

netic system is not designed for the convenience of mathematical theorists. All theory has done is disprove postulated generalizations. The mathematical tools at hand have not revolutionized our understanding of the evolutionary process.

The papers in this well-produced volume reflect this. They are excellent papers, clarifying how various phenomena are best described mathematically (such as effective population sizes, neutral alleles in population bottlenecks, two-locus linkage disequilibria, kin selection at two loci, and evolutionarily stable sex ratios). Many of the authors passed through Stanford or were associated with the parallel Australian school. Their mathematical powers are put to effective use, and anyone interested in mathematical theory in population genetics will find this book worthwhile to have.

At the same time, many evolutionists will fail to find the clear and simple messages that population genetics theory once seemed to promise. Sabin Lessard's careful examination of genetic models of sex ratio is typical here. After much work, Lessard is unable to conclude in favor of a simple rule put forward by the late Robert MacArthur. But he notes that the exceptions to it are rare and of small effect. Mendelian genetic systems are maddeningly close to allowing simple and general conclusions to be drawn. Similar situations occur in the papers by Marcy Uyenoyama on multilocus kin selection and to a lesser extent by Uri Liberman and Marcus Feldman on evolution of migration rates.

All of which is not to say that the models in this book are divorced from reality. A number of the papers are inspired by the need to draw conclusions about the role of selection in molecular evolution of proteins observed electrophoretically (papers by Warren Ewens, Geoffrey Watterson, and Simon Tavaré) or by sequencing (John Gillespie), of interspersed DNA repeats (Norman Kaplan and Richard Hudson), or of HLA (Walter and Julia Bodmer). Jonathan Roughgarden develops theory relevant to when marine life cycles will have benthic stages, Feldman and Luca Cavalli-Sforza attack models of gene-culture coevolution in the case of human lactose intolerance, and Peter O'Donald and Michael Majerus integrate theory and experiments on ladybird beetle color polymorphisms.

It is clear from those papers that, with enough information, population genetics theory can be extraordinarily powerful. It is when we must generalize over a wide range of possible models that the intractability of the mathematics becomes infuriating. When computer simulations are done on a less general, more realistic range of models the

models behave in a less lawless fashion. It would be a great help if we could find some way to express that in the theory. How to do so is one of the main challenges of the future. The papers in this volume are a fair portrait of population genetics theory at a moment when it has cleaned up its act mathematically but has yet to find a way through the resulting complexity to speak powerfully to a future generation of evolutionists.

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## Macrocyclic Chemistry

**The Chemistry of Macrocyclic Ligand Complexes.** LEONARD F. LINDOY. Cambridge University Press, New York, 1989. viii, 269 pp., illus. \$69.50.

The Pimentel Report, *Opportunities in Chemistry* (National Academy Press, Washington, D.C., 1985), predicted that chemistry was on the verge of a renaissance because of the emerging ability to fold experiment and theory together to design chemical structures with properties of choice. This ability is amply demonstrated in the field of macrocyclic chemistry, where scientists with organic, biochemical, and inorganic backgrounds have produced novel compounds that show remarkably selective chemical behavior. This work has attracted attention in many fields where selectivity is of primary concern, including chemical catalysis, enzyme action, selective transport of ions and molecules in membrane systems, and chemical separations. The significant progress in macrocyclic chemistry is reflected by the selection of three of its pioneers—C. J. Pedersen, D. J. Cram, and J.-M. Lehn—for the 1987 Nobel Prize in chemistry.

The creation of new molecules with predetermined properties is not a trivial process. It requires a combination of factors including recognition of a problem, a creative approach to its solution, the ability to visualize the molecular properties needed, and the ability to synthesize the required compound. Central to this process are the thought processes that precede the actual synthetic work.

Using many examples, Lindoy has provided a well-organized overview of the main developments in the chemistry of macrocycles. He emphasizes the description of the many types of macrocycles that have been prepared and studied. The examples given offer convincing evidence that macrocycles have excellent selectivity for particular ions

and molecules and that their presence can result in significant modifications of the chemical properties of the complexed species.

The book discusses the structures and properties of macrocyclic compounds; the synthesis of macrocycles; the complexation chemistry of polyether crowns, cryptands, aza crowns, cyclophanes, cyclodextrins, and naturally occurring macrocycles; molecular recognition aspects; and kinetic, thermodynamic and electrochemical aspects of a variety of macrocyclic systems.

The chapter on natural macrocycles provides a good summary of the variety of these compounds found in nature. Their uses in biological systems are many and varied. One of their most interesting characteristics is the way in which they change the properties of metal ions. This ability is illustrated by iron (II), which will bind O<sub>2</sub> in its myoglobin complex, and vitamin B12, where bound cobalt plays an important role. Lindoy gives numerous examples of the active effort to design synthetic macrocycles to mimic the cation binding behavior of natural systems.

The book is organized and written appropriately for a senior undergraduate or graduate course on macrocyclic chemistry. It will also be of interest to the non-specialist who desires a general introduction to macrocyclic chemistry. References are supplied throughout, and the excellent illustrations make it easy to follow the text.

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## Reprints of Books Previously Reviewed

**Natural Obsessions.** Natalie Angier. Warner, New York, 1989. Paper, \$14.95. Reviewed **242**, 602 (1988).

**Racial Hygiene.** Medicine Under the Nazis. Robert Proctor. Harvard University Press, Cambridge, MA, 1989. Paper, \$12.50. Reviewed **242**, 785 (1988).

## Books Received

**Central Limit Theorems for Generalized Multilinear Forms.** P. de Jong. Centrum voor Wiskunde en Informatica, Amsterdam, 1989. viii, 84 pp. Paper, Dfl. 14.10. CWI Tract 61.

**The Challenge of d and f Electrons.** Theory and Computations. Denis R. Salahub and Michael C. Zerner, Eds. American Chemical Society, Washington, DC, 1989. x, 405 pp., illus. \$89.95. ACS Symposium Series, vol. 394. From a symposium, Toronto, Ontario, June 1988.

**Characterizations of Banach Spaces Not Containing 1<sup>1</sup>.** D. van Dulst. Centrum voor Wiskunde en Informatica, Amsterdam, 1989. vi, 163 pp. Paper, Dfl. 25.30. CWI Tract 59.

**Chemical Hazards of the Workplace.** Nick H. Proctor, James P. Hughes, and Michael L. Fischman. 2nd ed. Lippincott, Philadelphia, 1989 (distributor, Van Nostrand Reinhold, New York). xviii, 573 pp. \$56.95.

**The Chemistry of Macrocyclic Ligand Complexes.** Leonard F. Lindoy. Cambridge University Press, New York, 1989. viii, 269 pp., illus. \$69.50.

**A Dictionary of Plant Pathology.** Paul Holliday. Cambridge University Press, New York, 1989. xvi, 369 pp. \$55.

**Dispersal in Rodents.** A Resident Fitness Hypothesis. Paul K. Anderson. American Society of Mammalogists, Provo, UT, 1989. viii, 141 pp. \$18 Special Publication no. 9.

**Gauge Field Theories.** Stefan Pokorski. Cambridge University Press, New York, 1989. xiv, 394 pp., illus. Paper, \$34.50. Reprint, 1987 ed.

**Gender and Thought.** Psychological Perspectives. Mary Crawford and Margaret Gentry, Eds. Springer-Verlag, New York, xvi, 201 pp. \$39.50. Based on a conference, Clinton, NY, 1987.

**Gene Transfer in the Environment.** Stuart B. Levy and Robert V. Miller, McGraw-Hill, New York, 1989. x, 434 pp., illus. \$54.95. Environmental Biotechnology.

**A General Catalog of HI Observations of Galaxies.** The Reference Catalog. W. K. Huchtmeier and O.-G. Richter. Springer-Verlag, New York, 1989. xx, 350 pp. \$60.

**The Geology of North America.** An Overview. Albert W. Bally and Allison R. Palmer, Eds. Geological Society of America, Boulder, CO, 1989. x, 619 pp., illus., + maps and microfiches. \$60. The Geology of North America, vol. A.

**Groups Acting on Graphs.** Warren Dicks and M. J. Dunwoody. Cambridge University Press, New York, 1989. xvi, 283 pp., illus. \$69.50. Cambridge Studies in Advanced Mathematics, vol. 17.

**Hazardous Waste Minimization Handbook.** Thomas E. Higgins. Lewis, Chelsea, MI, 1989. xviii, 228 pp., illus. \$49.95.

**High Precision Navigation.** Integration of Navigational and Geodetic Methods. K. Linkwitz and U. Hangleiter, Eds. Springer-Verlag, New York, 1989. xx, 627 pp., illus. \$79.50. From a workshop, Stuttgart and Altensteig, F.R.G., May 1988.

**High-Performance Single-Phase Heat Exchangers.** A. Zukauskas. J. Karni, trans. ed. 2nd ed. Hemisphere, New York, 1989. xvi, 515 pp., illus. \$175; paper, \$49.50. Translated from the Russian edition (Moscow, 1982).

**Introduction to Surface and Superlattice Excitations.** Michael G. Cottam and David R. Tilley. Cambridge University Press, New York, 1989. x, 333 pp., illus. \$79.50.

**Ivermectin and Abamectin.** William C. Campbell, Ed. Springer-Verlag, New York, 1989. xx, 363 pp., illus. \$69.

**Microelectronics Processing.** Chemical Engineering Aspects. Dennis W. Hess and Klavs F. Jensen, Eds. American Chemical Society, Washington, DC, 1989. xiv, 547 pp., illus. \$49.95. Advances in Chemistry Series, vol. 221.

**Multiphase Polymers.** Blends and Ionomers. L. A. Utracki and R. A. Weiss, Eds. American Chemical Society, Washington, DC, 1989. x, 517 pp., illus. \$99.95. ACS Symposium Series, vol. 395. From a symposium, Toronto, Ontario, June 1988.

**La Musique et les Sciences Cognitives.** Stephen McAdams and Irène Deliège, Eds. Mardaga, Liège, 1989. 649 pp., illus. BF 1850. Psychologie et Sciences Humaines. From a symposium, Paris, March 1988.

**My Life with the Printed Circuit.** Paul Eisler. Lehigh University Press, Bethlehem, PA, 1989 (distributor, Associated University Presses, Cranbury, NJ). 170 pp., illus. \$29.50.

**The Nature of Politics.** Roger D. Masters. Yale University Press, New Haven, 1989. xx, 298 pp., illus. \$25.

**Niels Bohr's Philosophy of Physics.** Dugald Murdoch. Cambridge University Press, New York, 1989. x, 294 pp. Paper, \$19.95. Reprint, 1987 ed.

**1990 Yearbook of Science and the Future.** David Calhoun, Ed. Encyclopedia Britannica, Chicago, 1989. 510 pp., illus. \$29.95.

**No Bells to Toll.** Destruction and Creation in the Andes. Barbara Bode. Scribner's (Macmillan), New York, 1989. xlviii, 559 pp. + plates. \$27.50.

**Nuclear Arguments.** Understanding the Strategic Nuclear Arms and Arms Control Debates. Lynn Eden and Steven E. Miller, Eds. Cornell University Press, Ithaca, NY, 1989. xiv, 338 pp. + floppy disk. \$49.95; paper, \$19.95. Cornell Studies in Security Affairs.

**Oil and the International Economy.** Lessons from Two Price Shocks. Georg Koopmann Klaus Matthies, and Beate Reszat. Transaction, New Brunswick, NJ, 1989. 451 pp., illus. Paper, \$24.95. Reprint, 1984 ed.

**Organic Chemical Nomenclature.** Philipp Fresenius. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 294 pp., illus. \$69.95. Ellis Horwood Books in Organic Chemistry. Translated from the German edition (Stuttgart, 1983) by A. J. Dunsdon.

**Painful Choices.** Research and Essays on Health Care. David Mechanic. Transaction, New Brunswick, NJ, 1989. xii, 248 pp. \$34.95.

**Partnerships in the Sea.** Hong Kong's Marine Symbioses. Brian Morton. Hong Kong University Press, Hong Kong, 1988. xvi, 124 pp., illus. Paper, \$32.

**The Physical Basis of the Direction of Time.** H.-Dieter Zeh. Springer-Verlag, New York, 1989. viii, 166 pp., illus. Paper, \$35.

**Protein Recognition of Immobilized Ligands.** T. William Hutchens, Ed. Liss, New York, 1989. xviii, 344 pp., illus. \$75. UCLA Symposia on Molecular and Cellular Biology, vol. 80. From a colloquium, Santa Fe, NM, Dec. 1987.

**Protein Targeting.** Anthony P. Pugsley. Academic Press, San Diego, CA, 1989. xii, 279 pp., illus. \$45.

**Pteridines and Biogenic Amines in Neuropsychiatry, Pediatrics, and Immunology.** Robert A. Levine *et al.*, Eds. Lakeshore, Grosse Pointe, MI, 1989. xix, 455 pp., illus. \$87.68. From a conference, Snowbird, UT, March 1988.

**Quantum Theory and Pictures of Reality.** Foundations, Interpretations, and New Aspects. W. Schommers, Ed. Springer-Verlag, New York, 1989. xviii, 336 pp., illus. Paper, \$49.

**Reduced Working Hours.** Cure for Unemployment or Economic Burden? John D. Owen. Johns Hopkins University Press, Baltimore, 1989. x, 181 pp. \$29.95.

**Respiration and Crop Productivity.** Jeffrey S. Amthor. Springer-Verlag, New York, 1989. xiv, 215 pp., illus. \$45.

**Science, Law, and Hudson River Power Plants.** A Case Study in Environmental Impact Assessment. Lawrence W. Barnhouse *et al.*, Eds. American Fisheries Society, Bethesda, MD, 1988. xii, 347 pp., illus. Paper, \$33; to AFS members, \$28. American Fisheries Society Monograph no. 4.

**Selectivity and Detectability Optimizations in HPLC.** Satinder Ahuja. Wiley-Interscience, New York, 1989. xiv, 610 pp., illus. \$85. Chemical Analysis, vol. 104.

**A Specification System for Statistical Software.** V. J. de Jong. Centrum voor Wiskunde en Informatica, Amsterdam, 1989. xiv, 250 pp. Paper, Dfl. 37.90. CWI Tract 62.

**Statistical Design and Analysis of Experiments, with Applications to Engineering and Science.** Robert L. Mason, Richard L. Gunst, and James L. Hess. Wiley, New York, 1989. xvi, 692 pp., illus. \$59.95. Wiley Series in Probability and Mathematical Statistics.

**Statistics for Nuclear and Particle Physicists.** Louis Lyons. Cambridge University Press, New York, 1989. xii, 226 pp., illus. Paper, \$19.95. Reprint, 1986 ed.

**Stereotyping and Prejudice.** Changing Conceptions. Daniel Bar-Tal *et al.*, Eds. Springer-Verlag, New York, 1989. x, 273 pp. \$40. Springer Series in Social Psychology.

**The Story of the NIH Grants Programs.** Stephen P. Strickland. University Press of America, Lanham, MD, 1989. vi, 103 pp. \$26.50.

**Strategic Pragmatism.** Japanese Lessons in the Use of Economic Theory. Michele Schmiegelow and Henrik Schmiegelow. Praeger, Westport, CT, 1989. x, 212 pp. \$39.95.

**Triticale.** A Promising Addition to the World's Cereal Grains. National Research Council. National Academy Press, Washington, DC, 1989. x, 105 pp., illus., + plates. Paper, \$12.

**Turtles of the World.** Carl H. Ernst and Roger W. Barbour. Smithsonian Institution Press, Washington, DC, 1989. xii, 313 pp., illus., + plates. \$45.

**2-Knots and Their Groups.** Jonathan Hillman. Cambridge University Press, New York, 1989. x, 164 pp. Paper, \$19.95. Australian Mathematical Society Lecture Series, vol. 5.

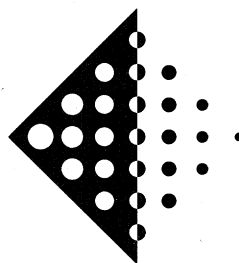
**Vacillation and Predictability Properties of Low-Order Atmospheric Spectral Models.** H. E. de Swart. Centrum voor Wiskunde en Informatica, Amsterdam, 1989. viii, 121 pp., illus. Paper, Dfl. 19. CWI Tract 60.

**Whales of the World.** Nigel Bonner. Facts on File, New York, 1989. 191 pp., illus. \$22.95.

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### Literature

The 1989 *Affinity Chromatography Media Catalog* contains a wide variety of matrices and ligands for use in the isolation and purification of biologically active molecules. The 52-page catalog includes an extensive line of immobilized enzymes and proteins, activated matrices, amino acids, carbohydrates, dyes, hydrophobics, nucleotides/coenzymes, nucleic acids, and specialty ligands and resins. Sigma Chemical Co. Circle 573.

*What's New in Biotechnology* is a brochure available from BioCommerce Data that describes its range of information services in the biotechnology industry. It includes a news monitor, bulletin on new information resources, databases, a directory of companies and organizations involved in biotechnology in the United Kingdom, consulting services, and mailing lists. BioCommerce Data. Circle 574.

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Tenure track. Strong molecular background, immunology or development specialty desirable. Teaching responsibilities include genetics lecture and laboratory, introductory biology courses, and other courses in specialty. Research expected. Women and minorities are encouraged to apply. Send résumé and three letters of recommendation to: **Dr. Sandra Winicur, Biology, Indiana University at South Bend, P.O. Box 7111, South Bend, IN 46634.** Telephone: 219-237-4356. Deadline for application is 30 December 1989 or whenever job is filled. Equal Opportunity/Affirmative Action Employer.

### ASSISTANT PROFESSOR GENETICIST

The University of Hartford Department of Biology is inviting applications for a full-time, tenure-track position beginning September 1990. Teaching responsibilities include undergraduate genetics, general biology, and a graduate course in the candidate's area of specialization. The successful applicant is expected to develop a research program with potential for external funding. Although preference will be given to those with a background in molecular biology, those with experience in other areas of genetics are encouraged to apply. The screening process begins 1 December 1989 and will remain open until the position is filled. Send curriculum vitae, a statement of research interests, and the names of three references to: **Search Committee Chairperson, Department of Biology, University of Hartford, West Hartford, CT 06117.**

The University of Hartford is an Equal Opportunity/Affirmative Action Employer and specifically invites and encourages applications from women and minorities.

**ASSISTANT PROFESSOR, MICROBIOLOGY/GENETICS.** Tenure-track, September 1990. Teaching experience desirable. Potential to conduct reviewable research. Background in cellular/molecular biology desirable. Half of teaching load in microbiology for nursing majors. Submit application letter, curriculum vitae, transcripts, three reference letters, and statements on teaching philosophy. Deadline: 31 December 1989. Inquiries to: **Dr. F. Duane Blume, Chair, Department of Biology, California State University, Bakersfield, 9001 Stockdale Highway, Bakersfield, CA 93311-1099.** An Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### ASSISTANT PROFESSOR—IMMUNOLOGY—

Department of Veterinary Microbiology and Immunology, School of Veterinary Medicine, University of California, is seeking a highly qualified applicant to fill a tenure-track position in immunology. Qualifications include the Ph.D. degree and advanced training in cellular and/or molecular biology with demonstrated research productivity and interest in immunology. The successful candidate will be expected to contribute to the department's and the school's immunology teaching commitments and to establish independent and collaborative-type research programs. Apply in writing and include curriculum vitae, list of publications, and names of three references. Send to: **Dr. Jeffrey L. Stott, Chairperson Search Committee, Department of Veterinary Microbiology and Immunology, University of California, Davis, CA 95616.** Applications accepted through 15 January 1989 or until a suitable candidate is identified.

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

The Department of Microbiology, University of British Columbia invites applications from molecular immunologists for an **ASSISTANT PROFESSOR** level, tenure-track position. The individual we seek will have Ph.D. postdoctoral experience, a strong research record, and show potential for developing an internationally recognized research program which will complement ongoing programs in immunology, virology, and bacterial pathogenesis. Salary will be commensurate with qualifications and experience. The successful candidate will be expected to participate in the department's large and expanding Ph.D. program. *In accordance with Canadian immigration requirements priority will be given to Canadian citizens and permanent residents of Canada.* Closing date for applications is 28 February 1990. Position will be available 1 July 1990. The position is subject to final budgetary approval. Please send curriculum vitae, a summary of research interests, and the names of three referees to: **The Head, Department of Microbiology, University of British Columbia, #300 6174 University Boulevard, Vancouver, BC V6T 1W5, Canada.** *The University of British Columbia is committed to the federal government's employment equity program and encourages applications from all qualified individuals.*

### ASSISTANT PROFESSOR MOLECULAR ENDOCRINOLOGY UNIVERSITY OF VERMONT

Applications are invited for a tenure-track position in the Department of Zoology. Applicants are expected (i) to hold a Ph.D. degree, (ii) to be engaged in research on growth factors and their receptors, hormone action, signal transduction, and second messengers, or a related subject, (iii) to teach cell and molecular biology, and (iv) to develop an independent research program in vertebrate molecular endocrinology. Applicants should forward current curriculum vitae and brief description of their research plans and should solicit three letters of reference to be sent to: **Dr. George M. Happ, Chair, Department of Zoology, University of Vermont, Burlington, VT 05405-0086.** Review of applications will begin on 15 January 1990.

*We especially encourage women and minority candidates to apply. The University of Vermont is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT PROFESSOR, ORGANISMIC BIOLOGY.** The Department of Biology invites applications for organismic biologist working with multicellular systems for a tenure-track assistant professorship beginning September 1990. Although the specific area of research and teaching is open, the ability to teach introductory (undergraduate) immunology is an asset, but not a requirement. Postdoctoral research and teaching experience are desirable. The successful candidate will be expected to establish a productive research program, pursue external funding, teach in major and nonmajor introductory sequences, supervise the training of M.S. and Ph.D. students, and serve on committees. To apply, send curriculum vitae, a list of publications including relevant reprints, statement of research interests and goals, and arrange to have three letters of recommendation sent directly to: **F. Paul Doerder, Ph.D., Chairman, Search Committee, Department of Biology, Cleveland State University, East 24th and Euclid Avenue, Cleveland, OH 44115.** Deadline for receipt of applications is 2 January 1990. *Cleveland State University is an Equal Opportunity Employer, M/F/H/V.*

## POSITIONS OPEN

### ASSISTANT PROFESSORS MOLECULAR GENETICS BIOCHEMISTRY

The College of William and Mary invites applications for two tenure-track faculty positions, one each in molecular genetics (Biology Department) and biochemistry (Chemistry Department). These permanent positions are made possible by a grant from the Howard Hughes Medical Institute. Successful applicants will receive start-up funds and will share a full-time technician for 3 years. They will be expected to maintain active research programs through extramural funding. A commitment to excellence in teaching is essential; individuals will be expected to develop and teach courses and laboratories in their respective areas of expertise. The Ph.D. is required; postdoctoral experience is highly desirable. The application must include curriculum vitae with publication list, a statement of teaching and research goals, transcripts, and three letters of reference. Applications from molecular geneticists should be sent to: **Bruce Grant, Chair, Molecular Genetics Search Committee, Department of Biology;** those from biochemists should be addressed to: **Richard Kiefer, Chair, Biochemistry Search Committee, Department of Chemistry,** both at **The College of William and Mary, Williamsburg, VA 23185.** Reviews of applications will begin 30 November 1989 and will continue until the positions are filled. *The College of William and Mary is an Affirmative Action/Equal Opportunity Employer which welcomes and encourages applications from women and minorities.*

### TWO ASSISTANT PROFESSORS, BIOLOGY.

Georgia Southern College (GSC), approved for university status effective July 1990, positions available September 1990.

**BIOLOGIST/PHYSIOLOGIST.** Broadly-trained biologist with teaching duties in human anatomy and physiology and general biology, and other lower division courses. Upper level teaching also possible. Research area open.

**AQUATIC ZOOLOGIST/ECOLOGIST.** Broadly-trained zoologist with teaching duties in general biology, environmental sciences, and other lower division courses. Upper-level teaching also possible. Preference for those in field-oriented research with lower vertebrates.

**Qualifications:** Completed Ph.D.; commitment to quality teaching, advising, and research. Teaching and postdoctoral experience desirable. Send letter of application, curriculum vitae, statement of personal teaching philosophy and research interest, transcripts of all college work, and names of three references to: **Dr. John Parrish, Department of Biology, GSC, Statesboro, GA 30460-8042,** by 15 December 1989. *Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT PROFESSOR IN PHARMACOLOGY/TOXICOLOGY.** The Department of Pharmacology and Toxicology at the University of Kansas, Lawrence, is expanding its program in receptor molecular biology, pharmacology, and toxicology and is seeking a new faculty member with research interests and expertise in this area. Appointment will be at the **ASSISTANT PROFESSOR** level in a tenure-track position. We are looking for an individual with training and experience in the areas of receptor isolation and reconstitution, signal transduction, molecular biology of receptors, gene regulation, or protein biochemistry and biophysics. Strong collaborations with researchers in the departments of biochemistry, medicinal and pharmaceutical chemistry, microbiology, physiology/cell biology, and chemistry are ongoing.

Candidates should hold the Ph.D. or M.D. degree and have a minimum of 2 years of postdoctoral experience. All faculty are expected to establish a strong research program and participate in the teaching of graduate students in the department and of undergraduates in the School of Pharmacy.

Send curriculum vitae, statement of research interests, and names of at least three references to:

**Dr. Elias K. Michaelis, Chairman  
Department of Pharmacology/Toxicology  
5064 Malott Hall  
University of Kansas  
Lawrence, KS 66045-2505**

Applications must be postmarked by 30 December 1989.

*Equal Employment Opportunity/Affirmative Action Employer. Women and minority groups are encouraged to apply.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR GYNECOLOGIC ONCOLOGY

The University of Alabama at Birmingham (UAB), Department of Obstetrics and Gynecology, is seeking to fill an entry-level faculty position. Candidate must be Board-eligible or Board-certified and have completed a certified program in gynecologic oncology with basic research experience in the subspecialty. A strong commitment to teaching, clinical care, and research should exist.

Interested persons please apply by 30 November 1989 to: **Brent L. Bodily, Executive Administrator, Department of Obstetrics and Gynecology, UAB Station, Birmingham, AL 35294.** *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR.** The Department of Biology at the University of Nebraska at Omaha invites applications for a tenure-track faculty position in genetics/molecular genetics to start the fall semester 1990. The successful candidate will be expected to teach genetics and molecular genetics, to participate in other graduate and undergraduate courses, to direct master's degree candidates, and to develop a strong research program (area open). *We especially encourage applications from women and minorities.* Interested applicants should submit a letter of application, current curriculum vitae, a brief description of research plans, and three letters of recommendation, to be received no later than 8 January 1990, to: **Dr. Robert Egan, Chairman, Department of Biology, University of Nebraska at Omaha, Omaha, NE 68182-0040.**

**ASSISTANT/ASSOCIATE PROFESSOR.** Applications are invited for tenure-track positions. Candidates must have a Ph.D. or an M.D. and postdoctoral training, and are expected to maintain an independent research program and a strong commitment to teaching. Special consideration will be given to candidates with a background in molecular and/or cellular physiology and an interest in renal tubular transport, vascular smooth muscle, or endocrine mechanisms. Faculty rank and salary will be commensurate with credentials. Interested applicants should send curriculum vitae, a statement of research interests, and the names of at least three references to: **Dr. John Hall, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS 39216.** *Equal Opportunity Employer, M/F/H/V.*

**ASSISTANT PROFESSOR.** Deep Springs, a highly selective college of 24 students, seeks a biologist, chemist, geologist, or physicist. Commitment to liberal arts education plus ability to work in small discussion-based courses essential. Must be able to teach calculus; ability to teach first-year sequence in a second science desirable. Deep Springs students have for 70 years combined ranch labor in California's scenic White Mountains with self-governance and rigorous academics. It offers faculty a unique chance to work with one of the country's most able and motivated student bodies. Appointments renewable to 5 years; academic couples, regardless of spouse's area, especially encouraged to apply. Requests for information and applications to: **Tim Hunt, Dean, Deep Springs College, via Dyer, NV 89010.** Telephone: 619-872-2000.

**TWO ASSISTANT PROFESSORS.** Stanford University seeks applications from individuals experienced in invasive and noninvasive cardiology with an established record of investigation. Applicants should have particular areas of interest in the application of new technologies for the diagnosis and treatment of heart disease, basic and clinical cardiac pharmacology concepts relating to the progression and regression of atherosclerosis, and basic mechanisms involved in the understanding treatment of cardiomyopathy. The selected individuals will be based primarily at the Palo Alto Veterans Administration Center (PAVAC). PAVAC offers an outstanding environment for individuals with either basic or clinical research interests. *Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.* Deadline for application is 15 December 1989. Applicants should send curriculum vitae, a brief statement of their research interests, and names of references to: **John C. Giacomini, M.D., Search Committee Chairman, Palo Alto VA Medical Center, 3801 Miranda Avenue, Room 111C, Palo Alto, CA 94304.** Telephone: 415-493-5000, ext. 5305. FAX: 415-852-3473.

# DREXEL UNIVERSITY DEAN, COLLEGE OF SCIENCE SEARCH REOPENED

Drexel University invites nominations and applications for the position of Dean of the College of Science. Drexel is a private nonsectarian institution which emphasizes programs in the sciences and engineering and has a tradition of excellence in cooperative education. It enrolls over 12,000 graduate and undergraduate students in its seven colleges and has an attractive modern campus in the University City area of Philadelphia. The College of Science includes the departments of Bioscience and Biotechnology, Chemistry, Mathematics and Computer Science, Nutrition and Food Sciences, and Physics and Atmospheric Science, as well as associated programs in Teacher Preparation, Biomedical Science and Environmental Science. With a faculty of 89, an enrollment of over 550 science majors, and external research funding over \$3.0 million per year, this growing college seeks a dynamic and innovative Dean.

The Dean is the college's academic leader, chief administrator and prime advocate to the University. The Dean reports directly to the Vice President for Academic Affairs and is responsible for administering all aspects of the college, for evaluating all academic programs and faculty, and for providing leadership and guidance recruitment, research curriculum, and resource development.

The successful candidate must have an earned doctorate in an appropriate science discipline, demonstrated management experience, and a record of teaching, research, and scholarly achievement appropriate for a tenured Professorship in one of the departments of the college. Appointment is expected on or after July 1, 1990. Salary is highly competitive. Review of candidate and nominee materials will begin December 1, 1989. Letters of application, including a resume, or letters of nomination, should be sent to:

Prof. Stanley Segall  
Chairperson, Dean of Science Search Committee  
c/o The Office of the Dean of Science  
Drexel University, Philadelphia, Pennsylvania 19104

**DREXEL UNIVERSITY IS AN EQUAL OPPORTUNITY AFFIRMATIVE ACTION INSTITUTION AND INVITES APPLICATIONS FROM MINORITIES AND WOMEN**

# RESEARCH ASSOCIATE DNA SEQUENCING

**Amgen** is a recognized leader in the discovery and development of human pharmaceuticals through applied biotechnology. Our continued growth has created an immediate opportunity for a Research Associate in our core DNA Sequencing Group.

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Candidates for this position must have a BS or MS in an appropriate discipline and a minimum of two years' experience in DNA sequencing. Experience in basic cloning techniques, the dideoxy sequencing method, and computer analysis of DNA sequences is essential. Experience in gene mapping and screening of phage and cosmid libraries is highly desirable.

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# MICHIGAN STATE UNIVERSITY DEAN COLLEGE OF HUMAN MEDICINE

The College of Human Medicine at Michigan State University is pleased to invite nominations and applications for the position of the Dean. The College of Human Medicine is a school of just over 400 medical students with the resources of one of the nation's largest universities, served by strong basic science departments. The clinical portion of its curriculum is conducted in six community campuses with the participation of over 30 hospitals. These community programs provide high quality health care for nearly one-third of the population of Michigan. The College is proud of its community and service commitment, and is dedicated to the education of humanistic physicians. For many years at least 45% of its students have been women, and at least 15% ethnic minorities.

We are looking for a dynamic individual who can create, cultivate, and communicate a vision for a community integrated medical school. We seek an individual who can blend the traditional with the non-traditional, who can successfully handle the competing demands within a medical school, and who can foster an environment of academic scholarship.

We desire a person who values academic inquiry, who has a well developed educational philosophy, and who is an accomplished scholar. We require an individual who is astute, tolerant, and humane; who seeks excellence in his or her life; and who has demonstrated the ability to lead a diverse organization. We invite individuals who are enthusiastic in their outlook, who communicate well with a wide range of people, and who will bring an investigative spirit to apply for this position. Women, minorities, and candidates with a demonstrated commitment to affirmative action are especially encouraged to apply.

Applications, including a resume and addresses of at least three references, should be sent no later than December 1, 1989 to:

Howard Brody, M.D., Ph.D.  
Chair, Search Committee  
Human Health Programs  
A-110 E. Foe Hall  
Michigan State University  
East Lansing, Michigan 48824-1316

*Michigan State University is an Equal Opportunity/Affirmative Action Employer*

# ASSISTANT/ASSOCIATE PROFESSOR DEPARTMENT OF ORTHOPAEDICS

A tenure-track position is available in the Department of Orthopaedics at the University of Louisville, Louisville, Kentucky. The applicant must have a Ph.D. in Engineering with research interest in biomechanics. It is expected that the applicant would establish an independent research program and be able to interact with the existing Spinal Cord Injury Research group. Considerable direct and indirect support will be provided to assist the applicant in the initiation of their research effort within the department.

Interested applicants should contact:

Dr. John R. Johnson  
Chairman  
Department of Orthopaedic Surgery  
University of Louisville  
Louisville, Kentucky 40292

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The Sterling Research Group announces three openings in the Department of Molecular Biology:

### Molecular Genetics:

Two research scientist positions are available in the field of molecular biology. Applicants should have BS/MS in Molecular Biology with at least 3 years of laboratory experience in DNA sequencing, expression and library generation. Candidates with strong background in yeast genetics or mammalian expression system are encouraged to apply. **Please respond to position "GV-16/106."**

### Protein Biochemist/Peptide Chemist:

A research scientist position is available for an individual with a BS/MS in either Biochemistry or Chemistry. Applicants must have 3-5 years of experience in purifying and characterizing recombinant molecules, including a strong background in HPLC and FPLC, and the ability to work both independently and as a member of an integrated scientific team. Experience in scale-up processes or peptide synthesis is highly desirable. **Please respond to position "GV-108."**

*Sterling Drug Inc. offers competitive salaries and a comprehensive benefits program along with outstanding career opportunities for personal and professional growth. For confidential consideration, please forward resume with salary history/requirements and the names of three references to: Employee Relations, "Position number as referenced above," Sterling Research Group, 9 Great Valley Parkway, Malvern, PA 19355. An Equal Opportunity Employer M/F/H/V.*



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## POSITIONS OPEN

### ASSISTANT PROFESSOR MOLECULAR BIOLOGY

We invite applications for a tenure-track position in the Rosenstiel Center and Department of Biochemistry at Brandeis University. Preference will be given to those who investigate fundamental mechanisms, especially in the area of transcription or replication. Applications for a more senior position will also be considered. Please send your curriculum vitae, three letters of recommendation, and a description of your research accomplishments and plans to: **Dr. Pieter Wensink, Search Committee, Rosenstiel Basic Medical Sciences Research Center, Brandeis University, Waltham, MA 02254-9110.** The deadline for application is 10 January 1990. *Brandeis University is an Equal Opportunity/Affirmative Action Employer.*

### TWO ASSISTANT PROFESSORS VISUAL COGNITIVE NEUROSCIENCE

The Ohio State University is enhancing its diverse strengths in vision science, neuroscience, and cognitive science by offering two tenure-track positions, one in the College of Optometry and one in the Department of Psychology. Anticipated starting dates are July or October 1990. To apply, please send curriculum vitae, statement of research interests, selected reprints, and three letters of reference by 29 December 1989, to either: **Dr. Ewen King-Smith, College of Optometry, 338 West 10th Avenue, Columbus, OH 43210** for the position offered in optometry, or **Dr. Gary Berntson, Department of Psychology, 1885 Neil Avenue, Columbus, OH 43210** for the position offered in psychology. *An Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR, TENURE TRACK

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

**ANATOMY ASSISTANT/ASSOCIATE PROFESSOR.** Tenure path; cell and molecular biologists are especially encouraged. Candidates should be independent researchers, enjoy collaboration, and have teaching ability in anatomy. The position is supported by excellent salary and start-up funds. Send names of three to five references and curriculum vitae by 31 January 1990 to: **Dr. Richard Wiggins, Chair, Department of Anatomy, West Virginia University School of Medicine, 4052 HSN, Morgantown, WV 26506.** *Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT OR ASSOCIATE PROFESSOR OF PHARMACEUTICAL SCIENCES.** The Washington State University (WSU) College of Pharmacy invites applications for a tenure-track annual appointment in pharmaceutical sciences, effective 1 July 1990. A Ph.D. in one of the biomedical sciences (biochemistry, medicinal chemistry, pharmacology, etc.) with emphasis on the study of drug metabolism and biochemical mechanisms of biotransformations is required. The candidate must have a demonstrated potential for developing a creative, independent research program for appointment as an assistant professor, or an active extramurally funded research program for appointment at the associate rank. Teaching duties will include participation in team-taught courses for professional pharmacy students and students in the pharmacology/toxicology graduate program. Applications will be received until 8 January 1990 or until the position is filled. Applicants should provide curriculum vitae, the names and addresses of three references, and a statement of research interests and professional goals. Contact: **Dr. Gary G. Meadows, Ph.D., College of Pharmacy, Washington State University, Pullman, WA 99164-6510. Telephone: 509-335-4750.** *WSU is an Equal Opportunity/Affirmative Action Educator and Employer. Protected group members are encouraged to apply.*

## POSITIONS OPEN

### ASSISTANT OR ASSOCIATE PROFESSORS OF ANATOMY

The Department of Anatomy at the University of Mississippi Medical Center invites applications for tenure-track, state-supported faculty positions. The department has excellent research facilities and active research programs in systems neurobiology, cellular neuroscience, the biology of cell interactions, and stroke. Good research space and start-up money are available. The area of research is open, but preference will be given to applicants who are qualified to teach in gross anatomy or histology and who have significant potential for attracting extramural research support. Submit curriculum vitae, research plans, and the names, addresses, and telephone numbers of three references to: **Dr. Duane E. Haines, Professor and Chairman, Department of Anatomy, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216.** The selection process will begin after 5 January 1990. *Equal Opportunity Employer, M/F/H/V.*

### ASSISTANT/ASSOCIATE PROFESSOR BIOLOGY

Tenure-track position available fall 1990, primarily to teach introductory nonmajor biology course with audio-tutorial laboratory (approximately 600 students per semester, with 10 to 12 graduate assistants). Eventual responsibilities would include a course in the individual's expertise that would enhance department programs; development of independent research program; and direction of master's level student research. *Qualifications: Ph.D./D.Sc. in a biological science strongly preferred (A.B.D. or M.A./M.S. plus at least 18 hours may be considered as an exception).* Excellence in undergraduate teaching expected. For consideration, send letter of interest, curriculum vitae, three letters of reference, and transcripts (undergraduate and graduate) by 12 January 1990 to: **Chair, Selection Committee, Position FAAA89060, Eastern Michigan University, 310 King Hall, Ypsilanti, MI 48197.** *Equal Opportunity/Affirmative Action Employer.*

University of California, Irvine, Department of Medicine, is seeking a full-time appointment at the level of **ASSISTANT OR ASSOCIATE ADJUNCT PROFESSOR** in the nephrology division to supervise the renal physiology laboratory and coordinate bone and stone program. Duties include teaching and research. Please send curriculum vitae to: **N. D. Vaziri, M.D., Chief, Renal Division, University of California Medical Center, Building 53, Route 81, 101 City Drive South, Orange, CA 92668.** *Affirmative Action/Equal Opportunity Employer.*

The Department of Pathology, Medical College of Georgia, Augusta, Georgia, invites applications for a tenure-track faculty position at the rank of **ASSOCIATE PROFESSOR OR PROFESSOR.** The applicant should have a M.D. or Ph.D. degree with training and experience in molecular biology, molecular genetics, and/or immunopathology. In addition to participation in the graduate and undergraduate educational programs, the successful candidate will establish an independent or collaborative extramurally funded research program. Applicants should submit detailed curriculum vitae, names and telephone numbers of three references, and a statement of personal and professional goals to: **R. N. Rao, M.D., Chief, Section of Anatomic Pathology, Medical College of Georgia, Augusta, GA 30912-3605.** *Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT OR ASSOCIATE PROFESSOR.** Neurology with interest in multiple sclerosis. Board-eligible or -certified in neurology. The applicant should be trained in cellular immunology or molecular immunology and prepared to do laboratory work in human systems. Interest in T cell receptor, MHC, or other aspects of human immunogenetics would be desirable. The candidate will join an integrated multidisciplinary group with interests in molecular biology, virology, immunology, and neurobiology. Position open for 1 July 1990. *Affirmative Action Employer, Minority and women applicants are encouraged to apply.* Please send curriculum vitae, three recent publications, and the names of three references to: **Dr. Leslie P. Weiner, University of Southern California School of Medicine, Department of Neurology, Los Angeles, CA 90033.**

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR UNIVERSITY OF ROCHESTER CANCER CENTER

Applications are invited for a tenure-track faculty appointment in the Experimental Therapeutics Division of the cancer center. The appointee is expected to develop a strong research program involving the application of cellular and molecular approaches to basic and therapeutic problems in cancer biology. Individuals with experience in DNA repair, oncogene regulation, cell cycle regulation, or molecular genetic approaches to diagnostics or therapeutics are particularly encouraged to apply. Extensive opportunities exist for interactions with other cancer center investigators in areas such as immunology, pathology, and molecular biology. The cancer center is strongly committed to the support of promising new research programs. Applicants should submit curriculum vitae and a statement of research interests to: **Dietmar W. Siemann, Ph.D., Chairman, Search Committee, University of Rochester Cancer Center, Box 704, 601 Elmwood Avenue, Rochester, NY 14642.** The University of Rochester is an Equal Opportunity/Affirmative Action Employer.

**ASSISTANT PROFESSOR.** The Department of Sport, Leisure, and Exercise Sciences of the University of Connecticut is seeking an assistant professor for an anticipated full-time, tenure-track, 9-month appointment to begin September 1990. The chosen individual will have responsibility for teaching undergraduate and graduate courses in sport/exercise science concentrations, having direct involvement in the Sport Laboratory for People with Disabilities, pursuing scholarly research through publications and extramural funding, and coordinating the undergraduate sport medicine concentration. Earned Ph.D. in human physiology and/or sport/exercise science is required. Salary commensurate with rank. Applicants should submit curriculum vitae, transcripts of graduate work, three letters of recommendation, and related materials to: **Carl M. Mares, Ph.D., Chair, Sport/Exercise Science Search Committee, Department of Sport, Leisure, and Exercise Sciences, Box U-110, Room 223, 2095 Hillside Road, Storrs, CT 06269-1110.** Screening will begin as soon as a sufficient pool of applicants is assembled and will continue until the position is filled. (Search # 0A86.) Affirmative Action/Equal Opportunity Employer.

### THE WELLESLEY HOSPITAL RESEARCH INSTITUTE AND DEPARTMENT OF IMMUNOLOGY UNIVERSITY OF TORONTO

Applications are invited for the position of leader of a new basic research initiative to investigate cellular and molecular aspects of immunoregulation and autoimmunity. Funding is available for a leader and three additional positions at the **ASSISTANT OR ASSOCIATE PROFESSOR** (Ph.D. or M.D.) level. Applicants (Ph.D. or M.D.) for the program leader at the associate or full professor level are sought. The leader will be responsible for recruiting the additional three individuals. Salary commensurate with experience. The institute will provide ample space and generous start-up funds in addition to substantial ongoing administrative funding.

Enquiries and curriculum vitae should be directed to: **Dr. E. C. Keystone, c/o Research Office, The Wellesley Hospital, University of Toronto, 160 Wellesley Street East, Toronto, Canada M4Y 1J3.** Application deadline is 1 January 1990.

In accordance with the Canadian immigration requirements, consideration in the first instance will be given to Canadian citizens and permanent residents of Canada.

**DICKINSON COLLEGE** Department of Chemistry has a tenure-track position in **BIOCHEMISTRY** beginning in fall 1990. Candidates should have the Ph.D. in biochemistry, commitment to undergraduate chemical education, and desire to develop a research program with undergraduates. Dickinson is a liberal arts college with ACS accreditation, six chemistry faculty, excellent instrumentation, and significant undergraduate research. Send a résumé, undergraduate and graduate transcripts, research plans, statement of teaching philosophy, and three letters of recommendation to: **Professor Robert Leyon, Dickinson College, Carlisle, PA 17013** by 1 January 1990. Minority and female applicants encouraged. Affirmative Action/Equal Opportunity Employer.

## RESEARCH & DEVELOPMENT OPPORTUNITIES with Dynamic, Growing New Jersey Firm

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Primary activities will be the design and execution of synthetic procedures and product analysis as a member of a multi-disciplinary team. The successful applicant will have at least a MS in organic chemistry, or equivalent, and experience in synthetic and analytical techniques. Experience with biological systems or chiral products, while not essential, would be an advantage.

### RESEARCH SCIENTIST

Primary activities will be directed toward developing biologically based systems for the treatment of hazardous organic wastes. The successful candidate should possess a PhD in Microbiology, Biochemistry or related discipline, with post-doctoral experience preferred, and have an interest in developing research projects from the bench level to commercialization. Individuals with a background and experience in microbial physiology, biochemistry or enzymology are desired.

### RESEARCH ENGINEER

Primary activities will involve working with a multi-disciplinary team to develop biologically based technology for the treatment of hazardous organic wastes. The individual will be expected to work both at the bench level and with pilot-scale operations in the field. Candidates should have a degree in either chemical, civil or environmental engineering. Experience with microbial degradation is desired.

### SENIOR RESEARCH ASSOCIATE

Candidates should possess either a BS (with experience) or MS in Microbiology, Biochemistry or related discipline. The individual will be responsible for supervising other associates, and for coordinating activities in the biodegradation laboratory. Experience with various assays and procedures common to biological research is required, and familiarity with more sophisticated analytical techniques and procedures is desired.

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## POSITIONS OPEN

**ASSOCIATE DEAN OF RESEARCH AND GRADUATE STUDIES.** The College of Engineering at Michigan State University invites applications and nominations for this senior faculty position to provide leadership for an expanding research and graduate studies program. Candidates must have an earned doctorate and a distinguished record of scholarship and research to qualify for a tenured professorial position in one of the departments in the college. Résumés will be accepted until the position is filled. The assessment of credentials will begin 9 December 1989 and the preferred starting date is 1 July 1990. Apply to: **Dr. George Van Dusen, Chairperson, Engineering Associate, Dean Search Committee, College of Engineering, Michigan State University, 104 Engineering Building, East Lansing, MI 48824-1226.** Michigan State University is an Equal Opportunity/Affirmative Action Employer.

**ASSISTANT SPECIALIST.** Full-time position in molecular and cell biology, Division of Biochemistry and Molecular Biology. It is anticipated that funds will be available from a National Institutes of Health grant for 1 year, with the possibility of renewals, to support an individual to improve the *Salmonella typhimurium* mutagenicity test for investigating oxidative mechanisms of DNA damage. Emphasis will be on oxidative types of DNA damage, but the individual must have a strong background in general free radical chemistry, all types of damage to DNA, and cellular repair processes in both prokaryotic and eukaryotic systems. Laboratory proficiency is required in genetic manipulations of *Salmonella*, in vitro recombinant DNA techniques, mutagenicity testing, and classical and site-directed mutagenesis. Candidates should have at least 3 years of postdoctoral experience and the ability to carry out top-quality independent research, as demonstrated by authorship of publications in refereed journals, and supervisory and instructional experience. Deadline for receipt of applications is Friday, 15 December 1989. Send letter of application, résumé, names of three references, and copies of relevant publications to: **Sylvia Kihara, Division of Biochemistry and Molecular Biology, 401 Barker Hall, University of California, Berkeley, CA 94720.** The University of California is an Equal Opportunity/Affirmative Action Employer.

## BIOCHEMISTRY

Tenure-track appointment at any level is available for 15 August 1990. Ph.D. required and postdoctoral experience desirable. The Chemistry Department at Illinois State University (ISU), an institution of 22,000 students, prides itself on excellence in teaching and research. Teaching responsibilities will involve lecture and laboratory courses in a department which has 21 active faculty and over 250 majors, including 40 at the M.S. level. The development of a productive research program will be expected. Position may carry joint appointment in our Ph.D.-granting Biological Sciences Department. Applicants should submit a résumé, research prospectus, and the names of three references to: **Chairperson, Department of Chemistry, Illinois State University, Normal, IL 61761** before 15 January 1990. ISU is an Equal Opportunity/Affirmative Action Employer.

**BIOLOGIST.** Academic preparation in both molecular biology and environmental biology required. Responsibilities include two-semester course in principles of biology for majors, and development of an undergraduate course in molecular biology; should be willing to develop research program suitable for undergraduate students. Tenure-track position as **ASSISTANT PROFESSOR**, available August 1990. Letter of application, curriculum vitae, and official or unofficial transcripts to: **Chair, Search Committee, Biology Department, Lock Haven University, Lock Haven, PA 17745.**

**BIOPSYCHOLOGY, UNIVERSITY OF GEORGIA.** Tenure-track, assistant/associate professor, start September 1990. Must be able to teach physiological psychology (undergraduate and graduate levels). Must have strong potential for a fundable research program in which graduate students can be involved. Send statement of interest, curriculum vitae, four letters of reference, and reprints to: **Biopsychology Search, Roger K. Thomas, Head, Department of Psychology, University of Georgia, Athens, GA 30602.** Applications must be received by 22 December 1989. Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### BIOLOGICAL SCIENCES LECTURESHIPS THE UNIVERSITY OF CHICAGO

Yearlong positions starting autumn 1989 for recent Ph.D.'s; renewable for a second year. Positions are for half-time teaching in three quarters and postdoctoral research at other times. Salary: \$19,000. Two to three positions with research in any area and capable of teaching introductory lab courses in: molecular/cell biology, genetics, or general biology. One position teaching physiology and morphology; research skills with isolated perfused skin. By 5 January 1990 submit curriculum vitae, statement of research interests and teaching competence, and names of three references and of the prospective Chicago faculty research sponsor to: **Biological Sciences Collegiate Division, University of Chicago, 1116 East 59th Street, Chicago, IL 60637.** An Affirmative Action/Equal Opportunity Employer.

**BIOLOGY, ASSISTANT PROFESSOR.** The Department of Biological Sciences at Louisiana State University (LSU)—Shreveport seeks a biologist to fill a tenure-track position at the level of assistant professor beginning in the fall of 1990. Broad background in biology with training in molecular biology and biometry desirable. Ph.D. required. Responsibilities will include teaching major and nonmajor freshman courses as well as upper level courses in his or her area of expertise and developing an undergraduate research program in which undergraduates can participate. Send curriculum vitae, transcripts, three letters of recommendation, and statement of teaching and research interest to: **Dalton R. Gossett, Chairman, Department of Biological Sciences, LSU-Shreveport, One University Place, Shreveport, LA 71115.** Louisiana State University in Shreveport is an Affirmative Action/Equal Opportunity Employer.

### BIOLOGY LABORATORY COORDINATOR/INSTRUCTOR PENNSYLVANIA STATE UNIVERSITY

The Biology Department at Pennsylvania State University invites applications for a full-time position to manage our large introductory biology laboratories. Candidates should have an M.S. in the biological sciences, initiative to work independently, ability to skillfully teach graduate teaching assistants laboratory procedures, exceptional organizational abilities, and knowledge of equipment and material needed to set up and manage numerous laboratory sections of introductory biology. Send résumé, transcripts, and names and addresses of three references to: **Dr. Linda Maxson, Head, Department of Biology, Box C, 208 Mueller Laboratory, University Park, PA 16802.** Starting date will be spring 1990. Application deadline: 10 December 1989, or until suitable candidate is identified.

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

**BIOLOGY.** Assistant professor, tenure-track position. Ph.D. required. Broadly trained eukaryotic molecular biologist, preferably experienced with plants and possessing computer competency. Preference given to candidates with teaching and/or recent postdoctoral experience. Successful applicant expected to teach molecular biology, botany, and general biology courses for majors and nonmajors. Primary interest and commitment to quality undergraduate instruction plus supervision of an active undergraduate research program is expected. Applications, consisting of teaching and research interests, curriculum vitae, transcripts, and three letters of recommendation should be submitted to: **Dr. D. W. Farmer, Vice President and Dean for Academic Affairs, King's College, 133 North River Street, Wilkes-Barre, PA 18711.** Application deadline: 22 December 1989. King's College is an Equal Opportunity Employer and specifically invites and encourages applications from women and minorities.

**CELL BIOLOGIST.** Broadly trained individual to teach courses in cell biology, genetics, developmental biology, immunology, and microbiology in a small, liberal arts college. **ASSISTANT PROFESSOR**, tenure-track position starts September 1990. Send curriculum vitae, transcripts, and three letters of reference to: **Dr. Eric Yensen, Chair, Cell Biologist Search Committee, The College of Idaho, Caldwell, ID 83605.** Deadline: 15 January 1990. Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

**BIOLOGY, ASSISTANT PROFESSOR.** Christopher Newport College. The Department of Biology, Chemistry and Environmental Science is seeking a qualified individual for a tenure-track teaching position beginning in the fall of 1990. A Ph.D. in hand by August 1990 is required. Teaching experience at the college level is desired. Teaching assignments will be in general biology and vertebrate biology, with ability to teach general geology desirable. The successful candidate will show evidence of excellence in teaching and active scholarship. Salary will be commensurate with experience within the guidelines set by the state of Virginia. Applicants must send a letter of application, curriculum vitae, and graduate transcripts, and arrange to have sent three letters of recommendation to: **Dr. Edward Weiss, Chair, Biology Search Committee, Christopher Newport College, 50 Shoe Lane, Newport News, VA 23606-2988.** All materials must be received by 19 January 1990. Christopher Newport College employs only persons lawfully authorized to work in the United States and is committed to a vigorous Affirmative Action/Equal Opportunity program. Applications from women and minorities are especially encouraged.

### UNIVERSITY OF OTAGO DUNEDIN, NEW ZEALAND CHAIR OF PHARMACEUTICAL SCIENCES DIVISION OF HEALTH SCIENCES

Applications are invited for appointment to the chair of pharmaceutical sciences in the University of Otago, which becomes vacant with the resignation of Professor M. S. Roberts. This is one of two professorial appointments within the Department of Pharmacy; the other being held by Professor P. F. Coville, who is also administrative head. Professorial salaries are fixed at various points within the present range of \$NZ76,000 per annum to \$NZ95,000.

Further particulars are available from: **The Registrar, University of Otago, P.O. Box 56, Dunedin, New Zealand.** Applications quoting reference number A89/48 close with the Registrar, Mr. D. W. Girvan, on 31 December 1989.

Equal opportunity in employment is University of Otago policy.

### CHAIRPERSON DEPARTMENT OF ANATOMY UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

The University of Maryland School of Medicine is seeking nomination of outstanding individuals to provide leadership for its teaching and research program in anatomy. While an exceptionally gifted scientist working in any area of anatomy in its broadest sense will be considered, areas of particular current interest to our faculty and other basic science departments include cell, molecular, and neurobiology. Under the leadership of Professor Lloyd Guth, who is now retiring, the department has achieved prominence in neurotrophic regulation, synaptic ultrastructure, neural tissue regeneration, and developmental and endocrine biology. Ample modern facilities, state salary support, and positions for recruitment of new faculty are available.

Applicants should send curriculum vitae, bibliography, and names of three references by 15 December 1989 to:

**Dr. Edison X. Albuquerque  
Chairman, Anatomy Search Committee  
University of Maryland  
School of Medicine  
655 West Baltimore Street  
Baltimore, MD 21201**

An Equal Opportunity/Affirmative Action Employer.  
Minority and women candidates are encouraged to apply.

## DIRECTOR

Experienced Board-certified or -eligible cytogeneticist to direct established laboratory with 750-specimen case load. Provides comprehensive cytogenetic services for a state population of approximately 800,000 people. Duties include management and supervision of staff, training, and clinical consultant to physicians. Join us in the "Queen City of the Rockies" for an exceptional quality of life. Excellent benefits and salary negotiable. Submit résumé and cover letter in confidence to: **Lee Conwell, Director, Human Resources, Shodair Hospital, P.O. Box 5539, Helena, MT 59604. Telephone: 406-444-7506.**

## Mervin Bovaird Center in Molecular Biology and Biotechnology

■ ■ ■

### MICROBIOLOGIST MOLECULAR BIOLOGIST/VIROLOGIST MOLECULAR IMMUNOLOGIST TRANSGENIC MOUSE EXPERT

Due to major funding acquisitions through **The Mervin Bovaird Foundation** and a cooperative **Center of Excellence in Molecular Medicine**, The University of Tulsa is expanding its tenure-track faculty.

Researchers will be provided renovated laboratory space, funded post-doctoral positions, and generous start-up monies. **The transgenic mouse facility is guaranteed five years of substantial funding including technician in addition to start-up monies.** Requirements: Ph.D., postdoctoral experience, publication record indicative of the potential to maintain an externally funded research program. Salary and rank commensurate with experience. Faculty are expected to teach undergraduate and graduate students, and to maintain a record of productivity in scholarly research.

The department has sixteen faculty and offers BS, MS, and Ph.D. degrees. Extramural funding in 1987-89 totaled more than \$5 million. Facilities include state-of-the-art laboratories and equipment.

The university is a private, heavily endowed, comprehensive university of four thousand students with a strong commitment to teaching and research. Tulsa is an economic and cultural center of 750,000 surrounded by lakes. Applicants should submit curriculum vitae, statement of research, extramural funding plans, and three letters of reference to:

Dr. Steffen Rogers ■ Director, The Mervin Bovaird Center  
The University of Tulsa ■ 600 South College Avenue, Tulsa, Oklahoma 74104

The University of Tulsa has an Equal Opportunity/Affirmative Action Program for students and employees.

# UNSW

THE UNIVERSITY OF NEW SOUTH WALES  
SYDNEY, AUSTRALIA



Equality of employment opportunity is University policy.

### ELECTRON MICROSCOPE UNIT — PHYSICAL SCIENCES

## PROJECT SCIENTIST/SENIOR PROJECT SCIENTIST

An electron microscopist is required to lead the research effort in the Unit over a wide range of physical sciences. The unit is housed in the School of Materials Science and Engineering, and contains transmission and scanning electron microscopes (including JEOL 2000FX and JXA 840) and specimen preparation facilities. Preferred candidates will have experience with energy-dispersive, electron energy-loss and wavelength-dispersive microanalytical techniques. Applicants will be expected to initiate new research projects, to collaborate in existing ones and to undertake a limited amount of teaching and supervision, both postgraduate and undergraduate.

#### SALARY RANGES:

Project Scientist	Grade 1: A\$31,259-A\$35,272
Project Scientist	Grade 2: A\$36,612-A\$40,622
Senior Project Scientist	Grade 1: A\$41,459-A\$44,112

Generous leave and study leave, flexible working hours and superannuation are provided.

Technical enquiries to A/Professor D. J. Young, Tel. 2 697 4322, FAX No. 2 662 1923.

PLEASE QUOTE Ref 677.

**Please submit written application, QUOTING REFERENCE NUMBER and the names and addresses of two referees to: The Recruitment Officer, General Staff Office, P.O. Box 1, Kensington, N.S.W. 2033, Australia by 6 December, 1989.**

## FACULTY POSITIONS IN MOLECULAR BIOLOGY SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

Applications are invited for tenure track openings at the Assistant Professor level in the area of Molecular Biology/Genetics. These new 12 month appointments are part of the University's commitment to strengthen and expand its program in molecular biology in the College of Agriculture, College of Science, and School of Medicine. The initial openings are in the departments listed below. In addition to establishing a strong research program, teaching at the undergraduate and graduate levels is expected. All candidates must have an earned doctorate and postdoctoral experience. Salary, research facilities and start-up funds are very competitive. Applications will be accepted by the Departments as shown below until at least Jan. 15, 1990 or until the positions are filled. Separate applications should be forwarded if an applicant wishes to be considered by more than one unit.

**Chemistry and Biochemistry.** A position is available in the general area of eucaryotic molecular biology. All qualified candidates will be considered but preference will be given to persons working on problems associated with regulation of gene expression. Applicants should send their curriculum vitae, a statement of research plans and have at least three letters of reference sent to Dr. J. Tyrrell, Chairman; Chemistry and Biochemistry; Southern Illinois University; Carbondale, IL 62901.

**Microbiology.** A position is available in the general area of molecular biology. All qualified applicants will be considered but preference will be given to those whose primary area of research interest is in some aspect of the molecular genetics of eucaryotic cells, the immune system, or host-parasite interactions. Interested applicants should send their curriculum vitae, a statement of research plans, and the names of at least three references to Dr. John Martinko; Search Committee; Department of Microbiology; Southern Illinois University; Carbondale, IL 62901.

**Plant and Soil Science.** A position is available in the general area of molecular/cell agronomy. All qualified candidates will be considered but preference will be given to individuals whose primary interest is in genetic engineering of agronomic crops for increasing yield potential, e.g. to increase resistance to insects, diseases, or herbicides. To apply, send a letter of application, curriculum vitae, a statement of research plans, and have at least three letters of reference sent to: Dr. Donald Stucky, Chairman; Department of Plant and Soil Science; Southern Illinois University; Carbondale, IL 62901.

Southern Illinois University at Carbondale is an  
Equal Opportunity Affirmative Action Employer.

## HEALTH SCIENTIST ADMINISTRATORS NATIONAL INSTITUTES OF HEALTH

The National Institute of General Medical Sciences (NIGMS), one of the National Institutes of Health, is accepting applications from scientists interested in employment as Health Scientist Administrators, GS/GM - 601/602, grades 12 through 14, salary ranges \$34,580 - \$70,420 per annum. In addition, medical officers may be eligible for a Physician's Comparability Allowance.

At a minimum, candidates must hold a Ph.D., M.D., or D.O. degree in one of the areas of basic biomedical science supported by NIGMS, which include cellular and molecular biology, genetics, biophysics, and biochemistry. Postdoctoral experience in biomedical research and research administration is highly desirable. Health Scientist Administrators are responsible either for the review of grant applications or for administration of grants within an area of scientific expertise. Inquiries regarding these positions, including curriculum vitae, may be directed to:

**Elizabeth Ann Fitchijian, Personnel Office  
National Institute of General Medical Sciences  
National Institutes of Health  
Public Health Service  
Westwood Building, Room 9A13  
Bethesda, MD 20892  
Telephone: (301) 496 - 7161**



U.S. CITIZENSHIP IS REQUIRED  
THE NIGMS IS AN EQUAL OPPORTUNITY EMPLOYER

# ASSOCIATE DIRECTOR

## Cellular and Molecular Biology

Merck Sharp & Dohme Research Laboratories' expanding long-term commitment to molecular and cellular biology has created the opportunity for a position of strong leadership. We seek a talented and experienced scientist to accept the responsibility for leading a group of 12 to 15 scientists within projects in both research as well as product development. These multi-disciplinary programs will be collaborative efforts which utilize techniques in molecular and cellular biology for the identification, isolation and analysis of proteins of therapeutic, pharmacologic, or process development interest as well as the control of expression of such proteins.

The successful candidate will possess broad experience in a range of areas which include: regulation of gene expression, cDNA cloning and expression in recombinant microbial and eukaryotic hosts, mammalian virology, viral vectors and vaccines, structure/functions studies of proteins, and protein analytical and purification techniques. Demonstrated research independence, extensive supervisory experience, solid interpersonal skills, and an excellent publication record in molecular biology are all required. Strong communication and leadership skills, a desire to work as part of a multi-disciplinary team, and the ability to develop the talents of other scientists are very important. Industrial experience is a plus.

This position will provide an outstanding opportunity to implement novel research projects with the potential for significant impact in several areas of human health. Collaborations with other research departments will offer the opportunity for high visibility and career growth. We encourage broad interactions with the scientific community at-large through collaborations, publications, and presentations at major scientific conferences. Additionally, a successful leader would be expected to be able to expand his/her future responsibilities in this dynamic position.

Excellent salary, broad benefits, and generous relocation entitlements accompany this position at our modern and spacious laboratories in West Point, Pennsylvania. In confidence, please send your resume, four professional references whom we may contact, and salary history and requirements to:

**Mr. Jacques P. Kueny**  
Research Personnel

**MERCK SHARP & DOHME  
RESEARCH LABORATORIES**

West Point, PA 19486

EEO/AA/VH/Employer



**Merck & Co., Inc.**

## POSITIONS OPEN

### CHEMISTRY/MATERIALS SCIENCE FACULTY

Organic chemistry/physical chemistry/materials science faculty positions: The Department of Chemistry of the University of Texas at El Paso (UTEP) seeks to add two tenure-track faculty members. Applicants should have Ph.D.'s in physical or organic chemistry, appropriate postdoctoral experience, and research orientation in materials chemistry. UTEP holds an NSF 5-year Minority Research Center of Excellence grant. In addition to B.A., B.S., and M.S. programs in chemistry, the department anticipates the early establishment of an interdisciplinary materials science Ph.D. program. Applicants should submit curriculum vitae, statement of research plans, and the names of three references to: **Professor William C. Herndon, Chairman, Department of Chemistry, The University of Texas at El Paso, El Paso, TX 79968** by 15 January 1990. *The University of Texas at El Paso is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

The Centers for Disease Control (CDC), Division of Vector-Borne Viral Diseases (DVBVD), is now accepting applications for **CHIEF, Dengue Branch** in San Juan, Puerto Rico. Applications are invited from persons with experience and expertise in epidemiology, microbiology, virology, or medical entomology. A medical, veterinary, or other doctorate level degree is preferred. The person selected for this position will be responsible for planning, developing, and directing a broad based program which includes laboratory and field research on arboviral diseases of public health importance, community-based programs of prevention and control, and providing reference services and research capabilities to national and international agencies on arboviral diseases. Also responsible for supervising branch personnel and providing technical and consultative services to local, state, and other federal agencies in the investigation and control of diseases. Supervises a staff of approximately 35 employees, including five to seven doctorate level professionals. This position is offered at a GM-15 level (salary range \$57,158 to \$74,303, depending on training and experience, with an additional cost of living allowance and comparability allowance for physicians). The position may be filled at equivalent levels under commissions in the U.S. Public Health Service. Interested candidates should submit curriculum vitae, a statement of research interests, and three letters of recommendation to: **Director, DVBVD, CDC, P.O. Box 2087, Ft. Collins, CO 80522**, by 17 December 1989. *CDC is an Equal Opportunity Employer and provides a smoke-free work environment.*

**CLINICAL IMMUNOLOGIST/ANIMAL VIROLOGIST.** Ph.D. or equivalent for administrative/research position. Postdoctoral training and experience in management and research critical. Please forward curriculum vitae to: **John E. Craighead, University of Vermont, Burlington, VT 05405**. Applications will be accepted until position is filled. *Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### CYTOGENETICIST

Ph.D. or master's degree, for large private clinical laboratory. Board-certified or -eligible preferred. Second Ph.D. position available for development of novel tests and therapeutics. Research interests in tissue culture, cytogenetics, or colony assays preferred for one or both positions. Send résumé to: **Dr. Mark Geier, Molecular Medicine, Inc., 5606 Shields Drive, Bethesda, MD 20817**.

**EDITOR, LIFE SCIENCES.** As a result of program expansions, a respected international publisher has available career opportunity for individual with graduate degree(s) in the biological sciences. Responsibilities will include the evaluation and acquisition of new manuscripts for scholarly books and journals in biology and chemistry, supervision of editorial preparation of manuscripts, and the guidance of promotion and marketing activities for the sciences program. Experience in publishing or related field desirable. Position is New York City-based; travel approximately 50%. We offer a competitive salary and outstanding benefits package. Interested candidates should send résumé and cover letter, including salary history and requirements, to: **Personnel Director, Springer-Verlag New York, Inc., 175 Fifth Avenue, New York, NY 10010**. *Equal Opportunity Employer M/F/H.*

## POSITIONS OPEN

**DIRECTOR OF SURGICAL RESEARCH.** The Mary Imogene Bassett Hospital, affiliated with Columbia University, is seeking an academic general surgeon or general surgeon/subspecialist with research experience to expand the surgical research program, conduct laboratory research, and supervise surgical resident research projects. Adequate space and initial support are available. Responsibilities will be divided evenly between clinical activities and the Mary Imogene Bassett Research Institute. Submit inquiries and curriculum vitae to: **Michael S. Gold, M.D., Surgeon-in-Chief, The Mary Imogene Bassett Hospital, Atwell Road, Cooperstown, NY 13326**. Telephone: 607-547-3968.

**ENVIRONMENTAL CHEMICAL ENGINEER** for consulting firm in southwestern Ohio to perform environmental on-site tests of soil and groundwater, defining the extent of contamination including sampling, performing feasibility studies, and determining remedial action necessary so as to assure client's compliance with local, state, and federal regulations regarding air, solid waste, hazardous waste, and wastewater environmental hazards. Will analyze operations of manufacturing/industrial (chemical) sites as regards wastewater treatment practices and unit operations. Will analyze stream, wastewater, soil, and groundwater samples; perform underground storage tank analysis and coordinate laboratory analyses to recommend remedial and compliance procedures for soil and groundwater. No experience required. Must have M.S. in environmental engineering, education to include 2 years of research in wastewater treatment and biodegradation, including laboratory analyses of waste/wastewater and sampling techniques for wastewater and industrial wastes. One graduate-level course in each of the following: wastewater treatment, water treatment and quality management, industrial waste disposal, solid and hazardous waste management, landfill operations, and soil and groundwater contamination and remedial technologies; 40 hours per week, 8 a.m. to 5 p.m., \$31,500 per year. Qualified applicants send résumé to: **G. Maugans, JO #1099655, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216**. (No calls.)

### ENVIRONMENTAL HORTICULTURIST NURSERY SPECIALIST

Academic career-track, 11-month extension specialist and plant physiologist (75% Extension, 25% Agricultural Experiment Station research) at the assistant level, located in the Botany and Plant Sciences Department at the University of California, Riverside. Requires a Ph.D. degree in a plant science discipline with a specialization in horticulture, including demonstrated experience in field or glasshouse research. Additional expertise in one or more of the following is desired: soil and water science, plant stress physiology, pest management, post-harvest handling of crops, and plant breeding. Responsibilities include providing strong leadership and participation in applied research and educational activities related to nursery (ornamental horticulture) production in California. Send letter of application, curriculum vitae, statement of research interest, transcripts, and at least three confidential letters of reference to: **Dr. Robert T. Leonard, Chairman, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521-0124**. Telephone: 714-787-4413; FAX: 714-787-4437. The application deadline is 15 January 1990. *The University of California, Riverside, is an Affirmative Action/Equal Opportunity Employer. Minorities and women are encouraged to apply.*

### ENVIRONMENTAL SCIENTIST

The Environmental Science Department seeks application from outstanding teachers to fill a full-time, tenure-eligible faculty position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level beginning September 1990. Prefer candidates who have a solid background in one or more of the natural sciences and whose interests/experience are interdisciplinary. Ph.D. required. Examples of areas from which candidates are sought include environmental chemistry, resource management, environmental geography, ecotoxicology, land use planning, and atmospheric sciences.

Send résumé, a statement of philosophy and goals of teaching, description of research, and three letters of reference to: **Dr. Eric Pallant, Chair, Department of Environmental Science, Allegheny College, Meadville, PA 16335**. *Equal Opportunity Employer.* Application review begins 5 January 1990.

## POSITIONS OPEN

**ECOLOGIST. ASSISTANT PROFESSOR**, Ph.D., tenure track, start September 1990. Research interest in marine fishes. Teach general ecology, marine topics in specialty, elective general biology; fill periodic needs arising from hexennial leaves, and contribute to the interdisciplinary, values-oriented general education program. Send curriculum vitae, transcripts, three recommendations by 1 February 1990, to: **Dr. Sheila Hanes, Eckerd College, P.O. Box 12560, St. Petersburg, FL 33733. Equal Opportunity Employer.**

**ENDOCRINOLOGY/METABOLISM FACULTY POSITION.** The Division of Endocrinology/Metabolism has an opening for a faculty member at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Candidates should have a strong research background in diabetes or lipid research and interest in clinical research in an eight-bed National Institutes of Health-funded General Clinical Research Center. Send curriculum vitae and inquiries to: **Guenther Boden, M.D., Chief, Division of Endocrinology/Metabolism, Director, General Clinical Research Center, Temple University Hospital, 3401 North Broad Street, Philadelphia, PA 19140. An Equal Opportunity/Affirmative Action Employer.**

**EXPERIMENTAL BIOLOGIST.** A tenure-track, teaching/research position is open at the **ASSISTANT PROFESSOR** level. The applicant must be an animal physiologist and have a research background in cell biology or biochemistry. Ph.D. is required. Send résumé, representative publications, and names of three references to: **Dr. S. Hamada, Biology Search Committee, West Georgia College, Carrollton, GA 30118, by 7 January 1990. Inquiries: Telephone: 404-836-6547. Affirmative Action/Equal Opportunity Employer.**

**EXPERIMENTAL PATHOLOGIST, ASSISTANT OR ASSOCIATE PROFESSOR** level. Growing department needs experimentalists interested in either mechanisms of cell injury or molecular pathology. We can provide space, equipment, and competitive salaries for the right people. Send curriculum vitae to: **Dr. S. Bloom, Department of Pathology, University of Mississippi Medical Center, Jackson, MS 39216. An Equal Opportunity Employer, M/F/H/V.**

### FACULTY POSITION IN BIOPHYSICS AT HAVERFORD COLLEGE

The Department of Physics invites applications for a tenure-line **ASSISTANT PROFESSORSHIP** in biophysics. Applicants must have a Ph.D. and be strongly motivated toward creative research and undergraduate teaching. The successful candidate will assist in developing a new interdisciplinary biophysics program. Substantial start-up funds for research are available. The position is part of a program funded by the Howard Hughes Medical Institute to enhance the biological sciences through interaction between the various science departments.

Haverford is a liberal arts college with an international reputation for strong research and instruction in the sciences. We have active collaborations with the University of Pennsylvania, Bryn Mawr College, and Swarthmore College, among others. Please send curriculum vitae, list of publications, a statement of research interest, and at least three letters of recommendation by 15 January 1990 to: **Ms. E. Ferrall, Department of Physics, Haverford College, Haverford, PA 19041. An Equal Opportunity Affirmative Action Employer. Qualified women and minorities are particularly encouraged to apply.**

### FACULTY POSITION IN EUKARYOTIC MOLECULAR GENETICS

The Department of Genetics, University of California, Davis, seeks to fill a tenure-track 11-month position in eukaryotic molecular genetics at the **ASSOCIATE OR ASSISTANT PROFESSOR** level to begin on or after 1 July 1990. Candidates must have demonstrated excellence in research, be willing to teach an advanced course in their specialty, and contribute to undergraduate instruction and advising. Interviews will be conducted after 1 January 1990 and continue until the position is filled. Apply to **James B. Boyd, Search Committee Chair, Agricultural Experiment Station, University of California, Davis, CA 95616.**

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

## POSITIONS OPEN

### FACULTY POSITION BIOCHEMISTRY AND MOLECULAR BIOLOGY

The Department of Biochemistry and Molecular Biology, University of Texas Health Science Center, Houston, invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. We are seeking candidates with broad training and research interests in cell biology, molecular biology, and structural biochemistry, as well as a strong commitment toward developing an independent research program and teaching at the graduate level. Applicants should send curriculum vitae, list of publications, and a summary of research interests, and arrange to have three letters of recommendation submitted on their behalf to: **Dr. John Demoss, Department of Biochemistry and Molecular Biology, The University of Texas Medical School of Houston, P.O. Box 20708, Houston, TX 77225. The University of Texas is an Equal Opportunity Employer. Women and minorities are encouraged to apply.**

## POSITIONS OPEN

### UNIVERSITY OF WYOMING SCHOOL OF PHARMACY FACULTY POSITION IN PHARMACEUTICS

The School of Pharmacy, University of Wyoming, invites applications for an academic year tenure-track faculty appointment in pharmacetics at the **ASSISTANT PROFESSOR** level. Salary is competitive and commensurate with qualifications and expertise. Applicants should possess a Ph.D. in pharmacetics, biopharmaceutics, or pharmacokinetics. Responsibilities include undergraduate teaching, development of a strong independent or collaborative research program, and participation in the service and professional activities of the school and university. Position is available on or before 1 January 1990. Screening of applications will continue until the position is filled. Application letter, curriculum vitae, and names and addresses of three references should be sent to: **K. Nelson, University of Wyoming, Box 3375, Laramie, WY 82071-3375. An Equal Opportunity/Affirmative Action Employer.**

# Give Your Career This Diagnostic Test.

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We are seeking a creative, highly motivated scientist to join a multidisciplinary team in the development of novel diagnostic methodologies. The successful candidate will apply protein chemistry expertise to help design, develop and implement a comprehensive DNA probe-based diagnostic system as well as recovery and characterization of recombinant derived proteins.

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## Protein Chemist

This individual will be responsible for establishing and qualifying procedures for purifying active proteins from recombinant fermentations. In addition, the successful candidate will participate in the critical aspect of characterizing sample components for their effect on both DNA probe-based and immunoassay-based diagnostic systems.

We are seeking an individual with extensive experience in fractionation and analysis of proteins and glycoproteins; isolation of proteins from genetically engineered organisms; and renaturation of recombinant-derived proteins. The successful candidate will have a Ph.D. in Biochemistry with at least 2 years of postdoctoral experience in protein chemistry. A published record of accomplishment in this area is required. Experience with lipids and carbohydrates would be a plus, as would any prior work with fractionation of complex body-site sample matrices.

Becton Dickinson offers an excellent research facility with an outstanding scientific staff dedicated to advancing diagnostics through state-of-the-art science and technology. If you are a highly motivated, creative scientist, looking for a stimulating environment in which to substantially contribute to this fast moving area of diagnostics, then we invite your application for this position. To apply in confidence, send your resume with salary requirements to: Human Resources Department, Becton Dickinson and Company Research Center, P.O. Box 12016, Research Triangle Park, NC 27709-2016. AA/EEO Employer.

# BECTON DICKINSON

## POSITIONS OPEN

### TWO FACULTY POSITIONS IN GENETICS AT WISCONSIN

The Laboratory of Genetics, University of Wisconsin, is recruiting two new tenure-track faculty members. Position (i): **ASSOCIATE OR ASSISTANT PROFESSOR** in mammalian or human genetics. All areas of mammalian genetics/molecular genetics will be considered, but applicants with research programs applicable to human disease are particularly welcome. Position (ii): **ASSISTANT PROFESSOR** in genetics. All areas of genetics and molecular genetics will be considered. Send curriculum vitae, a statement of research interests, and three letters of recommendation to: **William F. Dove, 118 Genetics, University of Wisconsin, 445 Henry Mall, Madison, WI 53706**. Application deadline is 10 February 1990. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

### TENURE-TRACK FACULTY POSITION IN THE CENTER FOR CANCER RESEARCH AND DEPARTMENT OF BIOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

The Department of Biology and the Center for Cancer Research at MIT seek applicants for a tenure-track position at the level of **ASSISTANT OR ASSOCIATE PROFESSOR**. Candidates should have significant research accomplishments and should be able to develop a creative research program addressing significant problems in contemporary immunology and to participate in the department's educational activities. Applicants should send curriculum vitae, bibliography, a brief description of research interests, and the names of at least three references to:

**Dr. Phillip A. Sharp, Professor and Director  
Search Committee Chairperson  
Center for Cancer Research, Room E17-529  
Massachusetts Institute of Technology  
Cambridge, MA 02139**

*MIT is an Equal Opportunity/Affirmative Action Employer. Qualified women and members of minority groups are encouraged to apply.*

### FACULTY POSITIONS IN EVOLUTIONARY BIOLOGY BROWN UNIVERSITY

The Graduate Program in Ecology and Evolutionary Biology is a group of strongly interactive faculty whose interests range from genetics to paleobiology with particular strengths in ecology, behavior, population genetics, and morphology. We announce two **ASSISTANT PROFESSORSHIPS** for (i) an evolutionary geneticist and (ii) an evolutionary morphologist. We welcome applications from candidates with demonstrated excellence in experimental (field or laboratory) research for these integral positions in our ecology and evolutionary biology program. Candidates must have a doctorate, potential for excellence in teaching, ability to develop an independently funded research program, and potential to interact productively with faculty in the program. Evolutionary genetics applicants should be addressing central issues in evolutionary biology, using modern molecular approaches. We encourage applicants working on plant, animal, or microbial systems. Responsibilities include a course in evolutionary mechanisms, a specialty course or contribution to the basic genetics course, and academic advising. Evolutionary morphology applicants should be addressing evolutionary issues in the biomechanics, ecomorphology, or developmental morphology of vertebrates. Responsibilities include teaching in the human morphology course for medical students, contribution to courses in evolutionary biology, and academic advising. Opportunities also exist for interaction with a wide range of faculty in the Division of Biology and Medicine as well as with strong programs in applied mathematics, biomechanics, and paleoecology. Applicants should submit a résumé including research and teaching experience, future research plans, and a list of publications; enclose representative reprints; and have three letters of reference sent to: **The Division of Biology and Medicine, Brown University, Providence, RI 02912** in care of **Dr. D. H. Morse, Box G-W** for the evolutionary genetics position or **Dr. G. E. Goslow, Jr., Box G-B** for the evolutionary morphology position. Applications are expected by 3 January 1990. Screening will begin on that date and continue until a successful candidate has been identified or the search is closed. *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### FACULTY POSITION IN BIOCHEMISTRY DEPARTMENT OF BIOLOGY UNIVERSITY OF UTAH

As part of a campus-wide expansion in the area of biochemistry and molecular biology, the Department of Biology seeks applications for a tenure-track **ASSISTANT PROFESSOR** position in biochemistry, but will not exclude a higher rank if the right person is found. We hope to appoint an individual who has both basic training and current research interest in fundamental biochemistry and is able to teach biochemistry effectively. Research interest may include work on any biological process (in microorganisms, plants, or animals), but the approach should be biochemical. This individual should be able to interact productively with faculty and students having a wide range of research interests. In addition to biochemistry, the department includes molecular biology, cell biology, and genetics as well as organismal physiology, ecology, and evolution. Application review will start 1 January 1990 and continue until the position is filled. Applicants should submit curriculum vitae, description of research interests, and three letters of reference to: **Biochemistry Search Committee, Department of Biology, 201-S Biology, University of Utah, Salt Lake City, UT 84112**.

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

### FACULTY POSITIONS, GEOSCIENCES

The University of California at Irvine is creating a new department for graduate study and research in the geosciences. Initial emphasis will be on detecting, understanding, and predicting changes in global and regional climate; the chemical composition of the atmosphere; and biogeochemical cycles. Scientists in these sub-disciplines and in related fields are sought for academic appointments as **ASSISTANT, ASSOCIATE, AND FULL PROFESSOR**. Research conducted through laboratory and field experiments, modeling, analysis, and theory will be encouraged. Three positions are available this year and others are anticipated later. Candidates must present evidence of outstanding research and publications and be recognized nationally and internationally for associate and full professor appointments; for assistant professors, there must be visible prospects for future excellence. Teaching ability is necessary and will be considered. Please send a brief statement of scientific interests and a complete résumé with a list of publications to: **Professor Ralph Cicerone, Chair, Geosciences Department, 220 Physical Sciences, University of California, Irvine, CA 92717**. Materials received before 15 February 1990 will be given full consideration. *The University of California is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### INFECTIOUS DISEASES FACULTY POSITION

The University of California, Los Angeles (UCLA), Division of Infectious Diseases, Department of Medicine, at the UCLA Center for the Health Sciences in Westwood is recruiting a tenure-track faculty member at the **ASSISTANT PROFESSOR** level. Position includes independent laboratory space and equipment, start-up funds, and protected time. Applicant must be Board-certified in internal medicine and Board-eligible or -certified in infectious diseases. Applicant must be prepared to establish an independent research program in area of intracellular parasitism, or host-bacterium or host-parasite interaction. Applicants must have had a minimum of 3 years of full-time experience in basic laboratory investigation; acquired state-of-the-art skills in cell biology, immunology, biochemistry, or molecular biology; and published at least one first-authored paper in a prestigious peer-reviewed laboratory research-oriented journal. Send curriculum vitae; three copies of all papers, abstracts, and manuscripts in press, manuscripts submitted (optional); statement of future research interests; and three letters of recommendation to: **Infectious Diseases Search Committee, c/o Marcus A. Horwitz, M.D., Chief, Division of Infectious Diseases, Department of Medicine, UCLA School of Medicine, Center for the Health Sciences, 37-121, Los Angeles, CA 90024-1688**. All materials should be sent by 1 December 1989 or as soon as possible thereafter. *The UCLA School of Medicine is an Equal Opportunity/Affirmative Action Employer.*

## CELL BIOLOGIST/ BIOCHEMIST

### Research Opportunity

An industry-leading manufacturer currently has a research position available involving cell biology/biochemistry in its Southeast area location.

Experience in cell and tissue culture, molecular biology, plant transformation systems, microbiology, immunochemical techniques and/or radioisotope methods is highly desirable. Strong oral and written communication skills are a plus, as is the ability to conduct computer manipulations of data. Requires a graduate degree; Ph.D. preferred.

An excellent salary and generous company benefits will compensate the special skills that you have to offer. Please send your resume, in confidence, to:

### BOX 212, SCIENCE

An Equal Opportunity Employer M/F/H

### CLINICAL PHARMACOLOGIST - PHYSIOLOGICAL PHARMACOKINETICIST

The Laboratory of Clinical Studies, National Institute on Alcohol Abuse and Alcoholism, Public Health Service, invites applications for one Clinical Pharmacologist - Physiological Pharmacokineticist. This position is offered depending on the experience of the applicants at the level of a senior staff fellow (salary range, \$28,000 - \$45,234). The Laboratory is involved in exciting studies on brain imaging and drug metabolism. The individual appointed will have an important role in this multidisciplinary team effort. A research ward, excellent analytical chemistry, brain imaging and computer resources are available in the Laboratory on the NIH campus. Position information and qualification requirements may be obtained by contacting Dr. Linnoila. Submit Curriculum Vitae and names of three references to:

**Markku Linnoila, M.D., Ph.D.  
Clinical Director  
National Institutes of Health  
Building 10, Room 3B-19  
9000 Rockville Pike  
Bethesda, MD 20892  
(301) 496-9705**

*This position is now available.*

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

**CHAIRMAN**  
**Department of**  
**Biomedical Engineering**

Boston University's College of Engineering invites applications and nominations for the position of Chairman, Department of Biomedical Engineering. The Department currently has fifteen faculty with annual sponsored research expenditures exceeding 3 million dollars, 75 graduate students, and 130 upperclass undergraduates. We seek a distinguished engineer/scientist with a proven research record to lead the Department in its continuing growth.

The University has invested 110 million dollars in new facilities for engineering and science over the last five years and has recently made major commitments to the further growth of the College in conjunction with the appointment of a new Dean of Engineering. The Department maintains a central position within the College due, in part, to the diverse backgrounds and research areas of its faculty. The Department expects to continue to develop graduate teaching and research and to strengthen its collaborations with the basic science departments, the Sargent College of Allied Health Professions, the Boston University Medical School and other area hospitals and companies.

A letter of interest or nomination, curriculum vitae, and the names of at least three references should be sent by February 1, 1990 to H. Steven Colburn, Chairman, Biomedical Engineering Search Committee, Boston University, 44 Cummington Street, Boston, MA 02215.

**BOSTON**  
**UNIVERSITY**



An equal opportunity, affirmative action employer.

## NMR Spectroscopist

Miles Inc. has an outstanding opportunity in its new Research Center for Biotechnology headquartered in West Haven, CT.

This position will provide critical NMR support for our biotechnology and pharmaceutical research. NMR is part of a fully integrated Structural Chemistry group which currently includes X-ray crystallography and computational chemistry and participates in multidisciplinary research projects.

The successful candidate will have a PhD with 3-5 years' post-doctoral experience. A background in protein NMR research with a strong working knowledge in NMR theory and instrumentation is required. Familiarity with macromolecular structure elucidation and molecular modeling methodology is highly desirable.

Our NMR laboratory was started in April of this year with a research-grade GN-Omega-300 MHz NMR and approved 1990 funding for a fully-equipped 500 MHz NMR spectrometer. Continuous growth of Structural Chemistry and the NMR facility is projected over the next 10 years.

This position offers attractive compensation commensurate with qualifications, a benefits package including 401K and relocation assistance, and professional growth opportunities. For consideration, send resume including current salary in confidence to: Craig E. Cunningham.



**Miles Research Center**  
**400 Morgan Lane**  
**West Haven, CT 06516**

AN EQUAL OPPORTUNITY EMPLOYER M/F/H

**unigene**

### SENIOR SCIENTIST MOLECULAR BIOLOGY

**Mammalian Cell Expression**

Unigene Laboratories, a multidisciplinary biotechnology research corporation has an immediate opening for a Ph.D. level scientist with a strong background in cellular and molecular biology and experience studying the expression of heterologous genes in mammalian cell culture systems. Experience in eukaryotic vector development and/or virology is desirable.

The successful candidate will have a Ph.D. (or equivalent) degree and a record of creativity and accomplishment as evidenced by recent publications. Postdoctoral or industrial experience is preferred.

Unigene offers excellent compensation, a comprehensive benefits package and the opportunity to work in an environment which fosters continued professional development. Please send a C.V. and three references in confidence to:

Personnel Department, MB  
**UNIGENE LABORATORIES, INC**  
110 Little Falls Road  
Fairfield, NJ 07006

**unigene**

Equal Opportunity Employer

Genzyme Corporation, a rapidly growing developer, manufacturer, and vendor of diversified healthcare products, recently merged with Integrated Genetics, a leader in the research and development of human biopharmaceuticals. The combined entity, which places the strengths of an innovative scientific effort within the framework of a results-driven products and manufacturing business, forms a significant force in the biotechnology industry with more than 450 employees worldwide.

### Organic Chemists

We seek BS/MS chemists with research experience in carbohydrate chemistry, enzymatic synthesis, pharmaceutical synthesis, bioorganic chemistry, or enzymology. Candidates should also have excellent skills in data analysis, organization and communication.

### Enzymologist

We have a position for a BS/MS chemist with 2 to 3 years' research experience in bioorganic chemistry and/or enzymology. Laboratory work will focus on bioorganic chemistry and molecular biology to study enzyme mechanisms and to develop new enzymes for enzymatic synthesis.

### Biopolymers

Our Biopolymers department requires a BS in Materials Science or Bio-engineering, with at least 1 to 3 years' experience with biomedical devices to assist in the development and evaluation of hyaluronic acid-based products. Responsibilities include performing routine materials analyses, aseptic formulation of films and gels to meet product specifications, and assisting with animal studies.

Genzyme offers an excellent compensation and benefits package, including equity participation, a 401(k) plan with a matching company contribution, and extensive medical, dental, life and vision care insurance. For immediate consideration, please send your resume to: Human Resources, Genzyme Corporation, 75 Kneeland Street, Boston, MA 02111. An equal opportunity employer.



## POSITIONS OPEN

**FACULTY POSITION.** Applications are invited for a tenure-track, **ASSISTANT PROFESSOR** position in the Department of Chemistry at Whitman College, a private liberal arts college offering an ACS-certified B.A. degree. A Ph.D. in physical, inorganic, or analytical chemistry is required. Principal duties include teaching the full-year physical chemistry course, a one-semester upper division course in his or her specialty, one semester of the general chemistry course, and associated laboratories; directing undergraduate research projects; and continuing scholarly activities. Applications must include a curriculum vitae, transcripts, three letters of recommendation, and a statement of teaching philosophy and experience and research interests. Send to: **Dr. J. Charles Templeton, Department of Chemistry, Whitman College, Walla Walla, WA 99362** by 1 January 1990. *Whitman College is an Affirmative Action/Equal Opportunity Employer.*

### DEPARTMENT OF BIOCHEMISTRY UNIVERSITY OF GENEVA FACULTY OF SCIENCES

A full-time position has been opened for a scientist capable of directing a strong research program in biochemistry. All fields of research will be considered. The position will be filled at the rank of **FULL PROFESSOR** or possibly at a lesser rank for promising candidates with less experience. Teaching at undergraduate and graduate levels will be required. The language of instruction is French, but a period of adjustment to this requirement can be granted. The proposed starting date is October 1990, but this is negotiable. Applications should be sent by 15 January 1990 to: **Secrétariat de la Faculté des Sciences, Université de Genève, 20, quai Ernest-Ansermet, CH-1211 Geneva 4, Switzerland**, from whom additional information can also be obtained.

### FACULTY POSITION IN CELL BIOLOGY

The Department of Anatomy and Cell Biology at Columbia University, College of Physicians and Surgeons, invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. The applicant should have considerable promise and demonstrated achievement in any area of cell biological research; however, areas of particular interest include mechanisms of growth factor action, differentiation of vertebrate cells, and functions of the extracellular matrix. The successful applicant will be expected to establish an outstanding, extramurally funded research program and to contribute to the cell biological education of medical and graduate students. Candidates for this position should send curriculum vitae and a description of their proposed research program, and should arrange to have three letters of recommendation sent to: **Faculty Search Committee, Department of Anatomy and Cell Biology, Columbia University, College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032.** *Columbia University is an Affirmative Action Employer.*

### EMORY UNIVERSITY FACULTY POSITIONS IN DEVELOPMENTAL BIOLOGY

As part of major expansion, the Department of Biology intends to make several tenure-track appointments in developmental biology. Presently available positions are at the **ASSISTANT PROFESSOR** level, although an appointment at a higher rank could be considered in exceptional circumstances. The area of research interest is broadly defined to encompass the study of molecular mechanisms relevant to the fundamental processes of differentiation and morphogenesis. Applicants should provide evidence that they will develop a strong, independent research program and that they possess a broad knowledge of developmental biology. Please send curriculum vitae, reprints of publications, a statement of present and future research plans, and four letters of recommendation to: **Developmental Biology Search Committee, Department of Biology, Emory University, Atlanta, GA 30322.** To ensure full consideration, applications should be received by 31 December 1989. *Emory is an Equal Opportunity/Affirmative Action Employer. Applications from minority and female candidates are strongly encouraged.*

## POSITIONS OPEN

### TENURE-TRACK FACULTY POSITION IN THE CENTER FOR CANCER RESEARCH AND DEPARTMENT OF BIOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Candidates are sought for a tenure-track position at the level of **ASSISTANT PROFESSOR** in the field of biochemistry and molecular biology.

Candidates should have significant research accomplishments in the area of contemporary cell biology. We are particularly interested in scientists with creative approaches to the biochemistry of proteins involved in cell regulation and genes encoding these proteins.

The successful applicant will be expected to conduct an active research program in the Center for Cancer Research and to participate in the teaching program of the department.

Applicants should send curriculum vitae, a summary of their proposed research program, and the names of at least three scientists who can provide an evaluation of the candidate's past accomplishments and future potential. Send applications to:

**Dr. Phillips W. Robbins, Professor  
Search Committee Chairperson  
Center for Cancer Research, Room E17-233  
Massachusetts Institute of Technology  
Cambridge, MA 02139**

*An Equal Opportunity/Affirmative Action Employer*

**FACULTY POSITION IN ENVIRONMENTAL HEALTH.** A tenure-track faculty position is available for September 1990 in health science and human ecology at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Doctorate is required for appointment to professional rank. University teaching in environmental health and health-related areas. Deadline: 15 January 1990 or until filled. Send résumé and references to: **Dr. Jorge L. Sintes, Chair, California State University, 5500 University Parkway, San Bernardino, CA 92407-2397.**

### FACULTY POSITIONS IN MOLECULAR BIOLOGY AND MOLECULAR PHARMACOLOGY

The Department of Pharmacology and Molecular Biology at the Chicago Medical School is initiating the second phase of faculty recruitment for tenure-track positions at all levels. Preference will be given to applicants with research interests in eukaryotic gene regulation, molecular mechanism of action of hormones, growth factors, or molecular aspects of development and cancer. The school relocated to a new modern facility adjacent to the very pleasant North Shore community of Lake Bluff, 38 miles from downtown Chicago and yet easily accessible by car or train. The department is now in an exciting stage of growth and development and has already recruited faculty of high calibre. Salary and other benefits highly competitive. Please send curriculum vitae, research plans, and three names of references to:

**Dr. S. T. Jacob, Chairman  
Department of Pharmacology and  
Molecular Biology  
The Chicago Medical School  
3333 Green Bay Road  
North Chicago, IL 60064**

*Chicago Medical School is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION IN NEUROANATOMY

A tenure-track position in neuroanatomy at the **ASSISTANT PROFESSOR** level is available in the Department of Behavioral Neuroscience at the University of Pittsburgh, beginning July 1990. There currently are 16 tenure-track faculty and a vigorous departmental graduate training program. Research is highly collaborative and focuses on a variety of areas in neuroscience, including the neurobiology of catecholaminergic systems, biophysical membrane properties and neuroplasticity of hippocampal neurons, the neurobiological basis of behavior, molecular neurobiology of neurotransmitters and neurohormones, and mathematical modeling of neuronal networks. Applicants should be trained in modern neuroanatomical methods, have at least 2 years of postdoctoral experience, and be prepared to establish an independent research program. Send curriculum vitae, three letters of recommendation, and a description of current and future research to: **Search Committee, Department of Behavioral Neuroscience, 479 Crawford Hall, University of Pittsburgh, PA 15260.**

## POSITIONS OPEN



### FACULTY POSITION IN NMR

The Department of Biochemistry is seeking applicants to fill a tenure-track position. Appointments at any level will be considered. Applicants should have experience in high resolution NMR determination of structure of proteins or other macromolecules, with appropriate graduate and postdoctoral training. Interested individuals should send curriculum vitae, outline of research interests, and the names of three references to: **Barry P. Rosen, Professor and Chairman, Department of Biochemistry, Wayne State University, School of Medicine, 540 East Canfield Avenue, Detroit, MI 48201.** *Wayne State University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

**FACULTY POSITIONS IN TOXICOLOGY.** The Department of Pharmacology and Toxicology, University of Arizona College of Pharmacy, has two tenure-track openings at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. The Department seeks individuals to complement the existing research activities within the department and related disciplines. The department has established a center for toxicology and the university has interdepartmental programs for cancer biology, neurobiology, biotechnology, immunobiology, and insect science. Scientists from these areas actively collaborate with faculty from the department. The applicants should possess a Ph.D. degree in toxicology, pharmacology, or related disciplines; postdoctoral experience; demonstrated excellence in research; and an active interest in teaching at both the professional and graduate levels. The candidate will be expected to establish and support an active research program that utilizes modern molecular and cellular approaches. Areas of interest include, but are not limited to: neuro-, immuno-, pulmonary-, developmental-, and reproductive-toxicology. Applicants should send detailed curriculum vitae, statement of research plans, and names and phone numbers of three references by 15 February 1990, to: **Dr. I. Glenn Sipes, Head, Department of Pharmacology and Toxicology, College of Pharmacy, The University of Arizona, Tucson, AZ 85721.** *Women and minorities are strongly encouraged to apply. An Equal Opportunity/Affirmative Action Employer.*

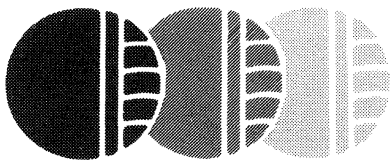
### FOREST PATHOLOGIST

The Department of Plant Pathology, University of Wisconsin-Madison, invites applications for a 12-month, tenure-track **ASSISTANT PROFESSOR** position: 80% research and 20% instruction. Candidates must have a Ph.D., and previous experience in forest pathology is not a prerequisite. Applications must include a résumé, transcripts, and a statement of research interests. Applications and three letters of recommendation should be sent to:

**Douglas P. Maxwell, Chairman  
Department of Plant Pathology  
1630 Linden Drive  
University of Wisconsin-Madison  
Madison, WI 53706**

*The University of Wisconsin-Madison is an Equal Opportunity/Affirmative Action Employer.*

The Department of Biology and the Biological Basis of Behavior Program of the University of Pennsylvania is recruiting for a **LECTURERSHIP IN NEUROBIOLOGY**. The lecturer will coordinate two neurobiology laboratory courses annually. The new laboratory facility includes equipment for intracellular electrophysiology, patch clamping, and video imaging. Development of an independent research program or collaborative research with a member of the university's neuroscience community is encouraged. Qualifications: Ph.D. and appropriate research experience. Position begins March 1990. Application deadline: 31 December 1989. Send curriculum vitae and names of three references to: **Professor E. N. Pugh, University of Pennsylvania, 3815 Walnut Street, Philadelphia, PA 19104-6196.** *An Equal Opportunity/Affirmative Action Employer.*



**ImmuLogic** is a growing company dedicated to the creation of novel therapeutic and diagnostic products

to modulate and monitor the human immune system. We employ state-of-the-art techniques and proprietary knowledge in immunology, biochemistry, and molecular biology to develop products in the vaccine, allergy and autoimmune disease areas. We collaborate with world leaders in the pharmaceutical industry and in academic institutions and are already recognized as a leading force among companies focusing in immunology. We are currently adding to the outstanding scientific team at our **Cambridge, Massachusetts** headquarters, and our new research facility in **Palo Alto, California**.

## **P A L O A L T O**

### **IMMUNOLOGIST FOR AUTOIMMUNE DISEASES RESEARCH**

Will investigate the interactions between HLA proteins, antigenic peptides and the T cell receptor; develop novel approaches to study and modulate these interactions and the resulting responses. Immunology background required (preferably including Molecular Immunology) as well as 2-6 years' postdoctoral experience with strong record of achievement.

### **BIOCHEMIST FOR AUTOIMMUNE DISEASES RESEARCH**

Will investigate the interaction between HLA proteins and antigenic peptides and develop assay systems to monitor this interaction and investigate the structural requirements for binding. Biochemistry/Chemistry background and research experience with cell surface receptors and/or ligand binding desired. Understanding of relationship between protein structure and function and 2-6 years' postdoctoral experience with strong record of achievement required.

### **CHEMIST FOR AUTOIMMUNE DISEASES RESEARCH**

Will investigate the structural requirements for HLA protein-antigenic peptide binding via the synthesis/design of peptides and peptidomimetic drugs which interact with HLA proteins. Involves both peptide and medicinal chemistry techniques. Requires experience with computer assisted drug design/molecular modelling technologies. Medicinal chemistry background, including experience with peptide synthesis/design, and 2-6 years' postdoctoral experience with strong record of achievement also required.

For the above positions, please send curriculum vitae and list of publications to: **ImmuLogic Pharmaceutical Corporation, 855 California Avenue, Palo Alto, CA 94304, ATTN: Human Resources Department.**

## **C A M B R I D G E**

### **IMMUNOLOGIST FOR ALLERGIC AND INFECTIOUS DISEASES RESEARCH**

Will investigate the immune responses to allergens and viral particles via characterization of antibody and T cell responses to protein and peptide immunogens. Requires a broad background in Immunology including appropriate experience with monoclonal and polyclonal antibodies and cellular immunology, as well as 2-6 years of postdoctoral experience with strong record of achievement.

For the above position, please send curriculum vitae and list of publications to: **ImmuLogic Pharmaceutical Corporation, One Kendall Square, Building 600, Cambridge, MA 02139, ATTN: Human Resources Department.**

**ImmuLogic** provides an outstanding working environment and state-of-the-art laboratory facilities. We have a first-rate support network of academic advisors and collaborators, an active postdoctoral program, and we support and encourage the publication of important research findings. **ImmuLogic** offers competitive salaries and benefits as well as equity participation through an incentive stock option program.

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Pharmaceutical Corporation

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Equal Opportunity Employer

## POSITIONS OPEN

**HUMAN NEUROPHYSIOLOGIST** to direct event-related potential studies in schizophrenics and normals at Harvard Medical School, Brockton Veterans Administration Medical Center, beginning 1 July 1990. Will be section chief, Laboratory of Neuroscience (**R. W. McCarley, Director**). Harvard faculty appointment in Department of Psychiatry (Assistant Professor, etc.) and salary levels commensurate with experience. Experience in cognitive neuroscience studies of attention, in pathological populations, and background in basic neuroscience useful. Send curriculum vitae and three publications to: **R. W. McCarley, Chair, Search Committee, Psychiatry 116A, VA Medical Center, Brockton, MA 02401**. *Affirmative Action/Equal Opportunity Employer.*

### NEW ZEALAND UNIVERSITY OF CANTERBURY SENIOR LECTURER OR LECTURER IN MOLECULAR BIOLOGY (DEPARTMENT OF PLANT AND MICROBIAL SCIENCES)

Applicants should have a Ph.D. degree in a relevant field and an interest in plant molecular biology and plant virology. The appointee will be expected to contribute to the teaching of courses in biochemistry, molecular biology, molecular genetics, and virology and to pursue an active research program, including the supervision of M.Sc. and Ph.D. students.

The salary for senior lecturers is on a scale from \$NZ50,000 to \$NZ58,600 per annum (bar), and a range from \$NZ60,800 to \$NZ64,500, and for Lecturers is on a scale from \$NZ36,000 to \$NZ43,700 (bar), and from \$NZ45,000 to \$NZ47,200 per annum. Applications close 28 February 1990.

Further particulars and conditions of appointment, quoting **Position No. PL5**, may be obtained from the undersigned, to whom applications must be addressed: **A. W. Hayward, Registrar, University of Canterbury, Private Bag, Christchurch, New Zealand.**

*The University of Canterbury has a policy of equality of opportunity in employment.*

A permanent, full-time position as **LIFE SCIENCES TEACHING LABORATORY SPECIALIST** is available in the Department of Physiology and Biophysics at the University of Illinois, Urbana-Champaign, beginning 15 January 1990. The department is committed to a major revision of its physiology teaching laboratories with emphasis on computer-based data acquisition and analysis. Duties of the successful candidate will include assisting faculty in the revision and organization of teaching laboratory experiments, maintaining and arranging laboratory equipment and supplies, supervision of graduate teaching assistants, and other functions related to providing students with a successful laboratory experience. Preferably, applicants should have an advanced degree in one of the life sciences and/or computer science, a solid background in physiology and biochemistry, and prior experience in electronics and computer-based data acquisition systems. Teaching experience is desirable. Preference will be given to individuals with documented computer programming skills. Salary will be commensurate with training and experience. In order to insure full consideration, a letter of application, curriculum vitae, and three letters of recommendation should be sent no later than 1 December 1989 to: **Dr. John E. Zehr, Head, Department of Physiology and Biophysics, 524 Burrill Hall, University of Illinois, 407 South Goodwin Avenue, Urbana, IL 61801**. Telephone: 217-333-1734. Interviews may be conducted before the closing date; however, all applications received by 1 December 1989 will receive full consideration. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

### MOLECULAR GENETICIST

Florida Atlantic University (FAU) invites applications for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level starting in August 1990. A microbial or cellular molecular geneticist is sought to establish a graduate research and teaching program in his or her subject area. Ph.D. required. Responsibilities also include undergraduate teaching. Forward curriculum vitae, reprints, transcripts, statement of research goals, and three letters of recommendation to: **Dr. Sheldon Dobkin, Chairman, Department of Biological Sciences, Florida Atlantic University, Boca Raton, FL 33431**. Applications should be received by 10 January 1990. *FAU is an Affirmative Action/Equal Opportunity Institution.*

## POSITIONS OPEN

Tenure-track **MATHEMATICAL MODELING** position beginning fall 1990; rank and salary commensurate with qualifications. Applicants must have demonstrated research ability in mathematical modeling. Preference given to candidates whose research program complements and supports basic research in the molecular sciences, a campus-wide research initiative. Individuals expert in dynamical systems or reaction-diffusion encouraged to apply. Ph.D. required with competence to teach relevant graduate and undergraduate courses. Applicants should send a curriculum vitae, a statement of research interests, and three letters of reference by 15 January 1990 to: **Chair, Mathematical Modeling Search Committee, Department of Pure and Applied Mathematics, Washington State University, Pullman, WA 99164-2930**. *Equal Opportunity/Affirmative Action educator and employer. Protected group members encouraged to apply.*

### MOLECULAR BIOLOGIST P-450 PROTEIN CHEMIST

Two **POSTDOCTORAL POSITIONS**: (i) Molecular biologist to work with gene transfer, regulated expression, *cis*, and *trans*-acting factors regulating genes for steroidogenic enzymes; (ii) P-450 protein chemist experienced with isolation and reconstitution of biologically active P-450 enzymes. Send curriculum vitae and letters of reference to: **Dr. Walter L. Miller, Laboratory of Molecular Biology, Building MR-IV, Room 209, University of California, San Francisco, CA 94143-0978**.

### MOLECULAR BIOLOGY/BIOPHYSICS MIDDLEBURY COLLEGE

Two-year position available for a **VISITING ASSISTANT PROFESSOR**, beginning 1 September 1990. The successful candidate will possess advanced training and current research interest in either molecular biology or biophysics, with preference given to those studying eukaryotic systems. Collaboration available in the areas of laser, MCD, and NMR spectroscopy; organic synthesis; microbial pathogenesis; extranuclear inheritance; membrane transport; receptor biochemistry; and neuromuscular physiology. Responsibilities include the development of an active research program involving undergraduates and teaching annually one intermediate lecture/laboratory course and one seminar, in areas to be negotiated. Ph.D. required, postdoctoral experience in either molecular biology or biophysics preferred. The completed application will include statements of teaching and research interest, curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation. The application and letters of recommendation should be sent under separate cover to: **Dr. Stephen Sontum, Search Committee Chair, Department of Chemistry and Biochemistry, Middlebury College, Middlebury, VT 05753**. Postmark deadline: 18 December 1989. *Middlebury College is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### MICROBIAL MOLECULAR GENETICIST (PROKARYOTIC/EUKARYOTIC)

A 9-month tenure-track position at the **ASSISTANT PROFESSOR** level is available in the Department of Botany and Microbiology in the area of microbial molecular genetics. Applicants are sought whose research would complement or extend any of the existing programs in DNA metabolism, the regulation of gene expression, and microbial development. Applicants who could interact with other established programs in physiology, pathogenesis, and microbial ecology will also be considered. The successful candidate will be expected to participate in graduate and undergraduate teaching.

Primary criteria for appointment will be a Ph.D. degree, postdoctoral experience, expertise in molecular biology, and demonstrated research ability. For initial screening, candidates should submit curriculum vitae, a letter of application giving a brief description of their research interests, and three letters of recommendation to:

**Dr. David McCarthy, Search Committee Chair  
Department of Botany and Microbiology  
The University of Oklahoma  
Norman, OK 73019-0245**

Screening of applications will begin 15 January 1990, and applications will be accepted until position is filled.

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

## POSITIONS OPEN

**MICROBIOLOGIST (MEDICAL MICROBIOLOGY)**. The Department of Biological Sciences, University of Southern Mississippi, invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level. Applicants may have research interests in any area of medical microbiology. The successful candidate will be expected to develop a vigorous, independent research program and to direct graduate students (M.S., Ph.D.). Teaching responsibilities will include undergraduate and graduate courses in pathogenic microbiology and related areas. The University of Southern Mississippi is one of the leading comprehensive universities in the region. The Department of Biological Sciences has ongoing funded research in molecular biology, virology, microbial physiology, environmental microbiology, immunology, and genetics as well as programs in organismic biology. Candidates should submit a statement of research and teaching interests, curriculum vitae, and names of at least three references. Applications must be postmarked by 15 January 1990 and should be sent to: **Dr. Glen Shearer, University of Southern Mississippi, Department of Biological Sciences, Southern Station Box 5018, Hattiesburg, MS 39406**. *The University of Southern Mississippi is an Equal Opportunity/Affirmative Action Employer.*

**MOLECULAR IMMUNOLOGIST**. Two tenure-track faculty positions (**ASSISTANT PROFESSOR**) at the University of Miami School of Medicine are available as part of the newly created Molecular Immunology Core. Candidates with an M.D. or Ph.D. degree are expected to have a strong background in molecular approaches to immunology. The department, under the leadership of Dr. Streilein, has built a strong, research-oriented faculty in immunology and microbiology and offers excellent working conditions in a congenial, enthusiastic environment.

Interested individuals please send curriculum vitae, a synopsis of research interest, and the names of two references to the chairman of the search committee: **Attention: Dr. Eckhard R. Podack, University of Miami School of Medicine, Department of Microbiology and Immunology, P.O. Box 016960 (R-138), Miami, FL 33101**. Telephone: 305-548-4680.

### MOLECULAR NEUROBIOLOGIST CELL BIOLOGIST

Applications are invited for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. We seek a candidate with an interest in developing a strong, independent research program. The successful applicant should have a Ph.D. or M.D. degree with substantial postdoctoral experience using contemporary molecular methods to study gene structure and regulation, signal transduction, or protein regulation in cell motility. The department faculty comprise a highly multidisciplinary group of active researchers interested in nervous system development, regeneration, cell signaling, and the molecular and structural basis of contraction and secretion. Applicants should submit curriculum vitae and a summary of research interests and arrange for three letters of recommendation to be sent to: **Dr. Pat Levitt, Faculty Search Committee, Department of Anatomy, Medical College of Pennsylvania (MCP), 3200 Henry Avenue, Philadelphia, PA 19129**. Application deadline is 15 March 1990. *MCP is an Equal Opportunity/Affirmative Action Employer.*

**NEUROANATOMIST**. Tenure-level faculty position. The Department of Biological Sciences and the Program in Neural, Informational, and Behavioral Sciences (NIBS) invite applications for a tenure-level faculty position in mammalian neuroanatomy. Preference will be given to individuals whose research interests focus at the light and electron microscopic levels on the organization and chemistry of circuits underlying behavior. The candidate will be expected to participate in graduate and undergraduate teaching within the College of Letters, Arts, and Sciences. The successful candidate will be housed in the newly completed Hedco Neurosciences Building. The Program in NIBS is multidisciplinary, with groups interested in computational, cognitive, behavioral, systems, cellular, and molecular neuroscience. Applicants should submit by 10 January 1990 a letter of interest, curriculum vitae, a description of planned research, and the names of three referees to: **Neuroanatomy Search Committee, Section of Neurobiology, Department of Biological Sciences, University of Southern California, Los Angeles, CA 90089-0371**.

# Research Scientist

*At Edison, we're working hard to serve our customers and help create energy independence.*

**S**outhern California Edison, an investor-owned utility serving approximately 10 million people in a 50,000 square mile area of Southern and Central California has an exciting opportunity for a Research Scientist.

A graduate degree in a physical or environmental science (Ph.D. preferred) and a minimum of 7 years of research and project management experience at a doctorate level is required.

A multidisciplinary approach will be utilized to manage environmental problems with applications to industrial effluents. Mathematical models will be used to describe and interpret interactions and transformations in atmospheric, ecological, and biological systems. In addition, research programs will be developed and implemented with universities, research institutes and government agencies.

Southern California Edison offers an excellent salary and benefits package, plus superior working conditions. To apply, please send your resume to: **Southern California Edison, Dept. SYSP-078, 8631 Rush Street, Rosemead, CA 91770.**

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**Southern California Edison**

We aggressively support Equal Opportunity and Affirmative Action. Women and minorities strongly encouraged to apply.

## RNA Structure And Processing

ISIS Pharmaceuticals, located in Carlsbad, CA (San Diego County), is a new pharmaceutical and technology company focused on antisense oligonucleotide therapeutics. ISIS has exciting and innovative research programs, strong and secure funding, a world class scientific advisory board, excellent facilities, and strong academic ties which make a career at ISIS an exciting opportunity for outstanding individuals. Present openings include:

### Biophysical Chemist Ph.D.

ISIS is seeking an innovative Ph.D. level scientist to lead a research effort focused on the thermodynamics and kinetics of nucleic acid hybridization reactions. Candidates should have a strong background in nucleic acid structure, and experience in biophysical techniques applied to nucleic acids. This research program will be linked with a strong synthetic chemical effort providing novel oligonucleotide analogs designed to specifically regulate gene expression.

### RNA Processing Biochemist Ph.D.

ISIS is seeking a Ph.D. level scientist to develop and implement research programs

in RNA structure, processing, translation, and the identification of novel therapeutic targets for antisense oligonucleotides within these processes. We provide a unique opportunity to study RNA processing with strong chemical support providing novel oligonucleotide analogs designed to target specific gene expression.

### Biochemists/Molecular Biologists B.S./M.S.

ISIS has several positions for B.S./M.S. scientists with experience in biochemical and molecular biology techniques such as protein purification, DNA and RNA sequencing, cloning and cell culture.

ISIS Pharmaceuticals offers a competitive salary, benefits, and substantial equity participation. Our new facility is located in beautiful San Diego County near the University of California, San Diego and other major scientific centers. Please submit a cover letter, c.v., reprints of relevant publications, and names and telephone numbers of references to: **Dr. David J. Ecker, Director of Molecular and Cellular Biology, ISIS Pharmaceuticals, 2280 Faraday Avenue, Carlsbad, CA 92008.** An Equal Opportunity Employer.

**ISIS PHARMACEUTICALS**

**D**iscover a bright future at Sterling Research Group, the worldwide pharmaceutical research and development organization of Sterling Drug Inc. As a subsidiary of Eastman Kodak, what makes Sterling outshine the rest is the unbeatable combination of a small, friendly company environment and the depth, resources, and growth potential of a large multinational corporation. Discover Sterling by applying for the following position in our Enzymology and Receptor Biochemistry Department.

### Research Scientist Enzymology

The successful candidate will isolate and characterize enzymes of potential therapeutic importance and develop specific enzyme assays. Responsibilities will also include analysis of the interaction of substrates and inhibitors with enzymes of interest.

BS/BA in Biochemistry or related discipline (Biology/Chemistry) with 1-3 years' applicable experience (or Master's) required. Experience in enzymology, protein purification, or protein chemistry necessary. **Please respond to position GV-126.**

Sterling Drug Inc. offers competitive salaries and a comprehensive benefits program along with outstanding career opportunities for personal and professional growth. For confidential consideration, please forward resume with salary history/requirements and the names of three references to: Employee Relations, "Position GV-126," Sterling Research Group, 9 Great Valley Parkway, Malvern, PA 19355. An Equal Opportunity Employer M/F/H/V.



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## POSITIONS OPEN

### MOLECULAR IMMUNOLOGIST BRANDEIS UNIVERSITY

The Rosenstiel Research Center and the Department of Biology seek a tenure-track **ASSISTANT PROFESSOR** in the area of the molecular biology of the immune system. Candidates should have a strong record of research accomplishments in this area. Please submit curriculum vitae, including a description of research goals, and three letters of recommendation to: Dr. Ranjan Sen, Search Committee, Rosenstiel Center, Brandeis University, P.O. Box 9110, Waltham, MA 02254-9110 by 30 January 1990. *Brandeis University is an Equal Opportunity/Affirmative Action Employer.*

### NEUROSCIENCE FACULTY POSITION

The Department of Zoology at Iowa State University invites applications for a tenure-track position in neuroscience. Opportunities exist for involvement in a developing campus-wide neuroscience program and support from a multimillion-dollar university-wide life sciences program with emphasis on basic research. Applicants should have a Ph.D., M.D., or equivalent degree and postdoctoral experience. The successful candidate is expected to develop a vigorous, independent research program and participate in undergraduate and graduate teaching. Applications, including curriculum vitae, description of research interests and future plans, selected reprints, and three letters of references, should be sent to: Dr. S. S. Shen, Neuroscience Search Committee, Department of Zoology, Iowa State University, Ames, IA 50011, by 15 January 1990.

*Woman, minorities, and members of other protected groups are strongly encouraged to apply. Iowa State University is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### NEUROBIOLOGIST

The Biology Department of George Mason University (GMU) seeks applicants for a tenure-track **ASSISTANT PROFESSORSHIP**. The successful candidate will be expected to establish a funded research program and participate in graduate and undergraduate teaching, including an introductory animal biology course. Applications, including curriculum vitae, statement of research and teaching interests, selected reprints, and names of three references, should be submitted to: Chair, Neurobiologist Search, Biology Department, George Mason University, Fairfax, VA 22030. GMU is a rapidly developing state university in northern Virginia, 15 miles from Washington, D.C. Apply by 15 January 1990 for full consideration.

*George Mason is an Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL RESEARCH POSITION

Position available for an individual to participate in ongoing research into the role of members of the Jun family of protooncogenes in controlling cellular proliferation (PNAS, 85, 1487; PNAS, 85, 8464; Cell, 55, 907; PNAS, 86, 1500). Studies include a comparative analysis of transcriptional regulatory properties of Jun-encoded proteins and the identification of Jun-regulated genes important in cell cycle progression. Highly motivated individuals with training in molecular biology or biochemistry are invited to apply. Send curriculum vitae, a short summary of research interests, and names of three references to: DKR, c/o Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. *Equal Opportunity Employer.*

## POSITIONS OPEN

**OCEANOGRAPHER.** We intend to hire a tenure-track assistant professor to begin in fall 1990. We desire a candidate in the general area of biology or chemistry whose training and research will strengthen the links between the chemical and biological oceanographers on our faculty. Applicants should send a letter with their research interests, names and addresses of three referees, and a curriculum vitae by 31 December 1989 to: Dr. William C. Burnett, Chairman of the Search Committee, Department of Oceanography, Florida State University, Tallahassee, FL 32306. *FSU is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

The Southeastern Forest Experiment Station is recruiting for a **PROGRAM MANAGER** that is an interdisciplinary position between the GS-401, General Biological Science Series, and the GS-1301, General Physical Sciences Series.

Requires graduate university course work in forest ecology, forest biology, or related disciplines. Position will coordinate multidisciplinary research and monitor the interactive responses among forest ecosystems, atmospheric pollution, and climate changes to determine the effects of atmospheric change on forest environments. The successful applicant will be expected to administer a comprehensive program and provide input to station management in review and response to legislative and regulatory proposals.

Salary range is \$41,121 to \$48,592 per year. This position is located in Raleigh, North Carolina. Qualified individuals should send a one-page résumé to:

Donald Downs, Personnel  
Attention: Early Alert (89-569)  
Southeastern Forest Experiment Station  
P.O. Box 2680  
Asheville, NC 28802

GEO-CENTERS, INC., a rapidly growing professional services R&D firm, specializing in chemical, materials, biological, and optical sciences, has immediate openings for Senior Technical Staff Members.

Applicants for the following Senior Scientist positions must possess a Ph.D. in Microbiology, Biochemistry, Virology, or a related field. Applicants will be judged on educational background and practical experience, as demonstrated by a solid publication record in the appropriate field.

**MICROBIOLOGIST-VIROLOGIST – Code 2149** This position will involve the characterization of unknown virus isolates, and the development of rapid diagnostic tests. Candidate will have experience in virus propagation and purification; protein gel electrophoresis, column chromatography, western blotting, ELISA, and dot-blot immunoassays; possess an in-depth knowledge of immunology and immunodiagnostics as they relate to infectious diseases and knowledge of Arthropod-borne viruses; an interest in tropical medicine is a definite plus.

**MOLECULAR BIOLOGIST – Code 2150** This position will be focussing primarily upon the development of vaccines and diagnostic reagents, and the study of the basic immunology and pathogenicity of recombinant antigens. Candidate must possess an in-depth knowledge of molecular biology as it pertains to cloning, sequencing, and overexpression of protein antigen genes of pathogenic bacteria in *E. Coli*.

**MOLECULAR BIOLOGIST – Code 2151** This position requires expertise in the field of genetic engineering and bacterial genetics. The primary responsibilities will include the cloning and sequencing of selected genes, site-specific mutagenesis, and DNA-ligand interactions.

**TECHNICAL SUPPORT VACANCIES – Code 2152** GEO-CENTERS, INC. is also encouraging B.S. and M.S. candidates to submit applications for consideration as members of the technical support staff in these areas.

U.S. Citizenship or Permanent Resident Status required for all positions. We offer competitive salaries, attractive benefits and relocation assistance. Qualified applicants should send their resumes, salary history, and references in confidence to: GEO-CENTERS, INC., 10903 Indian Head Highway, Fort Washington, MD 20744, Attn: Deborah Hall-Greene. Please indicate the appropriate code.

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GEO-CENTERS, INC.

# ASSOCIATE SCIENTIST

**T**he Roche Institute of Molecular Biology, one of the world's leaders in medical research, is seeking an Associate Scientist experienced in protein/nucleic acid purification and characterization. Qualifications include a BS/MS in Biology, Chemistry or Biochemistry, along with a minimum of 2-3 years of experience in biochemistry or molecular biology; experience working with mice and animal cell cultures preferred.

We offer a competitive salary, a generous benefits package and a state-of-the-art environment that encourages professional growth. For confidential consideration, please send your resume to: **Frances Newman, Staffing and Employee Services, Dept PW, Hoffmann-La Roche Inc., Nutley, New Jersey 07110.** We are an equal opportunity employer.

**Roche Institute of Molecular Biology**

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# RESEARCH SCIENTIST PROTEIN PURIFICATION

**Amgen** is a recognized leader in the discovery and development of human therapeutic products through applied biotechnology. Our Recovery Process Development Group has positions for Ph.D. Scientists skilled in the recovery of recombinant proteins.

Qualified candidates should have experience in protein folding, chromatography and standard analytical techniques.

**Amgen** offers an excellent compensation and benefits package as well as the unique opportunity to contribute to significant research programs on the leading edge of biotechnology. If you have the necessary qualifications and would like to be a part of a company that places a high priority on its human resources, please send a complete C.V., in confidence, to:

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CA 91320-1789

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## TENURE-TRACK ASSISTANT PROFESSORSHIPS DEPARTMENT OF BIOLOGY

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

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

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

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

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

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

Address to: **Chair, Search Committee for (state position desired), Department of Biology, Tufts University, Medford, MA 02155.**

**Deadline for completed applications, including letters of reference, is Jan. 9, 1990.**

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



TUFTS UNIVERSITY

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UNIVERSITY**

## ADVANCED TRAINING IN NEUROSCIENCE AT THE OHIO STATE UNIVERSITY

The Neuroscience Program and Faculty of The Ohio State University invite applications for advanced study supported by three new programs which add to and complement existing neuroscience efforts:

### Graduate Program in Neuroscience:

The Neuroscience Graduate Studies Program offers the Ph.D. in Neuroscience with individualized programs in behavioral, systems, cellular, and molecular neurobiology. A faculty of over 70 members from 21 departments and academic units participate in this campus-wide interdisciplinary program. Graduate students are supported by Neuroscience Program Fellowships, training grants, University Fellowships, and individual research programs. Approximately five students per year are admitted. For further information, faculty listings, and application materials, contact:

James S. King, Ph.D., Chairman, Admissions Committee  
Neuroscience Graduate Studies Program  
The Ohio State University College of Medicine  
1072 Graves Hall, 333 West Tenth Avenue  
Columbus, Ohio 43210  
PH: 614/292-2379

### Neural Development, Plasticity, and Regeneration:

An N.I.H., NINDS training grant and individual program sources support pre- and postdoctoral research in a variety of approaches to understanding neural development, plasticity and regeneration and their interrelated mechanisms. Applications (C.V., statement of research interests, 3 references) or requests for information should be addressed to:

G. F. Martin, Ph.D. and M.S. Beattie, Ph.D.  
Department of Anatomy  
The Ohio State University  
4072 Graves Hall, 333 West Tenth Avenue  
Columbus, Ohio 43210  
PH: 614/292-1667 (Dr. Martin) or 614/292-1781 (Dr. Beattie)

### Neuroimmunomodulation:

An N.I.H., NIMH supported multidisciplinary postdoctoral training program to include research programs in behavioral influences on the immune system and disease; studies on the mechanism of interaction between the central nervous system, the endocrine system and the immune system; and human and animal studies, basic and clinical. For further information and application materials, contact:

Ronald Glaser, Ph.D., Chairman  
Department of Medical Microbiology and Immunology  
5072 Graves Hall, 333 West Tenth Avenue  
Columbus, Ohio 43210  
PH: 614/292-5526

## POSITIONS OPEN

**PHYSICAL OCEANOGRAPHERS.** NOAA's National Ocean Service has multiple vacancies in a GS 7 to 12 career ladder. Duties include field measurements, data analysis, applying circulation models to estuaries, and preparing information products. Quality ranking factors include sound knowledge of physical oceanography, familiarity with oceanographic data collection techniques, ability to apply advanced mathematics to data, working knowledge of automatic data processing, and ability to manage complex data sets. Submit SF171 to arrive no later than 29 November 1989 to: **NOAA/NCASC Personnel Branch, Room 314, 11420 Rockville Pike, Rockville, MD 20852.** For a copy of vacancy announcement NC/N-90-07-NJH, call 301-443-8105. Additional technical information can be obtained from: **Dr. Henry H. Frey, telephone: 301-443-8510.**

**PHYSIOLOGIST.** Anticipated tenure-track **ASSISTANT PROFESSOR** position in vertebrate physiology. Preference will be given to non-mammalian model systems. The successful candidate will be expected to establish an independent research program and teach vertebrate physiology. Candidates must have the Ph.D. degree and postdoctoral experience is preferred. Send curriculum vitae, statement of research interests, and the names of three to five references by 26 January 1990 to: **Dr. Joseph F. Siebenaller, Department of Zoology and Physiology, Louisiana State University, Baton Rouge, LA 70803-1725.** An Equal Opportunity Employer.

## PLANT MICROPROPAGATION RESEARCH

Twyford International, Inc., world leader in development and commercialization of micropropagation systems, announces two immediately available positions in its expanding Contract Research Division. Those with industry experience are encouraged to apply. Excellent organizational and communication skills required.

**RESEARCH SCIENTIST:** Ph.D. in plant sciences and demonstrated experience in development of new micropropagation systems for selected crops, including inorganic and organic nutrition, growth regulators, gaseous phase, and overall cost reduction. Successful applicant to assist in preparation of research proposals. Experience or training in agricultural engineering a plus.

**RESEARCH ASSOCIATE:** B.S. with experience, or M.S. in plant sciences. Experience with micropropagation system development and greenhouse production required.

Applicants should send curriculum vitae and names of three references to:

**Dr. Sharon L. Kurtz**  
Director, Contract Research  
and New Business Development  
Twyford International, Inc.  
15245 Telegraph Road  
Santa Paula, CA 93060

## PLANT SYSTEMATIST

The Department of Botany and Plant Sciences, University of California, Riverside, announces a position in plant systematics available 1 July 1990. The position is a tenure-track, 11-month appointment at the **ASSISTANT PROFESSOR** level in the College of Natural and Agricultural Sciences and in the Agricultural Experiment Station. A Ph.D. is required, and postdoctoral experience is preferred. The appointee will be expected to develop a vigorous, innovative, independent research program in plant systematics and taxonomy relative to California native plants and/or crop species and their relatives important to California agriculture. One goal, but by no means the only one, might be the application of molecular or other innovative methodology to resolve problems in systematics. The successful candidate must be willing to teach courses in field botany, taxonomic theory, and spring wildflowers, as well as to serve as a major professor to graduate students. Also, a knowledge of, or a willingness to learn about, the California flora is essential. Send relevant information, including curriculum vitae, and arrange to have at least three confidential letters of recommendation sent to: **Dr. W. W. Thomson, Chairman, Search Committee, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521-0124.** Application deadline is 15 January 1990. Telephone: 714-787-4619; FAX: 714-787-4437. The University of California, Riverside, is an Affirmative Action/Equal Opportunity Employer. Minorities and women are encouraged to apply.

## POSITIONS OPEN

**POPULATION BIOLOGIST FACULTY POSITION.** The Department of Biology seeks applications for an open-rank position in population biology. Individuals committed to any area of ecology, evolutionary biology, or related fields are invited to apply. Responsibilities include teaching undergraduates and graduate students and a strong, independent research program. To ensure consideration, applications and nominations should be submitted by 15 January 1990. Applications including curriculum vitae, a description of research interests, and a list of potential references should be sent to: **Population Biology Search Committee, Biology Department, Syracuse University, Syracuse, NY 13244-1270.** Affirmative Action/Equal Opportunity Employer. Females and minority group members are encouraged to apply.

**POSTDOCTORAL POSITION** available immediately to study the neuroendocrine regulation of pulsatile luteinizing hormone release. Applicants should have a strong background in reproductive neuroendocrinology. Please send curriculum vitae, statement of research interests, and three letters of reference to: **Robert Gallo, Department of Physiology and Neurobiology, Box U-154, University of Connecticut, Storrs, CT 06269-4154.** (Search #0A108.) Affirmative Action/Equal Opportunity Employer.

## POSTDOCTORAL ASSOCIATE

A postdoctoral position is available to study translational control. The overall objective is to isolate and clone factors that regulate mRNA expression during the early development of *Xenopus laevis*. A recently published paper that is relevant to this work is *Genes Dev.* 3,803-815 (1989). Please send curriculum vitae and the names, addresses, and telephone numbers of three references to: **Dr. Joel Richter, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.**

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**POSTDOCTORAL POSITION** available immediately for a Ph.D. in physical chemistry/biochemistry to study the mechanism of electron transfer reactions of the membrane protein cytochrome P-450. Experience with enzyme kinetics and/or stopped-flow spectrometry helpful. Salary negotiable. Send curriculum vitae and three references to: **Dr. L. Waskell, M.D., Ph.D., VA Medical Center, University of California, San Francisco, 4150 Clement Street, San Francisco, CA 94121.** Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITIONS** available to study gene-specific repair of oxidative damage to DNA of mammalian cells and purification and cloning of DNA glycosylases effecting repair of such damage. Recent Ph.D. with experience in protein chemistry, molecular biology, or DNA chemistry is preferred. Salary and benefits are competitive. Please send curriculum vitae and names of references to: **G. W. Teebor, M.D., Department of Pathology, New York University School of Medicine, MSB 605, 550 First Avenue, New York, NY 10016.**

**POSTDOCTORAL POSITION IN MOLECULAR VIROLOGY.** We are seeking a recent Ph.D. with strong background in molecular biology to join six investigators studying the molecular basis of herpes simplex and varicella zoster virus pathogenesis. Current efforts include the study of viral transcription during latency, use of intertypic mutants to identify viral genes involved in reactivation, use of PCR to study latency, axonal transport of virus in vivo and in vitro, and the role of host immunity in viral pathogenesis. Involvement with clinically oriented antiviral and vaccine studies is available, if desired. Prior experience with herpesviruses is not required. The position is available immediately with a salary range of \$21,000 to \$25,000. Submit curriculum vitae and brief description of prior research to: **Lawrence Stanberry, M.D., Ph.D., Division of Infectious Diseases, Children's Hospital Research Foundation (CHRF), University of Cincinnati, Elland and Bethesda Avenues, Cincinnati, OH 45229.** CHRF is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

**POSTDOCTORAL POSITION** in neurobiology is available immediately to investigate molecular mechanisms regulating neuronal development and degeneration. The project involves growing primary cultures of CNS neurons and studies of cellular calcium by advanced spectroscopic and cell-imaging techniques. Send statement of research interests and experience, curriculum vitae, and names and telephone numbers of three references to: **Dr. Y. H. Ehrlich, CSI/IBR Center for Developmental Neuroscience, The College of Staten Island of The City University of New York, 50 Bay Street, Staten Island, NY 10301.** Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION.** Molecular Biology of Oncogenes. NIH/NRC position available for Ph.D. with training in molecular biology to study the structure/function characteristics of a nuclear oncogene [see *PNAS* 86, 1186 (1989)]. Position renewable for 1 year with starting salary of \$28,000. Must be U.S. citizen. Send curriculum vitae and names of three references to: **Dr. Herbert C. Morse III, Laboratory of Immunopathology, Building 7, Room 302, National Institutes of Health, Bethesda, MD 20892.** The NIH is an Equal Opportunity Employer.

## POSTDOCTORAL POSITION

A 3-year postdoctoral position is available to conduct basic and applied studies of antigens associated with spontaneous cancer in dogs. A Ph.D. in immunology is required. Strong background in biochemistry and experience in tumor immunology and monoclonal antibody technology are desirable. Minimum starting salary of \$24,000 plus fringe benefits. Send curriculum vitae and names of three references to: **Dr. Lauren G. Wolfe, Department of Pathobiology, 166 Greene Hall, Auburn University, AL 36849-5519.**

Auburn University is an Equal Employment Opportunity Employer. Minorities and women are encouraged to apply.

**POSTDOCTORAL/ASSOCIATE RESEARCH SCIENTIST** positions available in the Department of Pharmacology at Yale University School of Medicine to study: (i) mechanisms of action of drugs on hypoxic tumor cells with emphasis on the reductive activation of bioreductive alkylating agents and (ii) mechanism of drug-induced differentiation of neoplastic cells. Ph.D. required and experience in biochemistry and/or pharmacology desired. Deadline for receipt of applications is 31 January 1990. Send curriculum vitae and three letters of reference to: **Dr. Alan C. Sartorelli, Director, Comprehensive Cancer Center, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.**

Yale University is an Equal Opportunity/Affirmative Action Employer. The Department of Pharmacology encourages applications from women and minority group members.

**POSTDOCTORAL POSITION** available immediately to study the molecular and cellular physiology of anion transport and cystic fibrosis. Areas of interest include the characterization of cDNA clones encoding putative ion transporters, the cystic fibrosis gene product, and membrane-cytoskeleton interactions. The candidate should have a strong background in molecular or cell biology, transport physiology, or biochemistry. Send curriculum vitae together with names, addresses, and telephone numbers of three references to: **Dr. Ron R. Kopito, Department of Biological Sciences, Stanford University, Stanford, CA 94305-5020.**

## POSTDOCTORAL POSITION PIONEER HI-BRED INTERNATIONAL, INC. JOHNSTON, IOWA

The Biotechnology Department at Pioneer offers competitive salaries, excellent facilities, and a highly cooperative research environment. A 2-year postdoctoral position is available immediately to work with antisense RNA in maize. A Ph.D. and at least 3 years of experience in molecular biology, genetics, or biochemistry are essential. Familiarity with transformation of plant tissues by particle gun/electroporation, synthetic oligonucleotide chemistry, or techniques for analyzing DNA, RNA, and proteins at the molecular level is desirable. Send résumé with at least three references to: **Dr. Ben Bowen, Department of Biotechnology Research, Pioneer Hi-Bred International, Inc., P.O. Box 38, Johnston, IA 50131.** Pioneer is an Equal Opportunity/Affirmative Action Employer.



## Baylor College of Medicine

### PRE- & POST-DOCTORAL RESEARCH TRAINING CELL AND MOLECULAR BIOLOGY OF AGING

Positions are available for predoctoral and postdoctoral trainees in the cell and molecular biology of aging at the **Baylor College of Medicine**. This interdisciplinary program offers traineeships in the laboratories of **Drs. Eugene Barnes, Gretchen Darlington, Ron Davis, Anthony Means, Robb Moses, Bert O'Malley, Olivia Pereira-Smith, Robert Schwartz, James Smith, and Warren Strittmatter**. Research emphasis is on the biochemical deficiencies and the molecular genetics of inherited diseases showing accelerated aging or neuronal cell death; alterations in DNA synthesis which occur in aging cells; the regulation of gene expression in normal and aged cells; the role of calcium in cell proliferation; receptor and ion channel alterations in aging; and the study of genes required for normal memory and those involved in the genetic program of mortality. Applicants must be United States citizens. Send a curriculum vitae and three reference letters to: **Dr. Ron Davis, Department of Cell Biology, Baylor College of Medicine, Houston, Texas 77030**. Baylor College of Medicine is an Equal Opportunity/Affirmative Action College.

## Manager

### Pesticide Development - International

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

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



**Merck & Co., Inc.**

## LEADERSHIP AND INNOVATION IN AGRICULTURE & VETERINARY MEDICINE

### The Texas A&M University System

College of Agriculture and Life Sciences

Institute of Biosciences and Technology

College of Veterinary Medicine

Texas Agricultural Experiment Station (TAES)

Invites applications for leadership positions

#### ASSOCIATE DEAN FOR INTERDISCIPLINARY PROGRAMS

(Associate Director of Research-TAES)  
College of Agriculture & Life Sciences

- \* Implement Development of Interdisciplinary Programs
- \* Coordinate Graduate Education Programs
- \* Provide Leadership in TAES for the Applied and Molecular Sciences

**J. Charles Lee, Search Chairman**  
Associate Dean-College of Agriculture and Life Sciences  
Associate Director-TAES  
Texas A&M University  
System Administration Building  
Room 113

College Station, Texas 77843-2147  
(409) 845-6113

*Maximum consideration will be given to applications received by January 1, 1990.*

#### DIRECTOR CENTER FOR COMPARATIVE ANIMAL GENETICS

Institute of Biosciences & Technology  
(Located in Texas Medical Center-Houston)

- \* Develop Interdisciplinary Research Center
- \* Facilitate Development of Transgenic Animal Systems
- \* Develop Joint Research Programs with Institutions of the Texas Medical Center
- \* Coordinate the Integration of the Houston/College Station Programs

**John A. Shadduck, Search Chairman**  
Dean of Veterinary Medicine  
College of Veterinary Medicine  
Texas A&M University  
College Station, Texas 77843-4461  
(409) 845-5053

*Maximum consideration will be given to applications received by January 1, 1990.*

#### ASSOCIATE DEAN FOR RESEARCH AND GRADUATE PROGRAMS

(Associate Director of Research-TAES)

College of Veterinary Medicine

- \* Direct Graduate Programs
- \* Coordinate Research Programs
- \* Provide Leadership in TAES
- \* Develop Cooperative Animal Research

**Timothy D. Phillips, Search Chairman**  
c/o Office of the Dean  
College of Veterinary Medicine  
Texas A&M University  
College Station, Texas 77843-4461  
(409) 845-5092

*Applications will be received until December 8, 1989 or until a suitable candidate is found.*

#### CHAIR IN AGRICULTURAL BIOTECHNOLOGY

College of Agriculture and Life Sciences

- \*Provide Campus Leadership in Molecular Animal Sciences
- \*Maintain Leading Animal Biotechnology Research Program
- \*Lead in Efforts for Application of Molecular Research to Production Animal Improvement
- \*Implement Medicine/Agriculture Research Linkage

**H. Russell Cross, Search Chairman**  
Associate Department Head, Research  
Department of Animal Science  
Texas A&M University  
College Station, Texas 77843-2471  
(409) 845-1542

*Applications will be received until December 8, 1989 or until a suitable candidate is found.*

TEXAS A & M UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER

## POSITIONS OPEN

**ENDOWED PROFESSORSHIP IN VETERINARY PATHOLOGY.** The Department of Veterinary Pathology at the University of Georgia invites applications for the Fred C. Davison Chair in veterinary medicine. The applicant should possess the D.V.M. and Ph.D. degrees and be an outstanding scientist with an exceptional reputation in animal disease research. The successful candidate will be expected to have an active research program supported by extramural funds and be involved in graduate education. The endowment has support for a technician and funds for equipment and research. Application deadline is 1 January 1990. Curriculum vitae and names of four references should be sent to: **D. E. Tyler, Department of Veterinary Pathology, University of Georgia, Athens, GA 30602.** *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available immediately for 2 years to study deuterium enrichment in CAM plants. Experience in tissue culture and extraction of plant biochemical components necessary, willing to learn techniques used in measuring stable isotope ratios. Send curriculum vitae and three letters of reference to: **Dr. Leonel Sternberg, Department of Biology, University of Miami, Coral Gables, FL 33124.**

### POSTDOCTORAL ASSOCIATE MAMMALIAN DEVELOPMENTAL GENETICS

A position is available immediately in the Center for Molecular and Genetic Medicine (CMGM) at Stanford to study the genetic control of early mouse development. Specific projects include the isolation of mutations that affect peri-implantation development based on their genetic map position and the identification of new mutations in embryonic stem cells. Candidates should have a strong background in molecular genetics. Send curriculum vitae, statement of research interests, and names of references to: **Dr. Greg Barsh, CMGM, Stanford University Medical Center, Stanford, CA 94305-5428.** Telephone: 415-723-5035.

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Available immediately to study regulation of collagen IV genes in cultured cells and mouse embryos. Candidates with Ph.D. in molecular biology preferred. Send curriculum vitae, summary of research plans, and names of three references to: **Markku Kurkinen, Ph.D., Associate Professor, Division of Connective Tissue Research, University of Medicine and Dentistry of New Jersey (UMDNJ)—Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854-5635.** *The UMDNJ is an Affirmative Action/Equal Employment Opportunity Employer, M/F/H/V.*

**POSTDOCTORAL POSITION** available January 1990 for a recent Ph.D. in molecular genetics or related field to investigate sensory transduction mechanisms in swarmer cell differentiation of *Proteus mirabilis*. Experience in classical and molecular genetics, biochemistry, and microbiology required. Send curriculum vitae, research experience, and the names of three references to: **Dr. Robert Belas, Center of Marine Biotechnology, The University of Maryland System, 600 East Lombard Street, Baltimore, MD 21202.** Review of applicants will begin 15 December 1989 and continue until a suitable candidate is found. *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available in plant biochemistry. Research directed toward elucidation of molecular mechanisms involved in protein turnover. Background in enzyme purification, radiolabeling of plant proteins, and plant biochemistry desirable. Salary commensurate with experience (GS-11, \$28,850 per year). Send curriculum vitae and letters from three references to: **Dr. Autar K. Mattoo, Research Leader, Plant Molecular Biology Laboratory, USDA, ARS, Room 117, Building 006, BARC-West, Beltsville, MD 20705.** Application should be marked 9E017. *An Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Immediate opening for research on the interaction of coagulation factor VIII with human inhibitory antibodies. Ph.D. in molecular biology or biochemistry and techniques desirable; gene cloning and expression in eukaryotic cells, protein purification, and immunoassays. Send résumé and three letters of reference to: **Dorothea Scandella, Ph.D., American Red Cross, 15601 Crabbs Branch Way, Rockville, MD 20855.** *Equal Opportunity Employer, M/F/V/H.*

**POSTDOCTORAL RFLP MAPPING OF PINE.** Available 1 January 1990 to construct a saturated RFLP map for loblolly pine (*Pinus taeda*). Expertise in plant genetics and molecular biology techniques desired. Salary: GS-11 (\$28,852 per year in 1989); applicant must be a U.S. citizen. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. David B. Neale, Institute of Forest Genetics, U.S. Department of Agriculture Forest Service, P.O. Box 245, Berkeley, CA 94701.** *USDA Forest Service is an Equal Opportunity Employer.*

### POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS IN CELLULAR AND MOLECULAR NEUROSCIENCE

Two positions (Ph.D. or M.D.) are available immediately to study cytoskeletal proteins, and endogenous opioids and receptors, in neural cancer and brain development. Position (i) focuses on protein purification and characterization, and antibody production; a background in protein chemistry is required. Position (ii) involves gene expression; experience in recombinant DNA, cloning, and molecular biology is necessary. Send curriculum vitae and the names of three references to: **Dr. Ian S. Zagon, Department of Anatomy, The Pennsylvania State University College of Medicine, P.O. Box 850, Hershey, PA 17033.** Deadline for receipt of applications is 1 February 1990. *An Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

## Postdoctoral Position

The Medical Research Division of American Cyanamid Company has an immediate opportunity available for an individual to join its newly organized research group that is studying the mechanisms by which Grampositive pathogens acquire iron from mammalian hosts. Candidates should have a strong background in molecular genetics, preferably with application to prokaryotes. Knowledge of microbial transport systems would also be helpful, but not essential.

Working at Lederle Laboratories' 580-acre campus-like setting just north of New York City, you'll receive a very competitive starting salary and comprehensive benefits. Interested candidates may submit curriculum vitae with three references to: **Professional Employment Office, Dept. IC, Lederle Laboratories, N. Middletown Road, Pearl River, NY 10965.** An Equal Opportunity Employer M/F.

**Lederle**



### UMDNJ—Graduate School of Biomedical Sciences

Invites application to the Ph.D. Graduate Program in Molecular Genetics and Microbiology at UMDNJ—Robert Wood Johnson Medical School.

Director: Sidney Pestka

#### FACULTY

Edward Arnold  
Kenneth J. Breslauer  
Kiron Das  
David T. Denhardt  
Ralph Dornburg  
Joseph P. Dougherty  
Donald T. Dubin  
Joachim B. Kohn  
Jerome A. Langer  
Michael J. Leibowitz  
John Lenard  
Joachim W. Messing  
Julian J. O'Rear  
Sidney Pestka  
Abbas Rashidbaigi  
Yacov Ron  
R. Walter Schlesinger  
Aaron J. Shatkin  
Stanley Stein  
Victor Stollar  
Evelyn M. Witkin

#### RESEARCH INTEREST

X-ray crystallography of viral proteins, molecular modeling, antiviral design  
Nucleic acid structure and drug DNA binding studies  
Immunopathology of ulcerative colitis. Crohn's disease  
Regulation of cell proliferation in cancer, aging  
Retrovirus evolution; retroviral vectors in gene transfer  
Retrovirus replication and retrovirus vectors  
Antibiotic resistance: HIV structure and diagnosis  
Design of new peptide hormones for medical usage  
Interferon and interferon receptors  
Viruses and plasmids of yeast; molecular parasitology  
Enveloped virus proteins, fungal hormones  
Gene expression in plants, M13 cloning, gene synthesis  
Cell cycle regulation; human genome structure/function  
Interferon, receptors, expression of proteins  
Interferons and their molecular mode of action  
Differentiation of T and B lymphocytes  
Mechanisms of viral neurovirulence  
Gene expression in eukaryotic cells and viruses  
Synthesis and analysis of peptides and proteins  
Virus-host cell interactions of arboviruses  
DNA repair and induced mutagenesis in bacteria

These faculty from UMDNJ—Robert Wood Johnson Medical School and Rutgers, The State University of New Jersey, including the New Jersey Center for Advanced Biotechnology and Medicine are the nucleus of a growing graduate program. This program provides courses and thesis research opportunities in laboratories with sophisticated instrumentation and computer access. Merit-based fellowships are available providing an annual stipend of \$12,000 plus tuition.

Prospective students should write to: Director of Graduate Studies, Department of Molecular Genetics and Microbiology, UMDNJ—Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, New Jersey 08854, for more information and an application form.

*The University is an affirmative action/equal opportunity employer.*



## PRE-DOCTORAL POSITIONS M. I. T.

Molecular, Chemical, & Genetic Analysis  
of the Chemical-Biologic  
Interactions Related to Cancer &  
Genetic Disease

Whitaker College of Health Sciences and Technology  
Graduate Program in Toxicology

Faculty	Area of Interest
John M. Essigmann	DNA Repair and mutagenesis
James G. Fox	Gastrointestinal microflora & endogenous carcinogens
Steven R. Tannenbaum	Chemistry of macromolecular adducts; nitric oxide
William G. Thilly	Mutational spectra; mechanisms & genetic epidemiology
Gerald N. Wogan	DNA adducts & genetic change in carcinogenesis
Helmut Zarbl	Transformation effector & suppressor genes, oncogens; gene expression

Full support (stipend and tuition) is offered to all accepted candidates. For program information and an application, CONTACT: Debra A. Luchanin, Academic Administrator, Division of Toxicology, Room 16-330, M.I.T., Cambridge, MA 02139, (617) 253-5804.

*MIT is an Equal Opportunity Employer.*

## Research Scientist Pharmacology

Whitby Research Incorporated, a wholly-owned subsidiary of Ethyl Corporation, situated on the campus of the University of California at Irvine, is a pharmaceutical research firm committed to the discovery and development of new drugs. We currently have an opening for a Pharmacologist.

The successful candidate will be involved in the development of bioassays using in vivo models to evaluate the specificity and efficacy of new chemical entities developed by the company. Responsibilities also include the coordination of various research programs with academic and industrial scientists worldwide.

Qualified candidates will have a Ph.D. with 3 or more years postdoctoral experience in in vivo physiology and pharmacology. Industrial pharmaceutical experience is desirable. Excellent oral and written skills are essential.

Whitby Research Incorporated offers a professional environment and competitive salary and benefits. Interested candidates may send resume with salary history to:

**Manager, Human Resources  
Whitby Research Incorporated  
1001 Health Sciences Road West  
Irvine, CA 92715**

**Ethyl**

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NEW YORK, N.Y. 10036**

## Cystic Fibrosis (CF) Research Grants

**NIH-APPROVED  
BUT  
UNFUNDED APPLICATIONS**

The Cystic Fibrosis Foundation invites highly meritorious applications that have been submitted to and approved by the National Institutes of Health (NIH) but remain unfunded. This program offers support for outstanding CF-related research projects until NIH or other agency funding can be obtained.

Proposed projects must have been reviewed by an NIH study section and presented to an institute council within six months of applying to this program. Applications must fall within the upper 50th percentile, with a scientific priority score of 250 or better.

**Applications must be clearly relevant to cystic fibrosis.** A maximum of \$75,000 in annual support will be available for up to two years. Investigators will be required to resubmit applications to the NIH.

Applications are being accepted on a continuing basis. Investigators are encouraged to contact **Dr. Robert J. Beall** at the Foundation to discuss the potential relevance of their work.

**Cystic  
Fibrosis  
Foundation**

6931 Arlington Road  
Bethesda, MD 20814  
(301) 951-4422

## POSITIONS OPEN

**POSTDOCTORAL/RESEARCH ASSOCIATE POSITION** available for a recent graduate interested in applying electrophysiological techniques to study ion transport in both human tissue and in a mouse model of colorectal cancer. Experience with intracellular microelectrodes, patch clamping, or vesicles an advantage. Salary open. Send curriculum vitae and addresses of three references to: **Richard J. Davies, M.D., or Stephen M. Thompson, Ph.D., H891B, University of California Medical Center, 225 Dickinson Street, San Diego, CA 92103. Telephone: 619-543-6840.**

**POSTDOCTORAL RESEARCH AND TRAINING IN COGNITIVE NEUROSCIENCE.** Immediate applications are invited for 2- to 3-year postdoctoral training in cognitive neuroscience at Dartmouth Medical School and College. Particular interests include investigators experienced in ERP's, anatomy, and/or cognitive science. Send curriculum vitae and two letters to: **M. S. Gazzaniga, Program in Cognitive Neuroscience, Dartmouth Medical School, Hanover, NH 03756.**

**POSTDOCTORAL RESEARCH POSITION.** Ph.D. in pharmacology or neurobiology, experience in vivo and ex vivo techniques, strong background in neuroanatomical/neurochemical approaches, especially catecholamines and/or neuropeptides. For studies of dopamine systems utilizing neurochemical/neuroanatomical studies of dopamine-peptide in vivo dialyses slice or explant methods. Send curriculum vitae to: **Dr. E. H. Ellinwood, Box 3870, Department of Psychiatry, Duke University Medical Center, Durham, NC 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

The University of California, San Diego (UCSD), is seeking a Ph.D. applicant for a **POSTGRADUATE RESEARCHER (PGR).** Candidates should have experience in molecular biology and retrovirology or herpesvirology to conduct research in AIDS pathogenesis and the role of viral cofactors. Position available immediately for at least 2 years. Salary range based on University of California policy. Interested individuals should send curriculum vitae with a list of three references no later than 30 April 1990 to: **Stephen A. Spector, M.D., Associate Professor, Department of Pediatrics, UCSD Medical Center, 225 Dickinson Street (H-814-H), San Diego, CA 92103. Equal Opportunity/Affirmative Action Employer.**

## PROTEIN CHEMIST RESEARCH SCIENTIST

Ecogen, Inc., is an agricultural biotechnology company located in the Philadelphia area specializing in microbial pesticide development and biological control. We have an immediate opening for a Ph.D. with experience with HPLC as well as other protein analytical methods. The ideal candidate will have completed a postdoctoral position and will have experience with quantitative assay development and immuno-chemical methods. Also, knowledge of statistical analysis is desirable.

We offer a competitive compensation and benefits program including participation in our stock option plan. Interested candidates for this position should submit a current résumé, including the names, addresses, and telephone number of three references to:

**Linda E. Robertson  
Ecogen, Inc.  
2005 Cabot Boulevard West  
Langhorne, PA 19047-1810  
Ecogen is an Equal Opportunity Employer.**

**PSYCHOLOGY:** Assistant professor, tenure-track position. Ph.D. required. Physiological psychology or related biologically oriented specialty. Successful applicant will teach courses in physiological, health/medical/neuropsychology, and introductory psychology, and play the leading role in designing an interdisciplinary curriculum which integrates psychology and biology. Possibility of serving as part-time pre medical adviser also exists. Primary interest and commitment to quality undergraduate instruction plus research is expected. Applications, consisting of teaching and research interests, curriculum vitae, transcripts, and three letters of recommendation should be submitted to: **Dr. D. W. Farmer, Vice President and Dean for Academic Affairs, King's College, 133 North River Street, Wilkes-Barre, PA 18711. Application deadline: 22 December 1989. King's College is an Equal Opportunity Employer and specifically invites and encourages applications from women and minorities.**

## POSITIONS OPEN

**RECEPTOR MOLECULAR BIOLOGY. POSTDOCTORAL POSITION** available on dopamine-related receptors; \$25,000+ depending on experience. Send résumé and two letters of reference to: **Drs. P. Seeman and H. B. Niznik, Department of Pharmacology, Medical Sciences Building, University of Toronto, Toronto, Ontario, Canada M5S 1A8.**

**RESEARCH ASSOCIATE, SPACE PHYSICS.** To be responsible for computer simulation and analysis of magnetohydrodynamic phenomena which occur in Earth's environment. Will develop comprehensive numerical codes for study of convection phenomena, magnetic field reconnection phenomena, and shock phenomena in collisionless plasmas. Specific duties include: solving quasi-static MHD equations numerically to look for self-consistent, steady-state, equilibrium configurations of Earth's magnetotail during connection, solving full MHD equations numerically to investigate tearing-mode instability and ensuing magnetic field reconnection in geomagnetotail configuration and their relationship to geomagnetic substorm; and producing analysis and numerical simulations of structure of Earth's magnetopause, including rotational discontinuities and intermediate shocks. Must possess Ph.D. in space physics together with 1 year in position offered or 1 year in research in space physics. Must also possess demonstrated expertise in development of numerical codes for application to space plasmas; demonstrated expertise in space plasma physics and in use of analytical tools for study of dynamic phenomena in space plasma; and demonstrated general knowledge of magnetosphere physics. Salary: \$29,000 for 5-day, 40+-hour work week. Résumés only to: **New Hampshire Department of Employment Security, Attention: Job Order #89-202, 32 South Main Street, Concord, NH 03301.**

**RESEARCH ASSOCIATE,** Department of Chemistry. Ph.D. in chemistry, 3 years of experience in related occupation as research assistant. Performs experiments in asymmetric organic synthesis via homogeneous catalysis. Designs and synthesizes optically active transition metal complexes as catalysts. Stoichiometric stereoselective reactions of these transition metal complexes will also be performed to elucidate the possible mechanisms of above-mentioned reactions. Also involves handling of air-sensitive and moisture-sensitive chemicals and various analytical methods including multi-nuclear,  $^{31}\text{P}$ ,  $^{19}\text{F}$ ,  $^{13}\text{C}$ , and  $^1\text{H}$ , NMR spectroscopy, and high-pressure reactions. Writes scientific articles for publication and makes oral presentations at scientific conferences. Salary: \$15,000 per year; 40-hour work week. Application by résumé to: **Colorado Department of Labor and Employment, 600 Grant Street, Suite 900, Denver, CO 80203-3528. Refer to Order Number CO3052712.**

**THE DIVISION OF PLASTIC SURGERY, UNIVERSITY OF WASHINGTON,** is seeking full-time research faculty members, pending final budgetary approval. Applicants should have demonstrated experience in the area of skin matrix biology. Successful applicant(s) will conduct own research, share projects with M.D. division faculty, supervise projects of plastic surgery residents, and supervise the laboratory. Academic rank is dependent on qualifications. Mail curriculum vitae and bibliography to: **Loren Engrav, M.D., Chief, Division of Plastic Surgery, Department of Surgery, RF-25, University of Washington, Seattle, WA 98195. No phone calls, please. Women and minority applicants are encouraged to voluntarily identify themselves. Affirmative Action/Equal Opportunity Employer.**

**RESEARCH SCIENTISTS.** The San Diego State University Foundation has three positions available immediately in the Systems Ecology Research Group to join a research team investigating the effects of disturbance on arctic tundra ecosystems. Openings in: simulation modeling (ecosystem, plant growth, and/or landscape modeling), plant physiological ecology (ecosystem gas exchange, plant carbon, and water flux), and nutrient cycling/plant-soil interactions (nitrogen cycling, soil chemistry, stable isotopes).

Appointments are at the postdoctoral, assistant, or associate research scientist level depending on qualifications. Send curriculum vitae, statement of research interests, and names and addresses of three references to: **Search Committee, Systems Ecology Research Group, San Diego State University, San Diego, CA 92182, or call James F. Reynolds at 619-594-5976. Equal Opportunity/Affirmative Action/Title IX Employer.**

## POSITIONS OPEN

**SENIOR RESEARCH CHEMIST.** Develop molecular dynamics (MD) models and software for reacting polymers and refrigerant-polymer systems, including simulations of mechanical properties of reacting polymer melts and simulations of solubilities of refrigerant molecules in polymer solvents; utilizing theories of spontaneous assembly and phase transformation. Knowledge of MD, quantum mechanics, physical and organic/inorganic chemistry, Fortran, C, VMS/UNIX systems, and Cray supercomputer. Forty hours per week, 9 a.m. to 5 p.m., \$48,000 per year. Requirements: Ph.D. in chemistry and 2 years of experience in job offered or postdoctoral research experience in theoretical chemistry. Mail résumé with copy of ad to: **Illinois Department of Employment Security, 401 South State Street, 3 South, Chicago, IL 60605, Attention: Connie M. Evans, Reference #V-IL-9849-E. An employer-paid ad.**

## RESEARCH CLINICAL PATHOLOGIST

The Department of Veterinary Pathobiology, School of Veterinary Medicine, Purdue University, invites applications for a tenure-track faculty position in veterinary clinical pathology. Candidates should have a Ph.D. with postdoctoral experience. Preference will be given to individuals with a D.V.M. or equivalent degree and ACVP certification or eligibility. The successful candidate will have a 75% time commitment for research. Individuals will have opportunities to collaborate with established investigators within the department, school, and university, in the areas of toxicologic pathology, immunopathology, immunology, experimental carcinogenesis, avian pathology, etc. The university's cancer and AIDS research centers for flow cytometry laboratory serve as excellent resources for both basic and applied investigations. Additionally, the department currently has several collaborative Ph.D. graduate training programs.

Please submit curriculum vitae, a statement of career goals, and the names of three references to: **Dr. W. W. Carlton, Pathology Section Head and Search Committee Chairman, Department of Veterinary Pathobiology, Purdue University, West Lafayette, IN 47907. Deadline for applications is 1 January 1990 or until suitable applicants are identified. Purdue University is an Affirmative Action/Equal Opportunity Employer/Educator.**

**RESEARCH SCIENTIST.** Ph.D. cell biologist to join a collaborative research group investigating skin and synovial matrix protein structure, organization, and influence on fibroblast growth and behavior. Experience in cell culture techniques, immunofluorescence techniques, and molecular biology desirable. Research will be based at Carnegie Mellon University's Institute for Fluorescence Microscopy collaborative laboratory with the Western Pennsylvania Hospital Foundation and at the University of Pittsburgh College of Medicine. This long-term institutionally supported position offers highly attractive salary and benefits and start-up support for research from the Western Pennsylvania Hospital Foundation. Send curriculum vitae and two letters of recommendation to: **Herbert Diamond, M.D., Chairman, Department of Medicine, The Western Pennsylvania Hospital, 4800 Friendship Avenue, Pittsburgh, PA 15224. Telephone: 412-578-6928.**

**RESEARCH SCIENTIST** in biology department of academic institution for biopolymer engineering to design new biosynthetic and chemical routes to complex biomaterials. Techniques include molecular genetics of both prokaryotic and eukaryotic systems, mechanistic enzymology, and physical/chemical characterization of biopolymers. Duties also include supervision of personnel, project management, preparation of grant applications, and progress reports.

Requirements include Ph.D. in molecular biology/biochemistry and a minimum of 3 years of experience in biopolymer engineering. Experience may be as a postdoctoral researcher, including both intracellular polycesters and extracellular polysaccharides. Thorough knowledge of molecular genetics and mechanistic enzymology of biopolymer genesis needed. Strong background or experience with industrial microorganisms. Demonstrated publication record in refereed journals. Salary: \$36,000 per year. Contact:

**Massachusetts Department of  
Employment and Training  
Special Programs Department  
19 Staniford Street  
Boston, MA 02114  
Refer to job order 91258.**

# Staff Scientists

The Health Effects Institute (HEI) is an independent, non-profit organization that funds and evaluates biomedical research on the health effects of motor vehicle pollutants. It is jointly sponsored by the United States Environmental Protection Agency, and the domestic and foreign motor vehicle industry. HEI has several openings for individuals interested in applying their scientific background to problems in environmental science.

General qualifications for these positions are:

- Doctoral degree in biomedical or environmental sciences
- Postdoctoral research experience
- Interest in science management
- Good oral and written communication skills

Specific positions are described below.

## ■ Research Staff Scientists ■

HEI is seeking two Research Staff Scientists to work with the Institute's Health Research Committee and Director of Research to develop and oversee its research program, which includes studies of CO, NO<sub>2</sub>, O<sub>3</sub>, methanol, aldehydes and diesel exhaust using *in vitro*, animal, clinical and epidemiological approaches. Responsibilities include:

- Evaluating potential research areas
- Writing requests for applications
- Interacting with HEI investigators and monitoring their studies
- Planning workshops and site visits

The candidate should have a broad scientific background and research experience. For the current openings, the following backgrounds are most relevant:

- Epidemiology and exposure assessment
- Lung physiology, biochemistry and pathology

## ■ Review Staff Scientist ■

Studies funded by HEI are subject to a rigorous peer-review process before publication as HEI Research Reports. The Review Staff Scientist will work with the HEI Review Committee and the Director of Review and Scientific Evaluation to coordinate the peer-review process, to put the HEI-funded studies into scientific and public policy contexts, and to prepare critical evaluations of selected research areas.

Responsibilities include:

- Management of the review process
- Interaction with HEI-funded investigators, the HEI Review Committee, and other members of the scientific community
- Preparation and editing of HEI Research Reports
- Writing critical reviews

The successful candidate must have a demonstrated ability to write well, and to communicate scientific information. Experience in one or more of the following areas is particularly desirable: cell biology, genetic toxicology, biochemistry, or epidemiology.

Application Procedures: **Please send a curriculum vitae, a recent writing sample, and the names, addresses and phone numbers of three references with a cover letter specifying the position(s) being applied for to: Ms. Gail Allosso, Health Effects Institute, 215 First Street, Cambridge, MA 02142.** An Affirmative Action/Equal Opportunity Employer.



The Health Effects Institute

## UNIVERSITY OF ALABAMA AT BIRMINGHAM

### DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL NEUROBIOLOGY

Geropsychiatrist with M.D., Ph.D. background in basic neuroscience. Academic experience, geropsychiatric fellowship and clinical experience a plus in order to participate in pharmacologic trials and Alzheimer's projects. Salary and rank commensurate with experience and qualifications.

Three positions for academically-oriented psychiatrists with broad-based skills in diagnosis and treatment, resident teaching, for evaluation and specialty clinics or community mental health program associated with UAB. Salary and faculty appointment commensurate with experience and qualifications.

Please call and/or send CV, indicating area of interest, to David L. Garver, M.D., Chairman, Department of Psychiatry & Behavioral Neurobiology, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294 (205) 934-4041. An AA/EO Employer.

## ASSOCIATE DIRECTORS CLINICAL RESEARCH

At Reid-Rowell's new Atlanta R&D Center, we have combined our 25 years of experience in developing innovative and important pharmaceuticals with the resources of the SOLVAY Group - one of the world's largest international companies and a well known name in science and industry for over 125 years.

### CNS

Qualifications include M.D. or Ph.D. with 3-5 years' clinical research experience in the pharmaceutical industry. The successful candidate will have working knowledge of FDA guidelines, involvement in the preparation of NDA's, and experience with antidepressant drug project development. Strong technical and managerial skills are required.

### GASTROENTEROLOGY

Responsible for protocol creation and drug project development. Qualified candidate will have an M.D. or Ph.D. and pharmaceutical industry experience in G.I. clinical drug development. Must possess strong managerial capabilities and proven technical writing skills.

### ENDOCRINOLOGY

Responsibilities include clinical drug project development, design of protocols and worldwide regulatory submissions. Background must include M.D. or Ph.D. with clinical research experience in contraceptive or menopausal hormone replacement therapy. Proven management ability and strong leadership potential is required.

Our salaries are extremely competitive and our benefits are excellent. If you are interested in investigating an opportunity at our corporate headquarters in north suburban Marietta, we invite you to send your resume or curriculum vitae to: Mrs. Watson, P.O. Box 965504, Marietta, GA 30066. An equal opportunity employer.



REID-ROWELL

A member of the Solvay Group



SOLVAY

## POSITIONS OPEN

**RESEARCH ASSOCIATE POSITION** available to investigate biochemistry of coagulation factors. Ph.D. in biochemistry, chemistry, or related field, 3 years of postdoctoral experience in protein chemistry, molecular biology, cell biology, immunology, or biochemistry of coagulation factors. Send curriculum vitae and three letters of recommendation to: **Harold Roberts, Center for Thrombosis/Hemostasis, CB #7015, 435 Burnett Womack, University of North Carolina, Chapel Hill, NC 27599.** *Equal Opportunity/Affirmative Action Employer.* Application should be received by 15 December 1989.

**RESEARCH ASSOCIATE** in medical genetics using the hemoglobinopathies as model. Studies involving in vitro gene expression with gene cloning and sequencing and DNA amplification. Applicant should have 2 years of experience or 2 years of related experience in medical molecular biology. Require M.D. or Ph.D. degree with major field of study in medical genetics. Salary: \$21,000 per year for 40 hours per week. Qualified applicants may contact: **Georgia Department of Labor, 601 Greene Street, Augusta, GA 30913**, or apply to the nearest Georgia Job Service Center. Control #GA 5390603. *An Equal Opportunity/Affirmative Action Employer. Female and minorities are encouraged to apply.*

**SCIENTIST II.** Responsible for conducting leading-edge research and software development to result in significant contributions in applied mathematics and numerical analysis, especially as it relates to areas of computational fluid dynamics and control theory. Required are Ph.D. in mathematics or computer science and 3 years of experience in job offered or independent research. Also required are proven publication record and previous contributions in numerical analysis and scientific computing; strong background in mathematics and numerical analysis; and advanced knowledge of complex analysis and approximations theory and their applications to the design of iterative methods. Salary: \$1150 per week. Job and interview site: Moffett Field, California. Send ad with résumé to: **Richard F. Sincovec, Director, Parallel Systems Division, NASA Ames Research Center, M/S 230-5, Moffett Field, CA 94035** no later than 17 December 1989. Must have legal right to work.

## 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:

Life sciences  
Chemistry  
Physics  
Mathematics  
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

## VERTEBRATE ZOOLOGIST

Applications are invited for a tenure-track **ASSISTANT PROFESSOR** position. Research area should be in the evolution, ecology, behavior, and/or functional morphology of vertebrates. Postdoctoral experience is highly desirable. The successful candidate will be expected to establish a vigorous, independent research program and to participate in graduate training and undergraduate instruction. Competitive salary, facilities, and start-up support are available. Send curriculum vitae, statement of research objectives, copies of recent publications, and have three letters of reference submitted by 10 January 1990 to: **Vertebrate Zoology Search Committee, T. H. Morgan School of Biological Sciences, University of Kentucky, Lexington, KY 40506-0225.**

*An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### POSTDOCTORAL/RESEARCH ASSOCIATE MOLECULAR ENDOCRINOLOGY

Position available at Mayo Foundation for the study of hormonal mechanisms involved in the control of growth hormone gene transcription. Experience in molecular biology desirable but not essential. Send curriculum vitae, description of research interests, and names and telephone numbers of three references to: **Dr. Norman Eberhardt, 4-407 Alfred, Mayo Clinic, Rochester, MN 55905.** *Equal Opportunity Employer.*

### STAFF DIRECTOR CHEMICAL SCIENCES AND TECHNOLOGY

The National Research Council (NRC) is seeking a staff director for its Board on Chemical Sciences and Technology (BCST). BCST is the NRC's principal vehicle for addressing issues in biochemistry, chemistry, chemical engineering and related disciplines for calling attention to solutions of important national problems, issues on productive federal interagency cooperation, and identification of gaps in support of all the chemical sciences. BCST also initiates studies and oversees participation of the U.S. scientists in several disciplinary unions of the International Council of Scientific Unions (ICSU).

Responsibilities include planning and directing work and managing finances. Requires a Ph.D. or equivalent in a relevant discipline, at least 10 years of related experience with progressively increasing responsibilities, and demonstrated verbal and written communications ability. Familiarity with the full range of federal and private research organizations preferred. We offer a salary commensurate with experience and an exceptional benefits package. Please send résumé and salary history in confidence to: **NRC, NAS 282-WS, 2101 Constitution Avenue, N.W., Washington, DC 20418.** *Equal Opportunity Employer.*

### VETERINARY IMMUNOPARASITOLOGIST.

Kansas State University College of Veterinary Medicine is seeking applicants for a tenure-track position in immunoparasitology. Appointment will be as an Assistant/Associate Professor; 60 to 80% research, 20 to 40% instruction. This faculty member will be expected to develop an independent and/or collaborative research program and participate in D.V.M., graduate, and C.E. instruction. A Ph.D. with evidence of training and experience and training in parasitic diseases of domestic animals preferred. Submit curriculum vitae, a statement of career goals, and the names and addresses of three references to: **Dr. Robert K. Ridley, Department of Laboratory Medicine, Kansas State University, Manhattan, KS 66506.** *Kansas State University is an Equal Opportunity Employer. Minorities, women, and other protected group members are encouraged to apply.*

### VETERINARY PATHOLOGIST.

The Department of Veterinary Microbiology and Pathology, Washington State University (WSU), seeks a veterinary pathologist for a full-time tenure-track appointment. The position offers 50% time for research, and the successful candidate will be expected to develop extramurally supported research programs in an area complementary with existing departmental programs in infectious diseases, host-parasite interactions, or animal models of human disease. The position has also a 50% pathology service appointment to the Washington Animal Disease Diagnostic Laboratory. D.V.M. and Ph.D. degrees are required. ACVP certification is desired, and intention to pursue ACVP certification is required. Experience in teaching veterinary pathology is desirable and ability to communicate effectively with students, clients, and veterinary practitioners is required. Rank and salary commensurate with training and experience. Washington State University has an affirmative spousal accommodation policy. Final screening will begin 15 January 1990 and will continue until the position is filled. In order to receive full consideration, applicants should submit curriculum vitae and names and address of three references to: **Dr. Terry F. McElwain, Department of Veterinary Microbiology and Pathology, Washington State University of Veterinary Microbiology and Pathology, Washington State University, Pullman, WA 99164-7040**, by 15 January 1990. *WSU is an Equal Opportunity/Affirmative Action Employer and Employer. Protected group members are encouraged to apply.*

## THE NATIONAL RESEARCH COUNCIL ANNOUNCES

### POSTDOCTORAL & SENIOR RESEARCH ASSOCIATESHIP AWARDS

The awards sponsored by the National Research Council are available at the U.S. Army Institute of Dental Research. The research opportunities include physiology and biochemistry of bone regeneration (which also includes studies of growth factors using bone cell cultures), purification and characterization of bone-inductive proteins and monoclonal antibodies, engineering of predictably degrading bone-regenerating systems, biodegradable polymer chemistry and microencapsulation and time-release drug delivery systems. Doctoral degree in life sciences or biomedical sciences is required. Annual stipend for recent graduates is \$28,000 and is appropriately higher for those with more than 5 years of experience. Relocation reimbursement and funds for professional travel are available, and a health insurance program is offered. Awards are for 1 year with possible renewals to a total of 3.

*For further information contact:*

Dr. Jeffrey Hollinger at (202) 576-3764 or Dr. Anshumali Chaudhari at (202) 576-2098.

*Their mailing address is:*

U.S. Army Institute of Dental Research  
Walter Reed Army Medical Center  
Washington, D.C. 20307-5300

*For application materials, write to:*

Associateship Programs  
(GR 430/SDR),

### NATIONAL RESEARCH COUNCIL

2101 Constitution Avenue, NW  
Washington D.C. 20418  
FAX: (202) 334-2759

Application Deadlines  
are January 15 and August 15, 1990.

## FELLOWSHIP LABORATORY OF NEUROSCIENCES

The Laboratory of Neurosciences in the National Institute on Aging, National Institutes of Health, Public Health Service, invites applications for a Fellowship position to study the neurobiology of genes from human chromosome 21 and mouse chromosome 16 by the use of transfected cultured neurons and the development of transgenic mice. Current laboratory projects include the effects of human trisomy 21 (Down Syndrome) and mouse trisomy 16 (a model of trisomy 21) or ionic currents, gene expression, lipid metabolism and receptor-second messenger signalling. Candidates should have experience in molecular biology and interest in the isolation of genes and chromosomal segments with the aim of determining the role of specific genes in aneuploid-related neurophysiological abnormalities. Available from late 1989 - early 1990. Position is located in Bethesda, Maryland and salary is commensurate with qualifications. Send resume and the names of three references to:

**Stanley I. Rapoport, M.D.**  
Chief, Laboratory of Neurosciences  
National Institute on Aging  
Bldg. 10, Room 6C-103  
9000 Rockville Pike  
Bethesda, Maryland 20892  
U.S.A.



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## UNIVERSITY OF MASSACHUSETTS, AMHERST

### DEVELOPMENTAL NEUROSCIENCE

The Neuroscience and Behavior Program (NSB) seeks a tenure-track faculty member at the **assistant professor** level. We seek candidates using molecular, genetic or modern cellular approaches to examine the development of the nervous system. Investigators studying the effects of hormones, the role of cell lineages in invertebrate nervous systems, or molecular and genetic aspects of nervous system development would be especially welcome.

The NSB Program is a multi-department graduate program that grants a PhD in Neuroscience and Behavior. It consists of 24 faculty, primarily members of the Zoology and Psychology Departments. The successful candidate will be an assistant professor in the Zoology Department. Duties include teaching and supervision of graduate students in both the Zoology Department and in the NSB Program. A PhD degree and postdoctoral experience are required. The salary will be commensurate with experience. Liberal space and start-up funds are available.

Send vita, summary of research interests, and have three letters of recommendation sent to: **Dr. R.K. Murphey, Director, Neuroscience and Behavior Program, Morrill Science Center (Zoology), University of Massachusetts, Amherst, MA 01003.**

The search will close December 15, 1989 or as soon thereafter as a suitable candidate is found. The University of Massachusetts is an Affirmative Action, Equal Opportunity Employer.

A high degree of innovation, an international reputation for excellence and the ability to research, develop and manufacture diverse pharmaceutical products, have brought Genetics Institute to the forefront of our industry.

### Ph.D. Biochemists

We are currently seeking several staff scientists to join our research organization in Cambridge, Massachusetts.

One position will work within our Tissue Growth & Repair Laboratory and will be responsible for initiating and directing aggressive research aimed at developing a well defined matrix for delivery of BMP. A Ph.D. in Biochemistry and a minimum of three years of relevant postdoctoral or industry experience with Protein/Protein interactions, separation and reconstitution is required.

The second position will work within our Protein Chemistry Laboratory and will conduct research on the refolding of proteins expressed in E.coli. The ideal candidate will have a minimum of two years of postdoctoral or industrial experience in protein purification, characterization and refolding.

We offer a stimulating and dynamic work environment in addition to an excellent salary, comprehensive benefits program and stock ownership programs.

**Interested candidates should forward a resume, in confidence, to: Sheri Rist, Genetics Institute, 87 CambridgePark Drive, Cambridge, MA 02140.**

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

## Genetics Institute

## CONGRESSIONAL SCIENCE AND ENGINEERING FELLOWSHIPS

### Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for two one-year Congressional Science and Engineering Fellowships it will offer for the period beginning September 1, 1990. The fellowship program provides an opportunity for accomplished and societally aware postdoctoral to mid-career scientists and engineers to participate in and contribute to the public policy-making processes within the Congress. Fellows work as special legislative assistants within the congressional staff system.

Persons may apply from any physical, biological or behavioral science or any field of engineering. The term "science" is used broadly to include the system sciences, public health, and other technical professions. In addition to the fellowships awarded by the AAAS, about 15 others are given by other participating professional societies. The AAAS runs a year-long seminar program for both its own Congressional Science and Engineering Fellows and those selected by the participating societies. Addresses of all participating societies are available from the address listed below.

The 1990-91 AAAS Congressional Science and Engineering Fellows will receive a stipend of \$38,000; an additional \$2,000 is available for relocation expenses and travel in connection with the program.

The deadline for submission of application materials is January 15, 1990. The award will be announced about May 1, 1990. For detailed information on the program and specific application requirements, write:

**Congressional Science and Engineering Fellows Program  
American Association for the Advancement of Science  
1333 H Street, NW, Washington, DC 20005  
Telephone 202/326-6600**

## SCIENCE, ENGINEERING AND DIPLOMACY FELLOWSHIPS

### Applications Invited

The American Association for the Advancement of Science (AAAS), in cooperation with the U.S. Agency for International Development (AID) and the Department of State (STATE) is seeking applicants for approximately twelve Science, Engineering and Diplomacy Fellowships. Fellows will spend one year, beginning September 1, 1990, working either in the Bureau of Oceans and International Environmental and Scientific Affairs of the U.S. Department of State or in one of several bureaus and offices of the Agency for International Development. Other assignments may also be possible.

Prospective Fellows must demonstrate exceptional competence in some area of science or engineering, be flexible, have some experience and/or a strong interest in applying knowledge toward the solution of problems in the area of foreign affairs, and have a Ph.D. or equivalent in years of experience. Awardees will work in international affairs on scientific and technical subjects: foreign policy for STATE and international development for AID. In general, individuals are urged to apply from any area of physical, biological, behavioral, and social science and engineering and whose experience and training is applicable to any one of the following areas: health and population; food and agriculture; nuclear nonproliferation; scientific exchange; forestry, natural resources and ecology; oceans and fisheries; communications; national security; and human resources and education, among others.

The Fellows will serve a one-year appointment at a salary consistent with education level and experience, if possible, but not exceeding the GS-12 level (beginning at about \$35,000). The fellowship award is limited to U.S. citizens and is contingent upon the selectee obtaining a security clearance.

Deadline for receipt of application is January 15, 1990. For more information and application details write:

**Science, Engineering and Diplomacy Fellows Program  
American Association for the Advancement of Science  
1333 H Street, NW, Washington, DC 20005  
Telephone 202/326-6600**

## POSITIONS OPEN

### RESEARCH VIROLOGIST

Baxter Healthcare Corporation is currently seeking an experienced virologist to head a research and development group focused on virus regulation and inactivation. Responsibilities include developing a research program in virus regulation and inactivation, managing virology research staff, and developing assay systems for viral quantitation and inactivation. We are seeking an individual with a Ph.D. or equivalent degree with 5 to 10 years of research experience in the virology field (associate professor level in the academic field). Experience in human virus research is desirable. As a Fortune 75 leader, Baxter provides an excellent salary and benefits package, including tuition reimbursement, 401(k), company-paid retirement program, and employee stock purchase plans. For immediate consideration, please forward your résumé with salary history to: **Pam Miller, Human Resources Director (WG1-1N), Baxter Healthcare Corporation, Route 120 and Wilson Road, Round Lake, IL 60073.** *Equal Opportunity Employer.*

## RESEARCH GRANTS

### PARKINSON RESEARCH GRANTS 1 JUNE 1990 to 31 MAY 1991

The National Parkinson Foundation invites the submission of grant proposals for Parkinson research. A total of \$300,000 will be made available to support basic bench research on Parkinson's disease. The award for a single grant will not exceed \$40,000. None of the monies are to be utilized for administrative overhead or travel expenses. The application deadline is 1 February 1990; grant starting date will be 1 June 1990. 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. Scientists entering the field of Parkinson research are encouraged to apply. Proposals will be assessed by the National Parkinson Foundation Scientific Advisory Board. To obtain submission information, please write to:

National Parkinson Foundation, Inc.  
Research Grants  
1501 N.W. 9th Avenue  
Miami, FL 33136

## FELLOWSHIPS

### M.D./Ph.D. FELLOWSHIPS

The Medical University of South Carolina (MUSC), offers \$9000 stipends for studies leading to combined M.D./Ph.D. degrees in each of the basic biomedical sciences and molecular and cellular biology/medicine. Contact: **Director, Medical Scientist Training Program, College of Graduate Studies, MUSC, 171 Ashley Avenue, Charleston, SC 29425.**

**FOOD SCIENCE FELLOWSHIPS.** Three U.S. Department of Agriculture (USDA) National Needs doctoral fellowships will be awarded with a stipend of \$15,000 per year for 3 years. The North Carolina State University (NCSU) Food Science Department has nationally recognized research programs in food chemistry, microbiology, engineering, processing, and nutrition. Must be a U.S. citizen and hold an M.S. degree in food science, chemistry, biochemistry, microbiology, engineering, or related discipline. Selected students must begin their studies no later than January 1991. Contact: **Dr. David R. Lineback, Head, Department of Food Science, Box 7624, North Carolina State University, Raleigh, NC 27695-7624.** *NCSU is an Equal Opportunity/Affirmative Action Employer.*

### GAHAN REGENTS' FELLOWSHIP IN ENTOMOLOGY

This research fellowship at the University of Maryland begins on 1 September 1990 and provides a 3-year, 12-month stipend for work toward the M.S. or Ph.D. degree in entomology. It includes \$5000 per year for research-associated expenses. Applicants must submit a proposal for the intended research project, three letters of support, official transcripts, and GRE scores. Deadline for application is 1 February 1990. For details contact: **Dr. Charles Reichelderfer, Department of Entomology, University of Maryland, College Park, MD 20742.**

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIP** available 1 February 1990 for production of transgenic mice, cattle, and sheep resistant to virus diseases. Training available in in vitro fertilization and microinjection of embryos as well as vector construction and related molecular techniques. By 12 December 1989 send curriculum vitae, transcripts of coursework, GRE scores, and three letters of recommendation to: **G. E. Seidel, Jr., Department of Physiology, Colorado State University, Fort Collins, CO 80523.** *An Equal Opportunity/Affirmative Action Employer.*

### SMITHSONIAN POSTDOCTORAL FELLOWSHIPS IN MOLECULAR EVOLUTION AND PLANT PHYSIOLOGY

Postdoctoral fellowships in molecular evolution and plant physiology are available for research to be conducted at one or more of the following Smithsonian Institution bureaus: National Museum of Natural History (Washington, D.C.), National Zoological Park (Washington, D.C.), Smithsonian Tropical Research Institute (Panama). In addition, a portion of the research may be conducted at the Smithsonian Environmental Research Center (Maryland). Stipends are \$24,000 annually, including travel. Tenures are from 12 to 24 months. Deadline: 15 February 1990. For information and applications, write: **Office of Fellowships and Grants, Desk MS, Smithsonian Institution, Washington, DC 20560.**

### POSTDOCTORAL FELLOWSHIP POSITION MOLECULAR IMMUNOLOGY AND VIROLOGY

A postdoctoral position is immediately available for the study of either the molecular biology of HTLV-I and HIV-1, structure-function relationships in the human interleukin-2 receptor, or DNA binding proteins that regulate transcription of T cell activation genes. Prior experience in molecular biology and/or biochemistry is required. Interested applicants should send curriculum vitae and names of three references to: **Dr. Dean W. Ballard, c/o Dr. Warner C. Greene, Howard Hughes Medical Institute, Duke University Medical Center, P.O. Box 3037, Durham, NC 27710.** Telefax: 919-684-5458.

### RESEARCH FELLOWSHIPS IN EPIDEMIOLOGY OF LUNG DISEASES

NIH-supported stipends and tuition fees for a 2-year program working in airways hyperreactivity and/or natural history studies on chronic lung disease, along with didactic training in epidemiology leading to a master's degree from Harvard University. Must be eligible in internal medicine or equivalent. Candidates with clinical training in pulmonary diseases preferred but not required. Available for U.S. citizens or permanent residents. Inquire: **Frank E. Speizer, M.D., Professor of Medicine, Harvard Medical School, Co-Director, Channing Laboratory, Department of Medicine, Brigham and Women's Hospital, 180 Longwood Avenue, Boston, MA 02115.** *This program specifically encourages applications by minority group members. The Brigham and Women's Hospital is an Equal Opportunity Employer.*

### POSTDOCTORAL FELLOWSHIPS

The Feinberg Graduate School of the Weizmann Institute of Science is now offering postdoctoral fellowships in the following fields of study:

Life sciences  
Chemistry  
Physics  
Mathematics  
Science teaching

These fellowships are intended for scientists who have received a Ph.D. degree within the last 5 years. The fellowship provides a 12-month stipend (with cost of living 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

## FELLOWSHIPS

### PREDOCTORAL FELLOWSHIPS IN BIOLOGY

Several fellowships providing full tuition and a \$12,500 annual stipend are available to outstanding Ph.D. candidates for study of aquatic biology, biochemistry, botany, cell biology, developmental biology, ecology, entomology, molecular biology, neurobiology, and ultrastructure. For information, please contact: **Professor Ellen J. Henderson, Chair, Committee on Graduate Students and Studies, Department of Biology, Georgetown University, Washington, DC 20057.**

## ASSISTANTSHIPS

**TEACHING ASSISTANTSHIPS** (including tuition waiver) available for qualified applicants beginning September 1990. Graduate study leading to M.S. or Ph.D. with concentration in biochemistry, botany, ecology, marine biology, microbiology, molecular and cellular biology, physiology, or vertebrate biology. For information, contact: **Dr. Susan Powers-Lec, Graduate Coordinator, Department of Biology, Northeastern University, Boston, MA 02115.** *Northeastern is an Equal Opportunity/Affirmative Action/Title IX Employer.*

## CONFERENCE

The American Society for Cell Biology (ASCB) and the European Molecular Biology Organization will jointly sponsor a conference entitled:

### "CELL CYCLE"

Organizers: Tim Hunt, Eric Karsenti, Marc W. Kirschner, and Paul Nurse. 24 to 28 March 1990, Airlie, Virginia. Application deadline: 5 January 1990.

For information contact: **ASCB National Office, 9650 Rockville Pike, Bethesda, MD 20814.** Telephone: 301-530-7153. FAX: 301-530-7139.

## SYMPOSIUM

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

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

## MARKETPLACE

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Now you can get a fraction collector that combines small size with the capacity, versatility, and reliability you need for virtually any LC or HPLC job. It's Isco's Retriever II®.

**It's compact.** Retriever II needs just one square foot of your bench or storage space, yet it holds up to 174 tubes of 12 or 13mm diameter. Racks are also available to hold 10 to 18mm tubes or 28mm scintillation vials.

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Retriever II can handle up to four columns at once and collect by time, drops, or pulses from a pump. You can even set volume directly in 0.1 or 1 ml



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Circle No. 144 on Readers' Service Card

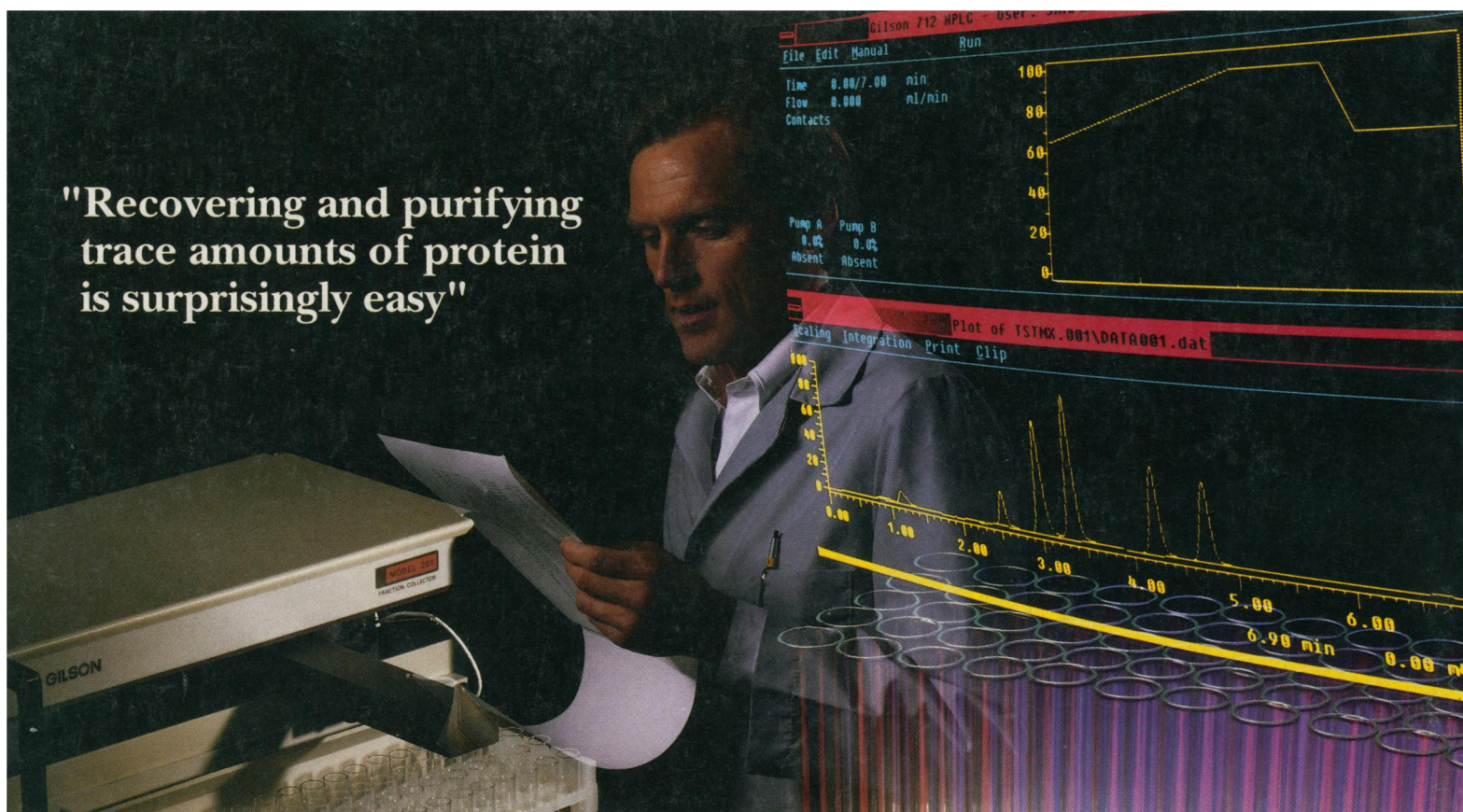
**It's reliable.** Its operation is unimpaired in 0°C coldrooms regardless of humidity. Retriever II uses the same mechanism that Isco has perfected over many years in 20,000 similar fraction collectors and autosamplers.

The price including drop counter is actually lower than competing round collectors! Add Retriever II's three-year warranty, compact size, linear configuration, and 174 tube capacity, and you can see why it's the best value in mid-size fraction collectors.

Phone toll free (800)228-4250 or write Isco, Inc., P.O. Box 5347, Lincoln, NE 68505.



**"Recovering and purifying trace amounts of protein is surprisingly easy"**



## Chromatographers speak out about the Gilson Auto-Prep HPLC system

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

### **"Overnight operation has really increased throughput"**

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

### **"Analytical and prep run results are reproducible"**

After method development with an analytical system, many labs switch to preparative scale sample purification. Or switch back and forth to perform purity checks. With Gilson HPLC pumps, you simply replace the pump head to change the flow rate. Eight interchangeable pump heads offer flow rates as high as 200 ml/min.

### **"It's a compact system that saves bench space"**

The Gilson Auto-Prep system is made up of modular components. The basic system stack, including the detector and pumping modules, has a footprint of about one square foot. And the 201 fraction collector offers 120-tube capacity in an equally compact space.

### **"Upgrading to gradient analysis was easy"**

The modular design that makes our systems easy to fit on a crowded bench also makes it easy to upgrade the system. Going from isocratic to

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

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We'll start by sending you a data sheet on this and other Gilson HPLC systems. Then, if you'd like, we'll put you in touch with some of the researchers we've been talking to. You can ask them yourself about the performance of the Gilson Auto-Prep HPLC system. Just mark the reader service number below. Or call us toll-free at 800-445-7661 (In Wisconsin call 608-836-1551).



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Gilson Medical Electronics, Inc., Box 27, 3000 W. Beltline Hwy., Middleton, WI 53562 USA, Tel: 608-836-1551, TLX: 26-5478, FAX: 608-831-4451

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