Ira A. Tabas, Department of Medicine, Columbia University, 630 West 168th Street, New York, NY 10032.



香港城市理工學院

City Polytechnic of Hong Kong

**TEACHING POSITIONS FROM
AUTUMN 1988
IN A RAPIDLY EXPANDING INSTITUTION
IN HONG KONG**

DEPARTMENT: Applied Science

POSTS & SUBJECT AREAS: Principal Lecturer/Senior Lecturer/Lecturer/Assistant Lecturer in Physical Sciences/Life Sciences/Environmental Science

REQUIREMENTS FOR APPOINTMENT: a good honours degree and a higher degree, preferably a PhD. Relevant professional, including teaching and research/industrial experience.

SALARY SCALE: HK\$94,800 p.a. to HK\$358,920 p.a. depending on level of appointment. (Exchange Rate: 1 US\$ = HK\$7.809 approx.)

TERMS & CONDITIONS: Excellent fringe benefits are offered including a 25% gratuity payable on successful completion of agreement, medical & dental schemes, and long leave. Passages and housing are provided where appropriate.

APPLICATION PROCEDURE: Please rush detailed resume together with names and addresses of 3 appropriate academic and professional referees to reach the General Secretary, City Polytechnic of Hong Kong, P.O. Box 98441, Tsim Sha Tsui Post Office, Kowloon, Hong Kong by *14 November 1987* the latest. Information regarding the Polytechnic and on posts advertised may be obtained by mail upon request.

**POSTDOCTORAL
RESEARCH
FELLOWSHIPS**

Postdoctoral fellowships are available to work on eukaryotic gene expression and viral induced transformation in Dr. Nicholas Jones' laboratory at the Imperial Cancer Research Fund, London, England. Two main areas of research are being pursued. The first involves the mechanism by which the Adenovirus E1A gene products can transactivate and repress expression of a variety of mammalian genes. The second involves the role of the E1A gene in the establishment of primary cells.

Candidates should have experience in molecular biology and recombinant DNA technology. The fellowships are tenable for three years in the salary range £12,500 to £16,000 depending upon qualifications and experience.

For further details contact Dr. N. Jones, Imperial Cancer Research Fund, Lincoln's Inn Fields, London WC2A 3PX or call 011-44-1-242-0200 Ext 2323.

**I M P E R I A L
CANCER RESEARCH FUND**



**RESEARCH
SCIENTISTS**

With Genelabs, finding tomorrow's cures holds special urgency and significant reward. Today's health care concerns are daily challenges at Genelabs. Performance and pioneering technology are what set us apart. We're looking for the right people—with sound research skills and a genuine sense of mission—willing to join our highly interactive professional team.

**PROTEIN
CHEMIST**

Ph.D. in biochemistry plus 3-5 years experience in structural determination of macromolecules; fragmentation and sequencing of proteins and peptides. Experience with HPLC, 2D gel electrophoresis and automated sequencing/syntheses important.

**IMMUNOLOGIST/
CELL BIOLOGIST**

Ph.D. and 3-5 years of relevant experience in tissue culture and the production and characterization of hybridomas/monoclonal antibodies. Prior experience with human hybridomas as well as supervisory experience desirable.

**MOLECULAR
BIOLOGISTS**

Ph.D. or M.D. with 3 or more years experience and strong research capabilities in molecular cloning. Must be skilled in identification, expression and characterization in eukaryotic and prokaryotic systems. Positions exist in several ongoing projects.

**IMMUNODIAGNOSTIC
SCIENTIST**

Ph.D. in molecular biology, immunology or biochemistry with 3-5 years experience in protein modification. Will have project level responsibility for research and development of innovative immunodiagnostic products.

Opportunities also exist for qualified Research Assistants & Associates.

Our work environment is exceptional in our new facilities located in the Seaport Centre on the San Francisco Peninsula. Please forward CV and names of 3 references, in confidence, to: GENELABS INCORPORATED, 505 Penobscot Drive, Redwood City, CA 94063. Attn: Personnel. An equal opportunity employer.



GENELABS
I N C O R P O R A T E D

POSITIONS OPEN

POSTDOCTORAL POSITION for Ph.D. with experience in molecular cloning or gene regulation. The project involves the cloning of a hormone-regulated plasma membrane transport protein and the study of its regulation using genomic sequencing. Salary of \$18,000 + is negotiable depending on experience. Send curriculum vitae and the names of three references to: **Dr. Michael S. Kilberg, Department of Biochemistry and Molecular Biology, Box J-245, JHMC, University of Florida, College of Medicine, Gainesville, FL 32610.**

POSTDOCTORAL POSITION AVAILABLE spring 1988 to investigate determinants of photolyase-pyrimidine dimer recognition and repair and/or regulation of *PHR1* gene expression in yeast. Previous experience in protein biochemistry or recombinant DNA techniques highly desirable. Send curriculum vitae and names and telephone numbers of three references to: **Dr. Gwen Sancar, Department of Biochemistry, School of Medicine, CB# 7260, University of North Carolina, Chapel Hill, NC 27599-7260. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available in spring 1988, for a recent Ph.D. to study the role of human leukocyte adhesion-promoting receptor glycoproteins in the inflammatory response. Experience in cellular immunology and biochemistry is essential. Send curriculum vitae and names of three references to: **Robert F. Todd III, M.D., Ph.D., Graduate Program in Cellular and Molecular Biology, University of Michigan, Simpson Memorial Institute, 102 Observatory Drive, Ann Arbor, MI 48109. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION: Immediately available to study tissue-specific and developmental regulation of expression of gene(s) encoding angiotensin converting enzyme. This is a collaborative project between **R. L. Soffer** of Cornell Medical College and **Ganes C. Sen** of Molecular Biology Program at Sloan-Kettering Cancer Center. The selected candidate will work in **Dr. Sen's** laboratory. Application of modern recombinant DNA techniques will be necessary and experience with them will be advantageous. For the right candidate the position offers a potential opportunity for further career advancement.

Send your résumé and names and telephone numbers of three referers to: **Dr. Richard L. Soffer, Cornell University Medical College, 1300 York Avenue, New York, NY 10021.**

POSTDOCTORAL POSITION—DEVELOPMENTAL NEUROBIOLOGY. Available 1 January 1988 to study the formation and maintenance of synapses. We have recently developed methods which allow us to identify the cell type of living vertebrate neurons in dissociated cell culture. The postdoctoral fellow will use intracellular and patch-clamp recording, and time lapse video microscopy to characterize the properties of developing neuronal synapses. Submit letter of application, curriculum vitae, and two letters of recommendation to: **Dr. Richard Hume, Department of Biology, University of Michigan, Ann Arbor, MI 48109. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS (two). To study the regulation of glycoprotein biosynthesis and surface expression as a function of (i) macrophage activation and (ii) tumor differentiation. Extracellular matrix glycoproteins and their receptors are being studied in this context. Candidates should have a background in biochemistry or molecular biology. Please send curriculum vitae to: **Dr. A. Mercurio, Laboratory of Cancer Biology, New England Deaconess Hospital, Harvard Medical School, 50 Binney Street, Boston, MA 02115.**

POSTDOCTORAL POSITIONS available immediately in human transplantation immunology. Research interests include: immunoregulation in human renal and hepatic transplantation; structure-function relationship of non-MHC antigens of human kidneys and endothelial cells; and biochemical and molecular characterization of lymphoid antigens and receptors. Experience in cellular immunology and/or molecular biology is desirable. Send résumé, a brief statement of research interests and names of references to: **Dr. T. Mohanakumar, Washington University Medical Center, Departments of Surgery and Pathology, Box 8109, St. Louis, MO 63110.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN ELECTROPHYSIOLOGY AND BIOPHYSICS to study the single-channel properties of nicotinic acetylcholine receptors in vertebrate skeletal muscle fibers and autonomic neurons. Research topics include the regulation of channel function during development and the modulation of channel behavior by external signals. Please send résumé and references to: **Dr. Steve Schuetz, Department of Biological Sciences 913, Columbia University, New York, NY 10027. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION IN MARINE CHEMICAL ECOLOGY/NATURAL PRODUCTS CHEMISTRY. Two-year postdoctoral position/research associate available spring 1988 to work on chemical ecology of predator-prey interactions involving tropical marine invertebrates. Research will also involve the isolation of bioactive natural products of potential biomedical interest. Experience in natural products chemistry desirable, applicants with a strong background in ecology and interest in chemical ecology will be considered. Experience in scuba diving, collecting and handling marine organisms, and interest in field-oriented research desirable. Applicants should be highly motivated individuals capable of directing undergraduate and graduate research assistants. Salary: \$24,000 per year. Send curriculum vitae and names and addresses of three references by 30 November 1987 to: **Dr. Valerie Paul, University of Guam Marine Laboratory, University of Guam Station, Mangilao, Guam 96923. The University of Guam is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS IN BIOCHEMISTRY. The Biochemistry Department at Uniformed Services University of the Health Sciences has six positions available immediately to study enzymology, protein chemistry, membrane biochemistry, or molecular biology. Annual salary: \$19,000 to \$24,000 based on experience. Send curriculum vitae and three references to: **Dr. Troy Beeler, Department of Biochemistry, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799. Uniformed Services University is an Equal Opportunity Employer.**

POSTDOCTORAL POSITION—MOLECULAR NEUROBIOLOGY to study molecular biology and genetics of mutants affecting voltage-dependent ion channels in *Drosophila*. Studies may include gene cloning and sequencing, isolation and characterization of channel mutants, and reconstitution of ion channels into lipid bilayers. Send curriculum vitae and three letters of reference to: **Dr. Linda M. Hall, Department of Genetics, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS IN MOLECULAR BIOLOGY. A diversified, interdisciplinary Training Program in Molecular Biology with more than 20 research teams with excellent research support. Areas of research include:

TUMOR VIROLOGY

- MMTV and B cell differentiation
- Tumor cell surface glycoproteins in mammary cancer
- SV40 and Adenovirus gene expression
- Molecular virology of AIDS

ONCOGENES

- Adenovirus and heat-shock genes
- Chromosomal mapping
- Effect on cell-cell communication
- Developmental expression of oncogenes

GROWTH FACTORS

- in muscle cell development
- Polypeptide hormones
- Colony stimulating factor, granulopoiesis and cell differentiation
- Interleukin-2 receptor

This 3-year program is designed for Ph.D., Ph.D./M.D., or M.D. candidates with academic-research objectives. M.D.s may enter a combined Molecular Biology-residence program. Highly successful candidates will be encouraged to compete for independent research support and may be considered for future faculty positions. Salaries are competitive. *Open only to U.S. citizens or permanent residents.* Send curriculum vitae and references to: **Dr. Carlos Goldenberg, University of Miami School of Medicine, Department of Microbiology and Immunology, P.O. Box 016960 (R138) Miami, FL 33101. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study molecular mechanisms of mutagenesis in mammalian cells and the mutational etiology of an inherited disease (adenine phosphoribosyltransferase deficiency). Preference given to applicants experienced in nucleic acid technologies, gene transfer, and/or mammalian cell culture. Salary dependent on qualifications with possibility of non-tenure-track faculty position. Send curriculum vitae with names, addresses, and telephone numbers of three references to: **Dr. Jay A. Tischfield, Department of Medical Genetics, Indiana University School of Medicine, 702 Barnhill Drive, RR 129, Indianapolis, IN 46223.**

POSTDOCTORAL POSITION TUMOR VIROLOGY

Available immediately, we have recently discovered RNA covalently bound to SV40 TAG and to the oncogene product p53. The RNAs, the bonding, and the possible significance to oncogenic transformation will be studied. U.S. citizenship or residency required, funding through NIH training grant. Send curriculum vitae and names of three references to:

**Dr. Robert Carroll
Department of Pathology
New York University Medical Center
550 First Avenue
New York, NY 10016**

POSTDOCTORAL POSITIONS available 1 January 1988 to study the differential expression of nuclear genes encoding two chloroplastic ammonium-inducible glutamate dehydrogenase isoenzymes with strikingly different affinities for ammonium. Candidates with Ph.D. degrees in biochemistry, molecular biology, or related areas with experience in protein chemistry/enzymology and/or DNA sequencing and recombinant DNA procedures are preferred. Salary: \$19,000 to \$21,000 per year. **Dr. Robert R. Schmidt, Graduate Research Professor, Department of Microbiology and Cell Science, 1059 McCarty Hall, University of Florida, Gainesville, FL 32611. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS (TWO) available immediately for research on EGF-receptor. Applicants should be recent Ph.D.s with experience in either molecular biology, enzymology, cell biology, or immunology. Please send résumé and names of two references to: **Dr. M. Das, Department of Biochemistry and Biophysiology, University of Pennsylvania School of Medicine, Philadelphia, PA 19104.**

POSTDOCTORAL RESEARCH ASSOCIATE (Ph.D.): The candidate should have a Ph.D. degree in biochemistry or bio-organic chemistry, and be versed in the area of intermediary metabolism and enzymology. The laboratory is involved in studying the implications of oxygen radicals in the pathogenesis of age-related ocular diseases, with special emphasis on cataracts. Send résumé and letters of reference to: **Dr. S. D. Varma, Professor and Director of Research, Department of Ophthalmology, University of Maryland School of Medicine, 10 South Pine Street, Baltimore, MD 21201. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available to study cellular and molecular pharmacology (mechanisms of action and/or toxicity) of novel anti-AIDS drugs. Ph.D. degree with experience in cell culture, drug-nucleic acid interactions and molecular techniques (transcription, translation, etc.) is desirable. Excellent opportunity for interaction with multidisciplinary group in AIDS research. Send curriculum vitae and names of three references to: **Dr. J. P. Sommadossi, Department of Pharmacology, University of Alabama at Birmingham, Box 186, Birmingham, AL 35294. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available to study genes encoding proteins responsible for signal transduction/ion transport in the plasma membrane of plants. Experience with DNA cloning techniques preferred; prior work with plants unnecessary. Send curriculum vitae and names of three references to: **Dr. Michael R. Sussman, 1575 Linden Drive, Department of Horticulture and Cellular/Molecular Biology Program, University of Wisconsin, Madison, WI 53706.**

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We're a top medical diagnostics company that develops, manufactures, and markets a broad range of innovative tests that can diagnose infectious diseases or detect clinically significant substances. Syva's facilities are considered among the finest in the country with sophisticated lab equipment to handle the more routine scientific tasks.

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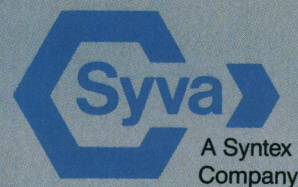
Immobilize proteins and enzymes for use in immunodiagnostic assays. Some research will involve hands-on activities studying the transport of materials from solution to surface membranes as well as determining methods of immobilization. Qualifications: PhD in Biochemistry or Physical Organic Chemistry with experience in surface chemistry, properties, absorption and biological system.

Senior Chemist

Investigate new measuring techniques for immunodiagnostics group and help solve problems with instrumentation. This position requires good digital electronic skills, mechanical abilities and knowledge of high and low level programming. PhD in Physical or Biological Sciences required.

We have other Sr. Chemist positions open which require a strong background in Physical, Organic and Biochemistry skills.

If you're looking for a career with results, consider Syva. Our benefits package includes generous relocation assistance. Please send your resume or CV to: Syva, Dept. DP, Professional Staffing, P.O. Box 10058, Palo Alto, CA 94303. An equal opportunity employer.



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POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE

A postdoctoral/research associate position is available for September 1988 to study the molecular genetics of muscle gene expression in *Drosophila*. Applicants must have a Ph.D. and experience in recombinant DNA methods will be favored. Starting salary is competitive. Send curriculum vitae and names of three references to: **Dr. Robert V. Storti, Department of Biochemistry, University of Illinois College of Medicine, 1853 West Polk Street, Chicago, IL 60612.**

POSTDOCTORAL RESEARCH ASSOCIATE—

Position available for an electrophysiologist to characterize the properties of central axons which have regenerated along peripheral nerve implants. Preference given to applicants experienced in spinal cord physiology and/or tract-tracing, and histological techniques. Please send curriculum vitae with names of three references to: **Dr. Julia K. Terzis, Microsurgical Research Center, Eastern Virginia Medical School, 700 Olney Road, Norfolk, VA 23507.**

POSTDOCTORAL RESEARCH ASSOCIATE

to study the biochemistry and differentiation of the skeletal muscle outer membrane and myogenic lineage using monoclonal antibodies and recombinant DNA. Experience in cell and molecular biology preferred. Potential for long-term appointment; to start January 1988. Send curriculum vitae and names of three references to: **Dr. Stephen Kaufman, University of Illinois, Department of Microbiology, 131 Burrill Hall, 407 South Goodwin, Urbana, IL 61801. Equal Opportunity Employer.**

Position immediately available for a **POSTDOCTORAL SCIENTIST** in molecular genetics. The successful applicant will utilize recombinant DNA techniques to investigate human T-cell activation. Please forward curriculum vitae and the names of three references to: **Dr. Susan Hsu, Scientific Director, American Red Cross Blood Services, Penn-Jersey Region, 23rd and Chestnut Streets, Philadelphia, PA 19103.**

POSTDOCTORAL TRAINING IN CARDIOVASCULAR PHARMACOLOGY—MOLECULAR BIOLOGY. A position is open to study the cell and molecular biology of prostaglandins and other arachidonic metabolites and their role in physiological and pathophysiological processes. Candidates (Ph.D. or M.D.) should have a strong background in biochemistry and/or pharmacology. Send curriculum vitae to: **Dr. Philip Needleman or Dr. John Merlie, Department of Pharmacology, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110. Washington University is an Equal Opportunity/Affirmative Action Employer.**

BOSTON UNIVERSITY MEDICAL CENTER PROFESSOR OR ASSOCIATE PROFESSOR OF BIOCHEMISTRY IN MEDICINE

The Departments of Biochemistry and Medicine at Boston University Medical Center invite applications for a senior academic position as Professor or Associate Professor of Biochemistry in Medicine. Applicants should be established scientists in an area of cellular or molecular biology related to human disease. The appointee will head a unit within our expanding program of Biomolecular Medicine, and will have the opportunity to recruit one or more junior research faculty. Additional facilities are under construction and substantial start-up funds are available. Applicants should submit their curriculum vitae, names of at least three referees, and a brief summary of past research accomplishments and future directions. Applications should be sent to:

Biochemistry/Medicine Search Committee
Room K-225
Boston University School of Medicine
80 East Concord Street
Boston, MA 02118

Boston University is an Equal Opportunity Employer.

RESEARCH/ADMINISTRATIVE POSITION:

Marine mammal/seabird ecologist. Applicants must have Ph.D. in biology/marine ecology. One-year position with subsequent years dependent on candidate's ability to obtain contract/grant funding. Position available 1 November 1987. Contact: **P. Michael Payne, Marine Mammal and Seabird Studies, Manomet Bird Observatory, Manomet, MA 02345. Telephone: 617-224-6521.**

POSITIONS OPEN

REFERENCE LABORATORY SCIENTIST

Research and development scientists with Ph.D. in biochemistry and 3 years of research experience specializing in molecular genetics and blood coagulation protein chemistry. Responsibilities include the development and implementation of tests to diagnose diseases of blood coagulation and the supervision of four research technicians. \$36,000 per year, 40 hours per week. Job site/interview in San Diego, California. Send this ad and your résumé to: **JOB # AW 9714 P.O. Box 9560, Sacramento, CA 95823-0560 no later than 30 October 1987. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSISTANT: Study gene regulation after T4 infection of *E. coli*, conducting research independently and with undergraduates in well-equipped lab at an innovative small college. Requires B.S. and experience in molecular biology. Appropriate for postdoctoral fellow with teaching interest. Salary: \$17,500; *Equal Opportunity Employer*. Inquire: **The Evergreen State College Employee Relations, Olympia, WA 98502. Telephone: 206-866-6000 extension 6361.**

The Department of Biochemistry and Biophysics of the University of Pennsylvania invites applications for the position of **RESEARCH ASSISTANT PROFESSOR**. Applicants should have a strong background in ion-channel protein reconstitution including expertise with techniques for studying channel function such as tracer fluxes, planar bilayer incorporation, and patch clamping. Postdoctoral experience in these areas necessary. Candidates should forward curriculum vitae, a summary of research experience and interests, and arrange for three or more letters of reference to be sent to: **Franz Matschinsky, M.D., Chairman, Department of Biochemistry and Biophysics, University of Pennsylvania School of Medicine, Philadelphia, PA 19104-6059. Deadline for applications is 1 December 1987. The University is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority candidates.**

RESEARCH ASSISTANT PROFESSOR OF PATHOLOGY. Non-tenure-track position for individual interested in model systems of host-parasite interactions in human periodontal disease. Successful candidate will be provided with laboratory facility. He/she must have grant support to fund salary and research costs. Send curriculum vitae to: **Dr. Norton Taichman, Department of Pathology, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA 19104-6002. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSISTANT

The University of Maryland at Baltimore, Center for Vaccine Development, has immediate openings for research assistants in its Plasmodium Culture and Applied Immunology laboratories. Candidates should have a Bachelor's or Master's degree in the biological sciences, and at least 1 year of laboratory experience. First-hand knowledge of the procedures and equipment employed for preparing and analyzing microbial and immunological specimens is essential. Tissue culture experience is desirable. Annual salary range: \$18,500 to \$26,000. Submit résumé to: **Mr. Charles R. Young, Division of Geographic Medicine, 9-59 MSTF, 10 South Pine Street, Baltimore, MD 21201.**

RESEARCH ASSOCIATE—CHEMISTRY.

Work with new cancer drug (photosensitizer), whose structure is unknown except that it is a mixture of porphyrin-type molecules. Work involves (i) synthesis, characterization, and evaluation of molecules expected to be possible structures, and (ii) separation, purification, characterization, and evaluation of various components of the porphyrin mixture, leading to U.S. Food and Drug Administration approval for clinical use. Also, devise new photosensitizers for cancer and other therapies. Candidate must have Ph.D. in organic chemistry and 2 years of postdoctoral training in synthetic porphyrin chemistry. Five-day, 40-hour-week; \$48,600 per year. Mail résumés to: **NYS Job Service, #0104701, 68 West Huron Street, Buffalo, NY 14202.**

POSITIONS OPEN

A young and dynamic Long Island biotechnology firm has immediate openings for outstanding professionals to work in a stimulating and multidisciplinary environment.

PROTEIN/PEPTIDE CHEMISTRY

RESEARCH ASSOCIATES AND SCIENTISTS with experience in protein/peptide purification and characterization, protein modifications, and/or physical protein chemistry.

IMMUNODIAGNOSTICS/ IMMUNOCHEMISTRY

We need energetic and creative people at both **RESEARCH ASSOCIATE AND SCIENTIST** levels to learn state-of-the-art methods and apply them to develop advanced immunodiagnostic products. Candidates with product development experience in virology, microbiology, and/or immunology are preferred.

United Biomedical, Inc. provides a unique and challenging environment for personal and professional growth, as well as an outstanding benefits package. Qualified applicants should send their résumé to: **Anne-Marie Schuler, United Biomedical, Inc., 2 Nevada Drive, Lake Success, NY 11042.**

RESEARCH ASSOCIATE: Two positions available, current year, recommended 3 years of grant support. Recent Ph.D., strong chemical background. Join a protein chemistry laboratory/glycoprotein hormones and inhibin. Get on-job experience with proteins, structure-function relationships. Mail résumé to: **Dr. Darrell N. Ward, Department of Biochemistry, Molecular Biology, Box 36, The University of Texas MDAH, Houston, TX 77030. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE: Position available immediately for Ph.D. or M.D. to study the structure and function of nucleolar proteins. The project will use chemical and molecular biological approaches to elucidate events and mechanisms in the early stages of ribosome assembly. Salary will be competitive and commensurate with experience. Send résumé and names of three references to: **Dr. Mark Olson, Department of Biochemistry, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505. Equal Opportunity Employer, M/F/H/V.**

RESEARCH ASSOCIATE to conduct research and develop diagnostic procedures in the field of maternal and fetal placental hemodynamics, using the advanced Doppler ultrasound technology and computers. Duties involve controlled in vitro model experiments in the laboratory, in vivo experiments in the biological systems (animal models), and statistical analysis of the clinical Doppler indices. Hemodynamic study in the pulsatile flow systems includes the use of high-speed data acquisition from pressure and flow measuring devices and Doppler instrumentation by interfacing with the computers. Ph.D. in chemical engineering required, 40 hours per week, salary \$24,000 per year. Résumé to:

Division of Employment Security
421 East Dunklin Street
Jefferson City, MO 65101
Attention: John F. Scott
Reference J.O.# 061700

RESEARCH ASSOCIATE position for candidate with Ph.D. in immunology to conduct studies on pancreatic tumor antigens. Candidates must have minimum of 1 year of experience in hybridoma, recombinant DNA technology, mucin isolation, FACS, ELISA, RIA assays. Research publications required. Salary \$17,400 minimum. Submit curriculum vitae and names of three references. Apply to: **Employment Security Commission Office, 516 North Mangum Street, Durham, NC 27701 or local Job Service Office. Refer to Job Order No. NC 7100717. DOT Code 090.227-010. Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW: Opportunity to join laboratory investigating catecholamine neuronal plasticity and catecholamine receptors in vivo using biochemical and anatomical approaches. Preference will be given to applicants with some experience in EM, immunocytochemistry, and/or radioimmunoassay. M.D. or Ph.D. in anatomy, biochemistry, or pharmacology. Position and salary based on experience. Please send curriculum vitae to: **Dr. James N. Davis, Box 2900, Duke University Medical Center, Durham, NC 27710. Affirmative Action/Equal Opportunity Employer.**

MicroGeneSys, Inc.

is strongly committed to developing recombinant vaccines for AIDS and other infectious diseases. Recent achievements in MicroGeneSys' vaccine programs have established a platform for dynamic growth. We invite qualified scientists to consider a career with MicroGeneSys. Senior Scientist (Ph.D.), Research Associate (M.S.), and Research Technician (B.S.) level positions are now available in the following areas:

- Protein Biochemistry
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- Quality Control
- Process Sciences
- Clinical Research

At MicroGeneSys, we offer a stimulating and challenging scientific environment, competitive salaries and an excellent benefit package. The Company's south central Connecticut location, near New Haven is convenient to New York City and New England locations.

For immediate consideration, please submit a *curriculum vitae* along with a statement of research interests and salary history, in confidence, to the **Personnel Director**, MicroGeneSys, Inc.



MicroGeneSys, Inc.
BIOPHARMACEUTICALS

400 Frontage Road ■ West Haven, CT 06516
TELEPHONE: (203) 932-3203

Clinical Research Project Manager

Squibb Corporation is recognized internationally as an innovative leader in the research, development and marketing of pharmaceutical and related health care products. Due to our continued growth, we currently have a newly created opportunity available for a senior level scientist with a strong interest and experience in document planning and preparation to join our Clinical Research Operations Group.

Qualified candidates should have a PhD in Pharmacology or Microbiology or equivalent with a minimum of 5 years experience in basic research, scientific documentation and computer application. Excellent writing skills are essential. You will be responsible for analyzing, integrating and supervising the preparation of documents from information gathered primarily from the clinical research area. These documents will be utilized in support of New Drug Applications and related scientific publications. Additional responsibilities include document planning and design, manual and automated data retrieval and handling, and the coordination of documentation activities.

This position is based at our Corporate Headquarters in Princeton, NJ, a pleasant semi-rural setting convenient to both Philadelphia and New York City. For confidential consideration, please submit your curriculum vitae to **Squibb Corporation, Human Resources Dept. 658, P.O. Box 4000, Princeton, NJ 08543-4000**. An equal opportunity employer.



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leading the bioconversion
of the pesticide industry.

MYCOGEN CORPORATION is advancing in many areas of research. Our company, based in San Diego, has several opportunities for top research professionals:

- **MOLECULAR GENETICS RESEARCH SCIENTIST** — PhD with 5-8 years' experience in prokaryotic molecular biology, particularly bacilli. Work will involve gene isolation, gene expression, conjugation, fusion and mutagenesis in a variety of bacilli including *Bacillus thuringiensis*.

• RESEARCH ASSISTANTS

BIOCHEMISTRY: Experienced research assistant with Bachelor's or Master's in biochemistry and lab experience supporting protein chemistry related projects.

MOLECULAR GENETICS: Bachelor's or Master's in molecular biology and 1-3 years' lab experience involved in associated research projects.

FERMENTATION: BS in microbiology with 1-2 years' related experience including bacterial, mutagenesis and/or small scale fermentation. Positions involve the isolation and fermentation optimization of specialized fermentation production strains of *Bacillus* and other bacteria.

ENTOMOLOGY: BS or MS in microbiology with 1-3 years' directly related experience involving culture maintenance, colony identification and microbiological screening. Strong analytical and aseptic technique skills required. Fluency in Japanese strongly preferred.

- **FERMENTATION MICROBIOLOGISTS** — Positions available for skilled fermentation microbiologists to develop bacterial and fungal fermentations to 10-liter scale. BS or MS with 3-5 years' industrial fermentation development experience.
- **FERMENTATION RESEARCH SCIENTIST** — PhD in microbiology/biochemistry. Project will involve optimization of a proprietary process for killing and fixing bacterial cells to be used as pesticide products. Experience with immobilized cells or enzymes preferred.
- **FERMENTATION SCALE-UP SUPERVISOR** — Will be responsible for in-house pilot fermentation operations and will assist with scale-up and supervision of manufacturing processes. BS or MS with strong background in microbiology and process development. 5 years' or more industrial pilot or large-scale fermentation experience.

Mycogen offers a highly competitive compensation and benefits package, and prides itself on accomplishing objectives that stretch our technical capabilities. If you have a desire to work at the edge of technology, send your resume indicating specific position desired, including salary requirements, to: **Stan Sewitch, Director of Human Resources.**



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POSITIONS OPEN

RESEARCH ASSOCIATE

A research position for an individual with a recent Ph.D. in molecular biology, biochemistry, or a related area of biomedical science and with specific expertise in recombinant DNA techniques. Funding available for 5 years. Send curriculum vitae and names of three references to: Y. T. Chen, M.D., Department of Pediatrics, Box 3028, Duke University Medical Center, Durham, NC 27710. *Affirmative Action/Equal Opportunity Employer.*

RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

The Department of Biotechnology Research has openings for three **RESEARCH TECHNICIANS** to work in the Molecular Genetics group. Minimum requirements are a B.S. degree or equivalent in genetics, or one of the biological sciences with course work in biochemistry, molecular biology, and genetics. Applicants with work experience in molecular biology and a demonstrated competency in nucleic acids analysis (DNA/RNA extraction, gel electrophoresis, gel transfers, and hybridization) will be given preference.

Lab Automation: Applicants should have practical experience in equipment development or design for molecular biology projects.

Technique Development: Applicants should have a strong background in chemistry and biochemistry. Will be involved in developing novel solutions to molecular biology problems.

RFLP Mapping: Will join a group currently using RFLPs to study quantitative traits in maize.

Send résumé, indicating which job you are applying for, including the names and addresses of two references and a description of relevant experience, to:



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Dr. David Grant
Pioneer Hi-Bred
International, Inc.
7300 NW 62nd Avenue,
P.O. Box 38
Johnston, IA 50131

RESEARCH SCIENTIST—DNA/PROTEIN CHEMIST

The University of Arizona has an opening for a research scientist with experience in DNA and/or protein chemistry. Applicants should have a Ph.D. or equivalent degree in some branch of chemistry or biological sciences. Duties will involve managing a core facility, equipped with state-of-the-art automated sequence and synthesis instruments, and conducting independent research. The facility has a technical support staff and operations financed by the University. The successful applicant will be expected to apply for grants to support his/her research program. The position is continuing or continuing eligible, depending upon qualifications. Salary is open, subject to negotiation. Applications will be examined after 30 November 1987, but will be accepted until the position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer.* Address applications to: Dr. John H. Law, Biotechnology Program, Biosciences West, University of Arizona, Tucson, AZ 85721. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH SCIENTIST FOR KRESGE EYE INSTITUTE OF WAYNE STATE UNIVERSITY

The Director of Research will be retiring in the near future from the Kresge Eye Institute (KEI) and his Professorship at Wayne State University. The KEI, in conjunction with Wayne State University School of Medicine, is conducting a search for his replacement. The search committee will consider an established scientist with a track record of excellence in research directed toward the solving of fundamental problems in clinical ophthalmology. The position also requires demonstrated administrative and organizational ability and a commitment to teaching. The position provides a tenure-track professorship, modern laboratory space, and University and Departmental support. Inquiries and curricula vitae are invited. Robert S. Jampel, M.D., Ph.D., Chairman of Search Committee, Department of Ophthalmology, Kresge Eye Institute, 3994 John R, Detroit, MI 48201. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

RESEARCH INSTRUCTOR with recent Ph.D. in biochemistry and research experience in the design and synthesis of radioactive affinity reagents for labeling ATPase and kinases, and in the elucidation of structure-function relationships of enzymes. Starting date: 1 April 1988. Send curriculum vitae by 1 December 1987 to: Karen Connolly, SUNY/Bufalo, Einstein Chair, 170 Acheson Hall, Buffalo, NY 14214-3094. *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH PHARMACOLOGIST

Ph.D. or M.D. required. Candidates for this position should have at least 1 year of experience in the measurement of antipsychotic drugs and their metabolites in biological samples taken from patients. Candidates should demonstrate independent research experience by scientific publications. This position requires the supervision of laboratory assistants, laboratory set-up, and the teaching of fellows.

Experiences with the following analytic methods are also necessary: High-pressure liquid chromatography with UV and electrochemical detectors; radioimmunoassay; and gas chromatography. Candidates should also have experience in the development of radioimmunoassays preferably for antipsychotic drugs and their metabolites.

The salary rate is \$34,600. *We are an Affirmative Action Employer.* Submit a letter of interest, curriculum vitae, and the names of three references to:

Stephen R. Marder, M.D.
VA Brentwood
11301 Wilshire Boulevard
Building 210, Room 15, Basement
Los Angeles, CA 90073

SENIOR IMMUNOLOGIST—Riker Laboratories Inc., the Pharmaceutical Subsidiary of 3M, has an immediate opening for a Ph.D. immunologist to conduct research on the immune regulation of allergic diseases. Candidates must have a strong background and proven research capabilities in antibody regulation, and in cellular immunology. Experience with animal models and computerized data handling is desired. At least 2 years of postdoctoral research experience is required.

SENIOR LIPID BIOCHEMIST—Also, an immediate opening exists for a Ph.D. biochemist to conduct research on lipid mediators of allergic diseases. Candidates must have a strong background in receptor-based assays of lipid mediators and animal pharmacology experience. At least 2 years of postdoctoral research experience is required.

Riker Laboratories Inc. is located in St. Paul, Minnesota, and offers an innovative environment, benefits, competitive salary, and opportunities for professional advancement. For confidential consideration, please send your résumé with salary history to: P. H. Capiz (no later than 16 November 1987)—Staffing and Employee Resources/3M, Building 224-1W-02, St. Paul, MN 55144-1000. *An Equal Opportunity Employer.*

SENIOR PHARMACOLOGIST/ GROUP LEADER (CANADA)

Merck Frosst Canada Inc., a leading Canadian pharmaceutical company with modern research facilities located near Montreal, has a challenging opening for a Senior Pharmacologist in its Department of Pharmacology. The candidate should have an international scientific reputation, a proven publication record and the ability to lead a team of scientists and to define new program initiatives. The candidate should preferably be experienced in one of the following areas of pharmacology: respiratory, smooth muscle, cardiovascular, renal or gastrointestinal. The current objectives of this laboratory are to define the role of eicosanoids (in particular leukotrienes and thromboxane A₂) in a variety of pathological processes, to develop novel therapeutic approaches to the treatments of allergic and respiratory diseases and to elucidate new therapeutic targets. The successful candidate would have a unique opportunity to initiate these new programs.

Reply, in confidence, providing curriculum vitae and list of publications to: The Employment Manager, Merck Frosst Canada Inc., P.O. Box 1005, Pointe-Claire/Dorval, Que. Canada H9R 4P8.

POSITIONS OPEN

SENIOR FACULTY POSITION AND DIRECTOR UNIVERSITY OF CALIFORNIA SOUTHERN OCCUPATIONAL HEALTH CENTER

The University of California, Irvine, is seeking nominations and applications for the position of Director of the Southern Occupational Health Center (SOHC). A candidate for Director may also be considered a candidate for the Chair of the Department of Community and Environmental Medicine, UCI. Irvine is the lead campus for academic programs in occupational health at Irvine and Los Angeles (UCLA). The Center provides a focus for graduate degree and residency programs in occupational medicine, industrial hygiene, toxicology, epidemiology, ergonomics, and other specialty areas related to occupational health and safety.

Qualifications of the Director should include national stature as a scholar and leader in occupational medicine or other specialty area in occupational health, and significant experience as an academic administrator. A physician is preferred, but other specialists with research doctoral degrees will be considered. All candidates must qualify for professorial rank (tenured) in the UCI College of Medicine.

Salary is competitive and commensurate with qualifications.

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

Please send nominations and/or applications by 15 December 1987 to:

Search Committee for the Director of the SOHC
Dean's Office, College of Medicine
University of California, Irvine
Irvine, CA 92717

SENIOR FACULTY POSITION IN GENETICS DEPARTMENT OF BIOLOGY THE JOHNS HOPKINS UNIVERSITY

We invite applications or nominations for a tenured position at the full professor level. We are searching for a distinguished individual with an active research program in molecular genetics. The Department of Biology is located in a modern building with outstanding facilities on the Homewood campus of the University.

For further information telephone: 301-338-7285. To apply or nominate, send curriculum vitae before 1 December 1987 to:

Allen Shearn
Chairman, Genetics Search Committee
Department of Biology
The Johns Hopkins University
Baltimore, MD 21218

The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

SENIOR RESEARCH ASSISTANT: Starts 1 January 1988. To conduct research on human natural killer (NK) cells in tumor development. Duties include computer instruction and operation of an Epics 541 flow cytometer. Requirements include completion of academic requirements for M.S. in microbiology/immunology; 2 years of computer instruction; experience with Epics flow cytometer, prefer 541; human tissue culture and assays for polys and NK cells. Starting salary \$15,600 per year. Applications accepted for one month. Send résumé and three reference letters to: Antony Bakke, Ph.D., Oregon Health Sciences University, L471, Portland, OR 97201. *Affirmative Action Employer.*

SENSORY NEUROPHYSIOLOGIST: Tenure-track possibility for position available at assistant professor level. Serious commitment to collaborative work within the Microsurgical Research Center. Expertise required to characterize electrophysiologically the properties of central axons which have regenerated along peripheral nerve implants. Preference given to applicants experienced in spinal cord neurophysiology and tract-tracing and histological techniques. Please send curriculum vitae with three letters of recommendation to: Dr. Julia Terzis, Microsurgical Research Center, Eastern Virginia Medical School, P.O. Box 1980, Norfolk, VA 23501.

POSITION ANNOUNCEMENT CELL AND MOLECULAR BIOLOGISTS

The School of Life Sciences at the University of Illinois, Urbana-Champaign, announces the further development of its graduate and undergraduate programs and an expansion of its faculty in an emerging department of eukaryotic cell and molecular biology. Several new tenure-track faculty will be recruited over the next several years at the Assistant and/or Associate Professor levels. Up to two of these positions will be filled for the 1988-89 academic year, with a starting date of August 21, 1988. Applicants should hold the Ph.D. degree or equivalent, and show exceptional promise in research, which preferably should address molecular issues in developmental, neural, or cell biology. Salary will be commensurate with rank and experience. Duties will include participating in the teaching of courses in the broad areas of eukaryotic cell and molecular biology.

Substantial start-up funds and laboratory facilities will be available to initiate new faculty research programs for which the UIUC offers exceptional and broad-based supporting resources. These resources include the Center for Electron Microscopy, with state of the art instrumentation; the Center for Biotechnology, which includes facilities for molecular cloning and DNA and protein synthesis and sequencing; the Cell Science Center, which houses and staffs a hybridoma facility and flow cytometry unit; School of Life Sciences-subsidized shops; and a superb university library system, the third largest in the nation. The UIUC is a National Center for Supercomputing Applications, and construction of the Beckman Institute for Advanced Science and Technology, which will combine research in the physical and biological sciences, is well underway. Many other units within the Schools of Life Sciences and Chemical Sciences and the Colleges of Medicine and Engineering offer opportunities for interactions in the cellular and molecular sciences.

Urbana-Champaign combines the residential advantages of a medium-sized city (population 120,000) with outstanding cultural amenities within the University, and its location in east-central Illinois gives easy access to the cities of Chicago and St. Louis.

Applicants are requested to send a curriculum vitae, a summary of research interests, and three letters of reference to:

David L. Stocum, Search Committee Chairman
School of Life Sciences
University of Illinois
393 Morrill Hall
505 S. Goodwin Ave.
Urbana, IL 61801
Telephone: (217) 333-6118

In order to ensure full consideration, applications should be received by February 15, 1988.

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

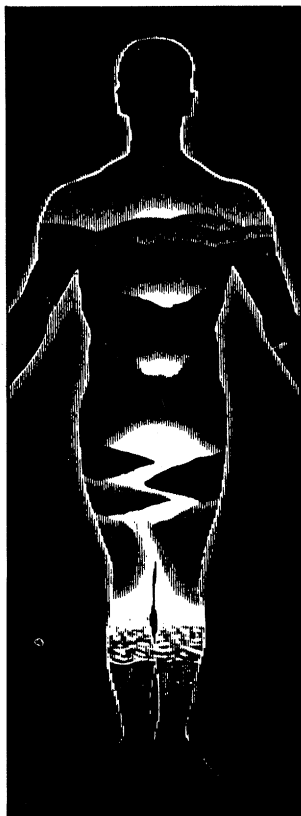
Manager, Industrial Toxicology

The Occupational Health and Safety Department of SmithKline Beckman Corporation announces the new position of Manager, Industrial Toxicology, located at world corporate headquarters in Philadelphia. Incumbent will evaluate toxicological information on research compounds, products and workplace materials, and manage the hazard communication program. Responsibility involves all major components of SKB's health care related businesses.

A Ph.D. or M.S. in toxicology, or equivalent experience, is required, with seven or more years professional experience in toxicology, at least two of which are in industrial toxicology. Must be knowledgeable re: testing protocols, reference databases and regulatory issues including hazard communication requirements. Experience with computer systems is also required.

Top tier corporation offers high quality professional and personal environment. Competitive compensation includes stock options and flexible benefits in 1988. Submit resume to F. J. Beston, SmithKline Beckman Corporation, 1540 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

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Lipoprotein Receptors

BIOCHEMIST/ MOLECULAR BIOLOGIST (PhD)

Our Wallingford, Connecticut world headquarters is an advanced, multi-million dollar setting for pharmaceutical research. Interdisciplinary cooperation is encouraged. The opportunities for professional advancement and recognition are exceptional.

As a PhD in Biochemistry or Molecular Biology, you can enjoy a high-visibility role on a team that is exploring the molecular regulation of LDL receptors. Prior experience with lipoprotein receptors is necessary. Postdoctoral experience would be helpful.

BRISTOL-MYERS offers sustained growth, highly competitive salaries, extensive benefits and career support. Our countryside location is convenient to New Haven and Hartford, Connecticut, New York City and New England. Please send resume with salary history to: BRISTOL-MYERS COMPANY, Pharmaceutical Research & Development Division, Attn: TZ1, P.O. Box 5100, 5 Research Parkway, Wallingford, CT 06492.

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POSITIONS OPEN

SENIOR PEPTIDE/PROTEIN BIOCHEMIST

Cortech is a Denver-based research and development company in the human health care industry. We are seeking a senior biochemist with at least 2 years of postdoctoral training in protein chemistry and peptide synthesis. The successful applicant must be able to work independently in a multidisciplinary research group and be experienced in state-of-the-art peptide synthesis, amino acid analysis, HPLC, and protein chemistry techniques. Cortech offers a competitive salary and benefits package including opportunity for stock options. Please send résumé to: **Dr. Timothy C. Rodell, Cortech, Inc., 6840 North Broadway, Unit F., Denver, CO 80221.**

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STAFF DIRECTOR BOARD ON ASSESSMENT OF NATIONAL BUREAU OF STANDARDS PROGRAMS

The National Research Council is seeking a Staff Officer to manage, direct, and assure scientific quality for activities of this board, which continuously evaluates the scientific functions and operations of the National Bureau of Standards of the U.S. Department of Commerce, primarily through annual reviews of each of the major NBS technical units. Principal responsibilities include financial oversight, relations with the Department, and oversight of preparation of evaluative reports. Candidates should have a Ph.D. or equivalent in a technical discipline relevant to the NBS program, and four or more years of experience directly relevant to the administration of a technically oriented program. Technical experience and interest is highly desirable. Demonstrated organizational abilities, interpersonal skills, and writing abilities also desired. Please submit résumé to: **National Research Council, Position #606.001, 2101 Constitution Avenue, N.W., Washington, DC 20418.** *Equal Opportunity Employer.*

UNIVERSITY OF COLORADO HEALTH SCIENCES CENTER STRUCTURAL BIOLOGY

The Department of Cellular and Structural Biology seeks candidates for a **FACULTY POSITION** in structural biology and anatomy. Applicants should provide evidence of research contributions in developmental biology, neurobiology, physical anthropology, or other areas of modern structural biology, and have experience in teaching vertebrate anatomy. Since the department has facilities for state-of-the-art computer imaging of macroscopic and microscopic structures, opportunities are available for research and teaching applications of image processing and three-dimensional reconstruction. Persons familiar with human anatomy who have knowledge of computer approaches to imaging or of radiological modalities for visualizing cross-sectional anatomy are particularly encouraged to apply.

Applicants should have an M.D. or Ph.D. degree with a strong academic background. Depending on qualifications, rank and salary are negotiable, and future opportunities for leadership are available.

Interested individuals should submit a complete curriculum vitae and the names of three or more referees familiar with their work. Applications will be accepted until 15 December 1987, by:

David G. Whitlock, M.D., Ph.D.

**Chairman: Search Committee for Structural Biology
Department of Cellular and Structural Biology
University of Colorado School of Medicine
4200 East Ninth Avenue, B111
Denver, CO 80262**

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

TOXICOLOGIST, Ph.D.

Successful midwest laboratory seeking candidate to head department. Responsibilities include: new test development and performance, screening and confirmation, quality control, and interfacing with client companies. Qualifications: Ph.D. in toxicology or pharmacology, career experience in forensic application of toxicology, including court testimony. Curriculum vitae and salary expectations to: **Personnel Manager, Continental Bio-Clinical Laboratory Service, 2740-28th Street SW, Grand Rapids, MI 49509.**

POSITIONS OPEN

SUMMER FACULTY POSITIONS IN SPACE LIFE SCIENCES TRAINING PROGRAM (SLSTP), A NASA PROJECT

Four Project Counselor positions are open in the 1988 Space Life Sciences Training Program (SLSTP) to be held at the Kennedy Space Center, Florida. Project counselors will be involved in the implementation of the 6-week-long program activities for undergraduate college students. An applicant must have a minimum of M.S. degree, preferably Ph.D. degree, and some experience of teaching and research in life sciences and related fields. If interested, please send a letter of application, complete curriculum vitae and three letters of recommendation before 31 December 1987 to:

**Program Director, SLSTP
Florida A&M University
College of Pharmacy
and Pharmaceutical Sciences
P.O. Box 367
Tallahassee, FL 32307
Telephone: 904-599-3636**

THEORETICAL POPULATION BIOLOGIST

The Department of Biological Sciences at the State University of New York at Binghamton invites applications for a tenure-track faculty position in theoretical population biology. Proficiency in combining mathematical modeling with empirical research to test theoretical predictions is desired along with an interest in contributing to the development of a center for organized research in environmental adaptation. Candidates must have the ability to support productive research laboratory, maintain a dynamic graduate training program and interact with excellent undergraduate students. Appointment will be at the assistant or associate professor level.

Applicants should send a letter of application, including a statement of research and teaching interests, curriculum vitae, copies of recent publications, and the names, addresses, and telephone numbers of three referees to:

**Dr. Dale Madison
Search Committee Chair
Department of Biological Sciences
SUNY-Binghamton
Binghamton, NY 13901**

Applications accepted until the position is filled. *State University of New York is an Equal Opportunity Affirmative Action Employer.*

UNIVERSITY OF UTAH DEPARTMENT OF BIOCHEMISTRY

TWO TENURE-TRACK POSITIONS are available for autumn 1988. Preference will be given to applicants at the level of assistant professor, but candidates for associate professor will also be considered. Applicants should hold a doctoral degree, have postdoctoral experience and demonstrable research ability. Although areas of research are open, they should fall into the broad province traditionally understood as being biochemistry. Teaching responsibilities are largely to graduate and medical students. Interested individuals should submit curriculum vitae, a statement of research background and interests, and three letters of recommendation to: **Faculty Search Committee, Department of Biochemistry, University of Utah School of Medicine, Salt Lake City, UT 84132.** Deadline for applications is 15 December 1987; late applications may be considered if openings are still available. *Equal Opportunity/Affirmative Action Employer.*

UROLOGIC RESEARCH POSITION

A tenure-track position is available for an individual to further develop a research effort in urology. Applicants should have a Ph.D. with background in cell biology and/or biochemistry, and some postdoctoral experience. Current projects involve research into growth factors that play a role in mechanisms of carcinogenesis with respect to prostate malignancy, but the recruited individual would have the opportunity to develop independent research as well. The position is tenure-track, and salary is commensurate with experience. Please send curriculum vitae and any letters of support to: **Mark J. Noble, M.D., Urology, KU Medical Center, 39th and Rainbow, Kansas City, KS 66103.**

POSITIONS OPEN

DEPARTMENT OF BIOLOGY UNIVERSITY OF OTTAWA

Applications are invited for two **TENURE-TRACK POSITIONS** in the fields of cell and molecular biology and evolutionary biology. These positions are available at the assistant professor level, but exceptional applicants at higher levels will also be considered. The successful applicants will be expected to establish independent, externally funded research programs, and to participate in undergraduate and graduate teaching. The University of Ottawa is a bilingual institution; the ability to teach in both English and French is an asset. *In accordance with employment and immigration policies, priority will be given to Canadian citizens and permanent residents.*

The effective date of the appointments is 1 July 1988. Applicants should forward, before 1 December 1987, curriculum vitae that includes a statement of research and teaching interests, and should arrange to have three letters of reference sent to: **Dr. David L. Brown, Department of Biology, University of Ottawa, Ottawa, Canada K1N 6N5.**

RESEARCH GRANTS

PARKINSON RESEARCH GRANTS

The National Parkinson Foundation, Inc., of Miami, Florida, invites the submission of grant proposals for Parkinson research. A total of \$100,000 will be made available to support basic bench research on Parkinson's Disease. The award for a single grant will not exceed \$40,000. The application deadline is 1 February 1988; starting date will be 1 June 1988. It is required that proposed studies specifically focus on mechanisms involved in the disease process and that they have the potential of finding the cause and prevention of Parkinson's Disease. Proposals will be assessed by the National Parkinson Foundation Scientific Advisory Board. To obtain submission information, please write to:

**National Parkinson Foundation
Research Grants
1501 NW 9th Avenue
Miami, FL 33136**

TRAINING PROGRAMS

UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)— INTERCAMPUS MEDICAL GENETICS TRAINING PROGRAM

The UCLA Intercampus postdoctoral research training program in Medical Genetics utilizes the research and clinical resources of its affiliated campuses and teaching hospitals. This program is open to academically oriented applicants with the M.D., Ph.D., D.D.S., or equivalent degrees. A wide variety of research training opportunities in molecular, biochemical, immuno-, cancer, cyto-, somatic cell, population, and clinical genetics are available. The program also meets all the requirements of the American Board of Medical Genetics. Application forms are available from **David Rimoin, M.D., Ph.D., Department of Pediatrics, Cedars-Sinai Medical Center, 8700 Beverly Boulevard, Los Angeles, CA 90048.**

FELLOWSHIPS

POSTDOCTORAL RESEARCH FELLOWSHIPS

Position available 1 January 1988, to study the molecular biology of the retrovirus-like Ty transposable element in yeast. This individual will join an expanding group that is part of the Basic Research Program emphasizing eukaryotic gene expression and regulation and molecular oncology. Experience with yeast genetics or molecular retrovirology is desirable, but not essential. For further information contact:

**Dr. David J. Garfinkel
BRI-Basic Research Program
NCI-Frederick Cancer Research Facility
P.O. Box B, Building 539
Frederick, MD 21701**

Equal Opportunity Employer M/F/H/V.

NATIONAL INSTITUTES OF HEALTH

PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

The National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) invites nominations and applications for the position of Chief, Laboratory of Neuronal Growth and Regeneration (LNGR), Division of Intramural Research (DIR). This is a Civil Service position in the Senior Executive Service with a salary range of \$64,700-\$73,400 per annum. The person selected may be eligible for Physician's Comparability pay ranging from \$4,000 to \$10,000 per year. A one-year probationary period must be served by the individual selected if not currently in the Senior Executive Service.

The Chief, Laboratory of Neuronal Growth and Regeneration provides technical and administrative direction and leadership to the Institute's research program in neuronal growth, regeneration, and implantation of neural tissue and serves as the focal point within the Federal sector, scientific community and the public for these activities.

For more information on the position, contact Dr. Eugene Streicher on 301/496-5745. For information regarding qualifications requirements, contact Ms. Janet Clagett on 301/496-6334. The following forms are required: Application for Federal Employment (SF-171) accompanied by a current curriculum vitae and bibliography. These must be submitted to: Ms. Janet E. Clagett, National Institutes of Health, NINCDS Personnel Office, Building 31, Room 8A25, 9000 Rockville Pike, Bethesda, Maryland 20892.

Applications must be postmarked no later than November 30, 1987.

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

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POSTDOCTORAL POSITIONS Institute for Molecular and Cellular Biology at Indiana University

Postdoctoral fellowships supported by the Indiana Corporation for Science and Technology are available in a strong program of basic research in cell biology, developmental biology, genetics, molecular biology, and plant growth and development. The Institute is located on the Bloomington campus, a stimulating cultural, academic, and research center in the wooded hills of southern Indiana. Appointments will be made starting January 1, 1988. Positions are available in the laboratories of the following Institute Fellows.

Thomas Blumenthal
Jose Bonner
Peter Cherbas
Keith Clay
Martha Crouch
Mark Estelle
George Hegeman
Judith Jaehning
Gary Janssen
Thomas Kaufman

Arthur Koch
Paul Mahlberg
George Malacinski
Karen Muskavitch
Marc Muskavitch
Gary Olsen
Norman Pace
Barry Polisky
John Preer
Frank Putnam

Elizabeth Raff
Rudolf Raff
Walt Ream
John Richardson
Rollin Richmond
Susan Strome
Milton Taylor
Robert Togasaki

Information on faculty research programs is available from individual faculty or from the Institute. Applications received by December 1, 1987 will be assured of consideration. Applications, including curriculum vitae, the names of three references, and a statement of research interests, should be sent to: **The Director, Institute for Molecular and Cellular Biology, Jordan Hall 322A, Indiana University, Bloomington, Indiana 47405.**

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INDIANA UNIVERSITY

INSTITUTE FOR MOLECULAR
AND CELLULAR BIOLOGY

Sr. Scientist/ Sr. Research Scientist Clinical Biology

Develop *In Vitro/In Situ/In Vivo* Models For Studying Drug Absorption Characteristics.

We're CIBA-GEIGY, a world leader in the pharmaceuticals industry. We're continually developing products to better enhance the quality of life. Currently, we seek a Scientist experienced in oral drug absorption to join us at our Pharmaceuticals Division headquarters in Summit, New Jersey.

You will be responsible for developing *in vitro/in situ/in vivo* models for studying drug absorption characteristics of lead compounds and their analogs to predict physicochemical alterations necessary to optimize oral drug absorption. A strong background in physico-chemical properties of organic compounds and their relationship to drug transport through G.I. membrane is essential. A PhD in basic Pharmaceuticals and 0-3 years' experience in oral drug absorption are required.

In return for your expertise, we offer a competitive salary, excellent benefits and an environment that promotes both personal and professional growth. Please forward your resume, with salary history and requirements, to: Ms. Virginia G. Jordan, Dept. 482, The Pharmaceuticals Division, CIBA-GEIGY Corporation, 556 Morris Avenue, Summit, NJ 07901. We are an equal opportunity employer m/f/h/v.

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FELLOWSHIPS

OPPORTUNITIES FOR ADVANCED STUDY IN MAMMALIAN REPRODUCTIVE BIOLOGY

NIH-supported predoctoral and postdoctoral training opportunities with an interdepartmental, multidisciplinary orientation. Research areas include: glycoprotein synthesis and role in implantation (**Carson**), steroid hormones and carcinogenesis (**Jones**), neuroendocrine control of gonadal function in primates (**Knobil**), biosynthesis and function of glycoproteins in differentiation (**Lennarz**), protein transitions in spermatogenesis and reproductive toxicology (**Meistrich**), control of placental blood flow and fetal cardiac output (**Parisi**), molecular mechanisms controlling spermatogenesis and uterine relaxation (**Sanborn**), cell interactions during fertilization and early development (**Shur**), Sertoli cell function and regulation of testicular functions (**Steinberger**), receptor-chromatin interactions and testicular polyamine metabolism (**Tsai**), placental prostaglandins in hypertension, pregnancy, and labor (**Walsh**), chemistry of glycoprotein hormones and inhibin (**Ward**). Limited to U.S. citizens and permanent residents. Send inquiries to: **Dr. B. Sanborn, Director, Training Program in Mammalian Reproduction, Department of Biochemistry and Molecular Biology, University of Texas Medical School at Houston, P.O. Box 20708, Houston, TX 77225.**

The University of Texas is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

ACADEMIC ANESTHESIOLOGY FELLOWSHIPS

Department of Anesthesiology
University of Michigan
Medical School
Ann Arbor, MI 48109-0048
Telephone: 313-936-4235

The Department of Anesthesiology at Michigan is offering Academic fellowships for the 1988 to 1989 Academic Year in Pediatric Anesthesiology, Obstetrical Anesthesiology, Cardiovascular Anesthesiology, and Research in Anesthesia. Minimum qualifications include: Board eligibility. These fellowships are designed for individuals looking towards a career in academic anesthesiology. Forty percent of each fellow's effort will be devoted to clinical care; 60% will be devoted to research.

Please contact: **J. S. Finch, M.D., Professor and Chairman at the address and telephone number listed above for further information.**

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POSTDOCTORAL FELLOWSHIP. A vacancy exists for a postdoctoral fellow interested in studying the regulation of immunity to tumor transplantation antigens and histocompatibility antigens. Applicants should have basic training in immunobiology. Starting salary will be \$18,500 plus liberal fringe benefits. Subsidized Institute housing is available.

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

Send curriculum vitae and names of three references to:

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

NIH POSTDOCTORAL FELLOWSHIPS available at Loma Linda University in Southern California for U.S. citizens or permanent residents with Ph.D. interested in molecular biology or receptor biology of growth factors. Fellows will join large multidisciplinary, multinational laboratory focused on the interactions between growth factors and connective tissue cells, with emphasis on the role of growth factors and their receptors in regulating cellular functions in disease and health. Research projects available in molecular biology, receptor studies, protein purification, enzyme kinetics, monoclonal antibody production, cell culture, histochemistry, morphometry, and protein synthesis. Competitive stipend, including health benefits, commensurate with experience. Send curriculum vitae and two letters of reference to: **David Baylink, M.D., Research Service (151), Pettis VA Hospital, Loma Linda, CA 92357.**

FELLOWSHIPS

DOCTORAL FELLOWSHIPS IN MOLECULAR BIOLOGY

The University of Illinois announces the availability of Ph.D. graduate fellowships for interdisciplinary training in molecular biology of infectious diseases and the physiology of growth/reproduction. Successful candidates will have the opportunity to study and work with faculty in the Departments of animal science, biochemistry, microbiology and veterinary pathobiology. Faculty interests encompass basic and applied research in molecular genetics of bacteria, viruses, and parasites as well as molecular immunology and genetics of growth/reproduction. The curriculum will emphasize molecular biology and will be tailored to the department or area of the student's interest. In addition to dissertation research with a selected faculty member, students will have access to other laboratories via special research projects as well as an opportunity for instruction in our campus-wide Genetic Engineering and Hybridoma/Flow Cytometry laboratories.

To qualify, individuals must be a U.S. citizen with an excellent scholastic record and have a B.S. degree in some area of biology. Postbaccalaureate, graduate training or other relevant experience will be favorably considered. Individuals with D.V.M. or M.D. degrees are also encouraged to apply. The selected candidates will receive a 12-month stipend of \$15,000 plus a tuition and fee waiver.

Applications will be considered at any time for the 1987 to 1988 academic year. Interested applicants should forward résumés and three letters of reference to: **Dr. Wayne A. Tompkins, Department of Veterinary Pathobiology, University of Illinois, 2001 South Lincoln Avenue, Urbana, IL 61801.**

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

FELLOWSHIPS

Research applications in one of the mathematical, physical, or biological sciences are being accepted. *Applications from women are particularly encouraged.*

Grants-in-Aid—\$750—for students in a degree program. Deadline: 1 February 1988.

Eloise Gerry Fellowships—\$1500 to \$4000—applicant must have Ph.D. or M.D. Deadline: 1 December 1987.

For further information:

**Sigma Delta Epsilon
Graduate Women in Science, Inc.
P.O. Box 4748
Ithaca, NY 14852**

POSTDOCTORAL FELLOWSHIP available immediately in **BIOCHEMICAL GENETICS** for a Ph.D. or M.D. to work on research projects involving lysosomal storage diseases, neuromuscular disease, or cystic fibrosis. A Ph.D. in biochemical genetics, cell biology, or biochemistry preferred. **CLINICAL GENETICS** fellowship available immediately for an M.D. emphasizing dysmorphology, teratology, and genetic counseling. Applicant should have a minimum of 2 years of residency training. Send résumé and three references to: **Georgirene Vladutiu, Ph.D., Acting Director, Division of Human Genetics, Children's Hospital, SUNYAB, 219 Bryant Street, Buffalo, NY 14222.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOWSHIP available immediately. Study involves VLDL influences on cultured endothelial cell fibrinolytic protein synthesis at the translational and transcriptional levels (use of cDNA probes) including activator binding studies. Send curriculum vitae and names of three references to: **Dr. F. M. Booyse, Division of Cardiovascular Disease, University of Alabama at Birmingham, 1038 Zeigler Research Building, Birmingham, AL 35294.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOWSHIP beginning February 1988. To study the molecular mechanisms of fusion of HIV and other enveloped viruses with cell membranes. Ph.D. in virology, molecular biology, or biochemistry required. Please send curriculum vitae, a statement of research interests, and the names and telephone numbers of three references by 13 November 1987, to: **Dr. Nejat Düzgünes, Cancer Research Institute, University of California, San Francisco, CA 94143-0128.**

FELLOWSHIPS

C. H. BEST FOUNDATION POSTDOCTORAL FELLOWSHIPS

In diabetes research, molecular endocrinology, molecular biology, differentiation, reproductive biology, immunology, structure and function of membranes, or lipid metabolism. Tenable in the Banting and Best Department of Medical Research for 2 years after 1 July 1988 with a competitive stipend. Available to new Ph.D.'s or candidates with less than 2 years of postdoctoral training by 30 June 1988. Send curriculum vitae, transcripts, and three letters of reference, preferably before 15 November 1987 to: **Dr. Arnis Kukis, Fellowship Committee Chairman, Banting and Best Department of Medical Research, University of Toronto, Toronto, Ontario M5G 1L6.**

POSTDOCTORAL FELLOWSHIPS

The Feinberg Graduate School of the Weizmann Institute of Science is now offering postdoctoral fellowships in the following fields of study: **BIOLOGY, PHYSICS, CHEMISTRY, MATHEMATICS, BIOCHEMISTRY-BIOPHYSICS, and SCIENCE TEACHING.**

These fellowships are intended for young scientists who have recently received a Ph.D. degree.

The fellowship provides a 12-month stipend (with COL adjustments), a relocation allowance and airfare to Israel. If the fellowship is renewed for a second year, return airfare is provided.

Application forms and additional information may be obtained from:

**The Feinberg Graduate School
The Weizmann Institute of Science
Rehovot, 76100 Israel**

Applications are reviewed twice each year:
1 January and 15 May

OPENINGS FOR SCIENTISTS

The Weizmann Institute of Science is now offering a limited number of temporary appointments to the position of Scientist. Candidates must have completed 2 years of postdoctoral work.

Appointments will be made in all the areas of scientific research at the Institute: **BIOLOGY, PHYSICS, CHEMISTRY, MATHEMATICS, BIOCHEMISTRY-BIOPHYSICS, AND SCIENCE TEACHING.**

Appointments are for a period of 1 year; however, they may be extended for a period not to exceed 5 years from receipt of Ph.D. degree (or equivalent). Successful appointees will be eligible to apply for promotion to the position of senior scientist.

Financial remuneration for a scientist is at the level of lecturer and includes all of the associated benefits. In addition, a relocation stipend is provided.

Application forms and additional information may be obtained from

**The Feinberg Graduate School
The Weizmann Institute of Science
Rehovot, 76100 Israel**

Applications are reviewed twice each year:
1 January and 15 May

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

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GRANTS AVAILABLE

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Research on the Resistance of Human Tumors to Chemotherapeutic Agents

Bristol-Myers Company is pleased to announce a \$16,000,000 drug resistance research funding program. The goal of this research program is to identify the mechanisms by which human tumors become resistant to chemotherapy and to develop and test methods of overcoming such resistance. Grants will be awarded in two categories. Laboratory grants will be \$100,000 per year for five years. Five year grants of \$200,000 per year will be awarded for research which directly tests laboratory findings in human trials.

Applications are invited from qualified investigators worldwide. Applicants may be associated with academic institutions, research institutes, government laboratories or other facilities capable of conducting these types of investigations. Applications will not be accepted from individuals affiliated with or employed in the pharmaceutical industry or engaged in for-profit research.

Applications will be accepted until January 1, 1988 and will then be reviewed by a panel of experts, independent of Bristol-Myers. Awards will be announced on or about April 1, with funding commencing July 1, 1988. Additional information about this program can be obtained by writing:

Mr. Gary Doyle
Program Coordinator
Bristol-Myers Company
5 Research Parkway
P.O. Box 5100
Wallingford, CT 06492-7660
U.S.A.

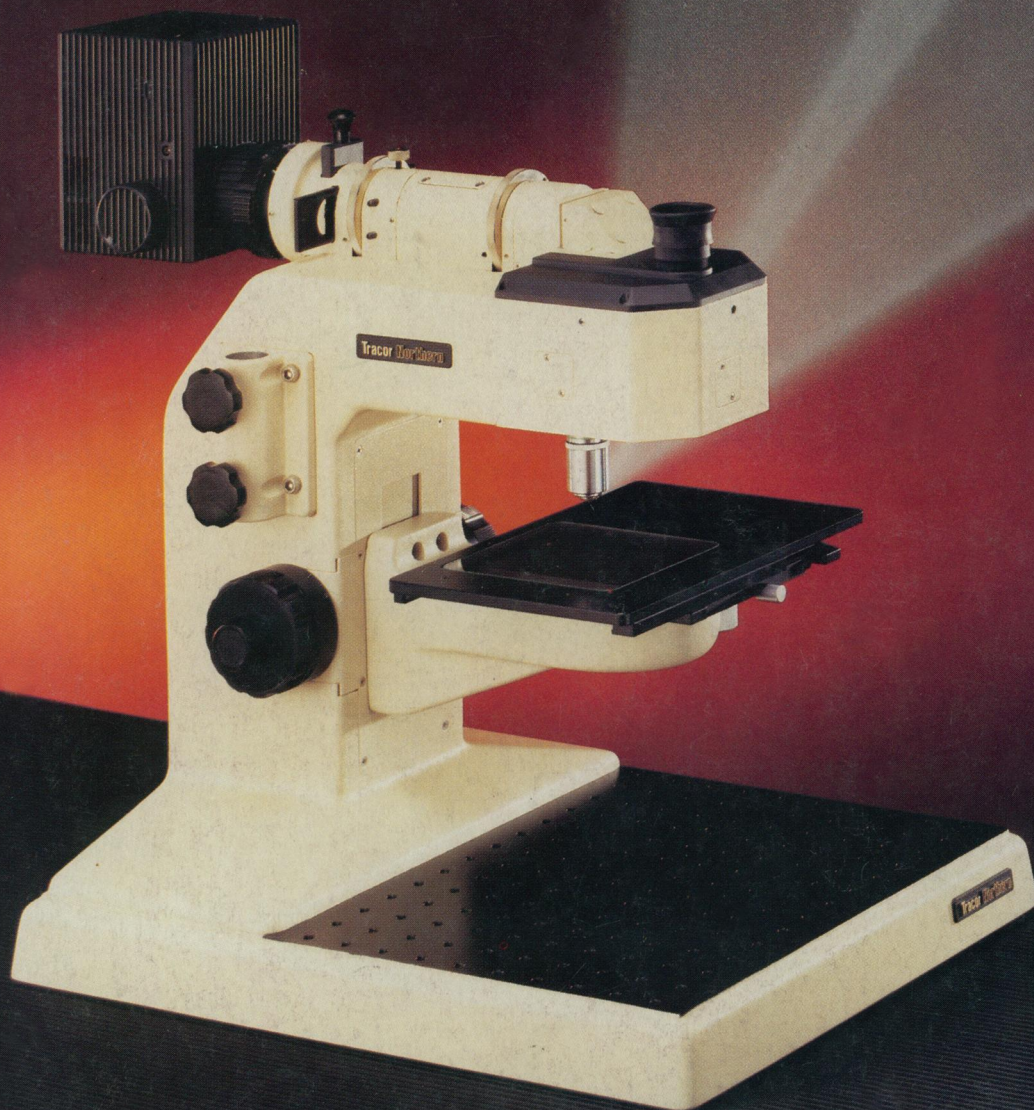
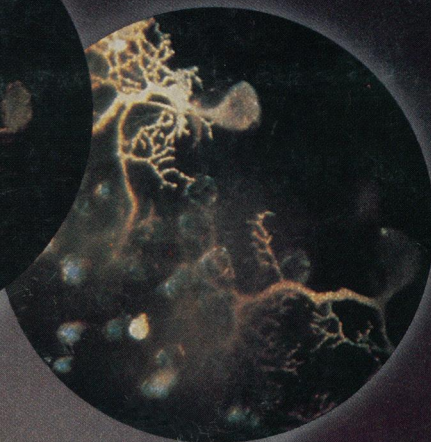
CONFOCAL LIGHT MICROSCOPY

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Contrast and resolution far superior to any conventional light microscope!

Tracor Northern introduces the revolutionary Confocal Tandem Scanning Reflected Light Microscope (TSM). This powerful instrument offers capabilities simply not possible with conventional light microscopes.

Optical Sectioning: Purkinje cell, mouse cerebellum. Photo at left taken at 7.5 microns below the surface of the sample. Photo at right taken at 15 microns below the surface.



Confocal imaging offers improved horizontal resolution — as much as 1.4 times that of a conventional light microscope. In addition, TSM provides powerful optical sectioning. This feature allows imaging at any depth (or depths) within a sample, limited only by the transparency of the material and the working distance of the objective used. This feature results from the TSM's ability to reject light scattered outside the focal plane.

Explore the possibilities of Confocal Light Microscopy for your application. Circle the appropriate reader response number. We'll send you informative literature on TSM.

Tracor Northern

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