

reactions of serine proteases. He discusses the strengths and weaknesses of each approach and exposes ambiguities in interpretation. Anyone who thinks that the issue is settled regarding participation of a charge relay in catalysis by serine proteases will find this chapter fascinating. In the second book Kallenbach and Nelson have written an excellent history of the experimental investigation of protein folding, dating back to Anfinsen's experiments on ribonuclease. The authors discuss the structural differences between native and unfolded proteins, emphasizing the compensatory forces that result in small differences in free energy between folded and unfolded states. The authors describe different experimental methods for monitoring refolding and define experimental criteria for a simple two-state model in which no folding intermediates accumulate. The current experimental methods for detection and characterization of folding intermediates are also discussed, and the chapter helps evaluate the extensive and often confusing literature on protein folding.

Overall, these two volumes provide a detailed coverage of the progress in understanding enzyme catalysis and structure, and they document the initial successes and failures in implementing these principles in model systems. I recommend these books highly to the reader interested in the experimental and theoretical bases of these developments.

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Nonlinearities

Order and Chaos in Nonlinear Physical Systems. STIG LUNDQVIST, NORMAN H. MARCH, and MARIO P. TOSI, Eds. Plenum, New York, 1988. xviii, 496 pp., illus. \$92.50. Physics of Solids and Liquids. Based on a school, Trieste.

Based on an International Centre for Theoretical Physics school of the same name as the book, the 17 chapters here present introductory and advanced material in chemistry, hydrodynamics, optics, solid-state physics, and mathematical physics. The volume will be a useful gateway into the field for the partially initiated. It is not replete with recent references (there are few after 1987), but they are generally not necessary, given the introductory nature of the material. This will be tough going as a first book for readers wishing to learn about nonlinear dynamics, but for those seeking breadth and a middle ground, it provides a wealth

of discussions, introductions, and references.

The book is given unity by an introductory chapter by Lundqvist, in which he reviews terms and principles that are used in the succeeding chapters. Calogero and De-gasperis's reprinted 1982 paper on solitons gives an excellent overview, with a wondrously detailed set of references and careful annotations, and it may well be one of the best places to begin for those only vaguely aware of the formal study of nonlinear wave propagation problems.

Chemical oscillators and chemically induced pattern are addressed by De Kepper, who mixes in illustrations and recipes for a few common demonstrations. Haken, Arecchi, and Loudon combine to provide a series of chapters that review much in the way of nonlinear dynamics in optics spanning the discovery of the behavior of lasers near threshold and the modern studies of optical bistability and optical chaos. Such topics as the topologies of attractors, routes to chaos, attractor dimensions, and entropies are addressed rather indirectly or incompletely in this volume, and a beginner will have some difficulty understanding the presentations of results in these chapters.

Mathematical aspects of nonlinear dynamics are covered in chapters on delay equations (maps), fractals, and symbolic dynamics. Indeed, one of the pleasant surprises of working on this review was the discovery of the tandem discussions by Percival and Hao of the use of symbolic dynamics to describe chaotic systems. The "experts" in the business of characterizing nonlinear dynamical time series and patterns have in large part moved to the study of the "complexity" of the signals. Rather than dealing with the extraordinary amount of digital information in numerically precise measurements of the behavior of a system, many now seek to compartmentalize the information so that a limited number of symbols and an associated grammar for symbol sequences can be used to characterize the behavior. The discussions of symbolic dynamics in this volume provide a useful introduction to concepts that have since been refined but that continue to rely on this core of theory. There are few other places where this aspect of the analysis of nonlinear systems is treated at this level.

As a helpful complement to the primary focus on nonlinear dynamics and chaos, Stinchcombe's discussion of phase transitions brings out such matters as criticality, critical exponents, stochastic fluctuations, fractals, and their relation to the dynamics discussed elsewhere.

Berry and Cvitanović contribute only brief chapters that do not convey the full

strength of their expertise.

The concluding chapter is an unfortunately brief discussion by Haken and Wunderlin of the "slaving principle," which is the formal justification of "adiabatic elimination" of rapidly relaxing variables that become slaves to the dynamics of their more slowly varying companions. All those considering undertaking such "eliminations" should be cautioned to follow this chapter closely and then perhaps to study even more carefully the recent descriptions of the formal application of center-manifold theory such as those given by Oppo and Politi in *Instabilities and Chaos in Quantum Optics II* (N. B. Abraham, F. T. Arrecchi, and L. A. Lugiato, Eds.).

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Books Received

Absolute Radiometry. Electrically Calibrated Thermal Detectors of Optical Radiation. F. Hengstberger, Ed. Academic Press, San Diego, CA, 1989. xvi, 266 pp., illus. \$69.50.

Acoustical Imaging. Vol. 17. Hiroshi Shimizu, Noriyoshi Chubachi, and Jun-ichi Kushibiki, Eds. Plenum, New York, 1989. xiv, 791 pp., illus. \$135. From a symposium, Sendai, Japan, May-June 1988.

Advances in Animal Cell Biology and Technology for Bioprocesses. R. E. Spicer *et al.*, Eds. Butterworths, Stoneham, MA, 1989. xx, 585 pp., illus. \$165. From a meeting, Knokke-Heist, Belgium, 1988.

Advances in Cognitive Science. Vol. 2, Theory and Applications. Guy Tiberghien. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 206 pp., illus. \$59.95. Ellis Horwood Series in Cognitive Sciences.

Air Pollution Modeling and Its Application VII. Han van Dop, Ed. Plenum, New York, 1989. xvi, 620 pp., illus. \$125. NATO Challenges of Modern Society, vol. 13. From a meeting, Cambridge, U.K., Sept. 1988.

Analysis at Urbana. E. Berkson, T. Peck, and J. Uhl, Eds. Cambridge University Press, New York, 1989. Vol. 1, Analysis in Function Spaces. x, 422 pp. Paper, \$39.50. Vol. 2, Analysis in Abstract Spaces. viii, 356 pp. Paper, \$34.50. London Mathematical Society Lecture Note Series, vols. 137 and 138. Based on a conference, Urbana, IL, March 1987.

Anti-inflammatory Steroid Action. Basic and Clinical Aspects. Robert P. Schleimer, Henry N. Claman, and Arnold L. Oronsky, Eds. Academic Press, San Diego, CA, 1989. xviii, 564 pp., illus. \$110.

Archaeology at Cerros, Belize, Central America. Vol. 2, The Artifacts. James F. Garber. Southern Methodist University Press, Dallas, TX, 1989 (distributor, Texas A&M University Press, College Station, TX). xii, 154 pp., illus. Paper, \$22.50.

Bacillus. Colin R. Harwood, Ed. Plenum, New York, 1989. xviii, 414 pp., illus. \$59.50. Biotechnology Handbooks, vol. 2.

Biochemical Evolution in the Slimy Salamanders of the *Plethodon glutinosus* Complex in the Eastern United States. Richard Highton, George C. Maha, and Linda R. Maxson. University of Illinois Press, Champaign, IL, 1989. vi, 153 pp., illus. Paper, \$18.95. Illinois Biological Monographs, vol. 57.

The Biochemistry of Plants. Vol. 15, Molecular Biology. Abraham Marcus, Ed. Academic Press, San Diego, CA, 1989. xvi, 707 pp., illus. \$150.

The Biology of Euglena. Vol. 4, Subcellular Biochemistry and Molecular Biology. Dennis E. Buetow, Ed. Academic Press, San Diego, CA, 1989. xvi, 528 pp., illus. \$150.

Bioprotein Manufacture. A Critical Assessment. David H. Sharp. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 140 pp., illus. \$59.95. Ellis Horwood Series in Applied Science and Industrial Technology.

- Chemical Structure Information Systems.** Interfaces, Communication, and Standards. Wendy A. Warr, Ed. American Chemical Society, Washington, DC, 1989. x, 132 pp., illus. \$34.95. ACS Symposium Series, vol. 400. From a symposium, Los Angeles, CA, Sept. 1988.
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- Chiral Separations by HPLC.** A. M. Krstulović, Ed. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 548 pp., illus. \$119. Ellis Horwood Books in the Biological Sciences.
- Cognitive Science in Medicine.** Biomedical Modeling David A. Evans and Vimla L. Patel, Eds. MIT Press, Cambridge, MA, 1989. xxii, 421 pp., illus. \$35. A Bradford Book.
- Computer-Intensive Methods for Testing Hypotheses.** An Introduction. Eric W. Noreen. Wiley-Interscience, New York, 1989. x, 229 pp. Paper, \$24.95.
- The Cosmic Inquirers.** Modern Telescopes and Their Makers. Wallace Tucker and Karen Tucker. Harvard University Press, Cambridge, MA, 1989. xii, 221 pp. + plates. Paper, \$10.95. Reprint, 1986 ed.
- Crime and Victimization of the Elderly.** E. A. Fattah and V. F. Sacco. Springer-Verlag, New York, 1989. x, 310 pp. Paper, \$30.
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- Defining Rape.** Linda Brookover Bourque. Duke University Press, Durham, NC, 1989. xx, 428 pp. \$59.95.
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- Early Ireland.** An Introduction to Irish Prehistory. Michael J. O'Kelly. Claire O'Kelly, Ed. Cambridge University Press, New York, 1989. xiv, 375 pp., illus. \$65; paper, \$24.95.
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- Electronic and Computer-Aided Astronomy.** From Eyes to Electronic Sensors. Ian S. McLean. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 297 pp., illus., + plates. \$59.95. Ellis Horwood Library of Space Science and Space Technology.
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- Heparin and Related Polysaccharides.** Structure and Activities. Frederick A. Ofsu, Isidore Danishefsky, and Jack Hirsh, Eds. New York Academy of Sciences, New York, 1989. xii, 501 pp., illus. Paper, \$125. Annals of the New York Academy of Sciences, vol. 556. From a conference, New York, Nov. 1987.
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- An Institute for an Empire.** The Physikalisch-Technische Reichsanstalt, 1871-1918. David Cahan. Cambridge University Press, New York, 1989. xx, 315 pp., illus. \$49.50.
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- An Introduction to Digital Signal Processing.** John H. Karl. Academic Press, San Diego, CA, 1989. xiv, 341 pp., illus. \$39.95.
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- Introduction to Quantitative Genetics.** D. S. Falconer. 3rd ed. Longman Scientific, Harlow, U.K., and Wiley, New York, 1989. xii, 438 pp., illus. Paper, \$31.95.
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- Machines as the Measure of Men.** Science, Technology, and Ideologies of Western Dominance. Michael Adas. Cornell University Press, Ithaca, NY, 1989. xiv, 430 pp., illus. \$29.95. Cornell Studies in Comparative History.
- Malaria and the Red Cell 2.** John W. Eaton, Steven R. Meshnick, and George J. Brewer. Liss, New York, 1989. xii, 169 pp., illus. \$39.50. Progress in Clinical and Biological Research, vol. 313. From a workshop, Ann Arbor, MI, Oct. 1988.
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- Mathematical Methods in Computer Aided Geometric Design.** Tom Lyche and Larry L. Schumaker, Eds. Academic Press, San Diego, CA, 1989. xvi, 611 pp., illus., + plates. \$49.95. From a conference, Oslo, Norway, June 1988.
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- NGC 2000.0.** The Complete New General Catalogue and Index Catalogues of Nebulae and Star Clusters by J. L. E. Dreyer. Roger W. Sinnott, Ed. Cambridge University Press, New York, and Sky Publishing, Cambridge, MA, 1989. xxvi, 273 pp. Paper, \$19.95. Reprint, 1988 ed.
- Noise in Nonlinear Dynamical Systems.** Frank Moss and P. V. E. McClintock, Eds. Cambridge University Press, New York, 1989. Vol. 1, Theory of Continuous Fokker-Planck Systems. xvi, 353 pp., illus. \$85. Vol. 2, Theory of Noise Induced Processes in Special Applications. xviii, 388 pp., illus. \$85. Vol. 3, Experiments and Simulations. xvi, 278 pp., illus. \$75.
- Nonlinear Optics and Acoustics of Fluids.** F. V. Bunkin, Ed. Nova Science, Commack, NY, 1989. viii, 177 pp., illus. \$52. Proceedings of the Institute of General Physics, Academy of Sciences of the U.S.S.R., vol. 6. Translated from the Russian edition (Moscow, 1987) by Kevin S. Hendzel.
- Nonmetalliferous Stratabound Ore Fields.** Milka K. de Brodtkorb, Ed. Van Nostrand Reinhold, New York, 1989. xviii, 332 pp., illus. \$54.95. Evolution of Ore Fields.
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- Nutrient.** Nut Trees, the Expanding Earth, Rottneist Island, and All That ... David Noel. Published for the Tree Crops Centre by Cornucopia Press, Subiaco, Australia, 1989. 200 pp., illus. Paper, \$A19.95.
- Observer Mechanics.** A Formal Theory of Perception. Bruce M. Bennett, Donald D. Hoffman, and Chetan Prakash. Academic Press, San Diego, CA, 1989. xii, 285 pp., illus. \$29.95.
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- Oil-Field Chemistry.** Enhanced Recovery and Production Stimulation. John K. Borchardt and Teh Fu Yen, Eds. American Chemical Society, Washington, DC, 1989. xiv, 699 pp., illus. \$129.95. ACS Symposium Series, vol. 396. From a symposium, Toronto, Ontario, June 1988.
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- Space.** The Next Twenty-Five Years. Thomas R. McDonough. 2nd ed. Wiley, New York, 1989. xvi, 256 pp., illus. Paper, \$12.95. Wiley Science Editions.
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- Stars and Their Spectra.** An Introduction to the Spectral Sequence. James B. Kaler. Cambridge University Press, New York, 1989. xvi, 300 pp., illus. \$29.95.
- The Transformed Self.** The Psychology of Religious Conversion. Chana Ullman. Plenum, New York, 1989. xx, 227 pp. \$29.50. Emotions, Personality, and Psychotherapy.
- Unintended Thought.** James S. Uleman and John A. Bargh, Eds. Guilford, New York, 1989. xxvi, 481 pp. \$45.
- The Value of Conserving Genetic Resources.** Margery L. Oldfield. Sinauer, Sunderland, MA, 1989. xviii, 379 pp., illus. \$40; paper, \$19.95. Reprint, 1984 ed.
- Variability in Grain Yields.** Implications for Agricultural Research and Policy in Developing Countries. Jock R. Anderson and Peter B. R. Hazell, Eds. Published for the International Food Policy Research Institute by Johns Hopkins University Press, Baltimore, 1989. xx, 395 pp., illus. \$45. Based on a workshop, Feldafing, F.R.G., 1985.
- X-Ray and Neutron Structure Analysis in Materials Science.** J. Hašek, Ed. Plenum, New York, 1989. xii, 406 pp., illus. \$89.50. From a conference, Karlovy Vary, Czechoslovakia, Oct. 1987.

Products & Materials

Hydrogen Generator

The Model 8200 is a compact hydrogen generator for use with gas chromatography, flame ionization, sulfur monitors, and other applications requiring pure hydrogen. The unit produces 99.992% pure hydrogen at 250 cm³/min. Output pressure from 0 to 60 psi is controlled by an adjustment potenti-



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each chemical appears with the other data and may be edited and printed by IBM PCs by using the WIMP Molecular-Drawing Program. The WIMP 2001 is the latest version of the Wisconsin Interactive Molecular Processor for IBM PC- and PS/2-compatible programs. Built-in templates and special characters include 12 bond types, 26 rings, orbitals, reaction arrows, shaded options, and brackets. Volume 3 of the *Aldrich Library of FT-IR Spectra* is also now available; it features more than 6,600 vapor-phase spectra categorized by chemical functionality and arranged in order of increasing structural complexity. Aldrich Chemical Co. Circle 548.

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Laboratory Freezer

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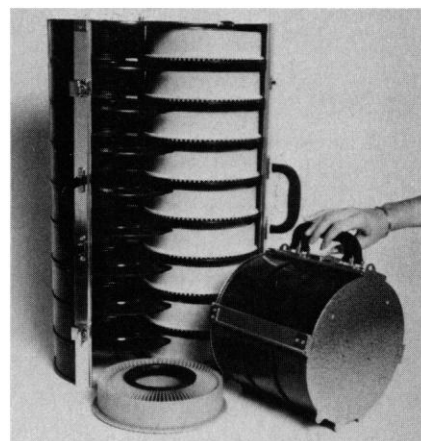
the membrane surface. The polymer coating is thin so the entrapped protein is available for sequencing. MilliGen/Bioscience, Division of Millipore. Circle 559.

Recombinant DNA Molecule Drawing Software

Plasmid Artist allows biologists to construct publication-quality diagrams (plasmid maps) detailing their recombinant DNA molecule binding strategies and results by using Macintosh computers. With a mouse and pull-down menus, users can draw linear or circular restriction map diagrams containing a virtually unlimited number of restriction sites and fragments. The program shows the map with correct scaling on screen and prints a high-quality image with any PostScript printer. GeneSystems Computer Software. Circle 560.

Slide Carousel Carrier

Slide Tray Totes can carry from three to ten carousel slide trays in either the 80 or 140 size. They are made of unbreakable



polypropylene and aluminum with a carrying handle and security lock. They are sturdy enough to be shipped or checked as baggage and can be stacked for storage. Visual Horizons. Circle 532.

Literature

Tissue Dissociating and Cell-Harvesting Enzymes are listed in a new brochure that details a broad selection of enzymes. The four-page brochure lists ten different enzyme preparations, notes their sources, and tells pack sizes, enzyme grades, and product forms. The program allows customers to sample lots for selection without obligation to buy. Boehringer Mannheim Biochemicals. Circle 441.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

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Biochemist/Molecular Biologist, Ph.D. (1982) with extensive research experience in neuroendocrinology and metabolism interested in making a "career adjustment," possibly to area of patent law. Box 228, **SCIENCE**.

Biochemist, Ph.D. New investigator with 5-year grant from National Cancer Institute in hematology/oncology area seeks conducive environment for research. Several years of research experience in purification of membrane proteins, immunochemistry, blood coagulation, platelet physiology, and cancer biology. Good publications. Box 237, **SCIENCE**.

Food Scientist, Cereal and Dairy Chemistry, Ph.D. Entry level. Resourceful, friendly, persistent. Ronald B. Malouf, 2131 Prairie Field, Manhattan, KS 66502. Telephone: 913-539-0852.

Industrial Position Wanted. M.S. physiology (9 years of experience in a neurobiology laboratory), A.S. computer science. Position desired with southern California biomedical product manufacturer where my biology and computer science background could be applied. Available January 1990. Michael Mahoney, 22491 DeBerry Street, Apartment H-83, Grand Terrace, CA 92324.

Pharmacologist, Ph.D. Looking for finance-oriented (management/marketing) industry position while obtaining M.B.A. Box 235, **SCIENCE**.

Reproductive Physiologist/Endocrinologist, Ph.D. Seeks position in academia or industry. Research training in reproductive physiology and reproductive endocrinology. Postdoctoral training in reproductive physiology/animal science. Research interest in ovarian physiology. Laboratory experience in radioimmunoassays, receptor assays, tissue and embryo cultures, human in vitro fertilization, and andrology. Excellent teacher and researcher. Box 218, **SCIENCE**.

Senior Cancer Researcher, M.D., Ph.D. Established investigator, experiences in vivo tumor models and interested in omega-6 and omega-3 fatty acids; tumor cell proliferation, growth, and metabolism; and liver regeneration would like to relocate projects, staff, long-term grant support, and equipment. Box 217, **SCIENCE**.

POSITIONS OPEN

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.*

ANIMAL PHYSIOLOGICAL ECOLOGY. Department of Biology, University of Puerto Rico. Tenure-track position for an **ASSISTANT PROFESSOR** in marine or terrestrial physiological ecology. Candidates will be expected to teach undergraduate ecology, physiology, or general zoology, participate in the graduate program (M.S. and Ph.D.) and develop an active research program. Ph.D. required. Postdoctoral experience and knowledge of Spanish are desirable. Applicants should submit curriculum vitae, statement of research interests, reprints, and names, addresses, and telephone numbers of three references by 10 January 1990 to: **Ned Fletcher, Department of Biology, University of Puerto Rico, Rio Piedras, PR 00931.**

Tenure-track **ASSISTANT PROFESSOR** position beginning August 1990, doctorate required. Microbial ecosystem ecologist will be expected to develop own area of expertise, teach in a multi-section general biology program, teach general bacteriology, complement existing faculty interests, direct graduate and undergraduate research, and seek extramural support. Send letter of application, curriculum vitae, and names, addresses, and telephone numbers of three references by 22 December 1989 to: **Dr. J. A. Butts, Chairperson, Department of Biology, Appalachian State University (ASU), Boone, NC 28608.** *ASU is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

Metropolitan State College announces the following position, effective August 1990, in Biology: probationary, full-time faculty member, **ASSISTANT PROFESSOR** rank.

Qualifications: Earned doctorate with an emphasis in microbial physiology. Preference will be given to individuals who have a secondary emphasis in the areas of microbial ecology or environmental microbiology. Must have the training to teach general microbiology, introduction to general biology (for science majors), and human biology for nonmajors (within the general studies program). Interest in teaching career required; teaching experience at the college-level highly desirable.

Applicants must submit the following materials no later than 1 February 1990: letter of application, curriculum vitae, copies of transcripts from all colleges/universities attended (official transcripts will be required of finalists), three letters of reference from individuals able to state the applicant's expertise as a college science teacher, and current, brief statement on how applicant sees his or her role in undergraduate science education. To submit materials or to request position announcement or further information, write to: **Dr. George Becker, Chair, Department of Biology, Metropolitan State College, 1006 11th Street, Box 53, Denver, CO 80204.**

Metropolitan State College is an Equal Opportunity/Affirmative Action Employer. Applications from minorities and women are particularly invited.

The Division of Cell and Development Biology of the Department of Molecular and Cell Biology of the University of California, Berkeley, invites application for an **ASSISTANT PROFESSOR** to be effective July 1990 (pending budgetary approval). Persons with interests in cellular interactions, intracellular messengers, cell-matrix interactions, and/or molecular bases of cell excitation are appropriate for the position. The new faculty member is expected to contribute to teaching in cell biology and carry out excellent research. Interested persons should apply by submitting curriculum vitae, names of three references, and a statement of research and teaching interests prior to 9 December 1989. Please send materials to: **Cell Biology Search Committee, Molecular Cell Biology, 299 LSA, University of California, Berkeley, CA 94720.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR FOOD TOXICOLOGY

The Food Research Institute (Department of Food Microbiology and Toxicology), University of Wisconsin-Madison (UW-M), invites applications from qualified individuals for a tenure-track faculty position at the assistant professor level. Applicants should have a Ph.D. or equivalent in an appropriate scientific discipline and demonstrated expertise in the toxicological aspects of food safety. The primary duty of the incumbent is to establish a high-quality toxicology research program that is directly applicable to food safety. The incumbent will also be expected to deliver several lectures each semester in area of specialty to undergraduate and graduate students, perform university-related public service, and participate in activities contributing to the support of the department and the Food Research Institute. This is an exceptional annual (12-month) appointment offering excellent facilities, research support, and a competitive salary in a challenging intellectual environment. Applicants should submit curriculum vitae and the names of three to five references by 1 February 1990 to: **Dr. M. W. Pariza, Director, Food Research Institute, University of Wisconsin, 1925 Willow Drive, Madison, WI 53706.** *UW-M is an Equal Opportunity Employer and especially encourages women and minorities to apply.*

ASSISTANT PROFESSOR: VERTEBRATE ZOOLOGIST (tenure track) to teach a course in vertebrate zoology to undergraduates and develop courses in area of specialty to strengthen our expanding graduate program. Ph.D. in zoology, postdoctoral training, and a vigorous research program in some aspect of ornithology, mammalogy, or ichthyology are required. Apply with curriculum vitae, three letters of reference, and recent publications. Applications must be postmarked on or before 15 December 1989 to: **Dr. Kenneth Gordon, Chair, Vertebrate Zoologist Search and Screen Committee, Department of Biological Sciences, Florida International University (FIU), The State University of Florida at Miami, University Park, Miami, FL 33199.** *FIU is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT/ASSOCIATE ADJUNCT PROFESSOR METABOLIC RESEARCH UNIT

Position available 1 July 1990 for a molecular biologist with a primary interest in thyroid hormone action and renin gene expression. The applicant must have a Ph.D. or equivalent, plus postdoctoral experience in techniques of molecular biology, including general recombinant DNA techniques, methods of chromatin structure studies, and gene transfer. Applicant will supervise postdoctoral fellows, graduate students, and technical personnel, and must be willing to work in collaboration with other molecular biologists in a research institute setting. Appointment and salary will be commensurate with the candidate's qualifications.

Send applications to: **Dr. John Baxter, Chairman, Search Committee, Metabolic Research Unit, 671-HSE, University of California, San Francisco, CA 94143-0516.** The University of California, San Francisco, is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

ASSISTANT PROFESSOR MOLECULAR BIOLOGY/NUTRITION

The Department of Nutritional Sciences at the University of Wisconsin-Madison is seeking applications for a 12-month, tenure-track **ASSISTANT PROFESSOR** position available 1 September 1990. The successful applicant will be expected to develop a research program utilizing the techniques of modern molecular biology to study problems of nutritional interest. These would include, but not be limited to, the influence of nutrition on metabolic regulation, immunology, genetic disorders, or endocrinology. Duties would include participation in the department's undergraduate and/or graduate teaching programs, and training of graduate students in interdepartmental nutrition and molecular biology programs. Applications, including curriculum vitae, statement of research interests, and the names, addresses, and telephone numbers of three individuals who may be contacted for letters of reference, should be sent to: **Robert D. Steele, Chair, Search Committee, Department of Nutritional Sciences, University of Wisconsin-Madison, Madison, WI 53706. Telephone: 608-262-0884.** Preference will be given to applications received prior to 15 January 1990. The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR. The Department of Veterinary Diagnosis, College of Veterinary Medicine, Kansas State University (KSU), is accepting applications for an open tenure-track position. Qualifications include Ph.D. in veterinary immunology/microbiology. Position is responsible for general diagnostic procedures to identify antigens and antibodies in serum and tissues, specifically rabies virus and human serum antibodies. The person will be expected to supervise laboratory procedures, to investigate and develop new procedures, to train personnel and to evaluate each procedure for accuracy and biosafety practices. The person will be expected to develop a high quality research program in the areas of current department and/or college interests.

Interested applicants should submit a letter of application, curriculum vitae, and three references to: **Dr. M. W. Vorhies, Head, Department of Veterinary Diagnosis, College of Veterinary Medicine, KSU, Manhattan, KS 66506.** The deadline for all applications is 15 December 1989. KSU is an Affirmative Action/Equal Opportunity Employer.

BIOLOGY. Molecular biologist, fall 1990, **ASSISTANT PROFESSOR**, tenure track, salary dependent on experience and qualifications. To teach undergraduate and graduate courses in molecular biology and general biology and conduct research. Ph.D. in molecular biology required. Specializations such as pharmacology, physiology, developmental biology, or associated biomedical sciences will be considered. Review of candidates will begin 15 December 1989. Send letter of application, statement of teaching and research goals, and résumé with names, addresses, and telephone numbers of three references to: **Dr. Leon J. Gorski, Department of Biological Sciences, Central Connecticut State University (CCSU), New Britain, CT 06050-4010.** CCSU is an Affirmative Action/Equal Opportunity Employer. Women, minorities, handicapped, and veterans are encouraged to apply.

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY

Tenure-track position at Hamline University to teach genetics, cell biology, biochemistry, and human biology. The Ph.D., previous teaching, and research that accommodates undergraduates are required. Send résumé, all transcripts, selected reprints, lists of proposed laboratories for two courses, and three letters of reference to: **Dr. Sylvia Kerr, Department of Biology, Hamline University, St. Paul, MN 55104** by 30 December 1989. Minorities and women are encouraged to apply.

ASSISTANT PROFESSOR IN REHABILITATION MEDICINE BIOMECHANICS OF HUMAN MOVEMENT (TENURE TRACK)

This position is to perform research within the Rehabilitation Institute of Chicago, a member hospital of the Northwestern University Medical School group. Minimum qualifications are a Ph.D. in biomedical engineering, mechanical engineering, or other related engineering science, ideally with at least 1 year of postdoctoral training. Experience in the analysis of human movement is an asset. Address correspondence to: **Dr. William Z. Rymer, Research Director, Rehabilitation Institute of Chicago, 345 East Superior Street, Room 1406, Chicago, IL 60611.** Please include curriculum vitae, the names of four references, and a brief statement of research interests. Northwestern University is an Affirmative Action/Equal Opportunity Employer. Hiring is contingent upon eligibility to work in the United States.

The Centers for Disease Control (CDC), Division of Vector-Borne Viral Diseases (DVBD), 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 arbovirus 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, DVBD, 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.

Concordia University Biology Department is seeking qualified applicants for a tenure-track position in molecular biology. The position will be at the rank of **ASSISTANT PROFESSOR** and will begin on 1 August 1990. Preference will be given to individuals working with microbial systems (either prokaryote or eukaryote). Applicants will be expected to have a Ph.D. plus some postdoctoral experience, and to show that they are capable of pursuing an active, independent research program.

Duties within the department will include the teaching of graduate and undergraduate courses in molecular biology and the supervision of graduate students.

Applications should be sent, along with full curriculum vitae, a statement of your research plans, and the names of three referees who can comment on both research and teaching potential to:

**Dr. P. Widden, Chair
Department of Biology
Concordia University
1455 de Maisonneuve Boulevard West
Montreal, Quebec, Canada H3G 1M8**

In concordance with Canadian immigration policy, this advertisement is directed at Canadian citizens and permanent residents.

POSITIONS OPEN

ASSOCIATE BIOLOGIST. Transgenic mouse expert experienced in generating transgenic mice and in manipulating mouse embryos. Duties will include overseeing operation of transgenic facility; teaching postdoctoral and doctoral investigators techniques involved in injecting, maintaining, and screening transgenic animals; and adapting and developing new approaches to genetic transfer experiments in mice. Applicant will also aid in day-to-day operation of facility and the execution of critical experiments. Salary will be commensurate with qualifications and experience. Please send résumé to: **Dr. Carol Readhead, California Institute of Technology, Division of Biology 147-75, Pasadena, CA 91125.**

MOLECULAR GENETICIST. The University of Richmond invites applications for a tenure-track position in biology at the **ASSISTANT PROFESSOR** level. The primary teaching responsibility will be to coordinate and teach a core curriculum undergraduate course in molecular genetics and, on occasion, teach an undergraduate core course in cell and molecular biology and a course in immunology. In addition, the appointee will be expected to develop advanced undergraduate and M.S. level courses in molecular genetics areas. Preference will be given to those who will develop an active research program in molecular genetics involving undergraduate students. Candidates must have the Ph.D. degree and postdoctoral experience is desirable. Submit résumé, undergraduate and graduate transcripts, a statement of research plans, and three letters of reference to: **Dr. F. B. Leftwich, Department of Biology, University of Richmond, VA 23173.** Consideration of applications will begin on 30 January 1990. The University of Richmond is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority candidates.

CELL BIOLOGIST with interests in environmental research. The John B. Pierce Foundation Laboratory is seeking a basic scientist to develop a cell biology research program to interact with existing programs that emphasize the response of pulmonary and vascular tissues to exposure to environmental agents. Experience in immunological and molecular techniques desirable. The appointment will be co-terminous with an appointment at the Yale University School of Medicine at the advanced **ASSISTANT** or beginning **ASSOCIATE PROFESSOR** level. Candidates must be able to demonstrate skills as independent investigators and should have an interest in collaborating in a broad and exciting research environment. Please send curriculum vitae, reprints, and the names of three references, prior to 1 February 1990, to:

**Cell Biology Search Committee
The John B. Pierce Foundation Laboratory
290 Congress Avenue
New Haven, CT 06519**

The John B. Pierce Foundation Laboratory is an Equal Opportunity/Affirmative Action Employer.

CONSERVATION ECOLOGIST UNIVERSITY OF NEVADA, RENO (UNR)

Tenure-track position, **ASSOCIATE/FULL PROFESSOR**, 75% research, 25% teaching (12-month appointment). Research interests should include wildlife ecology (defined broadly), experience with different taxa, and expertise in one or more of the following: behavior, population dynamics, conservation, resource management, or plant-animal interactions.

A Ph.D. is required. Applicants will be evaluated in part on the basis of journal publication record and grants record. Successful candidate will participate in new programs in natural resource ecology and conservation biology, teach in the area of wildlife biology, and attract extramural funding for research. Appointment shared between the Departments of Biology and Range, Wildlife, and Forestry.

Send curriculum vitae, statement of teaching and research interests, copies of representative publications, and three letters of recommendation by 1 January 1990 to: **Dr. Joel Berger, Department of Range, Wildlife and Forestry, University of Nevada, Reno, 1000 Valley Road, Reno, NV 89512.**

Affirmative Action/Equal Opportunity Employer. UNR employs only U.S. citizens and aliens lawfully authorized to work in the United States.

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR DEPARTMENT OF CELL BIOLOGY

The Department of Cell Biology is accepting applications for a tenure-track position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Applicant must be qualified to teach gross anatomy to medical students. Preference will be given to candidates with teaching experience in gross anatomy in addition to research experience. Research interests should complement existing research strengths of the department: developmental biology, reproductive biology, neurobiology, growth factors. Send curriculum vitae, description of research interests, and the names of three references to: **Paula C. Hoos, Ph.D., Chairperson of Search Committee, Department of Cell Biology, Vanderbilt School of Medicine, Vanderbilt University, Nashville, TN 37232-2175. Vanderbilt University Medical Center is an Equal Opportunity/Affirmative Action Employer.**

Applications are invited for a tenure-track **ASSISTANT PROFESSOR** position in **WILDLIFE/HABITAT BIOLOGY**. Basic and/or applied research interests in wildlife/habitat relationships, remote sensing of animals or habitats, and effects of habitat disturbance would complement existing departmental strengths. Teaching responsibilities include an undergraduate course in wildlife biology, a graduate course in wildlife/habitat relationships, and a seminar in the area of expertise. Participation in our undergraduate wildlife program is expected. The incumbent will be expected to seek extramural support of research and participate in training graduate students. Postdoctoral training or advanced experience is desirable. Application, including letter outlining research interests, curriculum vitae, and three letters of support sent directly from references, should be submitted to: **Chair, Search Committee, Department of Zoology and Physiology, P.O. Box 3166, University Station, University of Wyoming, Laramie, WY 82071-3166.** To insure consideration, all materials should be received by 15 January 1990. *The University of Wyoming is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR, TECHNOLOGY TRANSFER. The University of Alabama at Birmingham (UAB) Research Foundation was organized to promote university-based research and move new ideas and technologies to the marketplace. The foundation, therefore, is seeking an individual familiar with several, if not all, aspects of technology market assessment, intellectual property protection, and license and patent management. UAB is a comprehensive research university ranking among the top 35 institutions in the United States with respect to federal support and 20th among institutions receiving support from the NIH. A successful incubator facility, existing license and patent activity, several new companies based on faculty expertise, and institutional enthusiasm for greater involvement in such activities, add to the base for productive technology transfer-related efforts at UAB. Inquiries and résumés should be directed to: **UAB Research Foundation, c/o Dr. Kenneth J. Roozen, Box 1000, University of Alabama at Birmingham, Birmingham, AL 35294.**

FISHERIES GENETICIST-TOXICOLOGIST. The Appalachian Environmental Laboratory (AEL) of the University of Maryland's Center for Environmental and Estuarine Studies announces a tenure track faculty position in fisheries genetics/toxicology. Applications are particularly welcomed from persons trained in electrophoretic and toxicological techniques. The applicant should have a background in marine, estuarine, and freshwater systems. The successful candidate is expected to develop a strong grant program, teach and advise graduate students, and interact in a research program with multiple disciplines, including an international initiative. The rank of the appointment is open, depending on qualifications and experience. Salary is negotiable. Submit a letter of application, curriculum vitae, a statement of research interests, three significant publications, and names of three to five references to: **Dr. Dan M. Harman, Chairperson of Search Committee, Appalachian Environmental Laboratory, University of Maryland, Frostburg, MD 21532, by 15 December 1989.**

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

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY

Tenure-track position, effective 1 September 1990. Ph.D. required. Teach upper division courses in specialty as well as introductory courses. Primary interest in vertebrate or invertebrate physiology. Teaching in interdisciplinary programs, collaboration with medical or engineering faculties, research involving undergraduates are all possibilities.

Send curriculum vitae, a statement of teaching and research interests and career goals, and three letters of recommendation to: **Dr. John D. Shepherd, Biology Department, College of Liberal Arts, Mercer University, Macon, GA 31207. Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply. Deadline 5 January 1990.**

BIOCHEMISTRY. Kent State University, Department of Chemistry, invites applications for a reopened search to fill an **ASSISTANT PROFESSOR**, tenure-track position. A research specialization involving the application of recombinant DNA techniques is preferred. Candidates will be expected to establish an active research program that would attract external funding. Qualifications: Ph.D. degree and postdoctoral training desirable. Submit curriculum vitae, undergraduate and graduate transcripts, description of research plans, and three letters of recommendation by 31 January 1990 to: **Dr. Roger K. Gilpin, Chairman, Department of Chemistry, Kent State University, Kent, OH 44242. Equal Opportunity/Affirmative Action Employer.**

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.**

SIMON FRASER UNIVERSITY CHAIR OF THE DEPARTMENT OF BIOLOGICAL SCIENCES

Applications and nominations are sought for the position of **CHAIR** of the Department of Biological Sciences at Simon Fraser University (SFU). The department has 35 faculty members whose teaching and research interests cover all the modern areas of biological sciences. There is a graduate enrollment of some 160 students, and external research grant support in 1988-89 was \$2.4 million. A departmental chair appointment is for up to 5 years and is renewable; the salary is negotiable. The appointment would normally carry tenure. Candidates should have an excellent record in research and a demonstrated ability as an academic leader.

Applications or nominations should be forwarded by 15 January 1990 to: **The Dean of Science, Simon Fraser University, Burnaby, B.C. V5A 1S6.**

This advertisement is directed to people who are eligible for employment in Canada at the time of application. SFU offers Equal Employment Opportunities to qualified applicants.

CLINICAL ASSISTANT PROFESSOR

The Departments of Medical Genetics and Psychiatry have an opening at the clinical **ASSISTANT PROFESSOR** level. Minimum requirements include a Ph.D. in psychology with some experience in human genetics. The candidate is expected to develop and head a presymptomatic diagnosis program for Huntington's disease and be involved in research in Huntington's disease and bipolar illness. Interested individuals should write to: **P. Michael Conneally, Ph.D., Distinguished Professor, Department of Medical Genetics, Indiana University School of Medicine, 975 West Walnut Street, Indianapolis, IN 46202-5251. Indiana University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply. Deadline for receipt of application is 8 December 1989.**

POSITIONS OPEN

CELL BIOLOGY SENIOR LEVEL FACULTY POSITION DEPARTMENT OF BIOLOGY UNIVERSITY OF CALIFORNIA RIVERSIDE

Applications are invited for a tenured senior level (**ASSOCIATE/FULL PROFESSOR**) faculty position in the Department of Biology. Preference will be given to scientists applying modern molecular approaches to the study of the cell. All areas of cell biology will be considered; however, we are particularly interested in individuals concerned with cell-cell interactions, protein sorting and assembly, cytoskeletal structure and function, or the extracellular matrix.

Applicants should have an active research program and an established reputation with a proven record of competing successfully for extramural funding. Demonstrated interest and ability in teaching is sought. Salary will be competitive and will depend on qualifications and experience.

Modern research space and access to major equipment such as TEM, SEM, and staffed biotechnology and analytical chemistry instrumentation facilities are available.

Applications must be received by 15 January 1990. Please send curriculum vitae and summary of research interests, and arrange to have letters sent by three to five referees to: **Chair, Cell and Molecular Biology Search Committee, Department of Biology, University of California, Riverside, CA 92521.**

The University of California is an Equal Opportunity/Affirmative Action Employer and minority and female candidates are encouraged to apply.

DEVELOPMENTAL/CELLULAR BIOLOGIST

The Department of Biology at the University of Houston invites applications for tenure-track faculty positions beginning fall 1990. Applicants must have postdoctoral experience and recognized accomplishments in their field of research. Successful candidates will be expected to establish and maintain an active, externally funded research program utilizing molecular approaches to problems in either cellular or developmental biology. Located on a 500-acre campus, the University of Houston is a state-supported institution with over 30,000 undergraduate and graduate students. Interested applicants should send curriculum vitae, a summary of research interests, and names, addresses, and telephone numbers of at least three references by 31 December 1989 to: **Dr. Henry R. Henney, Jr., Chair, Faculty Search Committee, Department of Biology, University of Houston, Houston, TX 77204-5513. The University of Houston is an Affirmative Action/Equal Opportunity Employer.**

LEWIS LEHR/3M ENDOWED CHAIR MOLECULAR OR DEVELOPMENTAL GENETICS

PROFESSOR OR ASSOCIATE PROFESSOR. Recruiting an established scientist interested in assisting the development of programs in genetics using animal or cell culture models with applications in biomedical sciences. Anticipate adding several new faculty in the near future and seek a dynamic individual to assist in this effort. Research specialty area is open, but areas of particular interest include molecular analysis of development, immunogenetics, molecular genetics/immunology of parasites, chromosome structure and analysis, molecular models of genetic diseases, molecular genetics of organogenesis, human genetics, or technology development (artificial chromosomes, megabase cloning, or gene delivery systems).

The University of Nebraska-Lincoln School of Biological Sciences is a diverse faculty of 70 with active research programs supported by modern facilities, including special service labs for automated DNA sequencing, flow cytometry, electron microscopy, oligonucleotide synthesis, protein sequencing, polypeptide synthesis, monoclonal antibody production, and modern animal care.

Submit nominations or letter of interest postmarked by 15 January 1990 (or until suitable candidate applies thereafter) to: **Royce E. Ballinger, Director, School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE 68588-0118.**

Affirmative Action/Equal Opportunity Employer.

Peptide Chemist

The Pharmaceutical Research Division of the Warner Lambert Company, a worldwide leader in the development, manufacture and marketing of pharmaceutical, health care and consumer products, is currently seeking to fill a key position in its Ann Arbor, Michigan research facility.

The Chemistry Department is interested in a senior level (Ph.D.) peptide/protein chemist to lead a small peptide synthesis group. The preferred candidate will have training and experience in solid phase peptide synthesis, hands on experience in chromatographic purification and isolation techniques, analytical methods development, peptide characterization methodology and some knowledge of proteins.

In addition to synthesizing peptides in connection with various research programs, the position will provide the opportunity for participation in drug design in several therapeutic areas, and our candidate will be able to offer consultation/expertise to provide a protein link to the areas of molecular modeling, NMR/distance geometry solution structure determination, molecular biology, and the handling and treatment of peptides/proteins in general.

The ideal candidate will, in addition, have demonstrated the managerial and people skills needed to lead a small peptide synthesis group and interact with other scientists.

Our modern, growing facilities are located adjacent to the University of Michigan in the midst of an outstanding living and working environment, and our compensation and benefits packages are highly competitive. Interested individuals should forward their resume and salary requirements in confidence to: **Jack Moyer, Human Resources Department, Parke-Davis Pharmaceutical Research, 2800 Plymouth Road, Ann Arbor, Michigan 48106-1047. "A Smoke-Free Work Environment"**



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"Equal Opportunity in Action"

ASSISTANT PROFESSOR POSITIONS, TENURE-TRACK in NEUROBIOLOGY and MAMMALIAN CELL BIOLOGY DEPARTMENT OF BIOLOGICAL SCIENCES RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

Individuals wishing to develop a strong research program in a department committed to excellence in research and teaching are invited to submit applications to the New Brunswick (Busch) campus of Rutgers University.

One position is in neurobiology, with a focus on the biophysical or biochemical analysis of neuronal function at the cellular and/or membrane level. The second is in mammalian cellular and molecular biology, with a focus on the regulation of gene expression and/or the control of cell proliferation. Search committee chairs are respectively Charles Page and David Denhardt.

Candidates should have postdoctoral experience and a record of significant research achievement; ability to teach immunology will be an asset. Applications, with CV and a statement of research interests, and letters from three references should be sent to the appropriate chair at the Nelson Biological Laboratories, PO Box 1059, Rutgers University, Piscataway, New Jersey 08855.

Rutgers University is an equal opportunity/affirmative action employer.

Physical Oceanographer

Department of Physical Oceanography seeks applicants for appointment to Assistant, Associate or Senior Scientist level depending upon background, experience and tenure suitability. Ph.D. in physical oceanography or related field, postdoctoral experience and demonstrated expertise in oceanography preferred. Experience in acquisition and analysis of observations or in development of dynamical models of ocean processes desired.

Send curriculum vitae, short statement of research interest and publication list by April 15, 1990 to:

Dr. Robert R. Beardsley
Chairman, Department of
Physical Oceanography
Box 54P



WOODS HOLE OCEANOGRAPHIC INSTITUTION

Woods Hole, MA 02543

An equal opportunity employer M/F/H/V

POSITIONS OPEN

CARBOHYDRATE CHEMIST

Univax Corporation has an immediate opening for an experienced carbohydrate chemist proficient in the production, purification, and characterization of bacterial polysaccharides for use in vaccine development. Experience with carbohydrate synthesis and conjugation biochemistry is essential. Competitive salary and excellent benefits program. Please submit résumé and three references in confidence to:

Univax Corporation
12111 Parklawn Drive
Rockville, MD 20852

CELL/MOLECULAR BIOLOGY. Biology Department seeks candidates for a 1- to 2-year nontenure-track appointment September 1990, to teach cell/molecular biology and an additional course (such as immunology or plant or animal physiology), as well as participate in a team-taught introductory biology course. Send curriculum vitae, statement of research activity, and three letters of recommendation to: **Patsy Dickinson, Department of Biology, Bowdoin College, Brunswick, ME 04011** by 10 January 1990.

Bowdoin College is committed to Equal Opportunity through Affirmative Action.

DIRECTOR/ASSISTANT OR ASSOCIATE SCIENTIST. The University of Kansas Biochemical Research Resource Unit seeks a director for its biochemical research service laboratory. The director is responsible for the day-to-day operation of the laboratory which provides specialized research service to the university research community. The director will supervise a staff of two technicians. Laboratory activities include protein purifications, enzyme kinetics, amino acid analysis, DNA sequencing, cloning, and site-directed mutagenesis. Applicants should possess a Ph.D. in biochemistry, microbiology, chemistry, or a related discipline and postdoctoral experience in genetic engineering. To apply send letter, résumé, and three letters of recommendation to: **Charles J. Decedue, Executive Director, Higuchi Biosciences Centers, 2095 Constant Avenue, University of Kansas, Lawrence, KS 66047.** Consideration of applications will commence 15 December 1989, but applications will be accepted until 30 July 1990, or until the position is filled. *An Equal Opportunity/Affirmative Action Employer.*

ECOLOGIST. Applications are invited for a tenure-track **ASSISTANT PROFESSOR** in ecology at the University of Houston-Clear Lake (UHCL), beginning August 1990. Preference will be given to individuals with experience in toxicology. The successful candidate will teach at the advanced undergraduate (M.S.) level, including laboratories, and will be expected to establish an independent research program. The Ph.D. in ecology or a related field is required; postdoctoral experience is desirable. UHCL, one of four institutions in the University of Houston system, is a growing, upper-level university located near NASA's Johnson Space Center. Candidates should send curriculum vitae, a brief description of research interests, and arrange to have three letters of recommendation sent by 15 January 1990 to: **Dr. Margaret R. Kasschau, Chair, Division of Biological and Allied Health Sciences, University of Houston-Clear Lake, Houston, TX 77058.** *UHCL is an Equal Opportunity/Affirmative Action Employer and actively solicits the interest of women and minorities. The university recognizes that minority and racial diversity increases the quality of its faculty, staff, and student body.*

ENVIRONMENTAL CHEMISTRY. ASSISTANT PROFESSOR position available in the Chemistry Department to teach courses in environmental or analytical chemistry and to develop a vigorous, externally funded graduate (M.S., Ph.D.) research program. Ph.D. in environmental chemistry or related area required. Candidates with interests and abilities in transdisciplinary teaching and research in environmental science are preferred. Position available 1 March 1990. Send curriculum vitae, statement of teaching and research plans, and arrange for three letters of recommendation to be sent by 2 January 1990 to: **John P. Hassett, Chemistry Department, State University of New York (SUNY) College of Environmental Science and Forestry, Baker Laboratory, Syracuse, NY 13210.** *SUNY is an Equal Opportunity/Affirmative Action Employer and welcomes applications from women and minorities.*

POSITIONS OPEN

EMBRYOLOGICAL RESEARCHER

Conduct and direct research, development, and maintenance of in vitro fertilization protocols and procedures for infertility research. Must have Ph.D. with specialization in embryologic studies, and background in research and development of in vitro fertilization technologies. Must have minimum of 6 years of embryologic research experience involving the development of techniques of human and mammalian fertilization and embryo storage and preservation, and have a record of ability and achievement involving the leading edge of current in vitro fertilization technology as demonstrated by scholarly publications, by memberships of professional societies in the field, and by participation in professional conference and publication activities. Must have specific knowledge and abilities relating to the development of leading-edge technologies for cryopreservation of human sperm, eggs, and embryos; chromosomal abnormality determination in sperm and embryos; cross-species fertilization; and sperm viability and fertilization optimization. Salary: minimum of \$75,000 per year. Send résumé to: **Dr. Richard P. Marrs, 1245 Wilshire Boulevard, Suite 905, Los Angeles, CA 90017.**

EPIDEMIOLOGIST

Position available immediately for epidemiologist to manage programs to define nationwide epidemiology of HIV and other infections among blood donors. Master's or doctoral degree, plus experience in project management required. Familiarity with PC and minicomputer applications desirable. Needs good communication and motivational skills. Competitive salary. Very attractive benefits. Résumé to: **Jerry Roberts (G083), American Red Cross, Holland Laboratory, 15601 Crabbs Branch Way, Rockville, MD 20855.** *Equal Opportunity Employer M/F/H/V.*

TWO FACULTY POSITIONS IN ANATOMY

The first is a tenure-track position at the **ASSISTANT PROFESSOR** level. Candidates should have at least 2 years of postdoctoral training and experience in teaching gross anatomy. Candidates are expected to develop an independent research program. Preference will be given to candidates with research interest in one of the following general areas: neuroscience, muscle biology/exercise science, functional morphology, or cell biology. Medical school teaching responsibility will be gross anatomy.

The second position is at the level of **ASSISTANT INSTRUCTOR/POSTDOCTORAL FELLOW.** Preference will be given to candidates with experience in teaching gross anatomy. The position will require participating in teaching anatomy to allied health students. Research will be conducted with a faculty member in one of the areas listed above.

Applications should include curriculum vitae, names of three references, and a letter stating professional goals. Send to: **Anatomy Search Committee, Division of Anatomy, Department of Cell Biology and Neuroscience, The University of Texas Southwestern Medical Center, Dallas, TX 75235-9039.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION, ASSISTANT PROFESSOR. Tenure-track position, in either the Biology or Chemistry Department, New Mexico State University (NMSU), available fall 1990. Successful candidate must hold a Ph.D. and will be expected to develop a vigorous research program in a biomedically relevant area such as, but not restricted to, microbiology, biochemistry, physiology, or molecular biology. Individual will also teach in the appropriate department at the graduate and undergraduate levels. The candidate will be expected to interact strongly with minority students and will be encouraged to participate in the National Institutes of Health-sponsored Minorities Access to Research Careers and Minority Biomedical Research Support Programs.

Submit curriculum vitae, the names and phone numbers of three references, and a statement of teaching and research interests to: **Dr. Cecilio R. Barrera, Biology Department, or Dr. Glenn D. Kuehn, Chemistry Department, New Mexico State University, Box 30001, Las Cruces, NM 88003.** Screening of applications will begin 31 January 1990; however, the position will remain open until filled. FAX: 505-646-6187 or 505-646-2649.

NMSU is an Affirmative Action/Equal Opportunity Employer. Minorities and women are encouraged to apply.

POSITIONS OPEN

FACULTY POSITION AVAILABLE IN MOLECULAR CELL BIOLOGY AND IMMUNOLOGY

The Division of Life Sciences, The University of Texas at San Antonio, invites applications for a tenure-track **ASSISTANT PROFESSOR** in molecular cell biology and immunology. Candidates must show demonstrated research productivity and substantial ability and interest in teaching immunology at the undergraduate and graduate levels. A Ph.D. is required and postdoctoral experience desired. Submit curriculum vitae, names of at least three professional references, and representative publications to: **Director, Division of Life Sciences, The University of Texas at San Antonio, San Antonio, TX 78285-0662.** Closing date to receive applications is 1 March 1990. *The University of Texas at San Antonio is an Affirmative Action/Equal Opportunity Employer.*

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.*

FACULTY POSITION IN CHEMISTRY

The Department of Chemistry of The University of Tulsa invites applications for a tenure-track position in chemistry. The area of specialization is open, but candidates with research interests in biochemistry, catalysis, or environmental chemistry would complement present strengths. Although the appointment is anticipated at the **ASSISTANT PROFESSOR** level, well-qualified applicants at all levels are encouraged to apply. Salary and start-up funding are competitive. Send curriculum vitae, a brief summary of research interests with equipment needs, and three letters of recommendation to: **Dr. Robert Howard, Chairman, Department of Chemistry, University of Tulsa, 600 South College, Tulsa, OK 74104** by 1 February 1990. *The University of Tulsa is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION, IMMUNOLOGY

The Catholic University of America invites immunologists to apply for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level in a vigorous and expanding Department of Biology. Investigators working in the areas of cellular immunology and clinical immunology are particularly encouraged to apply. The successful candidate will be expected to initiate an active research program that will complement training of graduate and undergraduate students. The candidate will also have opportunities to participate in the activities of the Center for Advanced Training in cell and molecular biology and the Institute for Biomolecular Studies. Send curriculum vitae, statement of research goals, and three letters of reference by 20 January 1990 to: **Dr. Roland M. Nardone, Department of Biology, Catholic University of America, Washington, DC 20064.** *An Affirmative Action/Equal Opportunity Employer.*

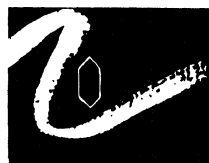
FACULTY POSITION. Institute of Marine and Coastal Sciences (IMCS). **PHYSICAL OCEANOGRAPHER** with expertise in western boundary current processes and shelf-deep ocean interactions. Experience in the analysis and interpretation of satellite remote sensing data and the use of numerical ocean models necessary. A knowledge of benthic boundary layer processes is desirable. Send applications to: **Dr. Frederick Grassle, Director, IMCS, Blake Hall, Room 203, Cook College, Box 231, Rutgers University, New Brunswick, NJ 08903.** *An Equal Opportunity/Affirmative Action Employer.*

**CHARLES STEWART MOTT
DISTINGUISHED PROFESSOR OF
SUSTAINABLE AGRICULTURE**

Michigan State University College of Agriculture and Natural Resources requests applications and nominations for the Charles Stewart Mott Distinguished Professorship of Sustainable Agriculture. This endowed chair will be responsible for establishing innovative programs and catalyzing a campus-wide program of excellence in sustainable agriculture. The position has research, teaching and extension responsibilities, with a charge to: enrich education programs with a philosophy of sustainable development; conduct research designed to impact agriculture through integration of alternative, traditional and biotechnological management systems; develop programs to design, test, and disseminate agricultural technology; and enhance issues of sustainability and service to international agriculture programs.

MSU is searching for a scientist and leader with a distinguished record of achievement and interdisciplinary orientation. Candidates will need to possess significant research stature and organizational skills. We are seeking an agricultural scientist, broadly trained in agronomy, with the ability to interact with faculty from a diverse array of disciplines. The position will be tenured in the Department of Crop and Soil Science.

Applications for the Charles Stewart Mott Distinguished Professorship of Sustainable Agriculture will be received until January 10, 1990, or until a suitable candidate is identified. Applications, nominations and questions should be forwarded to: Dr. George W. Bird, Chair., Charles Stewart Mott Professor of Sustainable Agric. Search Comm., Dept. of Entomology, Michigan State Univ., East Lansing, MI 48824, 517-353-8133. FAX 517-353-4354, Telex 650 2247573 MIC



SCIENTISTS/ CHEMISTS

Beckman's Diagnostic Systems Group, located in Southern California, is a world leader in laboratory and hospital instrument systems. Our products play a vital role in improving the quality of life worldwide. You can be a part of our exciting efforts.

You will be involved in the development and performance evaluation of clinical chemistry reagents, calibrators, controls and analytical systems. You will provide technical assistance toward chemistry/system production support to manufacturing and quality assurance.

Various positions are available at all levels requiring at least 2 years relevant industrial experience plus BS/MS/PhD in Chemistry or Biochemistry. Positions interface with several disciplines and require excellent written and verbal communication skills. Computer skills highly desirable.

We also have positions available for **MEDICAL TECHNOLOGISTS**.

We offer excellent compensation and benefits packages. Send resume and salary history to: **Beckman Instruments, Inc., Attn: Professional Staffing-DC/SM, 200 S. Kraemer Blvd., Brea, CA 92621.** An affirmative action employer.

BECKMAN



ASSOCIATE DEAN FOR RESEARCH AND RESEARCH TRAINING

Nominations and applications are invited for the position of Associate Dean for Research and Research Training (ADRR) in the College of Graduate Health Sciences (CGHS). The CGHS is one of the six colleges comprising the Health Sciences Center, including Dentistry, Nursing, Medicine, Pharmacy, and Allied Health. The ADRR will report directly to the Dean of the CGHS. The ADRR has extensive responsibilities for coordinating and achieving the research training and research administration goals of the CGHS. Research training responsibilities include: (1) administering the policies of the Graduate Faculty, (2) oversight of all student programs of study leading to the masters and doctorate, (3) development of new graduate program policies and initiatives for consideration by the Graduate Studies Council, (4) work with the program directors of the several graduate programs to assure a coordinated effort in recruitment and retention, especially concerning blacks and other minorities, and (5) the overall administration of the graduate enterprise.

Additionally, the ADRR will (1) develop and manage a program to assist faculty in the development of fundable research proposals and sponsored programs, (2) work closely with the Office of Business and Finance in the establishment, accountability, and reporting of sponsored programs, (3) assist the Dean of the College of Graduate Health Sciences in the development of campus policies governing the conduct of research, (4) maintain a close liaison with university research officers, and (5) work closely with the University of Tennessee Research Corporation in developing patents, copyrights, and commercial applications of the results of research discoveries and scholarship.

The position requires an advanced degree (Ph.D.), preferably in any of the health or biomedical sciences, with a minimum of 3-5 years experience in research and research training in an academic institution. Candidates should have a strong record of commitment to excellence in graduate education, evidence of successful research funding experience and grants administration, evidence of progressively responsible involvement in graduate affairs, excellent communication skills, a successful record of working with students and faculty from diverse backgrounds, and familiarity with domestic and foreign academic credentials.

Applications must be received by January 15, 1990 for full consideration. **UT Memphis is an Equal Employment Opportunity/Affirmative Action employer. Minority candidates and women are especially encouraged to apply.** Please send vita and the names, addresses, and phone numbers of three references to:

Raymond H. Cypess, Dean
College of Graduate Health Sciences
200 Faculty Building
Memphis, Tennessee 38163

POSTDOCTORAL POSITION

Available immediately to identify and characterize the transactivating factors that regulate expression of chondrocyte-specific genes and to study their changes during aging. Experience in molecular biology useful but not essential. Submit curriculum vitae to:

Dr. George R. Martin
Scientific Director
National Institute on Aging
Gerontology Research Center
4940 Eastern Avenue
Baltimore, MD 21224



U. S. Citizenship Not Required

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

THREE FACULTY POSITIONS IN BIOLOGICAL SCIENCES

The Department of Biological Sciences at the State University of New York (SUNY), Albany, plans to fill three tenure-track positions at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. We seek candidates using molecular/genetic approaches to investigate:

- neural development and plasticity;
- nucleic acid or protein/nucleic acid structure/function relationships;
- regulation of gene expression in eukaryotes; or
- evolutionary biology.

The Department has strong Ph.D. programs in cell and developmental biology, ecology and animal behavior, molecular biology, and neurobiology. Faculty members also participate in interdepartmental centers for cellular differentiation, molecular genetics, and neurobiology.

Applicants should send curriculum vitae and a summary of research interests, and have at least three letters of recommendation forwarded by 15 January 1990 to:

David A. Shub, Chair
Search Committee
Department of Biological Sciences
State University of New York, Albany
1400 Washington Avenue
Albany, NY 12222

Applications will be considered until the positions are filled. *SUNY Albany is an Equal Opportunity/Affirmative Action Employer. Applications from women, minority persons, handicapped persons, and disabled or Vietnam veterans are especially welcome.*

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 DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF UTAH

Applications are invited for a tenure-track position in the Department of Pharmacology and Toxicology at the **ASSISTANT PROFESSOR** level. Applicants must have a doctoral degree, significant postdoctoral research experience, and potential ability to be productive in an academic setting. Salary will be commensurate with experience. Special consideration will be given to candidates with expertise in cardiovascular pharmacology; however, outstanding scientists in other areas of pharmacology will also be given serious consideration. Successful applicants will be expected to develop a strong, independent research program with external funding as well as participate in teaching at both graduate and undergraduate levels. A wide variety of interactions with current faculty members is possible and encouraged.

Candidates should submit a letter of application, a brief statement of research objectives, curriculum vitae, and the names of at least three persons from whom letters of recommendation can be solicited. Applications accepted until 1 January 1990 or until position is filled. Please submit responses to: **Dr. Douglas E. Rollins, Department of Pharmacology and Toxicology, 112 Skaggs Hall, University of Utah, Salt Lake City, UT 84112. Telephone: 801-581-5117.** *The University of Utah is an Equal Opportunity Employer. Women and minority applicants are encouraged to apply.*

POSITIONS OPEN

FACULTY POSITIONS DEPARTMENT OF BIOLOGY SAINT MARY'S COLLEGE OF CALIFORNIA

Applications are invited for two tenure-track positions at the assistant professor level to begin September 1990. Ph.D. required. Successful candidates will demonstrate excellence in teaching and commitment to an active research program involving undergraduates.

PLANT PHYSIOLOGICAL ECOLOGY: A broad background in plant biology required, with research specialization in physiological ecology. Teaching to include plant physiology, general ecology, and introductory biology.

VERTEBRATE PALEONTOLOGY: Teaching competence in comparative/human anatomy and evolutionary biology required. Participation in introductory biology courses expected. Primary research interest to be vertebrate paleontology.

Saint Mary's College is a coeducational liberal arts college located in the San Francisco Bay Area with expanding programs in science. *We strongly encourage applications from women and minorities.* Send curriculum vitae, statement of teaching and research goals, three recommendations, and transcripts (undergraduate and graduate) by 15 January 1990 to: **Dr. J. F. Lester, Department of Biology, P.O. Box 4507, Saint Mary's College of California, Moraga, CA 94575.** *An Equal Opportunity Employer.*

DEPARTMENT OF ENTOMOLOGY UNIVERSITY OF ARIZONA FACULTY POSITIONS

INSECT ECOLOGIST, ASSISTANT PROFESSOR. Required: Ph.D. in a biological science with emphasis on insect ecology. Preference given to applicants with demonstrated postdoctoral scholarship. Responsibilities include teaching in interdisciplinary courses in insect science, development of a distinguished research program, and willingness to assist extension personnel.

INSECTICIDE TOXICOLOGIST. All academic levels. Required: Ph.D. in entomology, toxicology, or related science. Responsibilities include development of graduate level courses in insecticide toxicology and specialty area of interest and research activities in contemporary disciplines of insecticide toxicology.

Successful candidates will have an opportunity to interact with colleagues in the Center for Toxicology a university-wide interdisciplinary program, and with 50 insect research laboratories associated with the Center for Insect Science. Send curriculum vitae, statement of research interests, representative publications, and names, addresses, and FAX numbers of five references to: **Dr. E. A. Bernays, Head, Entomology Department, University of Arizona, Tucson, AZ 85721.** Application deadline is 31 December 1989 or until positions are filled.

Affirmative Action/Equal Opportunity Employer. Minorities and women are encouraged to apply.

FACULTY POSITIONS

The Department of Biology, College of St. Thomas, invites applications for two full-time faculty positions at the **ASSISTANT PROFESSOR** level to begin September 1990:

ANIMAL PHYSIOLOGIST, tenure-track. To teach animal physiology and either comparative vertebrate anatomy or animal diversity, and to establish a vigorous research program involving undergraduate students.

IMMUNOLOGIST/MICROBIOLOGIST, limited term (1 year). To teach one course each in immunology and microbiology.

Contribution to laboratory teaching in general biology (nonmajors) will be expected of both positions.

The College of St. Thomas is a coeducational, Catholic liberal arts college committed to the total development of the individual student. The successful candidates will have a Ph.D. (postdoctoral experience preferred for animal physiologist position) and a strong commitment to teaching at the undergraduate level and in a liberal arts context.

Send letter of application, brief statement of research plans (for animal physiologist position), and curriculum vitae, and have three letters of recommendation sent directly, to: **Ms. Penny M. Pease, Mail #4050, College of St. Thomas, 2115 Summit Avenue, St. Paul, MN 55105.** All materials must be received by 5 January 1990.

The College of St. Thomas is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

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.*

FACULTY POSITION IN MOLECULAR GENETICS DEPARTMENT OF BIOLOGY UNIVERSITY OF UTAH

We hope to appoint to a tenure-track position an individual with a strong background in basic genetics and an active research interest in the area of molecular genetics. Preference is for the **ASSISTANT PROFESSOR** rank but we will not exclude a higher rank if the right person is found. The individual must be able to teach both traditional and recombinant DNA-based genetics effectively and enthusiastically. The particular experimental organism used is not critical, but should be either a well-developed standard genetic system or a demonstrably promising new genetic organism. This individual should be able to interact productively with faculty and students having a wide range of research interests. In addition to genetics, the department includes molecular biology, cell biology, and biochemistry as well as organismal physiology, ecology, and evolution. Application review will start 1 January 1990 and continue until the position is filled. Under exceptional circumstances, a second position in this area may be filled. Applicants should submit curriculum vitae, description of research interests, and three letters of reference to: **Genetics Search Committee, Department of Biology, 201 South Biology Building, University of Utah, Salt Lake City, UT 84112.** *The University of Utah is an Equal Opportunity/Affirmative Action Employer.*

CARNEGIE MELLON UNIVERSITY THE DEPARTMENTS OF BIOLOGICAL SCIENCES AND CHEMISTRY INVITE APPLICATIONS FOR FACULTY POSITIONS IN X-RAY CRYSTALLOGRAPHY

The Departments of Chemistry and Biological Sciences announce their intention to establish a research center in biological structure. Applications are particularly solicited from individuals with research programs focusing upon the use of x-ray crystallography to analyze biological structure and function. An outstanding opportunity exists at Carnegie Mellon to establish a major center for analysis of biological structure. This center will eventually involve three new faculty appointments. We hope to identify at least two faculty members this academic year. Appointees will hold tenure-track positions in biological sciences and/or chemistry at a faculty level commensurate with experience. To apply, send curriculum vitae and a concise description of research interests (no more than three pages), and, in addition, have three letters of recommendation sent to:

**Search Committee, Biological Structure
Departments of Biological Sciences and Chemistry
Carnegie Mellon University
4400 Fifth Avenue
Pittsburgh, PA 15213**

Deadline for applications: 1 February 1990. *Carnegie Mellon University is an Equal Opportunity/Affirmative Action Employer.*



UCAR VISITOR RESEARCH PROGRAMS
FOR
SENIOR AND POSTDOCTORAL
SCIENTISTS

The University Corporation for Atmospheric Research (UCAR) announces the continuation of its Visiting Research Programs which provide research opportunities at the National Meteorological Center (NMC) in Camp Springs, Maryland, and at the Naval Oceanographic and Atmospheric Research Laboratory (NOARL) Detachment, Monterey, California (formerly NEPRF).

The program offers visiting research appointments in the atmospheric and related sciences at two of the premier R&D centers devoted to operational weather prediction in the United States. Openings in the UCAR program include positions for senior and postdoctoral scientists. Initial appointments are for one year but may be extended for a second year. Appointments will be made twice per year from applications submitted by January 15 and August 1. For a brochure describing the program in more detail, please contact Meg Austin at (303) 497-8995 or via e-mail at m.austin@omnet.

Send letter of interest, curriculum vitae, a one to two-page statement of research interests, and the names and addresses of four professional references to: Meg Austin, UCAR, P.O. Box 3000, Boulder, CO 80307.

UCAR is an Equal Opportunity/Affirmative Action employer.

**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

**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.*

**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.*

**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.*

**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

AUBURN UNIVERSITY FACULTY POSITION INVERTEBRATE ZOOLOGY

Applications are invited for a tenure-track position at the **ASSISTANT PROFESSOR** level in the Department of Zoology and Wildlife Science at Auburn University, effective 16 September 1990. Applicants must have a Ph.D. in biological science with a strong background in invertebrate zoology and with research at the cellular/molecular level, and must provide evidence of potential for teaching excellence. Postdoctoral experience is preferred. The position entails participation in teaching general biology, sharing responsibility for teaching an advanced undergraduate course in invertebrate zoology, and developing graduate course work in area of specialty. The successful candidate will be expected to direct graduate students, to develop an externally funded research program, and to participate in position-related service activities. Applicants should submit a letter outlining goals, curriculum vitae including training and experience, list of publications (with selected reprints), academic transcripts, and three to five letters of reference by 1 February 1990 to: **Dr. John F. Pritchett, Head, Department of Zoology and Wildlife Science, Auburn University, AL 36849-5414. Telephone: 205-844-4850.** Members of minority groups and women are encouraged to apply. Auburn University is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITIONS MACROMOLECULAR STRUCTURE/FUNCTION

The Biochemistry Department of Tufts University invites applications for two tenure-track faculty positions at the **ASSISTANT, ASSOCIATE, OR FULL PROFESSOR** level. We are seeking candidates who have demonstrated substantial accomplishment in the general area of structure-function relationships in proteins of nucleic acids and who show high potential for developing creative research programs. Our objective is to fill at least one of these positions with an x-ray crystallographer or NMR spectroscopist. Detailed curriculum vitae, several reprints, a summary of planned research, and three letters of reference should be sent to:

**Chairman, Search Committee
Department of Biochemistry
Tufts University Health Science Campus
136 Harrison Avenue
Boston, MA 02111**

Tufts University is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION MOLECULAR GENETICS

The Department of Genetics is seeking candidates for a faculty position in the area of mammalian molecular biology and genetics. The position, starting on or after 1 July 1990, will be at the level of tenure-track **ASSISTANT PROFESSOR** (or higher, depending on the candidate's qualifications). Candidates must have an M.D. or Ph.D. or its equivalent, plus research experience in mammalian molecular genetics or related areas. Emphasis will be placed on research related to the molecular genetics of human disease and to gene therapy. Significant research accomplishments and/or evidence of outstanding research potential will be key considerations. Applicants should provide curriculum vitae, names and addresses of four references, and a brief statement of research interests and plans. Send applications to:

**Dr. Richard L. Davidson
Head, Department of Genetics
University of Illinois College of Medicine
808 South Wood Street
Chicago, IL 60612**

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

IMMUNOLOGIST. To conduct research on the effects of xenobiotics on the immune system of animals, including development of immunoassays for drug residues in animal tissues. U.S. citizenship required. Salary range: from GS-11 (\$28,852 per annum) to GS-13 (\$53,460 per annum). Send SF-171 and résumé to: **Dr. B. Shaikh, Food and Drug Administration (FDA), BARC-East, Center Road, Building 328A, HFV-520, Beltsville, MD 20705. Telephone: 301-344-2558.** The FDA is an Equal Opportunity Employer. (Positions are located in a smoke-free environment.)

POSITIONS OPEN

FACULTY POSITIONS

The Department of Molecular Genetics, Biochemistry, and Microbiology announces the opening of several tenure-track faculty positions. These are in the areas of (i) human genetics, (ii) protein chemistry (the utilization of genetic techniques to study structure-function), and (iii) molecular immunology. Appointments can be at any level. Generous space and start-up monies are available. The current department has 27 faculty and 64 graduate students and maintains core facilities in cell culture, DNA synthesis and sequencing, embryonic stem cell manipulation, and transgenic mice production. Interested applicants should submit curriculum vitae, brief description of anticipated research, and names of three qualified references to: **Jerry B. Lingrel, Ph.D., Professor and Chair, Molecular Genetics, Biochemistry, and Microbiology, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, OH 45267-0524.**

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

FACULTY POSITION IN VIROLOGY

The Department of Microbiology, North Carolina State University, invites applicants for a tenure-track position as **ASSISTANT PROFESSOR** in virology. A Ph.D. and relevant postdoctoral experience in plant, bacterial, or animal virology are required. The successful candidate is expected to develop a vigorous research program in a basic aspect of virology and participate in graduate and undergraduate teaching. The position is a 12-month, tenure-track appointment that includes appropriate start-up funds and continuing institutional research support. Excellent opportunities exist for collaboration with other virologists on campus and in the Research Triangle area. The application should include a statement of research interest, curriculum vitae with a list of publications, and the names, addresses, and telephone numbers of three references. Application materials should be sent to:

**Chairman
Virology Search Committee
Department of Microbiology
Box 7615
North Carolina State University
Raleigh, NC 27695-7615**

The closing date for applications is 30 January 1990. Proper documentation of identity and employability will be required before the hiring process can be finalized. North Carolina State University is an Equal Opportunity Employer.

TEACHING POSITION, ADVANCED BIOLOGY. The Department of Biology, Emory University, invites applications for a teaching position at the **ASSISTANT PROFESSOR** rank for a nontenure-track, 1-year term, with a possibility of renewal for up to 3 years. Responsibilities include teaching courses at an advanced level, which may include cell biology, genetics, and animal physiology, and participation in teaching a nonmajors course in introductory biology. The position will begin September 1990. Send curriculum vitae, a statement of your experience and interests in teaching, and have three letters of recommendation sent to: **Dr. Gray F. Crouse, Chairman, Department of Biology, Emory University, Atlanta, GA 30322.** Review of applications will begin in early January 1990. Emory is an Equal Opportunity/Affirmative Action Employer.

INFORMATION MANAGEMENT SCIENTIST

The U.S. Environmental Protection Agency's Environmental Monitoring Systems Laboratory, Las Vegas, Nevada (EPA EMSL-LV), is seeking a senior level information management scientist, GS-14 to -15 level (salary range: \$50,342 to \$76,982), to work on EPA's long-term ecological status and trends monitoring program. Applicants should have a degree or equivalent experience in computer, biological, physical, or environmental science, or in engineering. An advanced degree or equivalent training and experience in information management systems science is required, Ph.D. preferred. Training or experience in application of information management systems to scientific problems is required. For further information, contact: **Dr. Thomas H. Mace, Chief, Remote and Air Monitoring Branch, EMSL-LV, P.O. Box 93478, Las Vegas, NV 89193-3478.** For applications, write to: **U.S. Environmental Protection Agency, Human Resources Office, P.O. Box 98516, Las Vegas, NV 89193-8516.** EPA is an Equal Opportunity Employer. Applicants must be U.S. citizens.

POSITIONS OPEN

INFECTIOUS DISEASES

ASSISTANT OR ASSOCIATE PROFESSOR OF MEDICINE. Infectious Disease Section, Yale University. Position available at the West Haven Veterans Administration Hospital for an M.D. with training in infectious diseases to do basic laboratory investigation. A full-time equivalent salary is provided for a period of 3 years, along with additional start-up funding through VA grants and the Yale University School of Medicine. There are presently 12 faculty members within the Infectious Disease Section, 4 of whom are located at the VA. Dedicated research space is available immediately, in addition to substantial common and shared equipment within the section. The appointee will devote 80+% time to basic investigation, and will also have attending responsibilities at the VA Hospital and Yale New Haven Hospital. Individuals studying host defense mechanisms, microbial virulence determinants, or viral pathogenesis at the molecular level are particularly encouraged to apply. Interested applicants should send curriculum vitae and three letters of recommendation to: **Keith Joiner, M.D., Chief, Infectious Diseases Section, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.** Yale University and the West Haven VAMC are Equal Opportunity/Affirmative Action Employers. Applications from women and minority groups are encouraged. Application deadline is 24 December 1989.

IMMUNOLOGIST: ASSISTANT/ASSOCIATE PROFESSOR. The Division of Organ Transplantation and Immunology, Department of Surgery, at the Yale University School of Medicine is seeking a qualified individual to serve as director/co-director of its Histocompatibility Laboratory. The appointee must have the M.D. or Ph.D. degree, have appropriate training and/or experience in clinical histocompatibility testing, and meet current criteria as outlined by the American Society of Histocompatibility and Immunogenetics (ASHI). The successful applicant will oversee the clinical activities of the histocompatibility laboratory and participate in its administrative management. Active contribution to ongoing teaching and research programs within the division will be essential, and development of an independent research program will be encouraged. The level of faculty appointment and salary will be commensurate with experience. Interested applicants should send curriculum vitae and addresses of three references to: **Marc I. Lorber, M.D., Director, Division of Organ Transplantation and Immunology, Department of Surgery, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.** The deadline for receipt of application is 15 December 1989. Yale University is an Equal Opportunity/Affirmative Action Employer. Women and members of minority groups are encouraged to apply.

IMMUNOLOGIST: ASSOCIATE RESEARCH SCIENTIST. The Division of Organ Transplantation and Immunology, Department of Surgery, at the Yale University School of Medicine is seeking a qualified individual to join its active and growing research group. The appointee to this research track position must hold the M.D. or Ph.D. or equivalent degree with appropriate training and/or experience in cellular immunology. Additional expertise, including molecular and/or biochemical techniques, is desirable. Interested applicants should send curriculum vitae, bibliography, and addresses of three references to: **Marc I. Lorber, M.D., Director, Division of Organ Transplantation and Immunology, Department of Surgery, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.** The deadline for applications is 15 December 1989. Yale University is an Equal Opportunity/Affirmative Action Employer. Women and members of minority groups are urged to apply.

MOLECULAR BIOLOGY LABORATORY INSTRUCTOR DUKE UNIVERSITY

A Ph.D. or M.S. in molecular biology or related field is sought for a nontenure-track instructorship to organize and conduct upgraded undergraduate laboratories under a Howard Hughes award. Position available 1 January 1990; \$25,000 to \$36,000 per year depending upon qualifications; 3-year appointment with possibility of renewal. Send application, curriculum vitae, and names of three references to: **Professor Stephen A. Johnston, Department of Botany, Duke University, Durham, NC 27706.** An Equal Opportunity/Affirmative Action Employer.

MANAGER, ANIMAL PHYSIOLOGY

Collagen Corporation, a dynamic and growing biotechnology company, is dedicated to expanding its research, development, production and marketing of differentiated biomedical products in the areas of soft tissue augmentation, soft tissue and bone repair, inflammatory diseases and cytokine biology.

Our search for biological alternatives, which began in 1975, requires ongoing involvement in research. Your contribution in this area will be vital as you assume a leadership role in supervising personnel and being an active participant in the research activities within our animal facility. With all projects, you will follow the policies of the Institutional Animal Care and Use Committee (IACUC).

We seek a DVM with 3-5 years of experience in the care and husbandry of laboratory animals and proven skills in supervising and managing multiple projects. Familiarity with USDA and NIH animal care guidelines, plus excellent interpersonal and communication skills a must. A background in orthopedic research and animal modeling desirable, but not essential.

Collagen offers a stimulating work environment along with very attractive salary and comprehensive benefits package including relocation. For immediate consideration, please send your resume, including salary history, to: Collagen Corporation, Human Resources, Dept. SLH, 2500 Faber Place, Palo Alto, CA 94303. We are an equal opportunity employer.



RESEARCH ELECTRON MICROSCOPIST/ CELL BIOLOGIST

The Merck Sharp & Dohme Research Laboratories, a world leader in pharmaceutical research and development has an immediate opening in Immunology and Inflammation Research, Department of Biochemical and Molecular Pathology.

We seek an individual with a Ph.D. degree and 3-5 years experience to conduct independent immunoelectron microscopic and cell biological research in one or more of the following areas: 1) subcellular localization of surface recognition molecules that regulate cell-cell interaction during immunological and/or inflammatory reactions; 2) localization of cytokines and their receptors; 3) subcellular detection of proteases relevant to inflammatory processes. The incumbent will be expected to perform ultrathin sectioning of frozen and plastic samples, and to operate the TEM and SEM in our state-of-the-art laboratory. Excellent oral and written skills are essential, and publication in primary scientific journals is strongly encouraged.

Merck Sharp & Dohme Research Laboratories is located in Rahway, New Jersey approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. For consideration, send your resume with the names of three references to **Susan F. Glinka, Merck & Co., Inc., P.O. Box 2000, Rahway, NJ 07065.**

An equal opportunity employer m/f/v/h



Merck & Co., Inc.

UNIVERSITY OF NEBRASKA—LINCOLN

Institute of Agriculture and Natural Resources
Director of Water Center and Professor

Will coordinate and provide administrative leadership for water-related research, extension and teaching activities. Responsibilities include the planning, coordination and review of water-related research and extension programs funded through the Water Center including Public Law 98-242 funds. Will provide primary leadership and management for the University of Nebraska Water Science Research Initiative which is part of a \$20 million State supported initiative to enhance the research base at the University of Nebraska. Expected to stimulate water-related interests within the University through administration of competitive grant programs, preparation of proposals, coordination of educational programs, conferences and seminar series. Will provide liaison between IANR and other divisions and colleges of the University and with local, state and federal agencies and associations and others interested in water programs. Will coordinate, supervise and evaluate faculty, staff and students associated with the Water Center and participate in annual evaluation and promotion/tenure decisions of faculty employed with Water Science Research Initiative funds. Incumbent will have the opportunity to develop an active research and academic program in a designated priority area of the water science program.

Will carry out those functions and work directly with the appropriate deans for water-related program activities in extension, research and teaching with the Associate Vice Chancellor for Agriculture and Natural Resources serving as primary supervisor. Responsible to the Vice Chancellor for Research for administering activities funded by the Water Science Research Initiative. Academic department and academic assignment will be mutually agreed upon at time of appointment and will be responsible to the appropriate department head for departmental academic program responsibilities. Tenure for faculty appointment will be considered.

Requires Ph.D. degree in applicable discipline. Adequate professional experience in some area of water-related research and education to qualify for rank of Professor in an appropriate academic department is required.

Submit letter of application, resume and the names and addresses of three references postmarked by December 15 (or until a suitable candidate applies thereafter) to:

Dr. T. E. Hartung, Associate Vice Chancellor
Institute of Agriculture and Natural Resources
University of Nebraska—Lincoln
Lincoln, Nebraska 68583-0708
Phone: (402) 472-2871

UNL is an Affirmative Action/Equal Opportunity Employer.



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

POSTDOCTORAL POSITIONS

The Laboratory of Cellular and Molecular Pharmacology has postdoctoral opportunities in several areas of research related to cellular signalling and membrane function.

MEMBRANE TRANSPORT - DR. JOHN B. PRITCHARD

Candidates interested in mechanisms of transport and the role of altered transport in the toxicity of xenobiotics should apply. Experience in membrane biology is preferred.

INTRACELLULAR REGULATION - DR. DAVID S. MILLER

Control of cell function by internalized polypeptide hormones and growth factors is under investigation. Experience in cell biology is preferred.

INOSITOL PHOSPHATES - DR. STEPHEN B. SHEARS

Studies will concentrate on the regulation of enzymes associated with the metabolism of inositol phosphates. Experience in enzymology or protein chemistry is required.

DRUG METABOLIZING ENZYMES - DR. RICHARD M. PHILPOT

Several positions are available for those interested in the application of molecular biology to the study of the structure and function of drug metabolizing enzymes. Experience in molecular biology is recommended.

General Requirements: Applicants must possess a Ph.D. or equivalent degree in Biochemistry, Cell Biology, Molecular Biology, Physiology, Pharmacology or closely related field, and show evidence of ability to carry out independent research. Candidates with up to 7 years of postdoctoral research experience will be considered.

For further information regarding these positions, contact the above investigators by calling 919-541-3332. For prompt consideration, send cover letter indicating area of interest, curriculum vitae and three letters of reference by December 15, 1989, to:

Ms. Dara Trupe
NIEHS Personnel Office (HNV12)
P.O. Box 12233
Research Triangle Park, NC 27709
(Telephone 919-541-3032)



U.S. Citizenship is not required.
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POSITIONS OPEN

UNIVERSITY OF MICHIGAN INVERTEBRATE PALEONTOLOGIST

The Museum of Paleontology and Department of Geological Sciences invite applications for a joint tenure-track position in invertebrate paleontology. The position will be at the rank of **ASSISTANT PROFESSOR**, with appointment to be made in 1990. Ph.D. is required. We seek applicants with broad research and teaching interests in paleobiology and expertise in the systematics of fossil invertebrates (metazoan and/or protistan). Current faculty in paleontology are C. B. Beck, D. C. Fisher, P. D. Gingerich, and G. R. Smith. Resources include strong programs in organismal and evolutionary biology within the university. Museum appointment involves shared curatorial responsibility for a major invertebrate research collection. Interested candidates should send a résumé, names of five persons from whom the museum and department may request letters of recommendation, and a brief statement of research interests to: **Professor Daniel C. Fisher, Search Committee Chairman, Museum of Paleontology, The University of Michigan, Ann Arbor, MI 48109-1079.** Closing date for applications is 31 January 1990.

The University of Michigan is a nondiscriminatory Affirmative Action Employer.

JUNIOR LABORATORY TECHNICIAN. Full-time junior technician position available for light microscopic/electron microscopic (EM) study of cell loss in Alzheimer's disease. B.A. in biology preferred and EM laboratory experience required. Send résumé with names and telephone numbers of three references to: **Doheny Eye Institute, 1355 San Pablo Street, Los Angeles, CA 90033. Attention: Personnel Department. Equal Opportunity Employer.**

LAKE MANAGEMENT EXTENSION SPECIALISTS (two) to provide educational and organizational assistance to lake-shore communities. Ph.D. preferred, M.S. required, in adult education, environmental sciences/engineering/law, limnology, natural resources, planning, or sociology. Salary \$28,000 to \$36,000. Respond immediately: screening begins 27 November 1989. Send cover letter, résumé, transcripts, and names of three references and two most recent supervisors to: **Lowell Klessig, CNR, University of Wisconsin, Stevens Point, WI 54481. Telephone: 715-346-4266. FAX: 715-341-0089.**

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.**

MICROBIOLOGIST ASSISTANT, ASSOCIATE OR PROFESSOR

The Department of Microbiology, University of California at Davis, invites applications for an 11-month, tenure-track, open rank position from candidates who have demonstrated excellence in microbiological research. The candidate will join a strong, supportive, and growing department with strength in diversity, physiology, and genetics. Teaching responsibilities include graduate and/or undergraduate courses in bacterial physiology and genetics. Please send curriculum vitae, selected publications, a statement of proposed research, a description of teaching experience and interests, and the names of three references to: **Dr. J. C. Meeks, Chair, Physiology/Genetics Search Committee, Department of Microbiology, University of California, Davis, CA 95616.** The position will remain open until filled; however, to be assured of consideration, applications should be received by 1 February 1990. *The University of California is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

MARINE ANIMAL PATHOLOGIST. A tenure-track position (**Assistant Professor**) is available for a marine animal pathologist interested in the epizootiology/etiology of diseases of tropical marine organisms as animal models of disease processes (especially oncology). Demonstrated (or the potential for) excellence in research and teaching is a prime criterion for appointment. Applications should be submitted no later than 1 January 1990 to: **Dr. Patrick Walsh, Chairman, Search Committee, Division of Marine Biology and Fisheries, Rosenstiel School of Marine and Atmospheric Science, University of Miami, 4600 Rickenbacker Causeway, Miami, FL 33149. The University of Miami is an Equal Opportunity/Affirmative Action Employer.**

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 OF CELL ADHESION RECEPTORS

POSTDOCTORAL POSITIONS are available in a laboratory working on the structure, function, and regulation of membrane receptors involved in cell-cell and cell-matrix interactions. A background in the cloning and expression of proteins is required. Positions are offered for 2 years with possibility of renewal. Competitive salaries. Please submit curriculum vitae and names of two references to: **Professor R. L. Juliano, Department of Pharmacology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7365. An Affirmative Action/Equal Opportunity Employer.**

MOLECULAR VIROLOGY

Positions are available for individuals with expertise in molecular biology: cloning and expression of viral genes in herpesviruses, baculovirus, or eukaryotic cells. Join a group working on the biochemistry and molecular biology of herpesviruses, rotaviruses, coronaviruses, togaviruses, and paramyxoviruses. Individuals interested in gene expression, scale up, or novel vaccine delivery systems are also encouraged to apply. Level of appointment will depend on experience and can range from postdoctoral to research scientist. Interested individuals should contact:

Dr. Lorne A. Babiuk or Dr. Tim Zamb
Veterinary Infectious Disease Organization
124 Veterinary Road
Saskatoon, Saskatchewan S7N 0W0

NUTRITION POSITIONS

Rutgers, The State University of New Jersey, invites applications for two tenure-track positions in the newly formed Department of Nutritional Sciences. Position (i): **ASSOCIATE/FULL PROFESSOR**, Ph.D., R.D., or M.D. preferred. Rank commensurate with qualifications. Expected to develop strong research program in clinical nutrition and build liaisons with University of Medicine and Dentistry of New Jersey. Position (ii): **ASSISTANT PROFESSOR**, Ph.D. in nutrition with postdoctoral training in molecular biology. Areas of research expected to be in molecular biology of vitamins or nutrition and gene expression.

Responsibilities for both positions include establishing and maintaining nationally recognized research programs in areas of expertise, teaching at undergraduate and graduate level, and performing other university service. Deadline for both positions is 15 February 1990 or until suitable candidates are found.

Send curriculum vitae, three letters of recommendation, transcripts, and a statement of research and teaching interests to: **Dr. Adria R. Sherman, Department of Nutritional Sciences, Thompson Hall, Cook College, Rutgers University, P.O. Box 231, New Brunswick, NJ 08903-0231.**

An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

MOLECULAR MEDICAL GENETICIST

Kansas State University. The Department of Pathology, College of Veterinary Medicine, invites applications for a full-time tenure-track position at the ASSISTANT/ASSOCIATE PROFESSORSHIP level. Outstanding individuals who have demonstrated ability in molecular genetic approaches, particularly emphasizing gene mapping, DNA polymorphisms, or linkage studies involving pedigrees which are segregating defective genes, are strongly encouraged to apply. The successful candidate will have a unique opportunity to augment an internationally renowned research program devoted to the study of heritable diseases of domestic animals, particularly cattle. Applicants should have a doctorate, postdoctoral training, and be capable of imaginative research for obtaining extramural funding. Applicants should include curriculum vitae, a statement of research interests, and names of three references to: **Richard D. Oberst, D.V.M., Ph.D., Department of Pathology, Kansas State University, Manhattan, KS 66506. Telephone: 913-532-5634.** Review of applications will begin 15 January 1990 and will continue until position is filled. *Kansas State University is an Equal Opportunity/Affirmative Action Employer.*

NEUROPHARMACOLOGY MOLECULAR BIOLOGY

The Department of Pharmacology of The Ohio State University College of Medicine invites applications for a tenure-track position at the assistant professor level. Candidates, Ph.D. and/or M.D., should have at least 2 years of postdoctoral experience and have demonstrated outstanding research and some teaching experience in neuropharmacology or related areas. We are particularly interested in candidates with a strong interest in mechanisms of signal transduction at the molecular level. Send curriculum vitae, copies of several recent publications, a brief statement of future goals, and the names and addresses of three references by 30 November 1989 to: **Dr. Norton H. Neff, Department of Pharmacology, The Ohio State University College of Medicine, 5196 Graves Hall, 333 West Tenth Avenue, Columbus, OH 43210.** *The Ohio State University is an Affirmative Action/Equal Opportunity Employer.*

PHYSICAL OCEANOGRAPHER AT UNIVERSITY OF MARYLAND (UM) Horn Point Environmental Laboratories (HPEL). Applications are invited for a tenure-track position at the ASSISTANT OR PROFESSOR level. Areas of interests include all disciplines in physical oceanography, preferably in the field of, but not limited to, theoretical and observational research on ocean dynamics, continental shelf processes, and estuarine circulation. Interaction with ongoing programs in biological and chemical oceanography are encouraged. The successful candidate is expected to develop a strong and independent research program. Opportunities exist for teaching and student training in a developing graduate program. Salary commensurate with experience.

Please send curriculum vitae, summary of research interests, and names, addresses, and phone numbers of four referees by 19 January 1990 to: **Dr. W. Boicourt, Box 775, HPEL, Cambridge, MD 21613. Telephone: 301-228-8200.** *UM is an Affirmative Action/Equal Opportunity Employer.*

POPULATION BIOLOGIST/ECOLOGIST

The Department of Biology at Virginia Commonwealth University invites applications for a tenure-track position at the ASSISTANT PROFESSOR level. The successful candidate will be expected to develop an externally funded research program and direct graduate students at the M.S. level in an area of population biology/population ecology. Teaching responsibilities may include undergraduate and graduate courses in evolution, population biology, ecology, and general biology. Postdoctoral experience preferred. Virginia Commonwealth University has an enrollment of over 20,000 students, with 26 biology faculty and a strong commitment to ecology and plant sciences programs. Submit curriculum vitae, statement of research interests, and names of three references by 16 January 1990 to: **Dr. Leonard A. Smock, Chairman, Search Committee, Department of Biology, Virginia Commonwealth University, Richmond, VA 23284-2012.** *Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer. Applications from women and minority candidates are especially encouraged.*



Heterologous Gene Expression Scientist

CIBA-GEIGY's Agricultural Division, a leader in genetic engineering and crop protection chemicals, has an opening in our Biotechnology Research facility in Research Triangle Park—close to a major concentration of universities, businesses, research institutions and government agencies in North Carolina.

You will focus on the expression of heterologous proteins in yeast and bacteria, and on the optimization of conditions for growth in 30-liter cultures. In addition to operating and maintaining a 30-liter fermenter, evaluating different growth protocols for yields, and maintaining strain and vector inventories, you will help design and construct new expression systems.

Position requires BS/MS in biological science, and 2-5 years of lab experience including hands-on experience in operating fermentation equipment (bench-scale included). Familiarity with basic molecular biology and protein isolation techniques essential.

CIBA-GEIGY offers a competitive salary, company-paid benefits, and the opportunity to contribute to an innovative research program. Please send resume, copies of your graduate and undergraduate transcripts, and 3 letters of professional reference to: **Dr. Mary-Dell Chilton, CIBA-GEIGY Corporation, PO Box 12257, Research Triangle Park, NC 27709.** We Are An Equal Opportunity Employer M/F/H/V.

Science Serving Mankind

CIBA—GEIGY

Discover 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 today by applying for this position in our Neurosciences Department.

STERLING CAREERS.

.....
**Sr. Research
Biologist**

An excellent opportunity exists for a scientist to participate in a challenging, interdisciplinary approach to basic research and drug discovery in the pain and inflammation program. The successful candidate will utilize biochemical and behavioral techniques to define the physiologic relevance of kinins in pain/inflammation and will join a team identifying antagonists to these molecular targets. Familiarity with both *in vivo* and *in vitro* techniques is highly desirable.

The neurosciences program is currently pursuing research for the novel treatment of pain, neurodegeneration and psychosis.

The Rensselaer facility is located near Albany, New York, which is a center of summer and winter recreational activities.

In exchange for your talents, we offer a competitive salary and benefits package and outstanding career opportunities for personal and professional growth. For confidential consideration, please send your resume with salary history/requirements to: Employee Relations, SRG-62, Sterling Research Group, A Division of Sterling Drug Inc., 81 Columbia Turnpike, Rensselaer, NY 12144. An Equal Opportunity Employer M/F/H/V.



STERLING RESEARCH GROUP

A Subsidiary of Eastman Kodak Company
Build a Future With Sterling.

BIOTECHNOLOGY

Cetus Corporation is a leading biotechnology company engaged in the development, manufacturing and marketing of pharmaceutical products. Our Polymerase Chain Reaction (PCR) Division is seeking individuals interested in being part of the development of this revolutionary advance in biotechnology.

FORENSICS PRODUCT MANAGER

Product Development Scientist

You will be responsible for the development of products for Cetus' Forensics and Individual Identity business line as well as serve as the direct supervisor of the product development team. This involves planning, coordinating and reporting on work for several products at various stages of development, selecting future targets, assuring commitment of resources, and improving products which are already on the market.

Requirements include an MS/PhD in Molecular Biology, Biochemistry or Chemistry, preferably with experience in nucleic acid research and development. Demonstrated experience in project management in biotech or a related field is essential and corporate experience is strongly preferred. Excellent organizational and communication skills are also required. Box JR89200.

MANUFACTURING ENGINEER

You will be responsible for designing, developing, implementing and maintaining manufacturing equipment and methods, operation sequences and processes in the manufacture of biotechnology products; determining protocols and standards; and recommending tooling, materials equipment and process requirements of new and existing products. You will also coordinate the maintenance of production equipment and a new manufacturing facility.

Requirements include a degree in Mechanical or Chemical Engineering or a scientific discipline and/or 3 years in biotechnology or a medical device industry. Additionally you should possess knowledge of manufacturing, Standard Operating Procedures and cost reduction techniques. Box CL89232.

Cetus offers an outstanding benefits package along with the opportunity to participate in the some of the most exciting scientific work in the Bay Area. For consideration, please send your resume, indicating appropriate Box #, to: Cetus Corporation, 1400 Fifty-Third Street, Emeryville, CA 94608. We are an Equal Opportunity Employer.



RESEARCH & DEVELOPMENT OPPORTUNITIES

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.

DIRECTOR, INFORMATION MANAGEMENT

You will be primarily responsible for information management in R & D to include management and operations of the computer configurations, user support and systems development, with the purpose to enhance the productivity and effectiveness of R & D. You'll also coordinate internationally with other EDP groups within the Pharmaceutical groups. M.S. in Computer Science or a related area, plus an extensive technical background with management experience in a scientific information management area required. Pharmaceutical industry experience preferred as well as familiarity with DEC/VAX systems environment.

SECTION LEADER, CLINICAL SUPPLIES

You will supervise, coordinate and direct activities of Clinical Research Packaging and Packaging Development Staffs. Responsible for tracking projects in packaging, monitoring equipment and packaging materials development. Requires a B.S. in Pharmacy with minimum 4 years' experience in industrial clinical supplies and clinical packaging operations. Full understanding of the functions, regulations/CGMP is necessary.

RESEARCH SCIENTIST II

In our Pharmaceutical R&D department, you will be responsible for product development involving preformulation and formulation of new products, including reformulation of existing products and pilot plant production of products. Ph.D. in Pharmaceuticals with laboratory experience required. Pharmaceutical industry experience preferred.

MANAGER, SUBMISSIONS & SURVEILLANCE

Responsible for overall management of the corporate submission and surveillance activities for therapeutic areas including GI, Endocrine, CNS and CV. Surveillance responsibilities incorporate both pre- and post-marketing functions. A B.S. and an advanced degree in sciences with at least 5 years' pharmaceutical regulatory experience; including the submission of at least one NDA (preferred in one of the therapeutic areas listed above).

REGULATORY AFFAIRS COORDINATOR - SUBMISSIONS

Responsibilities include IND, NDA, ANDA, and DMF submission activities in one of several therapeutic areas. Minimum requirements include a B.S. in the sciences with at least 2 years' experience in pharmaceutical regulatory affairs.

CLINICAL QUALITY ASSURANCE

Responsible for overall GCP/GLP compliance for all therapeutic areas under investigation. B.S. in the sciences with at least 3 years' compliance auditing or related pharmaceutical industry experience preferred. Previous clinical research experience desired.

All positions require excellent written and oral communication skills.

Our salaries are extremely competitive and our benefits 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.



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Post Doctoral Research at The Wistar Institute

Post doctoral positions are available at The Wistar Institute for candidates with a strong background in molecular and cell biology, virology, immunology, genetics or protein chemistry. Specific areas of research include: human retroviruses; DNA/RNA tumor viruses; growth factors; oncogenes; pattern formation in embryos; molecular mechanisms involved in the immune response; x-ray crystallography of virus receptor interaction; and aging in tissue culture. The Wistar Institute is an independent institution, located on the campus of the University of Pennsylvania and is equipped with the latest biotechnology facilities.

Starting salary at \$20,000 a year. Interested applicants are requested to send a curriculum vitae and the names of 3 references to: **Coordinator of Research Training, THE WISTAR INSTITUTE, 36th and Spruce Streets, Philadelphia, PA 19104.** Equal opportunity employer, M/F.

THE
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Faculty Position In

DEVELOPMENTAL MOLECULAR NEUROBIOLOGY

Purdue University Department of Biological Sciences

The Department of Biological Sciences, Purdue University, invites applications for a tenure-track position at the Assistant Professor level in the area of developmental neurobiology. The Department is particularly interested in candidates who utilize cellular and molecular techniques to investigate invertebrate or vertebrate systems of special promise. Candidates must have a Ph.D. degree or equivalent, postdoctoral experience and demonstrate exceptional promise in research. Candidates are expected to develop a vigorous, extramurally funded research program and to participate in teaching neurobiology or developmental biology. The Department and campus have strong programs in Cell and Molecular Biology and in Neurobiology as well as a wealth of supporting resources.

For consideration, candidates should send a curriculum vitae, a list of publications, and a statement of research activities and goals, and arrange to have three letters of reference sent to:

**Dr. William L. Pak, Convener
Neurobiology Search Committee
Department of Biological Sciences
Purdue University
West Lafayette, IN 47907**

Applications will be accepted until January 1, 1990, or until a suitable candidate is identified. Purdue University is an **Equal Opportunity/Affirmative Action Employer.**

Interneuron Pharmaceuticals, Inc. is a Cambridge-based neuroscience firm that specializes in drugs for neurologic and psychiatric disorders and conditions. Our continuing growth enables us to offer the following positions:

Senior Research Biochemist

Requirements of this position include a Ph.D. in biochemistry/neuropharmacology or a closely related field, with 1-3 years industrial or postdoctoral experience. The successful candidate will have neurochemical assays including radioisotope and HPLC techniques. Cell culture and other areas of biochemical inquiry involving diseases of the CNS are a plus.

Director, Clinical Neuroscience

Successful candidate will have an M.D. or Ph.D., training in the neurosciences with 1-3 years experience in clinical investigation and in monitoring the development of a new drug. Specific responsibilities include planning, directing and coordinating these studies toward an NDA application. Candidate should also have knowledge of FDA regulations in the development of drugs affecting the CNS and possess good oral and written communication skills.

IPI is located near MIT and offers a comprehensive salary and benefits package. Please send resume in confidence to: **Dr. Stuart Fielding.**



**Interneuron
Pharmaceuticals, Inc.
230 Albany St.
Cambridge, MA 02139**



SAINT MICHAEL'S COLLEGE

Assistant Professor Biology Department

Applications are invited for tenure track position to begin September 1990. Ph.D. required along with broad background in biology with particular expertise in Animal Physiology/Vertebrate Biology. Responsibilities include teaching introductory courses, supervising undergraduate research and teaching Animal Physiology and Vertebrate Biology. Research encouraged. Send letter of application, curriculum vitae, transcripts, statement of teaching and research interest with three letters of recommendation by January 1, 1990 to the Personnel Office, Saint Michael's College, Winooski Park, Colchester, Vermont 05439.

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Toxicologist

Allergan, Inc. is a major force in the eye and skin care market. With newly gained corporate freedom, we're entering an important new era of growth and development. If you're an experienced Toxicologist, you can be part of this exciting journey to success.

Responsibilities will include designing, conducting and reporting on toxicological studies of pharmaceutical agents in compliance with GLP regulations. The ideal candidate will have a MS in Biology or Toxicology plus 5-6 years experience, or a PhD with 3-4 years experience, in pharmaceutical toxicology. This position will require relocation to the West Coast.

Achievement is rewarded with an excellent salary and a benefits package which can be customized to your needs. Good promotional opportunities are available in this fast-growing company. Please send resume to: **Allergan, Inc., Human Resources Dept. JS-E174-S, 2525 Dupont Drive, Irvine, CA 92715.** Equal Opportunity Employer M/F/H/V.

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POSITIONS OPEN

PEDIATRICIAN/IMMUNOGENETICIST/MOLECULAR BIOLOGIST. A position is available as **RESEARCH ASSISTANT PROFESSOR** in the Department of Microbiology, Southwestern Medical Center. The ideal candidate would have a background in pediatrics and have at least 3 years of postdoctoral experience in immunogenetics/molecular biology. Modest patient contact; 90% laboratory protected time to study the development of the human immune repertoire. Experience with EBV transformation, polymerase chain reaction, cloning and sequencing of DNA, idiotype analysis, etc. Send curriculum vitae and two letters of recommendation to: **Dr. J. Donald Capra, Department of Microbiology, The University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235.** The University of Texas Southwestern Medical Center is an Equal Opportunity Employer.

PHARMACOLOGIST

Applications are invited for a full-time position available July 1990 comprising both teaching and research opportunities. Candidates should have a Ph.D. in pharmacology and expertise in human physiology. Candidates should possess a strong commitment to teaching and research. Send curriculum vitae to:

Douglas H. Poorman, Ph.D.
Vice President of Academic Affairs
Southern College of Optometry
1245 Madison Avenue
Memphis, TN 38104
Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately to study the chemistry, enzymology, and structure of neuro-, atrial, and growth factor peptides and their precursor proteins. Areas include peptide synthesis, protein/peptide chemistry, cell culture, CD, NMR, and molecular modeling. Send curriculum vitae and names of three references to: **Dr. Robert B. Harris, Virginia Commonwealth University, Department of Biochemistry, Box 614, Richmond, VA 23298.** Equal Opportunity/Affirmative Action Employer.

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 Dickenson Street, San Diego, CA 92103.** Telephone: 619-543-6840.

POSTDOCTORAL RESEARCH POSITION available immediately for molecular biologic studies of a human metastases-associated gene. Experience with cDNA cloning, DNA sequencing, and expression vectors is highly desirable. Mail or FAX application including curriculum vitae and a brief summary of previous training, experience, and research goals, along with the names of three references to: **George D. Sorenson, M.D., Department of Pathology, Dartmouth Medical School, Hanover, NH 03756.** FAX: 603-646-6120.

POSTDOCTORAL POSITIONS available immediately for (i) synthetic organic chemist to study molecular biological processing of oxidative DNA damages, (ii) protein biochemist to study mechanism of action of DNA repair enzymes, and (iii) molecular biologist to study regulation of DNA repair enzymes. Campus-wide, highly interactive DNA repair group; enthusiastic, active laboratory, great environment. Send curriculum vitae and names of three references to: **Dr. Susan Wallace, University of Vermont, Department of Microbiology and Molecular Genetics, Given Building, Burlington, VT 05405.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS available immediately in HIV molecular virology: study of HIV infection in bone marrow stem and progenitor cells, and the effect of such infection on hemopoiesis. Background in molecular biology or hemopoiesis preferred. Facilities include state-of-the-art P2 and P3 laboratories, DNA synthesizer, FACS analyzer. Send résumé and names of three references to: **Dr. Brian R. Davis, GBCRI, Medical Research Institute, 2200 Webster Street, San Francisco, CA 94115.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH POSITION as an **ASSISTANT RESEARCH SCIENTIST** is immediately available in lipid metabolism laboratory. Major emphasis on transport of vitamin E in plasmalipoproteins and regulatory mechanisms for discrimination of stereoisomeric forms to vitamin E. Experience in HPLC, GC, ultracentrifugation, and PAGE preferred. Please send curriculum vitae and names of three references to: **Joan Harmon, Personnel Department, New York University Medical Center, 550 First Avenue, New York, NY 10016.** An Equal Opportunity Employer M/F.

POSTDOCTORAL POSITIONS are available to study the molecular biology, biochemistry, and cell biology of two newly isolated lymphokines, IL-9 and IL-10. Candidates with a Ph.D. degree interested in applying contemporary techniques of molecular biology, protein purification, growth factor-receptor interaction, and cell culture systems to understand the role of these growth factors should send curriculum vitae and names and addresses of three references to: **Dr. Yu-Chung Yang, Walther Oncology Center, Indiana University School of Medicine, Room 510, Medical Research and Library Building, 975 West Walnut Street, Indianapolis, IN 46260.** Walther Oncology Center of the Walther Cancer Institute is an Equal Opportunity Employer.

OREGON HEALTH SCIENCES UNIVERSITY

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to study aspects of protein kinase structure and function. Experience in protein engineering, enzymology, and/or yeast genetics desired. Position available for 3 years; salary negotiable. To apply, send inquiries, curriculum vitae, and three references by 30 December 1989 to: **Dr. John D. Scott, Center for Research on Occupational and Environmental Toxicology and the Vollum Institute for Advanced Biomedical Research, Oregon Health Sciences University, 3181 S.W. Sam Jackson Park Road, L474, Portland, OR 97201-3098.** Oregon Health Sciences is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS AVAILABLE IN MOLECULAR NEUROBIOLOGY

As part of a major expansion in molecular neurobiology and signal transduction at the Vollum Institute for Advanced Biomedical Research, several positions are available for molecular biologists, biochemists, or neurobiologists to study the molecular biology of neuropeptide and pituitary hormones and their receptors. Approaches include gene cloning, in situ hybridization, transcription assays, oocyte expression, and transgenic mice.

The Vollum Institute is a new, state-of-the-art facility within the Oregon Health Sciences University (OHSU). Already a center of research excellence in neurobiology, the institute is located within the city of Portland, yet is conveniently located close to the beautiful mountains and ocean beaches of Oregon.

Applicants should include curriculum vitae, names and addresses of three references, and a brief description of research interests. Address correspondence to: **Malcolm Low, M.D., Ph.D.** (transgenic animals, pituitary hormone gene expression); **Roger Cone, Ph.D.** (glycoprotein hormone receptors, regulation of endocrine cell-growth); **Thomas Segerson, M.D.** (TRH, CCK, and bombesin receptors); **Philip Stork, M.D.** (neuropeptide uptake and transport); **Richard Goodman, M.D., Ph.D.** (neuropeptide gene expression, neuropeptide receptors); **Vollum Institute for Advanced Biomedical Research, L474, Oregon Health Sciences University, 3181 S.W. Sam Jackson Park Road, Portland, OR 97201.** OHSU is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

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 RESEARCH POSITION in molecular biology and gene expression. NCI-funded position to study hamster glutathione S-transferase gene. Gene is regulated in hamster smooth muscle tumors by glucocorticoids and is of the secondary response class. Experience in molecular biology essential. Position is for a minimum of 2 years with starting salary of \$20,000 and is available immediately. Send letter of application, curriculum vitae, and names, addresses, and telephone numbers of three references to: **James S. Norris, Ph.D., Professor of Medicine/Cell Biology/Anatomy, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425.**

POSTDOCTORAL POSITION AVAILABLE FOR ASSISTANT RESEARCH SCIENTIST. Candidate will be a recent graduate with a Ph.D. in cell biology or related discipline and will join an ongoing research project involving the establishment of cell lines derived from primary mammalian tissue using gene transfection. Experience in tissue culture is required; familiarity with plasmid DNA manipulation is desirable but not essential. Salary: \$20,000 to \$25,000 per year. Please send curriculum vitae with names of three references to: **Ms. Harmon, Personnel Department, New York University Medical Center, 550 First Avenue, New York, NY 10016.** An Equal Opportunity Employer M/F.

PSYCHOBIOLOGIST

Arizona State University (ASU) seeks an **ASSISTANT PROFESSOR** with interests in core psychological concepts such as learning, memory, sensation, or motivational processes, and who can teach basic courses in physiological psychology. Psychologists with interests complementary to our adaptive systems/neural modeling emphasis will be favored. Send curriculum vitae, recent reprints, and names of three references to: **Dr. Peter Killeen, Chair, Search Committee, Department of Psychology, Arizona State University, Tempe, AZ 85287-1104.** ASU is an Equal Opportunity/Affirmative Action Employer. Application deadline is 29 January 1990.

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 premedical 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.

RETROVIROLOGIST/MOLECULAR BIOLOGIST needed to establish innovative retrovirology research program for tertiary medical center of national reputation. Excellent opportunity with state-of-the-art equipment and facilities. Comprehensive benefits. Send curriculum vitae to:

Louis Saravolatz, M.D., Division Head
Division of Infectious Disease
Henry Ford Hospital
2799 West Grand Boulevard
Detroit, MI 48202

Telephone: 1-800-888-4340, ext. 62573

Henry Ford Hospital is an Equal Opportunity Employer.

Associate Director

Center for Microbial Ecology

A National Science Foundation Science and Technology Center

The Center for Microbial Ecology (CME) conducts multidisciplinary research on microorganisms in natural and controlled environments, including soil, water, and engineered systems. Fields include microbiology, molecular biology, biochemistry, chemistry, ecology, soil science, bioengineering, and environmental engineering.

CME has an immediate opening for an **Associate Director for Industrial Liaison**. The Associate Director will have primary responsibility for establishing awareness of CME capabilities and activities within the industrial community, assessing the impact of CME programs in addressing commercial needs and implementing a technology transfer program.

The successful candidate will have 5-10 years experience in the management, appraisal, and business interfacing of industrial research projects and an established research record in an area related to CME activities. A MS degree is the minimum requirement, with a PhD desired. Ability to communicate orally and in writing at all levels of industry and academia is essential.

Submit resume to: Search Committee, Center for Microbial Ecology, Plant and Soil Sciences Building, Michigan State University, East Lansing, MI 48824, Telephone (517) 353-9021.

Michigan State University

MSU is an Equal Opportunity/Affirmative Action Employer.



Graduate Biotechnology Fellowships

Iowa State University invites applications for graduate fellowships in its interdisciplinary program of agricultural biotechnology. The fellowships are \$13,000 per year, plus a tuition allowance. To help define their interests, the fellows will be able to rotate to different research projects within and outside of their selected department or interdisciplinary program during the first year.

Iowa State University has committed nearly \$50 million to strengthen its agricultural biotechnology research and education program. Interdisciplinary research teams are addressing opportunities in basic molecular biology and its applications to agricultural development, including plant, animal, and bioprocessing research. Fellows will be part of these active and stimulating research programs; will use state-of-the-art instrumentation facilities; and will interact with international leaders in biotechnology research through seminars, symposia, and workshops.

For information and fellowship application forms, contact the Office of Biotechnology, 1010 Agronomy, Iowa State University, Ames, Iowa 50011. Selection of candidates will begin February 1, 1990.

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



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At Glaxo Inc. in Research Triangle Park, N.C. our unparalleled growth in the U.S. prescription pharmaceutical sector has served to rigorously intensify our research and development activities. Underway is a 10-building Research and Development complex that will rival any in the industry. With completion targeted for 1991, this new complex will house our 110,000 square foot Toxicology Facility. Until that Facility opens in 1991, toxicology needs will be met by placing studies at contract laboratories.

At the threshold of an era of new dimensions in pharmaceutical research, we invite you to share the challenge of the tasks and sense of fulfillment that lies ahead. Join our Research and Development Team in one of these two exciting positions.

TOXICOLOGIST & PATHOLOGIST

We seek a Toxicologist and a Pathologist who possesses a Ph.D. or D.V.M. and has prior experience (ranging from 3-20 + years) in the pharmaceutical industry.

Research Triangle Park, North Carolina offers a lot more for people who seek a well-rounded, comfortable lifestyle. This world-famous scientific/industrial/academic community near Raleigh, Durham and Chapel Hill, affords access to respected universities, beautiful residential areas, major retail centers, excellent health care and abundant cultural and recreational facilities. And people like you.

Join us, and enjoy excellent pay, flexible benefits, an on-site recreation and fitness center, a spirit of enthusiasm and teamwork and outstanding opportunities for career satisfaction. Send your resume, including salary history, to: **Human Resources Department, Job #9150B914, Glaxo Inc., P.O. Box 13398, Research Triangle Park, N.C. 27709.** (No phone calls or agency referrals, please). An Equal Opportunity Employer M/F/H/V.

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POSITIONS OPEN

POSTDOCTORAL POSITIONS

Gladstone Foundation Laboratories (GFL), University of California, San Francisco. Studying the cellular and molecular biology of lipoprotein metabolism and atherosclerosis has positions available in the following areas: site-directed mutagenesis, mouse transgenics, regulation of gene expression, and platelet membrane skeleton studies in the laboratories of Drs. Robert W. Mahley, Thomas L. Innerarity, John M. Taylor, Beatriz Levy-Wilson, and Joan E. Fox. Send curriculum vitae to: **Personnel, GFL, P.O. Box 40608, San Francisco, CA 94140-0608.**

POSTDOCTORAL RESEARCH ASSOCIATE GENE EXPRESSION

Available immediately to investigate molecular mechanisms of regulated secretions. We are studying gene expression, segregation, and sorting of salivary proteins; i.e., histatins and proline-rich proteins. Candidates must have Ph.D. and experience in recombinant DNA methods. Send curriculum vitae and three letters of recommendation to: **Dr. Frank Oppenheim, Room G-217B, Department of Oral Biology/Biochemistry, Boston University Medical Center, 100 East Newton Street, Boston, MA 02118.**

POSTDOCTORAL POSITION NEUROPHYSIOLOGY

Applications are invited for a postdoctoral position concerning projects with ion-selective microelectrode techniques on cultured astrocytes and neurons. Applicants should have a background in neurophysiology and experience with electrophysiological recording. Salary will be on MRC (Canada) scales. Applications, including curriculum vitae and names of three referees, should be sent to: **Dr. Wolfgang Walz, Department of Physiology, College of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0 Canada.**

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.**

PULMONARY DISEASE PHYSICIANS

The Department of Pediatrics, Wright State University School of Medicine, and The Children's Medical Center, Dayton, Ohio, are seeking two academic pediatricians with a subspecialty in pulmonary disease and a strong commitment to teaching, patient care, and research to join two full-time pediatric pulmonologists in the Division of Pulmonary Medicine. Experience in intensive care and/or immunology is desired. Applicants must be licensed or licensable to practice medicine in Ohio. Qualified physicians from minority groups and women are encouraged to apply. All applications received by 1 March 1990 will be considered. If the positions are not filled from these, applications will be considered until the positions are filled. Interested applicants should send curriculum vitae and the names of three references to: **William A. Spohn, M.D., Director, Division of Pulmonary Medicine, The Children's Medical Center, One Children's Plaza, Dayton, OH 45404-1815. Wright State University is an Equal Opportunity Employer.**

RESEARCH ASSISTANT. Immediate position available to perform laboratory experiments in molecular genetics related to the polymerase change reaction. Qualified candidate must have B.S. in biological sciences with a minimum of 2 years of experience in molecular genetics. Willingness to work with radioactive material. Competitive salary and benefit package. To apply, please send résumé to: **Eva R. Thompson, Director of Personnel, Doherty Eye Institute, 1355 San Pablo Street, Los Angeles, CA 90033. Equal Opportunity Employer.**

RESEARCH ASSOCIATE. Postdoctoral research associate, with experience in lymphocyte receptor expression or biochemistry of host cell attachment/invasion by microorganisms, to join molecular parasitology group. Submit curriculum vitae and names of three references to: **Dr. F. Kierszenbaum, Department of Microbiology, Michigan State University, East Lansing, MI 48824. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE.

Behavior, behavioral ecology, or physiological ecology of larval and juvenile marine and/or anadromous fish under controlled laboratory conditions. Studies will focus on roles of environmental factors in behavior and distribution. Ph.D. in marine biology or allied field and experience in working with experimental behavior, behavioral ecology, or physiological ecology of larval and/or juvenile fish or invertebrates. Salary \$22,500 for 1 year with possible renewal. To apply, send résumé and names and addresses of three references by 21 December 1989 to: **Behavioral Ecology Search Committee, Oregon State University, Hatfield Marine Science Center, Newport, OR 97365. Oregon State University is an Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE PESTICIDE RESEARCH CENTER (PRC) MICHIGAN STATE UNIVERSITY (MSU)

Available immediately. Experience in plant regeneration from monocot protoplast required. Call 517-353-9140 or write **Dr. Mariam Sticklen, Plant Tissue Culture and Genetic Engineering Laboratory, PRC, MSU, East Lansing, MI 48824. MSU is an Affirmative Action/Equal Opportunity institution.**

RESEARCH ASSOCIATE with Ph.D. in plant physiology or related plant science and experience utilizing in vitro tissue culture techniques to study the molecular basis of rejuvenation of mature conifer meristems. By 15 January 1990, send curriculum vitae, academic transcripts, and the names and addresses of three references to: **Wesley Hackett, Department of Forest Resources, University of Minnesota, St. Paul, MN 55108. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

RESEARCH ASSOCIATE

Applications are invited for an electrophysiologist with training in patch voltage-clamp methods to work on an NSF-funded project investigating the role of ion channels in plant cell membranes in a rapidly expanding biology department. The successful applicant will also be encouraged to pursue own research objectives and will have the ability to apply for independent external grant support. Applicants should send curriculum vitae, statement of research interests, reprints of recent publications, and three letters of recommendation to: **Dr. Charles Schauf, Professor and Chairman, Department of Biology, Purdue University School of Science, 1125 East 38th Street, Indianapolis, IN 46205. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH SCIENTIST. ASSISTANT PROFESSOR level position to develop research and education programs in the energy sciences, specifically in fossil fuels, materials science, catalysis, and environmental pollution control. Immediate responsibilities include conducting research in catalyzed coal gasification and liquefaction and pollution prevention (sulfur dioxide and NO_x abatement), developing curriculum materials, and teaching courses in thermodynamics, catalysis, kinetics, and research instrumentation techniques. Minimum qualifications are a Ph.D. in fuel science or chemical engineering and at least 1 year of postdoctoral research experience. Salary: approximately \$30,000. Applications and references should be sent to: **Ms. Carol E. Johnson, Research Center for Science and Technology, c/o Office of Research and Sponsored Programs, Clark Atlanta University, Atlanta, GA 30314-4391.**

SENIOR RESEARCHERS. Gull Laboratories, Inc., an immunodiagnostics firm located in Salt Lake City, Utah, has immediate openings for senior researchers with industrial experience as molecular biologists, virologists, immunologists, peptide chemists, or biologists. Gull Laboratories offers challenging opportunities in new product development programs as well as excellent working conditions and attractive benefits. Send résumé to: **Gull Laboratories, Inc., 1011 East 4800 South, Salt Lake City, UT 84117.**

POSITIONS OPEN

SENIOR OLD WORLD ARCHEOLOGIST

Stanford University seeks a distinguished senior old world archeologist with expertise in the last 300,000 years of human evolution to provide leadership for a new program in human biocultural evolution within the Anthropology Department and to teach in the human biology program. For more information, contact: **Dr. Harumi Belfu, Department of Anthropology, Stanford University, Stanford, CA 94305-2145. Application deadline is 1 January 1990. Stanford is an Affirmative Action/Equal Opportunity Employer.**



SCIENCE ITEM WRITERS

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

For additional information, write as soon as possible to: **Editorial Manager, Test Development Department (S), ACT National Office, 2201 North Dodge Street, P.O. Box 168, Iowa City, IA 52243.** Desired areas of specialization are biology (anatomy, physiology, microbiology, zoology), chemistry (general, biochemistry), and physics. Include résumé indicating formal education, teaching experience, and area of specialization.

ACT is an Equal Opportunity/Affirmative Action Employer.

TECHNICAL DIRECTOR OF ELECTRON MICROSCOPY AND IMMUNOCYTOCHEMISTRY.

The new Division of Cellular and Molecular Medicine of the University of California, San Diego, is seeking a technical director of electron microscopy and immunocytochemistry. The candidate will be responsible for the set-up, planning, and operation of a core facility in this new division and must have extensive experience in the preparation and analysis of cells and tissues by electron microscopy and immunocytochemistry (immunofluorescence, immunoperoxidase, immunogold labeling and frozen thin sectioning). The candidate will also be qualified to instruct technicians, students, and postdoctoral trainees in the principles and practice of tissue preparation, microtomy, ultracytomicrometry, and immunocytochemistry. The successful candidate will work closely with the planning and data collection. An M.A. degree or its equivalent and at least 5 years of experience are required. The applicant should qualify for appointment as a specialist in the Department of Pathology. Salary and level of appointment will be commensurate with the qualifications of the candidate. Application with curriculum vitae and three names of referees should be sent to: **Dr. Marilyn G. Farquhar, Division of Cellular and Molecular Medicine, c/o Department of Pathology, M-012, University of California, San Diego, La Jolla, CA 92093 by 15 December 1989.**

SMITHSONIAN FELLOWSHIPS IN TROPICAL BIOLOGY

Predocutorial, postdoctoral, senior postdoctoral, and 10-week graduate student fellowships are available to conduct research at the Smithsonian Tropical Research Institute (STRI) in the Republic of Panama. With a scientific staff of 26, STRI is an international center for advanced study in tropical biology (ecology, human ecology, paleoecology, evolution, behavior, plant physiology, molecular evolution) and archaeology. STRI provides logistic support for visitors at its facilities: a field station at Barro Colorado Island and housing and bench space in nearby Gamboa (tropical moist forest); field accommodations at Fortuna in Western Panama (montane forest); marine laboratories on the Pacific and Atlantic coasts and a field station in the Caribbean; and a research library and new laboratory complex in Panama City. For applications contact:

**Office of Fellowships and Grants
Smithsonian Institution, Drawer TB
L'Enfant Plaza, Suite 7300
Washington, DC 20560
Telephone: 202-287-3271
Deadline: 15 January annually**

POSTDOCTORAL FELLOWSHIP

Sandoz Ltd., Basle, Switzerland, one of the world's leading pharmaceutical companies, invites applications for a one to two year post-doctoral fellowship in glycoprotein research and development.

The successful candidate will work in a highly motivated analytical research and development environment. Main tasks of the candidate will be to establish efficient polysaccharide characterisation methods and procedures and carry out research on biotechnically produced glycoproteins. Ample supply of highly purified material is available.

Applicants require a Ph.D. or equivalent in Biochemistry and/or related sciences. Remuneration will be based on common standards.

Interested candidates with experience in carbohydrate chemistry should submit their curriculum vitae, names of references and a list of publications as soon as possible to:

SANDOZ

Sandoz Ltd.,
Attention Mr. R. Zbinden, Personnel Department, Ref. 9807
CH-4002 Basel, Switzerland



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MOLECULAR BIOLOGY POST-DOCTORAL POSITIONS

The Upjohn Company, a research based pharmaceutical firm located in Kalamazoo, Michigan, is inviting applications for its recently expanded Post-Doctoral program. Openings in the following research areas are available:

Eukaryotic Gene Expression: Expression of viral antigens in mammalian and insect cells for evaluation as subunit vaccines. The analysis of a developmentally controlled gene using embryonal stem cells in vitro and in vivo.

E. coli Secretion: Genetic and biochemical examination of the interactions between a secreted protein and host-factors required for its secretion.

Molecular Neurobiology/Alzheimer's Disease: Cell culture expression and characterization of recombinant proteins. Analysis of transgenic mice by immunocytochemistry and in situ hybridization.

Parasitology: Examination of the molecular pharmacology of receptor drug targets. Isolation and characterization of cDNA's encoding specific receptors.

HIV/AIDS: A structure/function analysis of essential HIV proteins.

Individuals with a PhD, M.D. or D.V.M. degree, preferably with a background in molecular biology, biochemistry, or cell biology are encouraged to apply. Interested applicants are invited to forward their resume and a statement of their research interests and experience in strict confidence to: Fax (616/329-5525), or mail to The Upjohn Company, Position #5640-BA, Corporate Employment, Kalamazoo, MI 49001. We are an Equal Opportunity Employer M/F.

Upjohn

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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Announcement of a new program:

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In addition to entering a given program directly, students may now opt to enter graduate study in the biological and biomedical sciences through the Combined Admissions Mode or CAM. This new program enables a small number of select students to begin graduate study at Stanford University without first committing to a given department or program. During the first year, following a series of "rotations" in different departments, CAM students select a thesis adviser and program in which to complete the Ph.D. The flexibility and breadth offered by CAM should appeal to those who view two or more departments or programs as equally attractive. Participating programs are:

DEPARTMENTAL:	INTERDEPARTMENTAL:
Biochemistry	Biophysics
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Chemistry	Medical Information
Developmental Biology	Sciences
Genetics	Neurosciences
Microbiology and Immunology	
Pharmacology	
Molecular and Cellular Physiology	

More information and application forms for CAM can be obtained from: Office of Graduate Admissions, Building 590, Room 208, Stanford University, Stanford, CA 94305-3052. Deadline for receipt of completed applications is Dec. 15, 1989.

Stanford University is committed to the principles of Affirmative Action and welcomes applications from students of either sex and any race, color, religion, sexual orientation or national and ethnic origin.

POSITIONS OPEN

RESEARCH SCIENTIST with Ph.D. in immunology and strong background in microbiology to head up program in pediatric otolaryngology immunobiologic research at Children's Hospital of Buffalo. Experience required at postdoctoral level. Salary competitive. Send curriculum vitae to: **Linda Brodsky, M.D., Department of Otolaryngology, Children's Hospital of Buffalo, 219 Bryant Street, Buffalo, NY 14222.**

VIROLOGIST/MOLECULAR BIOLOGIST

The Department of Medical Microbiology, University of Manitoba, invites applications for a tenure-track position at the rank of **ASSISTANT OR ASSOCIATE PROFESSOR**, beginning 1 July 1990.

Applicants should hold a Ph.D. or M.D. degree or both, and should have research experience and a strong publication record in virology/molecular biology of microbial pathogens. Other areas of research in cell biology/microbiology will also be considered. The successful candidate will be expected to establish an active research program and participate in undergraduate medical and graduate teaching programs. Salary will be commensurate with experience and qualifications.

Send curriculum vitae, a summary of research interests, and names and addresses of three referees to: **Dr. Robert Brunham, Professor and Chairman, Department of Medical Microbiology, University of Manitoba, 543-730 William Avenue, Winnipeg, Manitoba, Canada, R3E 0W3.** Applications will be received until 31 January 1990.

FELLOWSHIPS

FELLOWSHIPS IN MATHEMATICS AND MOLECULAR BIOLOGY

The Program in Mathematics and Molecular Biology has graduate and postdoctoral fellowship support available. Current topics in the program include geometry, topology, and sequence analysis of DNA; molecular dynamics; mapping functions and algorithms for DNA; and protein structure prediction. Other areas will be considered. Fellowships can be held at any university or college in the United States. Application deadline: 1 January 1990. *Women and minorities are encouraged to apply.* Apply to: **Dr. S. J. Spengler or Dr. N. R. Cozzarelli, 214A Stanley Hall, University of California, Berkeley, CA 94720.** E-mail: sylviaj@violet.berkeley.edu.

C. H. BEST FOUNDATION POSTDOCTORAL FELLOWSHIP

In diabetes research, molecular endocrinology, molecular biology, differentiation, reproductive biology, immunology, structure and function of membranes, or lipid metabolism. Tenable in the Banting and Best Department of Medical Research for 2 years after 1 July 1990 with a competitive stipend. Available to new Ph.D.'s or candidates with less than 2 years of postdoctoral training by 30 June 1990. Send curriculum vitae, transcripts, and three letters of reference, preferably before 15 December 1989 to: **Dr. Irving B. Fritz, Fellowship Committee Chairman, Banting and Best Department of Medical Research, University of Toronto, Toronto, Ontario, Canada M5G 1L6.**

POSTDOCTORAL FELLOWSHIPS. The Lineberger Cancer Research Center of the University of North Carolina (UNC) at Chapel Hill will have openings in 1990-91 for persons completing graduate studies to train with excellent investigators in basic research in tumor virology, chemical carcinogenesis, drug development, cancer cell biology, and tumor immunology. Training is available in recombinant DNA technology, gene expression, DNA replication, mutagenesis, molecular enzymology, regulation of cellular proliferation, growth factors, immunogenetics, molecular genetics of cancer, and combined programs. Unique training resources and core facilities are housed in the Lineberger Cancer Research Center. Candidates must be U.S. citizens or permanent residents. Send for brochure listing faculty and apply with curriculum vitae, three letters of recommendation, a statement of research interests, and graduate school records to: **Director, CB# 7295 Lineberger Cancer Research Center, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599.** UNC's Cancer Research Center is an Affirmative Action/Equal Opportunity Employer. Minority applicants are encouraged voluntarily to identify themselves.

PROGRAM

DOCTORAL PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY AND PATHOBIOLOGY (MCBP). Interdisciplinary program seeks qualified candidates interested in fundamental molecular and cellular biology and its application to disease. Stipends of \$9000 available on a competitive basis. Contact: **Director, MCBP Program, College of Graduate Studies, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425.**

REQUEST FOR PROPOSALS

RESEARCH: DE-RP79-90BP02836

The Bonneville Power Administration (BPA) seeks creative research proposals to isolate and identify fungi species and strains infecting egg and adult life stages of salmon at five hatchery locations. Develop culture maintenance methods and protocol for identification. Provide "pure" cultures of each strain of fungi to BPA. Call **503-230-5192** for solicitation package. When calling, be prepared to state name, address, and solicitation number. All responsible sources submitting will be considered.

COURSE

MOLECULAR ENDOCRINOLOGY AND TECHNIQUES FOR HORMONE ACTION 19 to 23 February 1990

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

Co-directors: **M. R. Hughes and B. W. O'Malley**
Fee: \$365 (\$245: fellows and students)

For further information contact:

Bonnie Cuthbert
Department of Cell Biology
Baylor College of Medicine
Telephone: 713-798-6200
Deadline: 2 February 1990

TRAINING

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.**

PREDOCTORAL TRAINING IN TOXICOLOGY

PREDOCTORAL FELLOWSHIPS are available in the Department of Toxicology at North Carolina State University. These positions are funded by a training grant from NIEHS, other NIH grants, and other sources. Training and research areas are in biochemical and molecular toxicology with special emphasis on mechanisms of xenobiotic-induced toxicity. For more information and application write to:

Dr. Robert C. Smart
Department of Toxicology
North Carolina State University
Raleigh, NC 27695

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Some of the international meetings scheduled for 1990 are:

Cytokines: Basic Principles and Clinical Applications

Florence / March 26-28

Scientific Organization: A.K. Abbas (USA) and S. Romagnani (I)

Hormonal Communicating Events in the Testis

Rome / April 9-10

Scientific Organization: M.L. Dufau (USA) and A. Isidori (I)

Reproduction, Growth and Development. V Pan-American Congress of Andrology

Acapulco / April 23-25

Scientific Organization: A. Negro-Vilar (USA) and G. Perez-Palacios (MEX)

Computers in Endocrinology

Milan / May 7-10

Scientific Organization: V. Guardabasso (I), G. Forti (I) and D. Rodbard (USA)

Major Advances in Human Female Reproduction

Rome / May 10-12

Scientific Organization: E.Y. Adashi (USA) and S. Mancuso (I)

The New Biology of Steroid Hormones

Budapest / September 3-4

Scientific Organization: F. Naftolin (USA)

Endocrinology Under 35

Siena / October 8-10

Scientific Organization: M. Maggi (I)

Plasminogen Activators: from Cloning to Therapy

Florence / October 29-31

Scientific Organization: T. Astrup (DK) and G.G. Neri Serneri (I)

IV Conference on Differentiation Therapy

Yamanashi-ken, Japan / November 4-9

Scientific Organization: G.B. Rossi (I), F. Takaku (I) and S. Waxman (USA)



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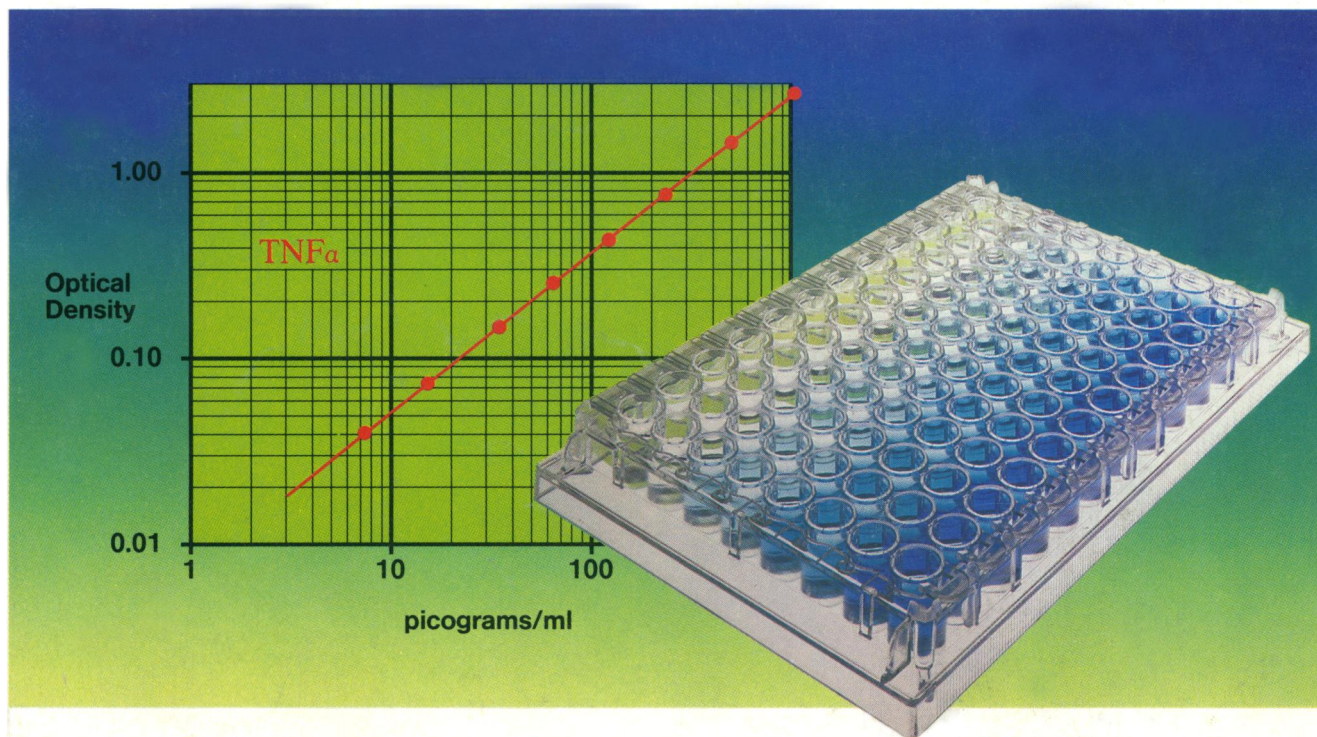
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