

ing. The other involves a failure to recognize that both direct and indirect selection (that is, effects on gene frequencies generated through effects on descendants and through effects on nondescendants) may be simultaneously influencing helping behavior in a given breeding system. Using the currently available empirical work, he evaluates the alternative explanations for the various mating systems in which helping behavior occurs. He then charts the course for future studies by pointing out areas in need of additional work and means by which such work could be conducted.

More generally, the book provides a bridge between theory, which is usually developed in terms of inclusive fitness, and empirical tests of theory, which rarely yield accurate measurements of inclusive fitness. To test theory surrogate currencies such as numbers of offspring weighted by genetic relatedness must generally be used. Brown emphasizes that when surrogates are used researchers must pay particular attention to tradeoffs such as quantity versus quality of offspring and contributions to fitness within seasons versus across seasons versus across generations.

Brown's painstaking development of his arguments and his emphasis on detail and alternatives will undoubtedly steer investigators away from oversimplified interpretations of helping behavior. His approach also indicates new directions for the study of breeding systems. Such systems may appear similar when described in terms of such traditionally invoked features as numbers of one sex bonded to members of the opposite sex; analyses of the different options associated with helping and breeding, however, indicate that the evolutionary origins and ecological interactions of such systems may be entirely different.

Brown's chapter on polyandry illustrates the diversity of conclusions that can be generated from this approach. He concludes that limited breeding habitat probably contributes to cooperative polyandrous associations in Galápagos hawks (*Buteo galapagoensis*) but that reduction in variance of food provisioning is an important factor underlying such associations in Harris's hawks (*Parabuteo unicinctus*). Abundance of food apparently favors polyandry among dunlocks (*Prunella modularis*) by allowing a female to monopolize territorial males, which then abandon territoriality within the female's home range. In the case of noisy miners (*Manorina melanocephala*) minuscule food items and a preponderance of males apparently favor a polyandry-like promiscuity, in which females use copulations to secure the future help of several males for feeding nestlings but the males violently

attack each other over inseminable females.

By identifying the array of feasible explanations within traditional categories, Brown provides a focus for future investigations: to understand the diversity of these systems through a broader consideration of alternatives and experimental manipulation of key variables in natural settings.

PAUL W. EWALD
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Books Received

Atoms in Unusual Situations. Jean Pierre Briand, Ed. Plenum, New York, with NATO Scientific Affairs Division, 1986. xii, 438 pp., illus. \$75. NATO Advanced Science Institutes Series B, vol. 143. From an institute, Cargèse, France, June 1985.

Autoimmunoregulation and Autoimmune Diseases. J. M. Cruse and R. E. Lewis, Jr., Eds. Karger, Basel, 1987. 303 pp., illus. \$185.50. Concepts in Immunopathology, vol. 4.

Avian Immunology. W. T. Weber and D. L. Ewert, Eds. Liss, New York, 1987. xviii, 351 pp., illus. \$74. Progress in Clinical and Biological Research, vol. 238. From a conference, Philadelphia, PA, July 1986.

Bayesian Analysis and Uncertainty in Economic Theory. Richard M. Cyert and Morris H. DeGroot. Rowman and Littlefield, Totowa, NJ, 1987. xvi, 206 pp., illus. \$34.95. Rowman and Littlefield Probability and Statistics Series.

Bioreversible Carriers in Drug Design. Theory and Application. Edward B. Roche, Ed. Pergamon, Elmsford, NY, 1987. viii, 292 pp., illus. \$42.50.

Charles Wright on the Boundary 1849-1852. Plantae Wrightianae Revisited. Elizabeth A. Shaw. Meckler, Westport, CT, 1987. viii, 44 pp., + microfiches in pocket. \$95.

Chemiluminescence in Organic Chemistry. Karl-Dietrich Gundermann and Frank McCapra. Springer-Verlag, New York, 1987. x, 217 pp., illus. \$93.50. Reactivity and Structure Concepts in Organic Chemistry, vol. 23.

Enriched and Impoverished Environments. Effects on Brain and Behavior. Michael J. Renner and Mark R. Rosenzweig. Springer-Verlag, New York, 1987. xii, 134 pp., Paper, \$23. Recent Research in Psychology.

Forest Vegetation Management for Conifer Production. John D. Walstad and Peter J. Kuch, Eds. Wiley-Interscience, New York, 1987. xviii, 523 pp., illus. \$57.50.

Genetics and Plant Pathogenesis. P. R. Day and G. J. Jellis, Eds. Blackwell Scientific, Palo Alto, CA, 1987. x, 352 pp., illus. \$50.

The Geological Disposal of Nuclear Waste. Neil A. Chapman and Ian G. McKinley. Wiley, New York, 1987. xii, 280 pp., illus. \$69.95.

Geotechnical Aspects of Mass Material Transportation. A. S. Balasubramanian *et al.*, Eds. Balkema, Accord, MA, 1987. x, 533 pp., illus. \$80. From a symposium, Bangkok, Thailand, Dec. 1984.

A Glossary of Computing Terms. An Introduction. The British Computer Society Schools Committee Glossary Working Party. 5th ed. Published for the British Computer Society by Cambridge University Press, New York, 1987. xii, 73 pp., illus. Paper, \$3.95.

God and the New Biology. Arthur Peacocke. Harper and Row, San Francisco, CA, 1987. xxii, 197 pp. \$19.95.

Gossip. The Inside Scoop. Jack Levin and Arnold Arluke. Plenum, New York, 1987. xii, 250 pp. \$17.95.

Graphic Introduction to Programming. Yehuda E. Kalay. Wiley-Interscience, New York, 1987. xviii, 231 pp., illus. \$27.95. Principles of Computer-Aided Design.

Handbook of Environmental Isotope Geochemistry. Vol. 2, The Terrestrial Environment. B. P. Fritz and J. Ch. Fontes, Eds. Elsevier, New York, 1986. xii, 557 pp., illus. \$96.25.

The Hare and the Tortoise. Culture, Biology, and Human Nature. David P. Barash. Penguin, New York, 1987. 551 pp. Paper, \$7.95. Reprint, 1986 edition.

Host Range and Geographical Distribution of the Powdery Mildew Fungi. Koji Amano (Hirata). Japan

Scientific Societies Press, Tokyo, 1986 (U.S. distributor, International Specialized Book Services, Portland, OR). 741 pp. \$70.

Inactivation of Hypersensitive Neurons. N. Chala-zonitis and Maurice Cola, Eds. Liss, New York, 1987. xx, 445 pp., illus. \$70. Neurology and Neurobiology, vol. 28. From a symposium, Vancouver, B.C., July 1986.

Industrial Applications of Surfactants. D. R. Karsa, Ed. Royal Society of Chemistry, London, 1987. iv, 352 pp., illus. Paper, \$65. Special Publications, no. 59. From a symposium, Salford, U.K., April 1986.

Moving into Adolescence. The Impact of Pubertal Change and School Context. Roberta G. Simmons and Dale A. Blyth. Aldine de Gruyter, New York, 1987. xvi, 441 pp., illus. \$52.95. Social Institutions and Social Change.

Multivariate Empirical Processes. J. H. J. Ein-mahl. Centrum voor Wiskunde en Informatica, Amsterdam, the Netherlands, 1987. iv, 99 pp., illus. Paper, Dfl. 14.10. CWI Tract 32.

National Parks. The American Experience. Alfred Runte. 2nd ed. University of Nebraska Press, Lincoln, NE, 1987. xxii, 335 pp., + plates. \$23.95; paper, \$9.95.

The Natural History of Squirrels. John Gurnell. Facts on File, New York, 1987. xiv, 201 pp., illus., + plates. \$21.95. Facts on File Natural History Series.

Natural Management of Tropical Moist Forests. Silvicultural and Management Prospects of Sustained Utilization. François Mergen and Jeffrey R. Vincent, Eds. Yale University, School of Forestry and Environmental Studies, New Haven, CT, 1987. vi, 212 pp. Paper, \$10.

Pyridine Nucleotide Coenzymes. Chemical, Bio-chemical, and Medical Aspects. David Dolphin, Olga Avramović, and Rozanne Poulson. Wiley-Interscience, New York, 1987. Two parts. Part A. xvi, 759 pp., illus. \$99.95. Part B. xvi, 776 pp., illus. \$99.95. Coenzymes and Cofactors, vol. 2.

Quantitative Risk Assessment. James M. Humber and Robert F. Almeder, Eds. Humana, Clifton, NJ, 1986. xiv, 278 pp. \$35. Biomedical Ethics Reviews, 1986. Based on a conference, Atlanta, GA, Sept. 1985.

Quantum Mechanics and the Particles of Nature. An Outline for Mathematicians. Anthony Sudbery. Cambridge University Press, New York, 1986. xiv, 358 pp., illus. \$59.50; paper, \$24.95.

Quantum Physics. A Functional Integral Point of View. James Glimm and Arthur Jaffe. 2nd ed. Springer-Verlag, New York, 1987. xxii, 535 pp., illus. \$57.

The Quantum Universe. Tony Hey and Patrick Walters. Cambridge University Press, New York, 1987. viii, 180 pp., illus. \$47.50; paper, \$16.95.

Radiation Carcinogenesis and DNA Alterations. F. J. Burns, A. C. Upton, and G. Silini, Eds. Plenum, New York, with NATO Scientific Affairs Division, 1986. xii, 618 pp., illus. \$97.50. NATO Advanced Science Institutes Series A, vol. 124. From an institute, Corfu, Greece, Oct. 1984.

Radiation Chemistry. Principles and Applications. Farhatzaz and Michael A. J. Rodgers, Eds. VCH, New York, 1987. xii, 641 pp., illus. \$95.

Regulating Pesticides in Food. The Delaney Paradox. Committee on Scientific and Regulatory Issues Underlying Pesticide Use Patterns and Agricultural Innovation, National Research Council. National Academy Press, Washington, D.C., 1987. xvi, 272 pp., illus. Paper, \$19.95.

The Rehabilitation of Cognitive Disabilities. J. Michael Williams and Charles J. Long, Eds. Plenum, New York, 1987. x, 235 pp. \$49.50. From a conference, Memphis, TN, May 1986.

Serpentine and Its Vegetation. A Multidisciplinary Approach. Robert Richard Brooks. Dioscorides, Portland, OR, 1987. 454 pp., illus. \$39.95. Ecology, Phyto-geography and Physiology Series, vol. 1.

7th Italian Conference on General Relativity and Gravitational Physics. (Rapallo, Sept. 1986.) U. Bruzzo, R. Cianci, and E. Massa, Eds. World Scientific, Singapore, 1987 (U.S. distributor, Taylor and Francis, Philadelphia). xiv, 512 pp., illus. \$79.

Sintering '85. G. C. Kucynski, D. P. Uskoković, Hayne Palmour III, and M. M. Ristić, Eds. Plenum, New York, 1987. x, 411 pp., illus. \$79.50. From a conference, Herceg-Novi, Yugoslavia, Sept. 1985.

6th Topical Workshop on Proton-Antiproton Collider Physics. (Aachen, Germany, June 1986.) K. Eggert, H. Faissner, and E. Radermacher, Eds. World Scientific, Singapore, 1987 (U. S. distributor, Taylor and Francis, Philadelphia). xxiii, 845 pp., illus. \$97.

The Social Contexts of Criminal Sentencing. Martha A. Myers and Susette M. Talarico. Springer-Verlag, New York, 1987. viii, 225 pp., illus. \$52. Research in Criminology.

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.

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

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SCIENCE
1333 H Street, NW
Washington, DC 20005

POSITIONS WANTED

Molecular Virologist, Ph.D., 1984. Experience with recombinant DNA, cloning, restriction enzyme mapping, dideoxy sequencing, SDS-PAGE and 2D, mammalian cell transfection, eukaryotic expression, structure/function studies of retroviral proteins. Good publication record. Seeks industry or government position in St. Louis, Missouri or midwest area. Box 162, SCIENCE.

Ph.D. Experience in lipid analysis, phospholipid polyunsaturated fatty acid metabolism. Metabolite analysis by radioisotopic technique, TLC, HPLC, GC. Blood cell separation, organelle isolation, enzyme assay in whole-cell or membrane preparation. RIA development, cell culture, ELISA, immunological techniques, organic synthesis. Academic or industry staff position. Philadelphia/New Jersey area. Box 163, SCIENCE.

Protein Biochemist, Research associate, 1981; 17 years of experience in industrial and basic research. Enzyme glycoprotein, membrane protein, and antibody purification and characterization for structure and function, membrane recombination. Seeks research/academic/industrial position in Canada. Box 161, SCIENCE.

POSITIONS OPEN

ADVANCED ASSISTANT PROFESSOR

The University of Iowa Department of Chemistry anticipates making an appointment at the advanced assistant professor level for an individual with established track records in research and teaching. The candidate's area of research is open to all fields of chemistry, including biochemistry. Applicants should submit curriculum vitae, a summary of research interests (including past and present research grant support), a statement of teaching accomplishments and interests, and arrange for three letters of recommendation. *Applications from qualified women and minorities are strongly encouraged.* Send application material to: **Dr. Daniel Quinn, Department of Chemistry, The University of Iowa, Iowa City, IA 52242.** Early application is encouraged. *Equal Opportunity/Affirmative Action Employer.*

Board-certified **ANESTHESIOLOGIST** required at assistant professor level in progressive academic department. Background and experience in cardiopulmonary physiology research with demonstrated ability in this area mandatory. Experience in cardiac anesthesia, including fellowship training in this area, with established teaching experience background in Internal Medicine with Board-certification or equivalent required. Applicant will be responsible for completing ongoing research in the study and analysis of pulmonary vascular mechanisms and will also be responsible for the planning, design, and execution of follow-up and other studies in this area as well as clinical projects in the area of cardiac anesthesia. Salary commensurate with qualifications. Interested applicants should apply immediately in writing to: **Ms. Diane Voss, Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins Hospital, Blalock 1414, Baltimore, MD 21205.** Enclose full curriculum vitae and list three professional references. *The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR DEPARTMENT OF ZOOLOGY DUKE UNIVERSITY

The Department of Zoology seeks applicants for a position related to physiology. The appointment will be at the tenure-track assistant professor level, for the fall of 1988. Applicants should have demonstrated outstanding ability in research. Teaching responsibilities consist of a one-semester undergraduate course in principles of physiology, and an advanced offering in the other semester. By 4 December 1987 send curriculum vitae, brief statement of research and teaching interests, and the names and addresses of three references, to: **Dr. Vance Tucker, Chairman, Search Committee, Department of Zoology, Duke University, Durham, NC 27706.** *Duke University is an Equal Opportunity/Affirmative Action Employer.*

BIOLOGY—Two 9-month, tenure-track positions available 16 August 1988 at the **ASSISTANT PROFESSOR** level. Applicants must have completed the Ph.D. and preferably, have postdoctoral research experience. Applicants for the molecular biology position should have expertise in microbial genetics. Teaching responsibilities will include introductory biology courses. Successful applicants will also be expected to become involved in an existing recombinant genetics program and establish research programs that involve undergraduate and graduate (M.S.) students. *Women and minorities are encouraged to apply.* Screening of applicants will begin 15 January 1988. Submit curriculum vitae with names, addresses, and telephone numbers of three references and statement of research interests to: **Biologist Search, Office of Academic Affairs, Western Kentucky University, Bowling Green, KY 42101.** *An Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF OPHTHALMOLOGY. The Department of Ophthalmology at the University of Southern California School of Medicine is seeking an M.D./Ph.D. ophthalmologist with prior experience in retina and related fields of research. Also required is experience in molecular biology and neurotransmitters. Send qualifications and curriculum vitae to: **Stephen J. Ryan, M.D., Chairman, Department of Ophthalmology, University of Southern California School of Medicine, 1355 San Pablo Street, Los Angeles, CA 90033.** *The University of Southern California School of Medicine is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—Alzheimer's disease—Emory School of Medicine, Department of Psychiatry is searching for a candidate with research expertise in the neurobiology of Alzheimer's. M.D. or Ph.D. candidates may apply. Submit curriculum vitae to: **Jeffrey L. Houpt, M.D., Professor and Chairman, Department of Psychiatry, Emory University School of Medicine, P.O. Box AF, Atlanta, GA 30322.**

ASSISTANT PROFESSOR OF BIOCHEMISTRY

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

ASSISTANT PROFESSORSHIP DEPARTMENT OF NEUROBIOLOGY HARVARD MEDICAL SCHOOL

The Department of Neurobiology and Harvard Medical School is conducting a search for an assistant professor with interest in cellular or molecular neuroscience including, but not limited to, differentiation, development and neuronal signaling. The position involves establishment of an independent research program, training of graduate students and postdoctoral fellows, and teaching of medical students. *Harvard Medical School is an Equal Opportunity/Affirmative Action Employer; applications from women and minorities are encouraged.* Applicants should send curriculum vitae, names of at least three references, and a statement of research interests to:

Dr. David Potter
Chairman, Search Committee
Department of Neurobiology
Harvard Medical School
220 Longwood Avenue
Boston, MA 02115

ASSISTANT PROFESSOR OF NUTRITION. Applications are invited for a 12-month, tenure-track appointment in the Graduate Program in Nutrition at the State University of New York at Buffalo (SUNYAB). Ph.D. in Nutrition and 2 years of postdoctoral experience are required. Successful candidate expected to develop and teach graduate courses in biochemical nutrition, develop research program in an area of metabolism that can attract external funding, advise students and participate in committee work. Deadline for application is 1 February 1988. Send curriculum vitae, three letters of recommendation, and a letter stating research plans and interest to:

Atif B. Awad, Ph.D., Nutrition Program Director
Chairman of the Search Committee
323 Kimball Tower
SUNY at Buffalo
3435 Main Street
Buffalo, NY 14214

SUNYAB is an Affirmative Action/Equal Opportunity Employer.

Applications invited for a tenure-track position at **ASSISTANT OR ASSOCIATE PROFESSOR** level available 1 September 1988. Ph.D. required. Duties include teaching undergraduate courses in general biology and microbiology for biology majors and allied health students. Candidates should have a commitment to excellence in teaching and to service to the institution. Salary and rank commensurate with experience. *Minority applicants are strongly encouraged to apply. An Equal Opportunity/Affirmative Action Employer.* Send letter of interest and résumé by 23 November 1987 to: **Dr. P. E. Bostick, Biology Department, Kennesaw College, Marietta, GA 30061.**

POSITIONS OPEN

HARVARD MEDICAL SCHOOL DEPARTMENT OF GENETICS

The Department of Genetics at Harvard Medical School invites qualified Ph.D. or M.D. scientists to submit applications for an appointment at the **ASSISTANT PROFESSOR** level. The appointment offers significant scholarly, educational and scientific resources in addition to the opportunity to instruct graduate and medical students with strong interests and promise in genetics research. Candidates with demonstrated interests in imaginative approaches to understanding the genetics of eukaryotic systems are particularly encouraged to apply. Applicants should submit, prior to 1 January 1988, curriculum vitae, reprints, statement of research interests in less than 500 words, and names of three references to: **Dr. Philip Leder, Chairman, Department of Genetics, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115.**

Harvard University is an Equal Opportunity/Affirmative Action Employer. Qualified women and minority group members are encouraged to apply.

Applications are invited to fill one probationary (tenure-track) appointment and one term appointment at the rank of an **ASSISTANT OR ASSOCIATE PROFESSOR** beginning 1 July 1988.

Candidates should have a D.D.S./D.M.D. or Ph.D. degree with teaching experience in either gross anatomy or histology, in addition to at least one other area (neuroanatomy, embryology and histology). The teaching responsibility will be to dental, dental hygiene, and postgraduate diploma students in dentistry. The successful applicants will be located in the Department of Anatomy and are expected to develop a productive research program in an area relating to dentistry.

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

Applicants should submit their curriculum vitae, an outline of their research goals, and arrange for three letters of reference to be sent to: **Dr. G. H. Bowden, Professor and Head, Department of Oral Biology, Faculty of Dentistry, University of Manitoba, 770 Bannatyne Avenue, Winnipeg, Manitoba, Canada R3E 0W3.** Deadline for applications is 31 January 1988.

BIOCHEMIST

Temple University is seeking a biochemist to join a research group studying molecular and/or cell biological interactions of blood coagulation. Applicants should have a Ph.D. in biochemistry with at least 3 years of postdoctoral experience in molecular or cell biology and cell culture. Familiarity with recombinant DNA techniques is desirable. A nontenured faculty position with full benefits and the rank of research assistant professor is available. Send résumé and three references to: **Robert W. Colman, Director, Thrombosis Research Center, Temple University Health Sciences Center, #7 PP, 3400 North Broad Street, Philadelphia, PA 19140.** *Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTRY/MOLECULAR GENETICS TEXAS A&M UNIVERSITY

The Department of Biochemistry and Biophysics is seeking applications for **FACULTY POSITIONS**. These are 12-month, tenure-track positions to be filled September 1988. Academic rank is open and dependent upon experience and qualifications. Outstanding individuals having research interests dealing with the molecular aspects of regulation, structure, mechanism, or function in microbial, animal, or plant systems are sought. In addition to research, participation in the department undergraduate and graduate teaching programs will be required. A Ph.D. in either biochemistry or a related field, plus appropriate postdoctoral experience is required.

Applicants should send curriculum vitae, list of publications, a brief description of current and future research directions, and have three letters of reference sent to:

**Dr. James Wild
Department of Biochemistry and Biophysics
Texas A&M University
College Station, TX 77840-2128**

Applications will be accepted until 15 December 1987, or until a suitable candidate is found.

The Texas A&M University System is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF BIOLOGY

A tenure-track faculty position is available starting in the fall semester of 1988. We seek a broadly trained invertebrate zoologist to teach 12 contact hours per semester in a variety of undergraduate courses including invertebrate zoology, evolutionary biology, and introductory biology. Preference will be given to candidates who have demonstrated postdoctoral teaching expertise at the college or university level, as well as evidence of a successful and active research program involving invertebrates. The salary range is from \$22,000 to \$28,000 depending upon qualifications of the candidate. Applicants should submit a letter of application describing teaching philosophy and goals, curriculum vitae, representative reprints and three letters of recommendation to: **Dr. Richard Robinson—Chair, Biology Search Committee, Department of Sciences and Mathematics, 39 High Street—Preble Hall, University of Maine at Farmington, Farmington, ME 04938.** The closing date for completed applications is 1 December 1987. *The University of Maine is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

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

BIOCHEMIST—MASS SPECTROMETRIST. Responsible for operation and maintenance of Hewlett Packard 5988 mass spectrometer, performance of extractions and in vitro incubations of endocrine and neural tissues, and the analysis of the resulting samples by GC/MS. Applicant must have a Ph.D. and 3 to 5 years of experience in the biochemistry of steroid hormone metabolism and mass spectrometry. Submit curriculum vitae to:

**Professor Seymour Lieberman
St. Luke's—Roosevelt Hospital Center
432 West 58 Street, New York, NY 10019**

BIOLOGIST: ASSISTANT PROFESSOR. Ph.D., tenure-track, fall 1988; to teach microbiology, cell biology, nonmajors course, and specialty course, with commitment to advising and working with students in a liberal arts college. Candidates should have an interest in research and teaching interdisciplinary courses. Send curriculum vitae, transcripts, and three recent letters of recommendation preferably by 15 December 1987 to: **Dr. David Jordan, Dean, Austin College, Sherman, TX 75091.** *Equal Opportunity Employer.*

CELLULAR AND MOLECULAR BIOLOGISTS

The Department of Biological Science of Florida State University will recruit at least two new assistant professors for appointments in the 1988 to 1989 academic year. We are seeking individuals with postdoctoral experience who use cellular and molecular approaches to investigate fundamental physiological processes in animals. Areas of specialization include, but are not limited to, neuronal, sensory, effector, endocrine, and cellular-transport systems. Departmental facilities include extensive animal care facilities, analytical biochemistry and monoclonal antibody laboratories; a marine laboratory on the Gulf of Mexico; a microcomputer facility; TEM, SEM, and STEM facilities; and well-staffed electronics, machine, and wood-working shops. Approval has been given for construction of a new departmental research building to be completed in 1990. A competitive package of start-up funds for new faculty is available. By 1 January 1988, interested candidates should forward a statement of research plans, curriculum vitae, and names and addresses of three references to: **Dr. Marc E. Freeman, Faculty Search Committee, Department of Biological Science, Florida State University, Tallahassee, FL 32306-3015.**

Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

CELL PHYSIOLOGIST. Rank of assistant professor. Qualifications: D.V.M. and/or Ph.D. degree(s) with a strong background in metabolic and biochemical physiology. Teaching duties include participation in teaching physiology in the professional veterinary curriculum as well as in graduate degree (cell biology) programs. The successful candidate will be expected to initiate and conduct a high quality research program. Application closing date: 1 February 1988 or until filled. Position availability date: 1 July 1988. Submit curriculum vitae with a statement of your teaching and research interests, together with the names and addresses of three persons who, upon contact, would be willing to give us an evaluation of your qualifications and abilities to: **Dr. Robert A. Argenzio, Department of Anatomy, Physiological Sciences and Radiology, College of Veterinary Medicine, North Carolina State University, 4700 Hillsborough Street, Raleigh, NC 27606.**



CELLULAR IMMUNOLOGIST

Cellular Immunologist, Ph.D. and greater than 3 years of experience with human lymphocyte culture studies. NK/ADCC/CTL assay experience preferred. Will have flexible hours to fit assays performed and report to the Chief of Medical Oncology. Salary \$30,000 to \$40,000, plus excellent benefits package. For interview appointment, please contact or send résumé to: **Human Resource Department, American International Hospital, 2629 Sheridan Road, Zion, IL 60099.** Telephone: 312-746-4491, extension 495.

COMPARATIVE PSYCHOLOGIST/ANIMAL BEHAVIORIST. Tenure-track assistant professorship beginning September 1988. We are seeking individual whose research program falls into one of two categories. The first category would involve research on species-typical behavior. The second would involve research on biology of learning and memory in animals. In addition to research, applicant is expected to teach at graduate and undergraduate levels. Send curriculum vitae, reprints (or other samples of scholarly work), statement of research interests, and three letters of recommendation by 15 January 1988, to: **Michael Numan, Faculty Search Committee, Department of Psychology, Boston College, Chestnut Hill, MA 02167.** *Boston College is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

COMPUTER RESEARCH ENGINEER (SCIENTIST)—Nuclear Medicine: Responsibilities include development and design of mini-micro computer systems hardware and software (VAX 11-750, Prime 300), network of image acquisition/processing work stations, teaching, equipment maintenance and ongoing research participation. M.S. degree in EE, Computer Science, or Biomedical Engineering, minimum 3 years of experience, or relevant B.S. plus additional experience. We offer an excellent compensation and benefits package. Please send résumé to: **Jean Cogswell, Employment Representative, Long Island Jewish Medical Center, New Hyde Park, NY 11042.** *An Equal Opportunity Employer.*

DEVELOPMENTAL BIOLOGIST

The Department of Biology at Washington University in St. Louis, seeks to add an additional developmental biologist to its faculty. Preference will be given to junior candidates whose credentials and postdoctoral records indicate a strong potential both to establish a productive, independent research program in a subarea of development that will complement the interests of existing members of the department, and to participate effectively in the teaching of developmental biology to undergraduate and graduate students. The usual teaching responsibility in the department is for 40 lecture hours per year. Interested candidates should send a current curriculum vitae and a letter summarizing past, current, and future research and teaching interests, and arrange to have three letters of reference sent to: **David L. Kirk, Chair of Developmental Biology Search, Department of Biology, Washington University, St. Louis, MO 63130.** *Washington University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

CHAIR, DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

The School of Medicine and the College of Science and Mathematics, Wright State University invite applications and nominations for the position of Chair of the Department of Microbiology and Immunology. Candidates must have an M.D., Ph.D., or both, with demonstrated accomplishments in teaching and research. The ability and desire to provide effective academic administration is essential. Candidates from all relevant areas of microbiology and immunology will be considered. The department offers courses to baccalaureate and graduate students as well as undergraduate medical students, and participates in the Biomedical Sciences Ph.D. Program.

Send curriculum vitae with the names and addresses of three references to: **Albert F. Langley, Ph.D., Chair, Microbiology and Immunology Search Committee, Wright State University, School of Medicine, Department of Pharmacology and Toxicology, Dayton, OH 45435.** The closing date for applications is 1 December 1987.

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

THE CHINESE UNIVERSITY OF HONG KONG FACULTY OF MEDICINE

Applications are invited for the **CHAIR OF ANATOMY**, which will fall vacant in May 1988. The appointee will be required to organize the teaching and research activities of the Department.

Conditions of Service: The minimum salary for the post is HK\$417,240 per year. (Approximate exchange rate: US\$1=HK\$7.8; £1=HK\$12.9.) Benefits include long leave, superannuation (University 15% of salary, appointee 5%), medical benefits, education allowance for children, housing accommodation on campus (rental at 7.5% of salary) and air passage benefits.

Application Procedure: Applications should be made out in triplicate, giving the names and addresses of three referees in addition to full particulars of qualifications and experience, and sent together with copies of certificates/diplomas/testimonials and recent publications to: **The Personnel Section, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong** not later than 15 December 1987. Please quote reference number 86/509/2-1987 and mark 'Recruitment' on cover.

DEPARTMENT HEAD BIOLOGY PENN STATE

The Department of Biology, The Pennsylvania State University, seeks to fill the position of Head of the Department. Applications from and nominations of established scientists with a strong research record are invited; teaching and administrative experiences are desirable. The department has 27 faculty members at the University Park Campus and 33 at the Commonwealth Campuses. The department head must interact with a variety of departments and with intercollegiate programs in ecology, genetics, physiology, and plant physiology. Preliminary inquiries encouraged. Candidates should submit curriculum vitae, list of publications, and names, addresses and telephone numbers of three references to: **Professor Ronald A. Pursell, Chairman of Search Committee, Box 79, 211 Whitmore Laboratory, The Pennsylvania State University, University Park, PA 16802; Telephone: 814-865-9651.** Review to begin in November, closing 4 January 1988, or until a suitable candidate is found. *An Equal Opportunity/Affirmative Action Employer.*

DIRECTOR—FLOW CYTOMETRY RESOURCES: Tenure-track position with responsibility for the continued development of flow cytometry resources is available at University of New Mexico (UNM) School of Medicine. Will direct a State of Art Laboratory with three flow cytometers (Coulter 753, BD FACScan and BD FACS III) and supporting staff and equipment. The Lab is affiliated closely with the National Flow Cytometry Resource at the Los Alamos National Laboratory. Director will be expected to develop independent research program that uses innovative methods in flow cytometry to address basic issues in biology and medicine. His/her academic appointment will be dependent on academic needs and credentials. Deadline: 8 January 1988. Submit letter of application, list of references, and curriculum vitae to: **Dr. J. M. Oliver, University of New Mexico School of Medicine and/or Cell Pathology Laboratory, Surge Building, Albuquerque, NM 87131.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

DEVELOPMENTAL GENETICS

A tenure-track vacancy at the **ASSISTANT OR ASSOCIATE PROFESSOR** level in developmental genetics exists in the Department of Genetics at North Carolina State University. The research area is open, but we are particularly interested in individuals working with the genetic control of developmental processes in animals. Preference is given to individuals with postdoctoral experience. Interested individuals should submit a complete curriculum vitae, three letters of recommendation, reprints of relevant publications, and a cover letter outlining their research interests and teaching experience to: **Dr. William R. Atchley, Head, Department of Genetics, North Carolina State University, Raleigh, NC 27695-7614. Telephone: 919-737-2292.** The closing date for applications is 15 December 1987 or when a suitable candidate is found.

North Carolina State University is an Affirmative Action/Equal Opportunity Employer.

DIRECTOR, INSTITUTE FOR MOLECULAR AND AGRICULTURAL GENETIC ENGINEERING UNIVERSITY OF IDAHO

The University of Idaho invites applications for Director of the Institute for Molecular and Agricultural Genetic Engineering (IMAGE). The purpose of IMAGE is to encourage research in and development of newly emerging biotechnologies at the University of Idaho and to promote the use of these technologies with respect to agricultural, natural resource and industrial applications. IMAGE is composed of scientists from a variety of departments, colleges, and locations within the University of Idaho, and it provides a focus for research interests and encourages research interaction within the university and with cooperating institutions such as the Idaho National Engineering Laboratory (INEL). Equally important is training of students in recombinant DNA technology and biotechnology. The university and the state have made a major financial commitment to support biotechnology in the state.

Duties include promotion of research programs in IMAGE, organization of educational programs, budget preparation, and establishment of effective liaison with cooperating institutions and funding agencies.

Qualifications required include an earned Ph.D., an excellent research record in a biotechnology related area, and proven administrative ability. Salary is competitive and will be related to the qualifications and experience of the candidate.

Letters of application including curriculum vitae, statement of interests and goals, and names of at least three references including addresses and telephone numbers should be sent by 1 February 1988 to: **Dean A. Larry Brannen, Chairman, IMAGE Search Committee, College of Agriculture, University of Idaho, Moscow, ID 83843; telephone: 208-885-6681.**

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

The State University of New York at Buffalo—**DIRECTOR OF ACADEMIC COMPUTING.** The State University of New York at Buffalo (SUNY-Buffalo) is seeking applications for the position of Director of Academic Computing. The person is responsible for developing and coordinating computer services in support of instruction and research, and for providing leadership and direction for SUNY-Buffalo's growing academic computing activities. The Director of Academic Computing reports to the Associative Vice President for Computing and Information Technology.

Qualifications: The position requires a master's degree in a science related field, although a Ph.D. degree is highly desirable. The successful candidate will have demonstrated experience in an administrative and management profession with an excellent grounding in current trends in Academic Computing, and an enthusiasm for developing new and innovative approaches to delivering computing services.

Applications from members of minority groups and women are encouraged. Applications, curriculum vitae, and names of three references should be submitted to: **Chairperson, Academic Computing Search Committee, 305 Computing Center, Box 6, State University of New York at Buffalo, Buffalo, NY 14260.** Screening begins 15 November 1987. *SUNY/Buffalo is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

University of California, Berkeley, Institute of Human Development (IHD), seeks **DIRECTOR**, effective 1 July 1988. Position will be 50% director and 50% tenured faculty position in an appropriate academic department. IHD focuses on the systematic study of human beings from a multidisciplinary perspective over the entire lifespan. Observational, survey, experimental, cross-sectional, short-, and long-term longitudinal techniques are used. The Institute's archives are a national resource, comprising data on three longitudinal studies spanning several generations dating back to 1927. Annual budget in excess of \$1 million. The successful candidate must demonstrate continuing research and professional achievement; evidence of administrative abilities; academic and scholarly distinction sufficient for tenured appointment. Closing date for application is 15 January 1987. Applicants should forward curriculum vitae including three referees and bibliographies of publications in refereed journals to: **IHD Director Search Committee, c/o Provost for Research, 200 California Hall, University of California, Berkeley, CA 94720.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

REOPENED SEARCH PROFESSOR/ASSOCIATE PROFESSOR OF ENVIRONMENTAL EPIDEMIOLOGY AND DIRECTOR, CENTER FOR ENVIRONMENTAL EPIDEMIOLOGY

The Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh has an immediate vacancy for a tenured professor/associate professor of Epidemiology to head the program in environmental epidemiology. This program is focused in an EPA-funded Center for Environmental Epidemiology; the successful candidate would be expected to serve as the Center Director. The Center is a component of the School's Dean's Office.

The School has strong programs in aging, diabetes, environmental chemistry, environmental microbiology, genetics, radiation health, statistical methods and toxicology. Research related to the etiology of developmental abnormalities and congenital malformations is in progress. The School has close ties to the Pittsburgh Cancer Institute. The applicant should be an established epidemiologist with specific interests in the effects of the environment on human health and have a successful track record of research and teaching in environmental epidemiology. The position is a hard money commitment by the School. Salary is commensurate with qualifications.

Interested applicants should send letter of intent, résumé, and copies of three most recent peer-reviewed reprints to: **Philip E. Enterline, Ph.D., Chairman of the Search Committee, University of Pittsburgh, 130 DeSoto Street, Pittsburgh, PA 15261.**

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

FACULTY POSITION IN PARASITOLOGY

The Department of Pathobiology, School of Veterinary Medicine at the University of Pennsylvania invites applications for a tenure-track assistant professor position in the Laboratory of Parasitology, available 1 July 1988. Applicants are expected to have a D.V.M. and Ph.D. degree with postdoctoral experience and demonstrated research and teaching ability in parasitology. Candidates with M.D./Ph.D. or Ph.D. degrees with additional experience as indicated will also be considered. Preference will be given to candidates with a background in molecular or immunoparasitology. The successful applicant will be expected to develop a strong research program and participate in the teaching and training of veterinary and graduate students. Salary will be commensurate with qualifications. Candidates are requested to submit curriculum vitae and the names and addresses of at least three references to:

**Dr. W. T. Weber
Chairman**

**Department of Pathobiology
School of Veterinary Medicine
University of Pennsylvania
3800 Spruce Street
Philadelphia, PA 19104**

Deadline for applications is 15 January 1988. *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR, MIDWESTERN CLIMATE CENTER. The Climate and Meteorology Section of the Illinois State Water Survey at the University of Illinois is seeking a Ph.D. in meteorology, atmospheric sciences, geography, or agronomy with 5 years of experience and proven research competence in one of the following areas: agricultural meteorology, climate impact assessment, hydroclimatology, or water resources. The Director will be responsible for the day-to-day operations of the Center and for external interactions with state and federal agencies and the private sector. The candidate will also have the opportunity to perform and direct research that addresses key weather and climate impacts in the Midwest's agricultural, energy and water resource sectors. Salary: negotiable. Send résumés and the names of three references to: **Dr. Peter J. Lamb, Head, Climate and Meteorology Section, Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL 61820. Telephone: 217-333-6780. Closing date: 20 November 1987. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.**

DIRECTOR—IMMUNOLOGY

The Medical College of Ohio is seeking an established immunologist to develop and lead a new Immunology Group within the Department of Microbiology. The college is prepared to make a major investment in capital equipment, start-up funds, faculty salaries, and suitable space for this program. Candidates must have a proven record of significant research in cellular immunology and/or in molecular immunology. The successful applicant must be capable of attracting extramural funding and will be appointed to the professorial tenure-track faculty. Send a statement of research goals and ideas for development of the Immunology Program, curriculum vitae, and three letters of recommendation to: **Earl H. Freimer, M.D., Chairman, Department of Microbiology, Medical College of Ohio, C.S. 10008, Toledo, OH 43699.**

An Equal Opportunity, M/F Employer and Educator.

EDUCATION—CHAIRPERSON—Department of Food Science—College of Human Resources (Search Reopened)—The University of Delaware is seeking a dynamic scholar who will provide leadership in building research and academic strength in its Department of Food Science. The department is young, multidisciplinary, and with the infusion of additional human and financial resources, has the potential for national prominence. The department's ideal geographic location has resulted in collaborative arrangements with the many food and chemical companies and research agencies in the region; there is strong potential for further expansion. Qualifications: earned doctorate in food science or closely related field, demonstrated achievement in basic and applied research, and research grant administration and teaching. Demonstrated effective management and communication skills. Deadline for applications is 30 November 1987. Application and/or nominations including the names of three references should be forwarded to: **Dr. Carolyn A. Thoroughgood, Chairperson, Search Committee, 101 Alison Hall, College of Human Resources, University of Delaware, Newark, DE 19716. The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.**

FACULTY POSITION IN CELL/DEVELOPMENTAL BIOLOGY

Applications are invited for a tenure-track position in the Department of Biological Sciences at Carnegie Mellon University. Applicants must be strongly motivated toward carrying out research in cell and/or developmental biology. Candidates who are just completing their postdoctoral research training will be considered for a position of starting assistant professor; exceptionally well-qualified individuals may be considered for appointment at a higher level. 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: **Dr. Susan Henry, Head, Department of Biological Sciences, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213. Carnegie Mellon University is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

FACULTY POSITION IN CRYSTALLOGRAPHY within the Department of Biochemistry at Case Western Reserve University (CWRU). The Department of Biochemistry invites applications for a tenure-track position from outstanding candidates involved in the x-ray diffraction analysis of proteins. The School of Medicine at CWRU has a strong group of protein chemists and enzymologists and is building a Protein Structure Core in which the crystallographer will have a central role. The appointment may be at any level, and all well-qualified applicants are encouraged to apply. The successful applicant will be expected to establish his/her own funded research program, and to interact with other protein chemists in the School. Send letter of application, curriculum vitae, names of three or more references, and description of research interests to: **Dr. William C. Merrick, Search Committee, Department of Biochemistry, Case Western Reserve University School of Medicine, 2119 Abington Road, Cleveland, OH 44106. CWRU is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION DEPARTMENT OF MICROBIOLOGY UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

The Department of Microbiology, College of Letters and Science, University of California, Los Angeles invites applications for a tenure-track faculty position. Applicants should have strong training and research experience in some area of microbial development, symbiosis, diversity, cell-cell interactions, or microbial behavior. Emphasis must be at the molecular level. Candidates must be motivated toward excellence in teaching and basic research. Applicants must have a Ph.D. or equivalent degree, and several years of postdoctoral experience. Please submit curriculum vitae, brief description of research goals, and the names of at least three references, by 30 November 1987, to: **Dr. Robert P. Gunsalus, Chairman of Search Committee, Department of Microbiology, University of California, Los Angeles, CA 90024. UCLA is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION IN MACROMOLECULAR CRYSTALLOGRAPHY. The Department of Chemistry and the Waksman Institute at Rutgers University are seeking a third faculty member to join their macromolecular crystallography group (**Edward Arnold and Adrain Goldman**). Outstanding individuals at all levels will be considered, and candidates are expected to establish a vigorous independent research program. A \$1.5-million state-of-the-art x-ray experimental facility is being established for this group. Please submit curriculum vitae, a brief summary of research interests, and arrange for three letters of reference to be sent to: **The Search Committee, Macromolecular Crystallography, Department of Chemistry, Rutgers University, P.O. Box 939, Piscataway, NJ 08854. Applications must be received by 30 November 1987. Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION IN THE GASTROENTEROLOGY DIVISION, Beth Israel Hospital and Harvard Medical School. The position requires an M.D., or M.D., Ph.D. degree. The candidate should be a well-established independent investigator in the area of gastrointestinal or liver physiology, morphology, cellular biology, or molecular biology. The candidate is expected to participate in the educational programs of the Department of Medicine. The level of appointment will be commensurate with the applicant's experience. Please send curriculum vitae to: **Raj K. Goyal, M.D., Gastroenterology Division, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215. We are an Equal Opportunity/Affirmative Action Employer.**

FIELD DIRECTOR MOUNTAIN RESEARCH STATION

The Institute of Arctic and Alpine Research seeks a Director for its Mountain Research Station, to be responsible for its courses and research programs. Ph.D. or equivalent in a science field appropriate to mountain environments is required, as is administrative and personnel-relations ability, and a record of obtaining support. Candidate will also be expected to conduct research. Send letter, curriculum vitae, and names of three referees by 28 November 1987 to: **M. F. Meier, INSTAAR, University of Colorado, Campus Box 450, Boulder, CO 80309. The University of Colorado is an Affirmative Action/Equal Employment Opportunity Employer.**

POSITIONS OPEN

FACULTY POSITION IN STRUCTURAL BIOLOGY

The Department of Molecular Biology, Princeton University, invites applications for an Assistant Professorship in structural biology. Areas of interest to the Department include problems in protein folding and structure, nucleic acid-protein interactions, and cellular architecture. Applicants should send a description of research interests, curriculum vitae, and the names of three referees before 30 November 1987 to: **Structural Biology Search Committee, 104 Guyot Hall, Princeton University, Princeton, NJ 08544.**

Princeton University is an Equal Opportunity/Affirmative Action Employer.

SETON HALL UNIVERSITY FACULTY (TENURE-TRACK) POSITION ORGANIC CHEMISTRY

Seton Hall University, Chemistry Department anticipates a tenure-track position beginning September 1988. This position is for organic chemistry, at the assistant professor level (but higher rank will be considered). The individual should complement the research areas of our faculty, and would participate in our B.D., M.S., and Ph.D. programs. Demonstrated research excellence and a commitment to teaching at the graduate and undergraduate levels are required.

Send résumé, three letters of reference, and a brief description of future research plans on or before 1 December 1987 to:

**Faculty Search Committee
Department of Chemistry
Seton Hall University
400 South Orange Avenue
South Orange, NJ 07079**

Equal Opportunity/Affirmative Action Employer

FLOW CYTOMETRY TECHNICIAN. Full-time senior flow cytometry technician to operate a Coulter Epics 753 Dye Laser system in a research/clinical flow cytometry laboratory presently performing a large number of three and four color studies. Applicant must have experience with Coulter or FACS instrumentation, and must have a particular interest in multiple parameter analysis and sorting. Salary and benefits package is very competitive nationally. Send résumé and three letters of recommendation to: **Edwin B. Walker, Ph.D., Indiana University School of Medicine, Department of Medicine, Clinical Building, Room 379, 541 Clinical Drive, Indianapolis, IN 46223. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

UNIVERSITY OF CALIFORNIA—RIVERSIDE GENETICIST

The Department of Biology, University of California, Riverside, invites applications for a tenure-track position in genetics. The appointment will be effective 1 July 1988, with duties commencing in September, and will be made at the assistant, associate, or full professor level, commensurate with the qualifications of the appointee. Minimum qualifications include postdoctoral training, demonstrated excellence in research, and a commitment and demonstrated ability to teach both undergraduate and graduate students. A senior level appointment may be made to an established scholar committed to assuming a leadership role within the Department as well as the campus-wide genetics community. We are seeking an individual with interests and expertise in the molecular basis of genetic processes. Acceptable areas of research include, but are not limited to, mechanisms of genetic integration and transposition, developmental genetics and gene expression, and genomic evolution. To apply, send curriculum vitae, statement of research and teaching interests, copies of representative publications, and arrange to have sent three to five letters of recommendation by 15 January 1988, to: **Genetics 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.**

MicroProbe Corporation

DNA Probes Diagnostics and Therapeutics

MicroProbe, a DNA probe company having strong emphasis on nucleic acid chemistry, has immediate openings for Senior Scientists and Research Associates in:

Molecular Biology: Cloning, sequencing, DNA hybridization and non-isotopic signal development.

Chemistry: Synthetic organic chemistry related to nucleic acids, bio-organic or medicinal chemistry.

Product Development: Assay design and optimization for viral and microbial diagnostic products.

Senior Scientists will have a Ph.D plus post-doctoral training. Research Associates will have a B.S. with research experience or an M.S.

MicroProbe is located in suburban Seattle and offers a stimulating research & development environment, a competitive salary and benefits package, plus an equity position.

Submit resume in confidence to:

MicroProbe Corporation

1725 220th Street SE, No. 104

Bothell, WA 98021

An equal opportunity employer

ASSISTANT PROFESSOR VERTEBRATE ZOOLOGIST

Tenure-track position beginning Fall, 1988. Responsible for teaching Comparative Anatomy, Vertebrate Natural History, and Herpetology or Mammalogy. Must be capable of developing and teaching a course in Vertebrate Physiological Ecology. Will be expected to conduct research and direct graduate student research in the area of Vertebrate Zoology. Must have doctorate and demonstrated teaching ability.

Send letter of interest, curriculum vitae, three letters of reference, and transcripts (undergraduate and graduate) to: **Dr. Herbert H. Caswell, Jr., Head, Department of Biology, c/o Human Resources, Position V Zoo, P.O. Box 920, Eastern Michigan University, Ypsilanti, MI 48197.**

Deadline for application is December 1, 1987.

Eastern Michigan University is an Affirmative Action/Equal Opportunity Employer



Eastern Michigan University

RESEARCH SCIENTIST

MIT's Department of Applied Biological Sciences seeks a Research Scientist in Biopolymer Engineering, specific projects involve the isolation, characterization and manipulation of the genes responsible for polyhydroxybutyrate biosynthesis to produce novel biopolymers. Ph.D. level candidate with 3-4 years' postdoctoral experience in the area of molecular biology of biopolymer synthesis in Gram negative bacteria, in particular, *Zoogloea ramigera* and *Alcaligenes eutrophus*. Candidates should have a thorough background in molecular biology and biochemistry as well as the ability to develop innovative approaches to the biopolymer engineering field. Expertise in DNA sequencing, site-directed mutagenesis and protein purification would be an advantage.

Interested candidates should send two copies of both cover letter and resume referencing Job No. R87-389 to: Mr. Ken Hewitt, c/o MIT Personnel Office, (E19-239), 77 Massachusetts Avenue, Cambridge, MA 02139

MIT is an
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MIT

Visiting Scientist Immunology

A postdoctoral Visiting Scientist position is open within the Medical Products Department at Du Pont's Glenolden Laboratory in Pennsylvania. The successful candidate will conduct innovative basic research in immunoregulation with special emphasis on lymphokines and their cellular receptors. Candidate should possess a Ph.D. and one or more years of experience in Immunology or Molecular Biology. The appointment will be for one year, renewable for a second year upon mutual agreement.

At the world renowned Du Pont Company, you'll find a highly stimulating scientific environment in addition to an excellent salary. To be considered, please send resume, bibliography and references by November 30, 1987 to: Dr. Richard Robb, Glenolden Laboratory, E.I. Du Pont de Nemours and Company, 500 S. Ridgeway Avenue, Glenolden, PA 19036.



U.S. Citizenship required.
An Equal Opportunity Employer M/F

POSITIONS OPEN

FUNGAL MOLECULAR GENETICIST. Assistant Professor, Department of Plant Pathology, University of California, Riverside. Full-time, tenure-track position. Appointee to develop innovative program in molecular genetics of fungi, particularly plant pathogens, to complement other research programs on the genetics of bacterial and viral pathogens and phytopathogenic fungal biology; 85% research, 15% graduate level teaching. Ph.D. required in an appropriate area with interest and/or experience in molecular genetics of filamentous fungi. Curriculum vitae, complete transcripts, a statement of research interests, and three confidential letters of recommendation should be sent to: **Dr. W. O. Dawson, Search Committee Chairman, Department of Plant Pathology, University of California, Riverside, CA 92521.** Application deadline is 1 March 1988 or until a suitable applicant has been selected. *Women and minority candidates are encouraged to apply. Equal Opportunity/Affirmative Action Employer.*

GENETICIST. The Department of Biology, University of Central Arkansas, invites applications for a tenure-track assistant professor position to begin fall 1988. Recent Ph.D.'s or postdoctorates are encouraged to apply. The individual will teach both undergraduate and graduate genetics, and biology for nonscience majors. Preference will be given to applicants broadly trained in the following disciplines of genetics: population genetics, evolutionary biology, biometry and molecular genetics. Submit curriculum vitae, copies of transcripts, a brief description of teaching and research career goals, and names of three references to: **Dr. Edmond Griffin, Chairman, Department of Biology, University of Central Arkansas, Conway, AR 72032; Telephone: 501-450-3146.** The deadline for receipt of applications is 15 December 1987. *The University of Central Arkansas is an Equal Opportunity Employer.*

POSITION IN GEOLOGY AND PHYSICS

Eastern Oregon State College (EOSC) invites applications for a **TENURE-TRACK POSITION** starting 16 September 1988. Salary and academic rank are open and based on academic preparation and teaching experience. Must have a Ph.D. in geology with a very strong physics background or a Ph.D. in geophysics. Eastern seeks a dynamic individual who will continue our high quality teaching in geology and physics and has the capability to attract students to these courses. Must be able to teach undergraduate geology for non-majors and introductory physics course. Send a letter of application, résumé, copy of all college transcripts, and three recent (1985 to 1987) letters of reference to: **Paul Stephas, Geology/Physics Search Committee, School of Arts and Sciences, Badgley Hall, Eastern Oregon State College, La Grande, OR 97850.** Application deadline is 31 December 1987. *EOSC is an Affirmative Action/Equal Opportunity Employer.*

HISTOLOGIST/CELL BIOLOGIST. Rank of assistant or associate professor. Qualifications: D.V.M. and/or Ph.D. degree(s) with a strong background in histology and cell biology. Teaching duties include histology in the professional veterinary curriculum and participation in the cell biology graduate program. The successful candidate will be expected to initiate and conduct a high quality research program. Application closing date: 1 February 1988 or until filled. Position availability date: 1 July 1988. Submit curriculum vitae with a statement of your teaching and research interests, together with the names and addresses of three persons who, upon contact, would be willing to give us an evaluation of your qualifications and abilities to: **Dr. J. E. Smallwood, Department of Anatomy, Physiological Sciences and Radiology, College of Veterinary Medicine, North Carolina State University, 4700 Hillsborough Street, Raleigh, NC 27606.**

IMMUNOLOGIST, PH.D.: Seeking senior scientist with extensive experience in hybridoma/monoclonal antibody development for use in cancer therapy. Also will require someone with skills in vaccine preparation, lymphokine, and cell-mediated cytotoxicity. Two positions open in Miami, Florida with private medical organization that emphasizes immunotherapeutic approaches to cancer therapy. Please send résumé to:

**Medical Director
Cancer Biotherapy Associates
2153 Coral Way, Suite 404
Miami, FL 33145**

POSITIONS OPEN

GENETICIST UNIVERSITY OF ILLINOIS

The School of Life Sciences, University of Illinois at Urbana-Champaign invites applications for a faculty position at the associate professor level. We are seeking a person who is an accomplished geneticist well versed in the modern approaches of molecular and cellular biology. The academic and research record should have a record of sustained significant and innovative research activity in genetic research. A major duty of the successful applicant will be the coordination of the campus-wide graduate genetics program. This administrative responsibility will be balanced by decreased teaching responsibilities. The departmental affiliation of the successful applicant within the School of Life Sciences will depend upon the specific interests of the applicant. Starting date is open. Salary is negotiable and commensurate with experience. Send résumé and names of three references to: **Professor J. Cronan, School of Life Sciences, University of Illinois, 393 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; telephone: 217-333-3044.** To receive full consideration, applications should be received by 15 January 1988.

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

WASHINGTON UNIVERSITY ST. LOUIS HUMAN ANATOMY/ PHYSICAL ANTHROPOLOGY

Washington University is seeking applications for a joint appointment at the senior level in the fields of human anatomy and physical anthropology. Applicants must have experience in the teaching of human anatomy to medical students and the teaching of physical anthropology to anthropology graduate students. Candidates should have an outstanding research record in some aspect of primate biology and/or human evolution. The appointee would be expected to interact with an expanding research program based in anatomy, anthropology, and primate biology. The appointment and teaching responsibilities would be shared between the Departments of Anthropology and Anatomy and Neurobiology. Applicants should send curriculum vitae, statement of research interests, and names and addresses of three referees by 15 January 1988 to: **Dr. Glenn C. Conroy, Department of Anatomy and Neurobiology, Washington University Medical School, 660 South Euclid Avenue, St. Louis, MO 63110.** *Affirmative Action Employer/Equal Opportunity Employer.*

IMMUNOLOGIST— EXPERIMENTAL PATHOLOGIST

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

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

Send résumé and the names of three references to:

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

MAMMALOGY/ORNITHOLOGY. Cornell University invites applications for a **CURATORIAL RESEARCH ASSOCIATE** position in the bird and mammal collections, starting spring 1988 or as negotiated. Initial appointment for 3 years; renewable upon periodic reviews. Position requires a Ph.D., a broad knowledge of birds and/or mammals, and experience working in systematic collections. Responsibilities include independent research (50%) and management of the collections (50%) with the help of a curatorial assistant. We will begin selecting finalists on 15 December 1987 and continue until a suitable candidate is found. To apply, send curriculum vitae, statements of collections experience and research interests, selected reprints and three letters of reference to: **Dr. Amy R. McCune, Ecology and Systematics, Corson Hall, Cornell University, Ithaca, NY 14853; telephone: 607-255-5070.** *Cornell University is an Equal Opportunity Employer.*

POSITIONS OPEN

MAGNETOENCEPHALOGRAPHY

Biomagnetic Technologies is seeking a qualified **SCIENTIST** to work on computational methods for neuro-magnetism, classical electromagnetic theory and functional imaging. The ideal candidate will have an advanced degree in physics, biophysics, or mathematics, experience in UNIX/C and FORTRAN, adaptive filtering techniques and computer graphics. BTI offers a stimulating work environment, the opportunity to develop ideas into a product used by researchers and clinicians worldwide, an excellent benefits package and competitive salary. Apply to: **Professional Staffing, Biomagnetic Technologies, Inc., 4174 Sorrento Valley Boulevard, San Diego, CA 92121.** *BTI is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR BIOLOGISTS

PERMANENT OR POSTDOCTORAL to join research group engaged in multifunctional approaches to studying the structure and expression of acutely regulated genes. Research projects currently under investigation deal with mechanisms of gene regulation and biosynthesis of human complement factor D and murine amyloid P component. Applicants should be well versed in recombinant DNA methodology; however, exceptional candidates will be considered at the postdoctoral level. Please forward curriculum vitae to: **Dr. John E. Mole, Department of Biochemistry, University of Massachusetts Medical Center, Worcester, MA 01655.** *An Affirmative Action/Equal Opportunity Employer.*

MOLECULAR SYSTEMATIST POSITIONS SMITHSONIAN INSTITUTION

The National Museum of Natural History, Smithsonian Institution, is seeking two systematists or evolutionary biologists who specialize in molecular or biochemical techniques. One will hold an appointment in the Department of Botany; the other in one of the following zoological departments: Entomology, Invertebrate Zoology, or Vertebrate Zoology. Applicants must have an active research program in systematic or evolutionary biology, and expertise in a variety of nucleic acid or natural-product chemistry techniques; preference will be given to candidates with postdoctoral experience using nucleic acid methodologies.

These positions will be located in the laboratory to be established at the Museum Support Center in Suitland, Maryland. Salary and grade level of these positions will be commensurate with experience and/or education. One of these positions will also serve as Laboratory director. Anticipated starting date is no later than October 1988. Send curriculum vitae, names of three references, selected publications, and an Office of Personnel Management Standard Form 171 to the Office of Personnel Administration, Smithsonian Institution, Washington, DC 20560, Attention: MPA-87-550-F. Closing date for receipt of applications is 31 December 1987. For more information please contact: **Dr. Gary Graves, Chair, Molecular Systematics Search Committee, Department of Vertebrate Zoology, Smithsonian Institution, National Museum of Natural History, Washington, DC 20560; telephone: 202-357-2335.** *The Smithsonian Institution is an Equal Opportunity Employer.*

NEUROSCIENCE FACULTY POSITIONS AT HAHNEMANN UNIVERSITY PHILADELPHIA, PENNSYLVANIA

Faculty positions at all levels are available in the Department of Physiology and Biophysics at Hahnemann University.

These positions are being offered in conjunction with the continuing commitment of the University to a multidisciplinary program in the neurosciences. Required are Ph.D. degree and an established record of research in the neurosciences, as evidenced by publications and extramural research support.

Successful candidates will be expected to interact on a campus-wide level with clinical and basic investigators in the neurosciences as well as participate in the education of medical and graduate students through team-taught medical and advanced physiology courses.

Applications must be submitted by 15 December 1987. Interested applicants should send curriculum vitae, bibliographies, and names of three references to: **G. C. Salmoiraghi, M.D., Ph.D., Chairman, Department of Physiology and Biophysics, Hahnemann University, Mail Stop 409, Broad and Vine Streets, Philadelphia, PA 19102.**

SENIOR RESEARCHER

Ph.D. in Biochemistry, Physiology or related field with strong background in membrane biochemistry. The applicant should have experience in peptide/protein isolation and characterization, protein/lipid interactions, and general physical aspects of membrane structure and function.

Position involves research in the general area of drug interactions with biological membranes and mechanisms of drug transport. Research experience in biochemical techniques appropriate for drug transport studies, especially related to peptide compounds, is desirable.

Competitive salary commensurate with qualifications.

INTERx Research Corporation, subsidiary of Merck & Co., Inc., is primarily responsible for identification and resolution of drug delivery problems within Merck Sharp & Dohme Research Laboratories. This charge is being addressed through multidisciplinary approaches involving clinical and biological research as well as the identification and feasibility testing of innovative controlled release systems.

INTERx is located in Lawrence, Kansas, a city of about 80,000 persons, which is about 45 miles west of Kansas City. INTERx research facilities are located adjacent to biomedical research laboratories of the University of Kansas. **Send resume to Personnel:**

INTERx

Merck Sharp & Dohme Research Laboratories
2201 West 21st Street, Lawrence, KS 66046

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Merck & Co., Inc.

FELLOWSHIP IN NEUROSCIENCE-NEUROPATHOLOGY- NEUROANATOMY

HARVARD MEDICAL SCHOOL
DEPARTMENT OF NEUROLOGY AT
BETH ISRAEL HOSPITAL

We are seeking a postdoctoral fellow to participate in ongoing research and eventually develop new directions. Current work in this laboratory includes the neuropathology of aging and Alzheimer's Disease, the anatomical organization of cholinergic pathways and the connectivity of the primate limbic system. A strong emphasis on neuroanatomy is a common theme in all of these projects.

Familiarity with histology, axonal transport methods, histochemistry and immunohistochemistry will be desirable. However, in the case of highly successful and motivated candidates who have not mastered these techniques, training will be provided. Additional knowledge of enzymology, neurochemistry or behavior is desirable.

The laboratory is part of a Behavioral Neurology Unit and there will be opportunities for direct contact with the relevant clinical problems such as dementia, amnesia and other neurobehavioral disorders. However, this fellowship is primarily for bench research and not for clinical research. Candidates should be permanent residents or US citizens. Salaries will be commensurate with NIH guidelines. **A statement of interest, a CV and letters of reference should be sent to M. Mesulam, M.D., Department of Neurology, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.**

Chairperson: Chemical Engineering, Chemistry and Environmental Science

NJIT seeks applications for chairperson of chemical engineering, chemistry and environmental science. There are 35 tenure-track faculty in the department which offers accredited undergraduate degrees in chemical engineering and applied chemistry, and graduate degrees in chemical engineering, chemistry and environmental science. Research funding in the current year is approximately \$1.3 million with broad support of local petroleum, pharmaceutical and food industries. Candidates must qualify for a tenured position as full professor and have demonstrated leadership and administrative skills. Qualifications: earned doctorate in chemical engineering, chemistry or related field; a record of achievement in research; commitment to excellence in teaching. Inquiries regarding this position may be addressed to Dr. R. Parker, chairman, Search Committee, (201) 596-3588.

NJIT is the comprehensive technological university of New Jersey with 7,500 students enrolled in baccalaureate through doctoral programs within three colleges: Newark College of Engineering, the School of Architecture, and the College of Science and Liberal Arts.

NJIT does not discriminate on the basis of sex, race, color, handicap, national or ethnic origin, or age in employment.

Send resume including publication record and names of three references by February 12, 1988: Personnel Box CCCE.



**New Jersey
Institute of Technology**
Newark, New Jersey 07102

BioSurface Technology, Inc., a private company which is engaged in the culturing of epidermal cells for use as human skin grafts, is currently seeking qualified individuals to become part of its research and development group.

Senior Scientists

Candidates must possess a Ph.D in Epithelial Cell Biology and have a minimum of eight years' post doctoral experience which demonstrates scientific excellence and leadership in research projects on cell culture, skin biology, or soluble factors and matrix macromolecules that modulate epidermal proliferation and differentiation. Successful candidates will lead projects aimed at increasing the understanding of human epidermal cell biology and the clinical applications of cell culture technology.

Staff Scientists

BioSurface seeks applicants with a Ph.D and at least two years' post doctoral experience in Epithelial Cell Biology or related fields. Successful candidates will participate in research projects on cell culture systems, the biology of the skin and clinical applications in the area of wound healing.

A position on the BioSurface team offers an exceptional opportunity to work with world leaders in cell biology on exciting aspects of epithelial cell research. BioSurface offers competitive salaries, a comprehensive benefits package and stock participation. Interested candidates should send a CV, and salary requirements to **Personnel Department,**

**BioSurface Technology, Inc.,
One Kendall Square, Building 200,
Cambridge, MA 02139.**

BioSurface Technology, Inc.

EOE

GenBank™ Reviewer/Coordinator

IntelliGenetics offers the unique opportunity to work in two of the fastest growing areas in industry and research. It is the only company that combines the most sophisticated techniques in software development with applications in genetic engineering and other areas of biotechnology. Join with the leading producer of biotechnology software as we enter an exciting new phase of growth.

As the Reviewer/Coordinator for GenBank, the national repository of nucleic acid sequence data, you will serve as the liaison between the data collection/ biological standards groups at the Los Alamos National Laboratories and the distribution group at IntelliGenetics. You will provide support to database users as well as create and edit manuals and release notes. In addition, you will be responsible for the design of author entry software.

A Ph.D. in molecular biology or a closely related discipline is essential for this key position, with one year of post-doctoral experience or equivalent preferred. Experience in designing relational database applications is desirable. Study or experience in systematics is a plus.

We offer a dynamic scientific environment with opportunity for growth. To be considered for this critical role, please forward your resume with salary history and requirements to:

Professional Staffing, IntelliGenetics, 700 East El Camino Real, Suite 300, Mountain View, California 94040.



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UNIVERSITY OF COLORADO VISITING FACULTY AND POSTDOCTORAL FELLOWSHIPS (1988-89)

FOR RESEARCH IN

- atmospheric chemistry
- analytical chemistry
- environmental chemistry, biochemistry and geochemistry
- atmospheric and climate dynamics
- remote sensing
- global change

at the Cooperative Institute for Research in Environmental Sciences (CIRES).

Five competitive fellowships will be awarded to recent Ph.D. recipients and to senior scientists, including faculty on sabbatical leave. Stipends average \$26,500 for twelve months. Appointments can begin at any time during the year. Selection of awardees is made in part on the likelihood of active interaction with CIRES scientists and other research groups in Boulder. Senior CIRES-affiliated scientists working in these fields include James Avery, Susan Avery, Ben Balsley, Roger Barry, John Birks, Henry Diaz, R. Ray Fall, Lang Farmer, Fred Fehsenfeld, Alexander Goetz, Howard Hanson, William Hay, Murray Johnston, Bruce Koel, Eric Kraus, Uwe Radok, Colin Ramage, George Reid, Robert Sani, Russ Schnell, Robert Sievers, and Harold Walton. Candidates are encouraged to contact one or more of the senior investigators as they are preparing their proposals. Apply to

**Prof. R. Sievers, Director, CIRES,
Visiting Fellows Program
University of Colorado, Campus Box 449
Boulder, CO 80309.**

Include vitae, publications list, and brief outline of proposed research. Also request that three persons familiar with your qualifications send letters of recommendation. Junior applicants must submit undergraduate and graduate transcripts. First consideration will be given to applications received by December 1. Final application deadline is February 15.

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

Director of Clinical Trials, Immunology

XOMA Corporation, a leading pharmaceutical company located in the San Francisco Bay area, is currently in search of an M.D. to direct a clinical project evaluating the use of immunotoxins in immunologic disorders, including graft versus host disease complicating bone marrow transplantation.

XOMA currently has monoclonal antibody products in human clinical trials for infectious disease, immunologic diseases and cancer. This is an excellent opportunity for an experienced physician to participate in the forefront of clinical research and a dynamic environment, developing technologically advanced pharmaceutical products.

The ideal candidate will possess:

- *M.D. degree with clinical training in immunology and/or infectious diseases;
- *A minimum of 2 years pharmaceutical trials experience;
- *Exceptional organizational, communications and management skills.

If the above describes you and you wish to explore this unique opportunity further, please send your C.V. and salary history to: **Director of Human Resources, XOMA Corporation, 2910-7th Street, Berkeley, CA 94710. EEO.**



XOMA
CORPORATION

FISH COMMUNITY ECOLOGIST

Northrop Services, Inc., is seeking applicants to develop and implement long-term research strategy in the area of regional ecological risk assessment. Research tasks include examining links among water quality, physical habitat, and fish and macroinvertebrate community quality. Other responsibilities include evaluating current monitoring and assessment methodologies and suggesting improvements. Research results will be published in government reports and scientific journals and presented at scientific and management oriented meetings and workshops.

Qualifications: PhD in Zoology, Ecology, or Fisheries and broad field experience in sampling fish and macroinvertebrate communities. Experience must include developing research strategies and plans, conducting research projects, sample and data analysis, and technical report writing. Candidates must be knowledgeable about landscape ecology, aquatic ecology, limnology, water pollution biology, multivariate statistical analysis, and assessments of environmental quality. A strong record of publications and presentations and experience with regional or statewide water body evaluations is required. Demonstrated scientific creativity and the ability to link research with environmental concerns and policy are highly desirable. Applicants must also enjoy working with an interdisciplinary team of scientists and technicians.

Send letter of application, three sample reprints, and resume to the address below, **Attn. Susan Carey**. Please cite number (4550-013-87) in all correspondence. Closing date is November 20.

NORTHROP SERVICES, INC.
200 SW 35th Street, Corvallis, OR 97333
Northrop Services, Inc. is an Equal Opportunity Employer

POSTDOCTORAL FELLOW

Plant Molecular Biology

The Molecular and Cellular Biology Department of Zeecon Research Institute, a division of Sandoz Crop Protection Corporation, is seeking a postdoctoral scientist to conduct basic studies in plant molecular biology.

The post doctoral fellow will have the opportunity to participate in projects dealing with molecular and genetic analyses of the plant cell cytoskeleton, gene regulation and genetic engineering. The position is available for two years.

Zeecon Research Institute has been a leader in innovative research programs for nearly 20 years. The Institute has established research programs in plant biotechnology, insect physiology/biochemistry & chemistry.

Our research laboratories are located in Palo Alto, California, in close proximity to Stanford University. Our postdoctoral fellows conduct their research in an open, academic-like environment which encourages publication and interaction with other scientists throughout the world.

To apply for this position, please send curriculum vitae and three references to:



Sandoz Crop Protection Corporation
Zeecon Research Institute
Human Resources Department
975 California Avenue
Palo Alto, CA 94304-1104
AA/EOE

DEAN

University of Minnesota, Duluth School of Medicine

The University of Minnesota invites nominations and applications for the position of Dean, School of Medicine, Duluth. The School of Medicine is a two-year program of medical education, including basic and clinical sciences.

The Dean is the chief executive officer of the School of Medicine with responsibility for leadership in planning and development, personnel administration, resource improvement and management, and in representing the School. The Dean will also be a tenured professor or a tenured associate professor within a department of the School of Medicine.

Qualifications include an earned doctorate in medicine or basic medical science and a minimum of two years administrative experience in an academic health setting. Applicant must also meet the qualifications for the rank of tenured professor or tenured associate professor.

Applications and/or nominations should be submitted by January 8, 1988, to:

Dr. Ellen T. Fahy, Chair
School of Medicine Dean's Search Committee
University of Minnesota, Duluth
10 University Drive
Duluth, Minnesota 55812

THE UNIVERSITY OF MINNESOTA is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

Academic Administrator Biology

Manage operation of multi-disciplinary academic/research department. Requires skill in financial management, budgeting, undergraduate and graduate programs, computer/word processor literacy, and an understanding of research grants and laboratory requirements.

Please submit resume to Dr. K.C. Hayes, Brandeis University, Biology Department, Waltham, MA 02254.

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A NEW CANCER RESEARCH GROUP

DEVELOPMENT OF THE ONCOGENIC PHENOTYPE

As part of a major new Terry Fox initiative in cancer research, the Faculty of Medicine, Memorial University of Newfoundland, is seeking four individuals with experience in: oncogenes, viral oncology, growth factors, tumour markers, oncocyto-genetics, molecular genetics. The intention is to recruit a senior person, who would have a major role in coordination and the appointment of the other members of the group. 4,000 sq. ft. of new laboratory space, major new equipment and start-up funds are available. Appointments will be tenure track; senior and junior candidates with a Ph.D. or M.D. are encouraged to apply now by submitting a curriculum vitae and the names of three referees to: **Dr. C.H.J. Ford, Oncogenic Phenotype Search Committee, Health Sciences Centre, Memorial University of Newfoundland, St. John's, Nfld., Canada A1B 3V6. (709) 737-6714.** In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.

Diagnostic Imaging Research

The Diagnostic Imaging Division of our Medical Products Department has several openings for life sciences professionals to join our research group at our suburban Boston location. If you would enjoy working with a team of scientists on the design and development of diagnostic agents for cardiovascular and neurological disorder, we offer the following opportunities.

Pharmacologist

Our requirements include a Ph.D. in Pharmacology or Physiology with a strong background in cardiovascular physiology and pharmacokinetics. Experience in drug design and evaluation preferred.

Biochemist

Qualifications include a Ph.D. in Biochemistry or Pharmacology with 2-5 years of post-doctoral experience. A solid technical knowledge of intermediary metabolism, cardiac and neurophysiology is desirable.

Medical Physicist

Candidates should possess a Ph.D. (M.S. with 3-5 years experience would be considered) in the field of medical physics, medical imaging or a related field. Strong computer skills and a working knowledge of nuclear medicine, image analysis systems, and biology are essential.

If you would like to learn more about an exciting career with opportunity for challenge and growth with a Fortune 100 company, send your resume with salary requirement to Ms. Erin Moore, E.I. DuPont de Nemours and Co., 331 Treble Cove Road, N. Billerica, MA 01862. An Equal Opportunity Employer.



POSITIONS OPEN

NEUROSCIENTISTS

Two tenure-track positions are available at the assistant professor level in the Department of Anatomy and Neurobiology. Applicants should have a minimum of 2 years of postdoctoral training, and a strong record of research productivity and potential to establish an independent research program. Preference will be given to applicants with research interests in developmental, molecular, or systems neuroscience. The quality of research program as well as the potential for interaction with present faculty members is more important than the specific type of research. Preference for one of the positions will be given to individuals with experience in gross anatomy. Teaching responsibilities for the second position include neuroscience and/or histology. Both individuals will be expected to participate in a multidisciplinary neuroscience graduate program. Send curriculum vitae, description of research interests, summary of teaching experience, and names of three references by 1 December 1987 to: **Dr. Rodney L. Parsons, Chairman, Department of Anatomy and Neurobiology, College of Medicine, The University of Vermont, Burlington, VT 05405.**

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

ASSISTANT PROFESSOR OF PHYSICS

Eastern Oregon State College (EOSC) invites applications for a tenure-track position at the assistant professor level starting 16 September 1988. Applicants must have a Ph.D. in physics with a strong experimental background. Eastern seeks a dynamic individual who will continue our high quality teaching in physics and has the capability to attract students to these courses. Should be able to instruct a laboratory course in modern electronics instrumentation including microprocessors. Send a letter of application, résumé, copy of all college transcripts, and three recent (1985 to 1987) letters of reference to: **Paul Stephas, Physics Search Committee, School of Arts and Sciences, Badgley Hall, Eastern Oregon State College, La Grande, OR 97850.** Application deadline is 31 December 1987. *EOSC is an Affirmative Action/Equal Opportunity Employer.*

PLANT ECOLOGIST ASSISTANT PROFESSOR

The Division of Biology at Kansas State University (KSU) has a tenure-earning position available at the assistant professor level effective September 1988. Although broadly defined, we are especially interested in plant ecologists with postdoctoral experience and expertise in one or more of the following: plant/consumer interactions, modeling, plant communities, plant physiology, and soil/microbial interactions. The successful applicant will be expected to establish a vigorous research program on the 3,487-hectare Konza Prairie Research Natural Area and/or similar sites, and to participate in undergraduate and graduate teaching. Candidates should apply by 7 December 1987 by submitting curriculum vitae, a brief description of future research plans, and having three letters of reference sent to:

**Terry C. Johnson, Director
Division of Biology, Ackert Hall
Kansas State University
Manhattan, KS 66506**

KSU is an Equal Opportunity/Affirmative Action Employer.

PLANT GENETICIST

The Department of Botany, Louisiana State University (LSU), invites applications for a tenure-track position in plant genetics anticipated for August 1988. Preference will be given to candidates who have an experimental orientation and who complement current departmental programs. Responsibilities include developing an active research program, attracting graduate students and extramural funding, and teaching specialty and introductory courses. Evidence of research and teaching excellence and a Ph.D. are required. Review of applications will begin on 15 December 1987 and continue until the position is filled.

Ensure that curriculum vitae, a statement of research goals, and three letters of reference are sent to: **Plant Geneticist Search Committee, Department of Botany, LSU, Baton Rouge, LA 70803-1705.** *LSU is an Equal Opportunity Employer.*

POSITIONS OPEN

PLANT PHYSIOLOGIC ECOLOGIST

The Department of Ecology and Evolutionary Biology at the University of Connecticut seeks a plant physiologist/ecologist for a tenure-track position at the assistant/associate professor level beginning September 1988.

The successful candidate will be expected to teach an advanced course in their area of interest and participate in an undergraduate biology, plant physiology, or ecology course. Applicants should demonstrate a strong research and teaching commitment and preference will be given to individuals whose interests complement those of the faculty. There are ample opportunities for interaction with faculty in all areas of biology.

Applicants should submit curriculum vitae, a statement of research interests, reprints, and three letters of reference by 15 December 1987 to: **John Silander, Chairman of the Plant Physiological Ecology Search Committee, Department of Ecology and Evolutionary Biology, Box U-46, 75 North Eagleville Road, The University of Connecticut, Storrs, CT 06268.** *We are an Affirmative Action/Equal Opportunity Employer, M/F. (Search #8A148).*

THE UNIVERSITY OF CONNECTICUT

POSTDOCTORAL ASSISTANT, Department of Environmental Health, University of Cincinnati—Postdoctoral research position in chemical carcinogenesis available 1 October 1987. Position involves the synthesis and identification of metabolites and characterization of DNA and hemoglobin adducts in biological systems. Ph.D. in chemistry/biochemistry is required. Background should include synthetic and spectroscopic techniques and familiarity with cell culture and/or in vivo techniques. Send résumé and three letters of recommendation to: **Dr. David Warshawsky, Department of Environmental Health, University of Cincinnati Medical Center, OH 45267-0056.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW—Physical biochemistry. Research includes: characterization of the tyrosine fluorescence of the neurohypophyseal hormones oxytocin and vasopressin and the neurophysin hormone carrier proteins; investigation of the binding interaction between the hormones and the neurophysins; and hormone/receptor studies. Both steady-state and time-resolved fluorescence and/or protein chemistry desirable. Send curriculum vitae including names of possible references to: **Dr. William R. Laws, Department of Biochemistry, Box 1020, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574.** *An Equal Opportunity Employer.*

POSTDOCTORAL FELLOW

Position available immediately for beginning postdoctoral candidate to use 2-D NMR and other physicochemical techniques to study conformations of synthetic peptides related to receptor binding sites. Funding requires U.S. citizenship. Send application and names of references to: **Dr. Edward Hawrot, Department of Pharmacology, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.**

POSTDOCTORAL FELLOW, PULMONARY HYPERSENSITIVITY. Position beginning immediately with assured support for 3 years to develop methods for assessing the allergenic potential of inhaled anthroquinone-based dyes in small laboratory animals. These methods will then be used to evaluate several dye mixtures. Work would involve close collaboration with established small animal pulmonary physiologists and immunotoxicologist. Send curriculum vitae to: **Roberta Spratt, Center for Environmental Medicine, University of North Carolina—Chapel Hill, Trailer #4, Medical Research Building C, CB#7310, Chapel Hill, NC 27599.**

POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE

Position immediately available for a Ph.D. in molecular biology or immunology to participate in studies on tumor antigens. Experience in molecular immunology and production of hybrid and monoclonal antibodies desired. Salary is negotiable. Send curriculum vitae and names of three references to: **Dr. J. C. Olson, Department of Pathology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425.**

POSITIONS OPEN

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE IN ATHEROSCLEROSIS RESEARCH POSITION available to investigate physicochemical regulation of cholesterol ester-hydrolyzing enzymes at interfaces. Project focuses on the role of substrate-phospholipid interactions in controlling enzyme binding, ester hydrolysis and cholesterol removal. Salary (\$20,500 minimum) and position dependent on training and experience. For information or to apply, contact: **Dr. Howard Brockman, The Hormel Institute, University of Minnesota, 801 16th Avenue NE, Austin, MN 55912; Telephone: 507-437-9620.** Application should be received within 30 days, and include curriculum vitae, publication list and the names of three references. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE to study the role of calmodulin and other Ca^{2+} -binding proteins or of phospholipase A_2 in cell functions. Candidates with Ph.D. background in enzymology, protein chemistry, or recombinant DNA are preferred. Salary starts at \$22,000 with yearly increases and excellent benefits. Send curriculum vitae and three letters of recommendation to: **Dr. Wai Yiu Cheung, Department of Biochemistry, St. Jude Children's Research Hospital, Memphis, TN 38101.**

POSTDOCTORAL FELLOW IN TOXICOLOGY. Position available to be filled anytime in next 9 months to examine the role of metallothionein in Cd toxicity or the hepatobiliary disposition of chemicals. Must be a U.S. citizen or admitted for permanent residency. Send curriculum vitae to: **Curtis D. Klaassen, Ph.D., Department of Pharmacology and Toxicology, University of Kansas Medical Center, Kansas City, KS 66103.**

POSTDOCTORAL POSITION under the direction of **Dr. Joseph Katz, Biochemistry Research.** Postdoctoral position as research fellow available immediately for 2 years in areas of pathways of glycogen synthesis, carbohydrate metabolism in vivo and in vitro, and effects of hormones and alcohol.

Education required: Requires Ph.D. in biochemistry or physiology. Contact person: Send current curriculum vitae to:

**Cheryl Kostelnik
Cedars-Sinai Medical Center
8700 Beverly Boulevard
Brown Building, 1st Floor
Los Angeles, CA 90048.**

POSTDOCTORAL POSITION: available immediately for biochemical studies of growth factors in human tumors and biological fluids. Project under way at primary pediatric teaching hospital of the University of Washington. Candidate should have experience in isolation, purification, and characterization of biologically active molecules; cell culture techniques and bioassays. Send curriculum vitae and references to: **David Tapper, M.D., Surgeon-in-Chief, Children's Hospital and Medical Center; 4800 Sand Point Way N.E., Seattle, WA 98104.** *An Affirmative Action Employer.*

POSTDOCTORAL POSITION to study the DNA affinity binding of potential chemopreventive and antineoplastic drugs. A recent Ph.D. in chemistry or biochemistry is required, and previous experience in covalent and affinity DNA binding is preferred. Send curriculum vitae and three letters of reference to: **Dr. Barry Gold, Eppley Institute for Research in Cancer, University of Nebraska Medical Center, Omaha, NE 68105.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Available immediately for a Ph.D. pharmacologist/biochemist to participate in studies related to uptake of antiviral drugs in monocytic and lymphoid cell lines. Mechanisms associated with amino acid transport and uptake of polyamines will be studied. Send curriculum vitae and names of three references to: **Dr. Krishna C. Agrawal, Department of Pharmacology, Tulane University School of Medicine, New Orleans, LA 70112.** *An Equal Opportunity/Affirmative Action Employer.*

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ANALYTICAL PEPTIDE/PROTEIN CHEMIST

The Clayton Foundation Laboratories for Peptide Biology at The Salk Institute for Biological Studies, a multidisciplinary group investigating the chemistry, physiology and pharmacology of regulatory peptides has an opening for an Analytical Peptide/Protein Chemist. The individual will be responsible for the sequencing of novel bioactive peptide/proteins and will also be expected to develop his/her own research program. Requires a PhD and relevant postdoctoral experience.

Academic title and salary will be commensurate with qualifications. Interested candidates should send a curriculum vitae and three letters of reference to:

Search Committee/JW
The Clayton Foundation
Laboratories for Peptide Biology
The Salk Institute
P.O. Box 85800
San Diego, California 92138

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NEW YORK, N.Y. 10036

Associate Chemist

Smith Kline & French Laboratories is seeking an Associate Chemist for the Department of Pharmaceutical Research and Technologies located in suburban Philadelphia, near Valley Forge, PA.

Qualified applicants are required to have a B.S. in chemistry, biochemistry or pharmaceutical science with 1 to 2 years laboratory experience in organic chemistry or pharmaceutical science. Familiarity with kinetic studies, hands-on experience with common analytical procedures of organic chemistry (TLC, HPLC, GC) and spectrophotometry is highly desirable. Preference will be given to those who have experience with isolation and identification of organic compounds.

We offer an excellent compensation, benefits and relocation package as well as opportunities for personal and professional growth. For confidential review, please forward your C.V. and names of three references to: Mary Ann McCarry, Senior Employment Consultant - C0051, Smith Kline & French Laboratories, Research & Development, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

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**POSTDOCTORAL FELLOWSHIPS IN
THE DEPARTMENT OF ANATOMY
AND NEUROBIOLOGY
UNIVERSITY OF CALIFORNIA, IRVINE**

Several positions for research in individual laboratories in the Department are available for candidates who have demonstrated exceptional research promise at the predoctoral or postdoctoral level. The emphasis of research in the Department is in the areas of neuroanatomy, neurophysiology, and molecular biology. Outstanding applicants will be invited for seminar presentations. The faculty of the Department and their research interests are:

- | | |
|------------------------|--|
| Dr. Robert Blanks: | Eye movement control. |
| Dr. Lyle Dearden: | Growth in cartilage. |
| Dr. James Fallon: | Chemical neuroanatomy. |
| Dr. Chris Gall: | Chemical neuroanatomy, neural plasticity in development. |
| Dr. Roland Giolli: | Visuomotor system. |
| Dr. Stewart Hendry: | Immunocytochemistry. |
| Dr. Paul Isackson: | Molecular neurobiology. |
| Dr. Edward Jones: | Sensory-motor anatomy and physiology. |
| Dr. Leonard Kitzes: | Auditory anatomy and physiology. |
| Dr. Charles Ribak: | Epilepsy, neurotransmitters and circuits. |
| Dr. Richard Robertson: | Organization of the forebrain. |
| Dr. John Swett: | Spinal cord and peripheral nervous system. |

Applications or inquiries for additional information should be sent to:

Dr. Edward G. Jones, Chairman
Department of Anatomy and Neurobiology
University of California
Med Surge II, Room 364
Irvine, CA 92717

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**ENDOWED PROFESSORSHIP
IN CANCER OR IMMUNOLOGY**

The University of Cincinnati and the State of Ohio have created an endowed professorship in the area of Mammalian Gene Regulation (Cancer) and/or Molecular Immunology. This professorship, named the Ohio Eminent Scholar, is designed to add an outstanding scientist to the Department of Microbiology and Molecular Genetics in the College of Medicine. The department has well established programs in molecular genetics and the Eminent Scholar will fulfill a pivotal role in expanding strength and interactions in the named area(s). The University of Cincinnati is a comprehensive university in the state system. Curriculum vitae should be sent to:

Dr. Jerry B. Lingrel
Department of Microbiology and
Molecular Genetics
University of Cincinnati
College of Medicine
Cincinnati, Ohio 45267-0524

Affirmative Action/Equal Opportunity Employer

**SHOWA UNIVERSITY
RESEARCH INSTITUTE
FOR BIOMEDICINE**

Two positions are available:

- 1) **Regulation of Gene Expression:** molecular characterization of cis- and trans- effects in the regulation of gene expression, influences of foreign environment (for example in transgenic mice) on specific gene expression, developmental control of gene activation.
- 2) **Molecular Immunogenetics:** identification of regulatory factors that influence specific immune function, molecular characterization of developmental stage-specific regulation of immune function.

Showa University Research Institute is unique in its affiliation with a major Japanese Medical University. The Institute is based in a new facility with excellent individual laboratory and office space and centralized services. Investigators are allowed complete freedom to pursue research goals and while generous program support is provided, scientists are expected to secure extramural funding. Both postdoctoral and predoctoral opportunities exist. Ranks will be commensurate with experience and research accomplishments. Salary, fringe benefits and start-up support are excellent.

Candidates are requested to submit a brief description of their presently active research and a current research support statement. Send Curriculum Vitae and a list of publications to: **Chairman, Search Committee, Showa University Research Institute, 10900 Roosevelt Boulevard, St. Petersburg, Florida 33716.**

A not-for-profit organization/
equal opportunity employer.

**Visiting
Research Scientists
Enzyme Mechanisms**

Several PhD level Visiting Scientist positions are available within the Enzyme Mechanisms group of DuPont's Central Research and Development Department. The successful candidates will have research experience in enzymology, emphasizing kinetics, chemical and/or physical techniques to elucidate enzymic mechanisms. These one-to-two-year temporary positions require proficiency in chemistry and enzymology. Experience with protein purification and characterization, organic synthesis, fermentation, biochemical spectroscopy and/or recombinant DNA techniques is desirable.

At the world renowned Du Pont Company you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. We provide competitive compensation and relocation benefits. Our Mid-Atlantic location offers a wide range of academic, cultural and recreational activities. Interested candidates should send their resumes and references to: Professional Staffing, Employee Relations Department, Room X50938, Du Pont Company, Wilmington, DE 19898.



U.S. Citizenship or Permanent Visa Required
An Equal Opportunity Employer M/F/H/V

**FACULTY POSITIONS IN
MOLECULAR BIOLOGY
AND BIOCHEMISTRY**

Applications are invited for tenure-track faculty positions at the assistant or associate professor level in the Department of Molecular Biology at the Northwestern University Medical and Dental Schools. Applicants should have a Ph.D. degree in molecular biology, biochemistry, genetics, or a related area or an M.D. or D.D.S. degree and also have several years of postdoctoral training. The successful applicants will be expected to establish vigorous independent research programs and to participate in the teaching of graduate, medical and/or dental courses and in the training of graduate and postdoctoral students. Applicants should send complete curriculum vitae, a brief description of previous and future research and teaching interests (three to four pages), a bibliography and reprints of significant published work or preprints of manuscripts in press, and recommendations from at least three references by 16 November 1987 to:

Dr. Robert H. Rownd
Professor and Chairman
Department of Molecular Biology
Northwestern University
Medical and Dental Schools
303 E. Chicago Avenue
Chicago, Illinois 60611

Northwestern University is an equal opportunity/affirmative action employer and invites applications from all qualified individuals.

**RESEARCH SCIENTIST
CELLULAR & MOLECULAR
PHARMACOLOGIST
NEUROBIOLOGIST**

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

The successful candidate will be involved in:

Quantitative characterization of receptors for signal molecules such as hormones and neurotransmitters.

Development of *in vitro* assays in various tissues to evaluate the specificity and efficacy of new chemical entities developed by the company.

Coordination of various programs in discovery research with academic and industrial scientists worldwide.

Qualified candidates will have a Ph.D. with 3 or more years postdoctoral experience in pharmacology or neurobiology. Industrial pharmaceutical experience is desirable.

Excellent oral and written communication skills are essential.

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

**Personnel Manager
Nelson Research
1001 Health Sciences Road West
Irvine, CA 92715**

An Equal Opportunity Employer

**Senior
Research Endocrinologist
(Physiologist/Pharmacologist)**

The LILLY RESEARCH LABORATORIES, a division of Eli Lilly and Company, is seeking highly qualified candidates for a Senior Scientist position in the Endocrinology Research Division.

Applicants must have a doctoral degree in physiology/pharmacology with at least two years postdoctoral training. The Senior Scientist will be expected to use existing *in vivo* animal models as well as develop new *in vivo* animal models to study the effects of novel therapeutic agents for use in the treatment of metabolic abnormalities such as diabetes. A strong background in intermediary metabolism or carbohydrate and lipid homeostasis is required.

Qualified candidates should send their curriculum vitae to:



**John W. Crooks
Manager, College Relations (SRE)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285**

Equal Opportunity Employer



The Ohio State University Postdoctoral Fellowships beginning July 1, 1988, are available in all academic fields. Tenure is for one or two years with a stipend for a twelve month appointment of \$22,000. An additional monthly supplementation is provided during the award period (total of \$500) to help assist with moving expenses to Columbus. A one-time \$500 allowance is also available to help with travel costs for professional meetings.

Only those applications which are submitted to the Graduate School by members of The Ohio State University graduate faculty will be considered. The deadline for Ohio State faculty nominations is **January 8, 1988**.

Candidates must have received the Ph.D. degree, or comparable professional degree, within the past five years. Contact a member of The Ohio State University graduate faculty or send a resume and description of your primary research interest. Both will be forwarded to the academic department of your choice.

**Roy A. Koenigsnecht
Dean of the Graduate School
The Ohio State University
230 North Oval Mall, #250
Columbus, Ohio 43210-1366**

An Affirmative Action/Equal Opportunity Employer

**HEAD, DEPARTMENT OF BIOLOGY
EASTERN MICHIGAN UNIVERSITY**

A twenty-one member department offering B.S. and M.S. degrees seeks an individual with demonstrated leadership capabilities and a strong background in teaching, a record of research publication, and success in attracting external funding. Successful administrative experience, a broad biology background, and computer experience are preferred. A Ph.D. in the Biological Sciences and 5 years of college teaching experience are required. Eastern Michigan University, a state university with an enrollment of 23,000 students, is located in Southeastern Michigan. A cover letter, a vitae, and 3 letters of recommendation must be received by December 4, 1987. Send materials to: **Position DH-B, P.O. Box 920 - Human Resources, Eastern Michigan University, Ypsilanti, MI 48197.**

We take pride in the pursuit of our affirmative action objectives and encourage qualified women and minorities to consider this opportunity.



Eastern Michigan University

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study the structure and biology of human autoantigens involved in regulation of cell proliferation and cell division. Current projects focus on analysis of PCNA, a subunit of DNA polymerase delta, and on human centromere-associated proteins. Applicants should have a Ph.D. degree with a strong background in molecular or cellular biology. Support available at NIH scale. Send curriculum vitae and three letters of reference to: **Eng M. Tan, M.D., or Kevin F. Sullivan, Ph.D., W. M. Keck Autoimmune Disease Center, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, CA 92037. Scripps Clinic and Research Foundation is an Equal Opportunity Employer.**

POSTDOCTORAL POSITION

Immediately available in the Divisions of Pediatric Genetics and Lipid Research of The Johns Hopkins University School of Medicine to participate in a NIH-funded project to study the contribution of several apolipoprotein genes to premature coronary artery disease. Candidates should have a Ph.D. or M.D. degree with experience in nucleic acid biochemistry, and recombinant DNA technology. Send curriculum vitae, statement of research interests and professional goals, and three letters of reference to:

Dr. Stylianos E. Antonarakis
Genetics Unit, Department of Pediatrics
CMSC 1003

The Johns Hopkins University School of Medicine
Baltimore, MD 21205

An Equal Opportunity Employer.

POSTDOCTORAL POSITION to study the effects of anesthetics on anoxic brain damage using the in vitro hippocampal slice as a model system. Experience in electrophysiological recording from nervous tissue is desirable. The goal of the project is to elucidate the mechanism by which anesthetics protect against anoxic damage. Applicants should send their curriculum vitae, a letter describing their background and interests, and provide three letters of recommendation to: **Dr. Ira Kass, Box 6, Anesthesiology Department, State University of New York Health Science Center, 450 Clarkson Avenue, Brooklyn, NY 11203. Equal Opportunity/Affirmative Action Employer, DMC #C-0129.**

POSTDOCTORAL POSITIONS at the Dana-Farber Cancer Institute, Harvard Medical School, available immediately to develop experimental therapy for melanoma. Areas of concern will include: drug development, biology/biochemistry of melanoma including studies of oncogene involvement in melanoma, and the molecular biology of cellular replication. Experience in one or more of the following areas is desirable: biochemistry, cell biology, gene cloning, pharmacology, and chemistry. Possible joint appointment at Harvard Medical School. Salary approximately \$25,000 per year plus benefits. Positions can be renewed for up to 3 years. Send curriculum vitae and names/addresses of three references to: **Dr. Michael Wick, Associate Professor, Department of Dermatology and Division of Medicine, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION in biology at M.I.T. available immediately for studies on translational control in eukaryotes with emphasis on regulation of protein chain initiation by phosphorylation-dephosphorylation mechanisms. Specific aspects focus on the roles of dsRNA-activated and heme-regulated eIF-2 α kinases, and on the function of 'reversing factor' in the recycling of eIF-2. Contact: **Dr. Daniel Levin, Building E215-519, Massachusetts Institute of Technology, Cambridge, MA 02139. Telephone: 617-253-4307.**

POSTDOCTORAL POSITION open immediately to study the metabolism/toxicity of natural products and the toxic effects of reactive aldehydes [*Science* 229, 472 (1985) and *Chem.-Biol. Inter.* 62, 59 (1987)]. A Ph.D. in biochemical toxicology/pharmacology with training in organic chemistry preferred. Send résumé, relevant publications and names of three references to: **Dr. H. J. Segall, Department of Veterinary Pharmacology and Toxicology, University of California, Davis, CA 95616. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

A postdoctoral research position is available immediately for studies involving cytokinin-induced gene expression. Experience in cDNA library construction is essential, a plant background is preferred. Send résumé and three letters of recommendation to: **Dr. Jill A. Winter, Department of Biochemistry, 322A Chemistry Building, University of Missouri (UMC), Columbia, MO 65201. Telephone: 314-882-5006. UMC is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available in laboratory investigating molecular mechanisms of insulin action. Specific project is cloning, expression, and analysis of a gene for an insulin-sensitive phospholipase C [PNAS 84, 2663 (1987)]. Experience in molecular biology techniques useful. Send curriculum vitae and names of three references to: **Dr. Robert Rees-Jones, Department of Medicine, Columbia University, 630 West 168th Street, New York, NY 10032. Columbia University takes Affirmative Action to ensure Equal Opportunity.**

POSTDOCTORAL POSITION

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

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

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

An Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL POSITION IN MOLECULAR GENETICS

Available January, 1988—research and training in human molecular genetics. Background in biochemistry or molecular biology. Funding available for 3-year period. M.D.s or Ph.D.s encouraged to apply.

Send curriculum vitae to:

Petros Tsipouras, M.D.
Division of Human Genetics, L5076
University of Connecticut
Health Center
Farmington, CT 06032

An Affirmative Action/Equal Opportunity Employer M/F/H.

POSTDOCTORAL POSITION—PHYSIOLOGY UNIVERSITY OF MINNESOTA

Postdoctoral positions in motor control neurophysiology available immediately to participate in ongoing studies on computational aspects of movement control. Research will include studies on the organization and control of limb movements in three-dimensional space and/or information processing in the spinal cord. Applicants should have quantitative training in one of the following areas: neurophysiology, biomechanics, or cognitive neuroscience. Send curriculum vitae and names of three references to: **John Soechting or Richard Poppele, Laboratory of Neurophysiology, 6-255 Millard Hall, 435 Delaware Street, SE, University of Minnesota, Physiology Department, Minneapolis, MN 55455.**

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

POSTDOCTORAL POSITION TUMOR VIROLOGY

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

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

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for studies of the cell biology of the retinal pigment epithelium using biochemical and immunocytochemical techniques. Emphasis will be placed on the metabolism of extracellular matrix components by normal and mutant tissues, both in vivo and in vitro. Send curriculum vitae and the names of three references to: **Dr. L. Stramm, Department of Ophthalmology, University of Pennsylvania, 51 North 39th Street, Philadelphia, PA 19104.**

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION available immediately to study the influence of the extracellular matrix on neoplastic cell differentiation. Ph.D. in biochemistry or cell biology preferred. Interested person should send curriculum vitae, a brief description of research, and three letters of reference to: **Dr. Sharon Luikart, Department of Medicine, University of Minnesota Hospital and Clinics, Minneapolis, MN 55455.**

POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS. (i) Molecular and biochemical basis of progression of the transformed phenotype in virally transformed rodent cells and human melanoma cells. (ii) Mechanism by which chemical carcinogens enhance virally mediated cell transformation. (iii) Molecular basis of differentiation in normal and tumor cells. Experience in molecular biology and recombinant DNA technology. Send curriculum vitae and have three letters of reference sent to: **Dr. P. B. Fisher, Cancer Center/Institute of Cancer Research, Columbia University, College of Physicians and Surgeons, New York, NY 10032. Equal Opportunity Employer/Affirmative Action.**

POSTDOCTORAL SCIENTIST/RESEARCH ASSOCIATE/RESEARCH SCIENTIST. Studies designed to determine the molecular basis of human prostate cancer development and metastasis. Experimental approach will involve DNA transfection, cDNA cloning, DNA sequencing, and the functional analysis of tumor and metastasis-inducing genes. Experience in molecular biology and recombinant DNA technology. Send curriculum vitae and have three letters of reference sent to: **Dr. P. B. Fisher, Department of Urology and Cancer Center/Institute of Cancer Research, Columbia University, College of Physicians and Surgeons, New York, NY 10032. Equal Opportunity Employer/Affirmative Action.**

POSTDOCTORAL TRAINING IN MEMBRANE DIFFRACTION METHODS

A postdoctoral position is available for a Ph.D. scientist with a strong background in physical chemistry or physics who wishes to gain experience in diffraction methods in the context of lipid bilayer and cell membrane structure. The laboratory is engaged in x-ray diffraction, neutron diffraction, and NMR studies of peptide/bilayer interactions. The position is available immediately. *Minorities and women are encouraged to apply.* Applicants should submit curriculum vitae, representative publications, and the names of three references to: **Professor Stephen H. White, Chairman, Department of Physiology and Biophysics, College of Medicine, University of California, Irvine, CA 92717.**

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

PRESIDENT OREGON HEALTH SCIENCES UNIVERSITY

Nominations and applications are invited for the position of President of the Oregon Health Sciences University located in Portland. The Oregon Health Sciences University is a free-standing university with schools of medicine, dentistry, and nursing; established research programs in the biomedical sciences; and a large teaching hospital. It is one of eight public colleges and universities that comprise the Oregon State System of Higher Education. The Oregon Health Sciences University is committed to enhancing the diversity of its students, faculty, and staff and to being a non-discriminatory, affirmative action employer. Nominations and applications must be submitted by 15 November 1987 to **Presidential Search Committee, L-900, Oregon Health Sciences University, 3181 S.W. Sam Jackson Park Road, Portland, OR 97201.** Further information may be obtained by calling 503-279-5939.

ATTENTION

Women Employed in Staff Member (SM)
or Technical (TEC) Series positions at

Los Alamos National Laboratory

Between July 31, 1979, and September 1, 1984
The U. S. District Court has approved the settlement
of a sex-discrimination class action.

YOU HAVE THREE (3) OPTIONS:

Participate in the settlement by filing
a Statement of Claim form. . .

- You will receive the money to which you are entitled under the settlement agreement.
- You will be bound by the settlement agreement.

File a Request for Exclusion form. . .

- You will be excluded from the settlement funds.
- You will be free to prosecute any individual claim.
- You will not be bound by the settlement agreement.

Do nothing. . .

- You will be excluded from the settlement funds.
- You will be bound by the settlement agreement.

To obtain the Statement of Claim
or Request for Exclusion form,
send your name and current address to:

Special Master -- Atkinson & Co., Ltd.
Janet E. Wing Class Action
P. O. Box 25246
Albuquerque, New Mexico 87125

Associate Scientist, Molecular Biology

Applied Biosystems manufactures and markets automated instruments, a wide range of chromatography columns and components, and several hundred associated chemicals for biotechnology research and related applications.

At its Foster City location the company has an opening for a Molecular Biologist to assist in the development of a separation system for nucleic acids.

This position requires a Ph.D. in Molecular Biology or a related field with one or more years of postdoctoral experience in recombinant DNA technology. Candidates should be interested in methods development and have demonstrated skills in molecular cloning, preparing and screening genomic and cDNA libraries, site-directed mutagenesis, and restriction mapping. Experience with artificial yeast chromosomes and pulsed-field electrophoresis is highly desirable.

The ideal candidate is innovative, self-motivated, and possesses good communication skills to work with a multi-disciplinary team. Publication in professional journals is encouraged.

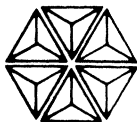
Applied Biosystems offers attractive compensation, benefits and growth opportunity.

Send resume to:

Human Resources Department
Applied Biosystems
850 Lincoln Centre Drive, Foster City, CA 94404

An Equal Opportunity Employer

 **Applied
Biosystems**
Foster City Biosystems Division



The Bristol-Myers Pharmaceutical Research and Development Division has an excellent career opportunity for a Drug Regulatory Affairs professional at its Syracuse, NY location. Reporting to the Associate Director of Regulatory Affairs, the selected candidate will be responsible for providing broad, highly skilled technical expertise in the areas of chemistry, pharmacy, manufacturing and controls for a broad spectrum of products including synthetic and biological-derived compounds. Will also handle worldwide regulatory affairs submissions for both clinical and marketing applications related to the above areas.

To qualify, you will need an advanced degree in Life or Physical Sciences, preferably with background in the manufacture and quality control of recombinant DNA and hybridoma technology, and strong scientific skills. Knowledge of regulatory affairs a plus.

We offer a competitive compensation package and a comprehensive benefits program which includes relocation assistance to a superb upstate NY living area. Interested candidates should submit a resume with salary requirement, in confidence, to: EMPLOYMENT MANAGER.

BRISTOL-MYERS COMPANY RESEARCH AND DEVELOPMENT DIVISION

P.O. Box 4755, Syracuse, New York 13221-4755
An equal opportunity employer M.F.H.V.

POSITIONS OPEN

POSTDOCTORAL TRAINING IN CLINICAL CHEMISTRY. Position available 1 July 1988, for basic scientist or physician interested in a career as laboratory director in academic Laboratory Medicine. Our 2-year program provides practical experience in clinical chemistry laboratories and extends relevant basic scientific knowledge.

Deadline: 1 December 1987. Write to:

Margaret Kenny, Ph.D.
Program Director
Department of Laboratory Medicine
University of Washington
SB-10
Seattle, WA 98195

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL RESEARCH ASSOCIATE—

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

PRINCIPAL RESEARCH TECHNICIAN BIOTECHNOLOGY. Technician for a service laboratory dedicated to the preparation, production and purification of monoclonal antibodies for researchers in biotechnology. Applicant should have B.S. (M.S. preferred) or extensive experience related to work assignment. Experience should include preparation of monoclonal antibodies, preparation and culture of cell lines, production (in vitro and in vivo) and purification of antibodies. Salary dependent on experience. Send résumé including names of three references to: **Dr. Steven D. Aust, Director, Biotechnology Center, Utah State University (USU), Logan, UT 84322-4430 by 20 November 1987.** *USU is an Affirmative Action/Equal Opportunity and Immigration Reform and Control Act Employer.*

TWO PROFESSORS (ANY LEVEL): The Massachusetts Institute of Technology Department of Chemistry seeks two professors for July 1988. Outstanding candidates in the areas of biological, inorganic, organic, and experimental physical chemistry are invited to send curriculum vitae, publication list, and research plan, and arrange to have three letters of recommendation sent to: **Professor Mark S. Wrighton, Department of Chemistry, 18-399, Massachusetts Institute of Technology, Cambridge, MA 02139.** *MIT is an Equal Opportunity/Affirmative Action Employer and encourages applications from minorities and women.*

PROFESSORSHIP IN PROTEIN AND MACROMOLECULAR STRUCTURE AND FUNCTION at the Institute for Enzyme Research and the Department of Biochemistry, University of Wisconsin-Madison. Applications are invited for initial appointment at any level. The position will be tenured or tenure-track, depending on rank at initial appointment, and is jointly sponsored by the Institute for Enzyme Research in the Graduate School and the Department of Biochemistry in the College of Agricultural and Life Sciences. This position is part of a larger effort to develop a structural biochemistry group in the Institute for Enzyme Research, the Department of Biochemistry, the Department of Chemistry, and the Institute for Molecular Virology. The individual appointed will develop a research program involving the applications of diffraction methods (single-crystal x-ray, neutron, optical) and other physical approaches to structure-function analysis of proteins, and will participate in the instructional program of the Department of Biochemistry. The Institute for Enzyme Research will provide generous research space and support for equipment, and the Department of Biochemistry will provide access to graduate instructional programs. Application letters, curriculum vitae, a statement of research plans and three letters of reference should be directed to: **Professor Perry A. Frey, Institute for Enzyme Research, University of Wisconsin, Madison, WI 53705.** To assure consideration, applications should be completed by 30 November 1987. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

WARF PROFESSORSHIP IN CLINICAL NUTRITION—The University of Wisconsin Medical School seeks an outstanding Physician/Investigator at the Associate or Full Professor level to lead the school's educational, clinical and research efforts in clinical nutrition. Clinical excellence, leadership qualities and research abilities are important, but any clinical specialty may be appropriate. Applications from women and minorities are especially encouraged. Apply by letter and curriculum vitae to: **Ward Olsen, Chair, Search Committee, c/o M. Martin, 1205 Medical Sciences Center, 1300 University Avenue, Madison, WI 53706.** To guarantee full consideration, apply by 31 December 1987, but applications will be accepted until the position is filled. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE

Position open for **POSTDOCTORAL FELLOW** to study systemic and renal hemodynamics and changes in vasoactive humoral substances before and after altered divalent ion nutrition. This position is for 2 years of support. Salary is negotiable. Closing date 27 November 1987. Submit curriculum vitae to: **Edward T. Zawada, Jr., M.D., Professor and Chairman, Department of Medicine, University of South Dakota, School of Medicine, 2501 West 22nd Street, Sioux Falls, SD 57105.**

SENIOR RESEARCH SCIENTIST MICROBIOLOGIST

Full-time position opening with LifeCore™ Biomedical, Inc., a growing biomaterials manufacturer located near the University of Minnesota—Minneapolis campus. Ph.D. with experience studying physiology of *Streptococcus* (group A). Fermentation experience desirable. Please send résumé and salary requirements to:

Colleen Olson
LifeCore™ Biomedical, Inc.
1055 10th Avenue S.E.
Minneapolis, MN 55414.

GEORGETOWN UNIVERSITY TENURE-TRACK APPOINTMENT MOLECULAR GENETICS

The Department of Biology, Georgetown University, invites applications for an assistant professorship, effective fall 1988. The appointee will be expected to teach a one-semester undergraduate course in genetics and, in alternate semesters, a graduate course in an area of molecular biology. We seek a promising scientist pursuing significant research in an area of molecular biology. Three letters of recommendation, curriculum vitae, and a description of research interests should be submitted, by 1 January 1988, to: **Dr. Joseph H. Neale, Department of Biology, Georgetown University, Washington, DC 20057.** *Georgetown University is an Equal Opportunity/Affirmative Action Employer.*

Department of Human Genetics, University of Michigan is seeking five **TENURE-TRACK FACULTY** over the next 3 years. Research in the regulation of gene expression with emphasis on molecular genetics of development in higher organisms, and novel approaches to human gene mapping and the molecular pathology of human genetic diseases, are of particular interest. Send résumé, statement of research interests, and three references to: **Dr. Myron Levine, Department of Human Genetics, University of Michigan, Ann Arbor, MI 48109-0618.** *An Equal Opportunity/Affirmative Action Employer.*

Anticipated **TENURE-TRACK POSITION** beginning in August of 1988. Postdoctoral experience preferred with research emphasizing experimental approaches to marine or freshwater fauna, or theoretical ecology. The successful candidate is expected to develop a fundable research program, teach a graduate specialty course, and participate in undergraduate instruction. Salary and rank commensurate with experience. Submit curriculum vitae, statement of research interests, recent reprints, and a list of references by 15 January 1988 to: **Dr. Kenneth Brown, Chair, Ecology Search Committee, Department of Zoology and Physiology, Louisiana State University, Baton Rouge, LA 70803-1725.**

LSU is an Equal Opportunity Employer.

POSITIONS OPEN

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

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

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

Salary is competitive and commensurate with qualifications.

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

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

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

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

TRANSMISSION ELECTRON MICROSCOPIST

Position requires M.S. in biology or experienced B.S. and familiarity with TEM protocols and darkroom techniques. Experience in histology helpful. Responsibilities include maintenance and operation of an Hitachi 600 electron microscope. Salary commensurate with experience. Comprehensive benefits package and relocation expenses. To apply, send résumé to:

James G. Kerr
Southern Research Institute
Department B249
P.O. Box 55305
Birmingham, AL 35255

An Affirmative Action/Equal Opportunity Employer.

PROGRAM

DOCTORAL PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY AND PATHOBIOLOGY. 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.**

Medical University of South Carolina (MUSC) offers **PROGRAMS** leading to Ph.D. and M.D./Ph.D. degrees in each of the basic biomedical sciences (anatomy, biochemistry, biometry, microbiology and immunology, pathology, pharmacology, and physiology), pharmaceutical sciences, and molecular and cellular biology/medicine; \$9000 assistantships available to highly qualified students. Contact: **College of Graduate Studies, MUSC, 171 Ashley Avenue, Charleston, SC 29425.**

PROGRAM

CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain a doctor of optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **Ph.D.-O.D. Program Director, Admissions Office, The New England College of Optometry, Room 14, 424 Beacon Street, Boston, MA 02115.**

CONFERENCES

PLANT NITROGEN METABOLISM AN INTERNATIONAL SYMPOSIUM

The Phytochemical Society of North America (PSNA) will hold its 28th Annual Meeting at the University of Iowa, Iowa City, 26 to 30 June 1988. The meeting will feature a Symposium on recent developments in primary and secondary nitrogen phytochemistry as well as contributed oral and poster sessions in all areas of phytochemistry. Speakers include: **D. G. Blewins** (Missouri), **J. S. Pate** (Perth, Western Australia), **P. J. Lea** (Lancaster, UK), **A. Kleinhofs** (WSU), **D. Rhodes** (Purdue), **D. L. Shaner** (American Cyanamid), **S. F. Yang** (Davis), **T. W. Okita** (WSU), **L. Fellows** (Kew, UK), **H. E. Flores** (LSU), **M. H. Zenk** (Munich). For information and registration forms, contact: **Dr. J. E. Poulton, Botany Department, University of Iowa, Iowa City, IA 52242.**

REQUEST FOR PROPOSALS

RESEARCH CENTER GRANTS

The RP Foundation Fighting Blindness plans to take part in the establishment of one or more additional centers for the study of retinitis pigmentosa, Usher's syndrome, macular degeneration, and allied hereditary degenerations. Center grant proposals for research support are invited. Center programs should be directed toward an understanding of the cause of one or more type of retinal degeneration by means of basic studies on the retina, especially as concerns photoreceptors and pigment epithelial cells. Deadline for submission of proposals is 1 March 1988. Further details and application instructions can be obtained from: **Jeanette S. Felix, Ph.D., Director of Science, RP Foundation Fighting Blindness, 1401 Mt. Royal Avenue, Baltimore, MD 21217; Telephone: 301-225-9400.**

TRAINING PROGRAMS

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

POSTDOCTORAL TRAINING IN IMMUNOBIOLOGY AND NEUROBIOLOGY OF AGING RESEARCH INSTITUTE OF SCRIPPS CLINIC. The Aging Training Program is accepting applications from qualified candidates wishing to develop research careers. The program offers 2 to 3 years of postdoctoral training in one of nine laboratories carrying out basic research on the effects of aging on the immune and nervous systems as well as the impact of immunopathology, neuropathology and persistent viral infections on the disabilities associated with aging. This program is supported by NIH/NIA. Candidates must be U.S. citizens or permanent residents. Staff includes **Drs. Floyd Bloom, Frank Dixon, Cindy Ehlers, Norman Klinman, Linda Sherman, Michael Oldstone, Marilyn Thoman, William Weigle, and Curtis Wilson.** Applications may be submitted to Staff or the Program Director: **Dr. N. R. Klinman, Department of Immunology, (IMM-16), Research Institute of Scripps Clinic, La Jolla, CA 92037.**

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LITERATURE SEARCH

The Getty Conservation Institute is concerned with the protection and preservation of stone by consolidation with polymers. A critical aspect of this technology is the proper selection of a solvent to carry polymer into stone. As part of our effort in this field we would like a **LITERATURE SEARCH** prepared on this topic. Parties interested in responding should send for the solicitation package. Applicants should have access to the art conservation literature and a background in the physics of liquid-solid interactions. Send inquiries to: **Solvent Program, The Getty Conservation Institute, 4503 Glencoe Avenue, Marina Del Rey, CA 90292-6537.**

FELLOWSHIPS

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

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

Send curriculum vitae and names of three references to:

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

POSTDOCTORAL FELLOWSHIP OPENING

The postdoctoral fellow will provide leadership for an ongoing research effort to develop an efficient regeneration and transformation system for soybean. Candidates should have a Ph.D. in genetics, plant, cellular, and molecular biology or a closely related field. Send curriculum vitae and three letters of recommendation to: **Dr. G. B. Collins, Agronomy Department, University of Kentucky, Lexington, KY 40546-00914.**

POSTDOCTORAL FELLOWSHIP—A position is available with 3 years of funding for a person experienced in molecular biology, cDNA cloning, and biochemical purification of low molecular weight growth factors, to study the effects of x-irradiation on gene expression and plateau-phase mammalian cells. Please send curriculum vitae and three letters of recommendation to: **Joel S. Greenberger, M.D., Department of Radiation Oncology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, MA 01655. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWSHIP

Postdoctoral fellowship is available in the Division of Rheumatology at Children's Hospital for molecular studies of histocompatibility (HLA) genes in autoimmune disease. The program is newly established at Children's Hospital and will provide an excellent opportunity to use a genetic/biochemical background in a clinical setting. Interested candidates should write: **Dr. David Glass, Division of Rheumatology, Special Treatment Center, Children's Hospital Medical Center, Elland and Bethesda Avenues, Cincinnati, OH 45229-2899. An Equal Opportunity Employer.**

CARR POSTDOCTORAL FELLOWSHIP IN ZOOLOGY. The University of Florida invites applications for the 1988 Archie F. Carr, Jr. Postdoctoral Fellowship (12-months, starting July 1988, renewable for a second year). The recipient will establish a research project in ecological, physiological, behavioral or evolutionary zoology and will interact with faculty and graduate students. Please submit a research proposal (four pages maximum, noting also why the University of Florida is appropriate as a research base; information about the faculty is available upon request). Also submit reprints of representative publications, curriculum vitae, dissertation abstract, and the names, addresses, and telephone numbers of three references to: **Dr. Ronald G. Wolff, Postdoctoral-Search Committee, Department of Zoology, University of Florida, Gainesville, FL 32611. Telephone: 904-392-1298, 392-1107. Deadline: 31 December 1987. The University of Florida is an Equal Opportunity/Affirmative Action Employer.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP—NEUROTRANSMITTER RECEPTORS to study the functional responses (channel opening and desensitization) of receptors and their modulation and the molecular mechanisms of neurotransmitter-receptor interaction using ion-flux methods including quench flow and stopped flow. Projects include the study of GABA receptor, glutamate receptor and acetylcholine receptor. The position will be in the Department of Biochemistry, University of Missouri-Columbia. Write: **Dr. Derek J. Cash, Neurochemistry Unit, Department of Biochemistry, University of Missouri-Columbia, School of Medicine, 5400 Arsenal Street, St. Louis, MO 63139. Equal Opportunity/Affirmative Action Employer.**

DOCTORAL FELLOWSHIPS IN MOLECULAR BIOLOGY

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

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

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

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HOWARD HUGHES MEDICAL INSTITUTE 1988 DOCTORAL FELLOWSHIPS IN BIOLOGICAL SCIENCES

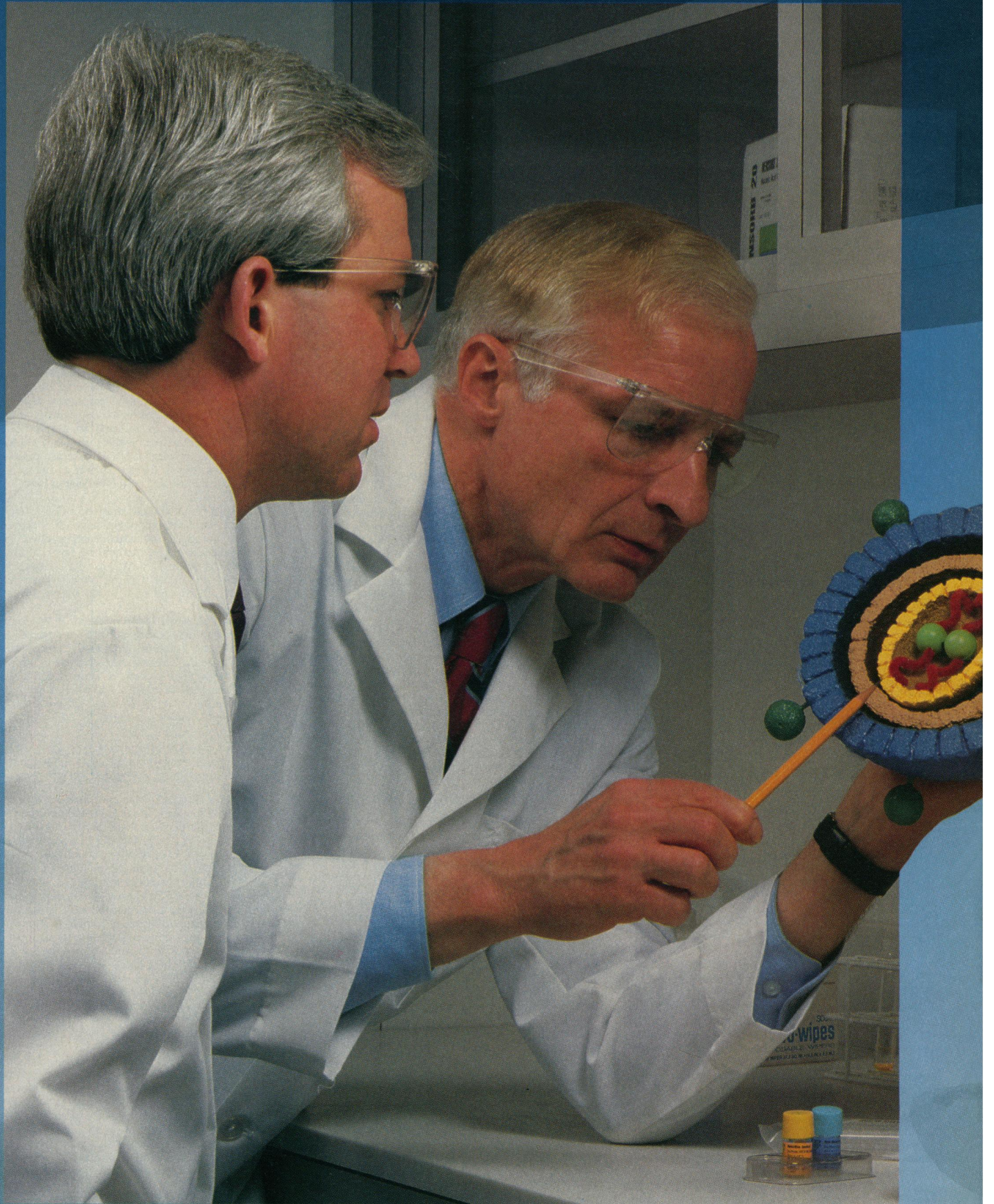
Howard Hughes Medical Institute will award 60 doctoral fellowships in an international competition administered by the National Research Council. *The Institute welcomes all qualified applicants and strongly encourages members of minority groups and women to apply.*

ELIGIBILITY: Applicants may be citizens or nationals of the United States or foreign nationals. Awards will be made for research-based doctoral programs in cell biology and regulation, immunology, genetics, neuroscience, and structural biology. Applicants must not have completed, including the current term, more than 24 semester hours, 36 quarter hours, or equivalent, of graduate study. Individuals who are pursuing or who hold the M.D., D.V.M., or D.D.S. degree and want to work toward a Ph.D. or Sc.D. in the biological sciences are exempt from the foregoing restriction. Foreign nationals for whom English is not the primary language must submit scores from the Test of English as a Foreign Language (TOEFL).

STIPEND AND ALLOWANCES: The fellowships will be for 3 years, renewable for two additional years at the Institute's option. Each award includes an annual stipend of \$12,300 (for 12-month tenures) to the Fellow, and an annual cost-of-education allowance of \$10,700 in lieu of all tuition and fees.

DEADLINES: Deadline for Preliminary Applications is 13 November 1987. Awards will be announced in March 1988. Awardees must begin fellowships by fall 1988.

FOR INFORMATION, Telephone: 202-334-2872 or write: Hughes Doctoral Fellowships, The Fellowship Office, National Research Council, 2101 Constitution Avenue, Washington, DC 20418.



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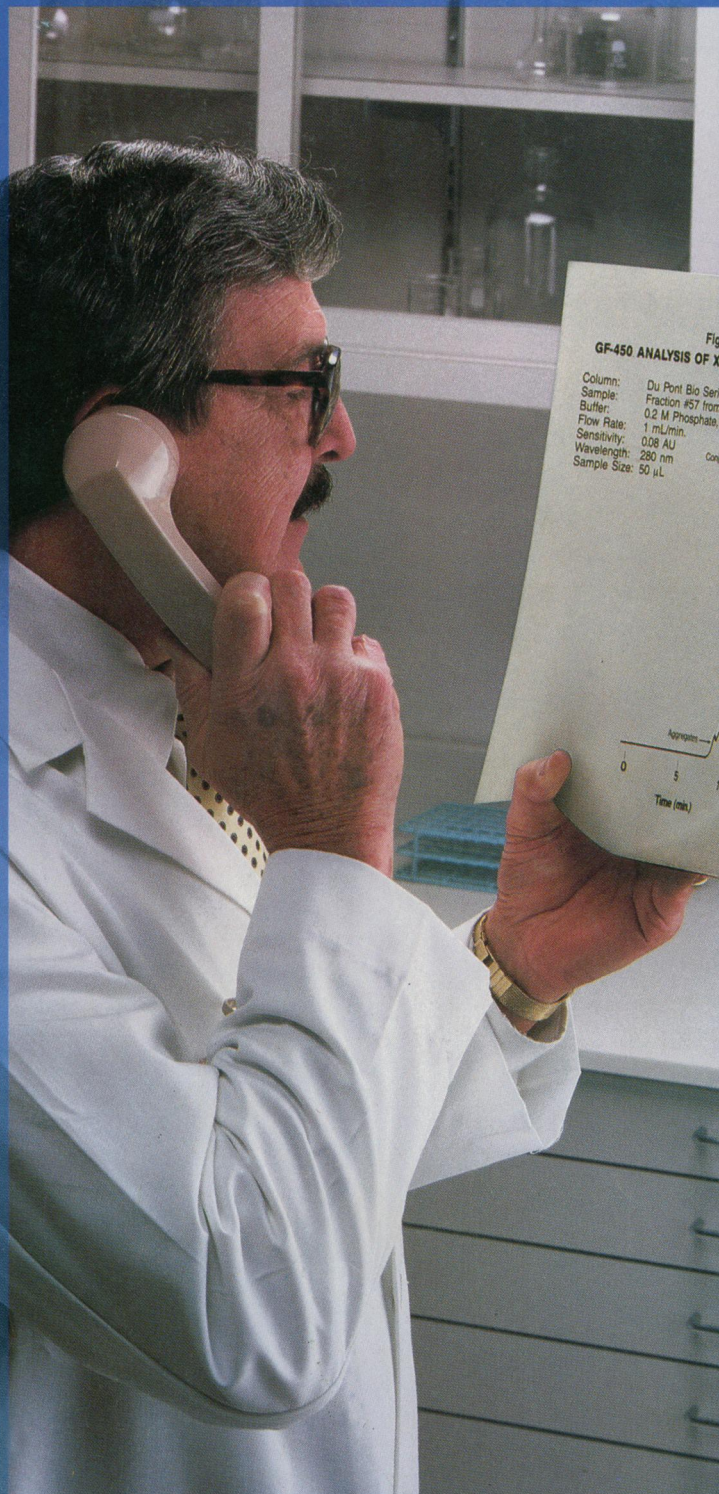


Figure 4
GF-450 ANALYSIS OF XL PURIFIED CONJUGATE

Column: Du Pont Bio Series GF-450
Sample: Fraction #57 from GF-450XL
Buffer: 0.2 M Phosphate, pH 7.0
Flow Rate: 1 mL/min
Sensitivity: 0.08 AU
Wavelength: 280 nm
Sample Size: 50 μ L



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