POSITIONS OPEN

ASSISTANT PROFESSOR. An individual is sought to develop an independent, extramurally funded research program in genetics. Experience in the area of genome organization, structure and function, with an emphasis on plants of agricultural importance, is desired although other areas will be considered. Postdoctoral experience and the ability to engage in cooperative research with other faculty and staff is expected. Interactions with other members of the strong plant biology community at Purdue University will be encouraged. The successful candidate will teach a three-credit course annually in the general area of plant genomics, and be available to provide undergraduate and postdoctoral training programs. Direct inquiries, letters of application, curriculum vitae and three letters of recommendation to: Dr. P. DeLuca, Chairman, Department of Agriculture, Purdue University, West Lafayette, IN 47907. Telephone: 317-494-4774. Applications will be accepted until 31 October 1991, or until the position has been filled. Purdue University is an Affirmative Action/Equal Opportunity Employer and encourages women and minorities to apply.

CELL BIOLOGIST. Tenure-track ASSISTANT/ASSOCIATE PROFESSOR position to begin January 1992 or 16 August 1992. Both plant and animal cell biologists are expected. Establishment of an independent, strong, independent research program, and direction of graduate students is expected. Will instruct a cell biology course and participate in introductory biology course. Ph.D. required and postdoctoral experience desirable. Send curriculum vitae, copies of transcripts, three representative reprints and statements of teaching and research to: Dr. L. E. Shubert, Chair, Cell Biology Search Committee, Department of Biology, University of North Dakota, Grand Forks, ND 58202–8238. Review of applications will begin on 15 September 1991 and continue until the position is filled. The University of North Dakota is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR

SECTION OF GENETICS

DUKE UNIVERSITY MEDICAL CENTER

The Section of Genetics at Duke University Medical Center invites applications for tenure-track, junior level faculty positions. Individuals utilizing genetic approaches to address problems in most any important area of biology will be considered. The Section of Genetics is a newly created academic unit that offers a cohesive and interactive research environment as well as an extremely attractive and generous package of research support. Applicants should indicate a statement of research plans, and the names of three references to: Dr. Joseph R. Nevin, Section of Genetics, Duke University Medical Center, P.O. Box 3054, Durham, NC 27710. Duke is an Equal Opportunity/Affirmative Action Employer.

AQUATIC PLANT ECOLOGIST

RESEARCH ASSISTANT PROFESSOR. Position available January 1992. Funding for first 2 years guaranteed as part of a multi-investigator team investigating seagrass/sedimentary interactions and seagrass/water quality relationships in Chincoteague and Chesapeake Bays. Ph.D. (or equivalent) and research experience in ecological studies of seagrasses, aquatic macrophytes and/or macroinvertebrates is essential. Send curriculum vitae, statement of research interests and names and addresses of three references to: Aquatic Plant Ecology Search Committee, Horn Point Environmental Laboratory, P.O. Box 76, Cambridge, MD 21613. Applications received by 15 October 1991 will receive full consideration. University of Maryland System is an Affirmative Action/Equal Opportunity Employer.

THE UNIVERSITY OF WASHINGTON (UW), Division of Surgical Pathology, invites applications for a full-time faculty position at the rank of ASSISTANT PROFESSOR. Appointment has teaching, patient care and research responsibilities with the emphasis on surgical pathology. Forward current curriculum vitae and bibliography to: Loren Engrav, M.D., Chief, Division of Plastic Surgery, Department of Surgery, 22–16, University of Washington, 525 Ninth Avenue, Seattle, WA 98104. No phone calls. The UW is an Affirmative Action/Equal Opportunity Employer.

BIOCHEMISTRY FACULTY POSITION

UNIVERSITY OF WISCONSIN—MADISON

Applications are invited for an ASSISTANT PROFESSOR position in the Department of Biochemistry at the University of Wisconsin—Madison. Exceptional candidates at the associate professor level will be considered. The successful candidate will be expected to develop a strong research program utilizing modern biochemistry to study nutritional problems. This includes investigators with interests in the nutritional and molecular level. Duties include teaching the departments’ graduate and post-doctoral courses and the training of graduate and post-doctoral students. Applications including curriculum vitae, a list of professional accomplishments, and the names and addresses of three references should be sent to: H. F. DeLuca, Chairman, Department of Biochemistry, University of Wisconsin—Madison, 402 Henry Mall, Madison, WI 53706. Applicants must also arrange for three letters of recommendation to be sent to the same address. To assure consideration, complete applications should be received by 15 October 1991. The university is an Affirmative Action, Equal Opportunity Employer and encourages women and minorities to apply.

ASSISTANT PROFESSOR: PLANT SYSTEMATICS/BIOLIBRARY. Botany Department, University of Georgia, invites applications for this 9-month, tenure-track position, beginning 1 September 1992. Candidates should possess demonstrated research capabilities in molecular systematics and principles in phylogeny reconstruction. The successful candidate is expected to maintain an active research program with strong participation in and graduate training and teaching in plant systematics and related courses in his/her specialty. Send curriculum vitae, reprints, statements of research and teaching interests, and four letters of reference directly to: David E. Gannan, Department of Botany, University of Georgia, Athens, GA 30602. Closing date is 15 December 1991. An Equal Opportunity/Affirmative Action Institution.

COMPREHENSIVE CANCER CENTER

WAKE FOREST UNIVERSITY

A position is available for ASSISTANT or ASSOCIATE PROFESSOR of biochemistry. Emphasis is placed on the molecular biology/enzymology of antitumor agents. This tenure-track position is in the Department of Biochemistry. The position is part of the Therapeutics Group of our Comprehensive Cancer Center. This group is developing new drug strategies in cancer through a basic understanding of drug action and cell responses. Positions are available at a level of mammalian mitochondrial gene expression. Experience in molecular genetics is available within the area of structural and functional analysis. Candidates should send curriculum vitae, list of publications and arrange to have three letters of reference sent to: Dr. M. M. Wake, Chair, Department of Biochemistry, Wake Forest Medical Center, Winston-Salem, NC 27157–1016; FAX 919-748-7671. An Equal Opportunity/Affirmative Action Employer.

SURGICAL PATHOLOGISTS

ASSOCIATE/ASSISTANT PROFESSOR. The Department of Pathology at Fox Chase Cancer Center, under the direction of its Chairman, Dr. Joseph Russo, M.D., invites applications for two positions in the Division of Anatomic Pathology: one at the associate professor level and one at the assistant professor level. Requirements include pathology training and A.L.A.P. Board certification. Candidates should have experience in surgical pathology with a special interest in tumor pathology and hematopathology and/or cytopathology. The position involves primary responsibilities in diagnostic oncologic pathology, a commitment to basic research in the understanding of tumor biology, and the development of prognostic indicators of tumor behavior is highly desirable. Special training in the areas of immunopathology, molecular biology and flow cytometry are preferred. Rank and salary commensurate with experience and training. Please send curriculum vitae to: Search Committee for Surgical Pathologists, c/o Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. We are an Equal Opportunity/Affirmative Action Employer.
At Lilly, Your Scientific Expertise Will Benefit People The World Over.

Lilly

Eli Lilly and Company is a leader in developing pharmaceutical solutions to a wide variety of health care needs. We've had a direct presence abroad for over 70 years, and today our products are available in more than 110 countries. Supported by a research budget in excess of $700 million, our 4,000 scientists and technicians are planned to work on important research projects in order to maintain this international leadership position. We presently have the following positions available:

SENIOR SCIENTIST - Drug Metabolism and Disposition

The doctoral-level candidate we seek will establish a laboratory program utilizing basic and applied approaches for studying in vivo metabolic disposition of drugs. This position requires a strong background in analytical methods, chemistry, and pharmacologic and pharmacokinetic mechanisms as they relate to drug disposition.

CLINICAL RESEARCH FELLOW - Human Drug Metabolism

This two-year postdoctoral opportunity requires an M.D. or M.D./Ph.D. and involves "phenotyping" the drug metabolizing capabilities of individuals using probe drugs for which the metabolic routes have been characterized. In vitro models of human drug metabolism such as cytochrome P450s will be used to define the metabolism of the probe drugs. In vivo studies using clinically relevant inducers and inhibitors of the P450s will be used to confirm the in vitro experiments. The ideal candidate should have an interest in the human cytochrome P450 and a strong background in analytical techniques.

Lilly offers an excellent salary and benefits package, in addition to ample opportunity for personal and professional development. Qualified applicants should forward their resume, indicating position of interest, to Christina C. Boudrow, Ph.D., Corporate Recruitment (DD/CF), Eli Lilly and Company, Lilly Corporate Center, Indianapolis, IN 46285. An equal opportunity employer.
ENVIRONMENTAL TOXICOLOGIST

The Cooperative Extension Service and The Department of Environmental Toxicology is seeking an Extension ASSOCIATE PROFESSOR level/tenure track to promote the transfer of technology and new information to the public, concerned organizations and the environment to toxic chemicals and their impacts on the environment. The individual must have a strong background in toxicology with good written and oral communication skills. Cooperative Extension offers an inclusive and engaging environment.

Ph.D. in a discipline related to environmental toxicology research and knowledge being developed through research and development in environmental toxicology. Requirements: Ph.D. in an appropriate discipline, excellent scholarly record, university teaching experience or strongly demonstrated potential. Send letter of interest and curriculum vitae and the references by 6 September 1991 to: Dr. Raymond Noblet, Department of Environmental Toxicology, Clemson University, P.O. Box 709, Pendleton, SC 29670. Affirmative Action/Equal Opportunity Employer.

THE INTERNATIONAL LABORATORY FOR RESEARCH ON ANIMAL DISEASES

EDUCATION OFFICER

The International Laboratory for Research on Animal Diseases (ILRAD), based in Nairobi, Kenya, is a member of a group of International Agricultural Research with the mandate of developing economically improved methods for the control of livestock diseases. The programme is supported by a programme of socio-economic research and both programmes are integrated with a program of collaborative research, information dissemination and training.

ILRAD is an education officer to join the Programme of Collaborative Research, Information and Training. The successful candidate will be responsible to the head of the programme for the development and execution of a continuing education programme at ILRAD. The objective of the programme is to improve and sustain the capacity of national institutions in countries of Africa affected by trypanosomiasis and therrititiriosis, to develop and apply improved control measures for these diseases. The programme includes opportunities for professional development of African scientists at graduate and postgraduate level, provision of training courses in relevant technologies for both scientific and technical personnel, international and national organisations and the continuing monitoring and evaluation of the impact of the education program as it relates to national needs. The education officer will ensure that modern training aids are developed and used, and that the ILRAD library provides appropriate support for the research and education programmes and that information relating to the research and education programs is effectively disseminated. The education officer will also be responsible for the organisation of conferences and workshops held to support the research and education programs.

Applicants will have a doctoral degree in a relevant biological science, an interest in livestock disease control and proven ability to interact with scientists carrying out advanced research in a multidisciplinary framework. The successful candidate should have a strong interest in education and information dissemination and at least 3 years of experience in educational environment and experience with the use of microcomputers in data storage, information retrieval and dissemination is essential. Preference will be given to applicants who are bilingual in English and French.

The salary and benefit package are comparable to those offered by similar international organisations, and includes relocation, housing, support for dependents, and leave as well as provisions for pension and insurance.

Applications and curriculum vitae and the names and addresses of three referees should be sent to: Chief Personnel Officer, ILRAD, P.O. Box 30709, Nairobi, Kenya. Applications closes on 19 August 1991. (Telex:22040; E-mail: BT TYNMET CG1017), not later than 30 September 1991 or until a suitable candidate has been identified. ILRAD is an Equal Opportunity Employer.

MICROBIOLOGIST

Washington State University (WSU)-Tri Cities and the Environmental Sciences Research Center at Pacific Northwest Laboratory (PNL) invite applications for a tenure-track ASSISTANT PROFESSOR position in the area of environmental microbiology. The successful candidate is expected to interact with an active group at PNL investigating degradation and stabilization of pollutants. Preference will be given to candidates with experience in microbial physiology, genetics, or biochemistry related to metabolism or growth of microorganisms. Candidates are expected to develop a strong research program using funds provided for the position and by seeking extramural support. Responsibilities include teaching at the graduate and undergraduate levels at WSU-TriCities and advising graduate and undergraduate students. The individual must have a Ph.D. and a record of accomplishment. Postdoctoral experience is desirable. A letter of application describing interest in the position and qualifications, curriculum vitae, and three letters of reference should be sent to: Dr. Michael Kahn, Environmental Microbiologist Search, Department of Microbiology, Washington State University, Pullman, WA 99164-4340. Applications will be accepted until 1 October 1991 or until the position is filled. WSU is an Equal Opportunity/Affirmative Action Employer. Protected group members are encouraged to apply.

CONGRESSIONAL RESEARCH SERVICE

LIBRARY OF CONGRESS


DIRECTOR, ONCOLOGY CENTER

The Johns Hopkins University School of Medicine and The Johns Hopkins Hospital are seeking a physician-scientist to lead our Department of Oncology, which is also a Comprehensive Cancer Center. The center is one of the largest academically integrated programs in the U.S. with a reputation for excellence in research, in teaching and as a leader in the medical care of cancer patients. Please send letter of application, curriculum vitae and bibliography to: Dr. John D. Stobo Chairman, Oncology Search Committee The Johns Hopkins University The Johns Hopkins Hospital 1830 East Monument Street Baltimore, MD 21205 An Affirmative Action/Equal Opportunity Employer.

UNIVERSITY OF WISCONSIN-BIOTECHNOLOGY CENTER

DIRECTOR

PROTEIN PURIFICATION FACILITY

Individual will establish and implement goals for facility and organize and direct the service, research, training and administrative activities. Requires Ph.D. in biology, immunology, biochemistry or a related field with research experience in protein purification and protein chemistry, 2 to 3 years of management experience, including providing day-to-day technical support, and the ability to identify and secure research support. Not a tenure-track position. Dated information available by calling: 608-262-8606. Applications accepted through 30 August, interview conducted in mid-September. Send curriculum vitae and names of three references to: Dr. Richard R. Burgess, University of Wisconsin Biotechnology Center, 1710 University Avenue, Madison, WI 53705.

LABORATORY DIRECTOR

PARKINSON'S DISEASE CENTER

The Department of Neurology, Henry Ford Hospital and Health Sciences Center, is seeking an established neurologist with Ph.D. or equivalent degree in sleep research into the mechanisms of neuronal injury and death or with an interest in tissue transplantation. Generous funding is available to set up a major new laboratory for research in Parkinson’s disease. The Department of Neurology is a major research center with active university affiliations and pre- and post-doctoral programs. The National Parkinson’s Foundation (NPF) and the Parkinson’s Disease Foundation (PDF) are also interested in supporting the NPF and NPF-NPF Center as part of a wide spectrum of basic and clinical research in CNS disease. Applicants should send a letter of application, curriculum vitae and three letters of recommendation to: Jay M. Gorell, M.D., Director, Gottess Parkinson’s Disease Center, Department of Neurology, Henry Ford Hospital and Health Sciences Center, 2799 West Grand Boulevard, Detroit, MI 48202. Henry Ford Hospital is an Equal Opportunity Employer.

PLANT GENOME PROGRAM DIRECTOR

The National Research Initiative Competitive Grants Program of the U.S. Department of Agriculture (USDA) seeks a qualified scientist to serve as Program Director for grants administration in the area of plant genome. Candidates must have a B.S. or higher degree with major study in plant genetics or a closely related discipline. In addition the candidate must have a Ph.D. or equivalent experience directly related to molecular biology or a closely related discipline.

Closing date is 19 September 1991. For information on the position, contact: Dr. Sally Rockey, National Research Initiative Competitive Grants Program, CSRS/USDA, Room 323 Avenue Building, Washington, DC 20250-2200. Telephone: 202-401-5114. Applications should be addressed to: Dr. Sally Rockey, USDA, 202-401-5114. Contact: Ms. Kathy Amsmann, personnel specialist, 202-475-4811. USDA is an Equal Opportunity Employer.
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**POSITIONS OPEN**

**VICE PRESIDENT FOR CLINICAL RESEARCH AND DEVELOPMENT**

Responsibilities: overall planning of development projects, including the design of phases I-IV protocols and case report forms for specific studies; in adherence with Food and Drug Administration (FDA) regulations, execution and monitoring of clinical trials conducted by off-site investigators; acquisition, analysis and reporting of clinical data. Identification and recruitment of qualified investigators for development projects; participation and negotiation of contracts, maintaining close relationships with investigators to ensure that they provide high-quality data in a timely way and understand FDA reporting requirements in regard to serious and nonserious adverse reactions; development and maintenance of close working relationships with staff of National Cancer Institute and the FDA, including regular visits to these federal agencies; establish and maintain effective relationships with United States and foreign-based pharmaceutical companies and investigators with whom the corporation has developed specific agreements; work closely and effectively with collaborators outside of as well as within the United States on projects of planning process with worldwide scope; keep abreast of licensing products from other companies and universities and all normal related contractual details.

Requirements: Ph.D. or Pharm.D with major in pharmacology or biostatistics, or M.D., plus 4 years of experience as Vice President for Clinical Research and Development or 4 years of experience in oncology clinical research in pharmaceutical industry. Additional requirements, which may have been gained concurrently, as follows:

1. Four years of experience in oncology clinical research, including hands-on monitoring of clinical research programs to the standards of FDA "Guidelines for Good Clinical Practice".
2. Three years of experience in all phases (I-IV) of oncology drug development within the pharmaceutical industry, including medical affairs relating to launching the marketing oncology products.
3. Two years management experience of clinical research and scientific team in the pharmaceutical industry, including budgeting.
4. Two years experience managing a program of scientific and clinical research utilizing outside consultants and investigators.

Hours: 9:00 a.m. to 5:00 p.m., 37.5 hours per week.
Salary: $100,000 per year. Submit résumé or curriculum vitae to: Philadelphia Job Bank, 444 North 3rd Street—3rd Floor, Philadelphia, PA 19123; Job Order No. 4582560.

**RICE UNIVERSITY DEPARTMENT OF BIOCHEMISTRY AND CELL BIOLOGY FACULTY POSITIONS**

Applications are invited for tenure-track faculty positions in cell, developmental, and molecular biology, cellular neurobiology, and electron microscopy/image analysis. Clear evidence of research excellence is essential. Review of applications will commence 20 September 1991 and positions will remain open until filled. Please send curriculum vitae, summary of past research and future research plans, and three letters of reference to:

Dr. K. S. Matthews, Chair
Department of Biochemistry and Cell Biology
Rice University
Houston, TX 77251

*Rice University is an Equal Opportunity/Affirmative Action Employer; women and minority candidates are encouraged to apply.*

**FACULTY POSITIONS: BIOCHEMISTRY AND MOLECULAR BIOLOGY**

The Department of Biochemistry and Molecular Biology is seeking applicants for tenure-track faculty positions, preferably at the Associate or full Professor level. Outstanding individuals with active, funded research programs and teaching experience are being sought. Applicant should send curriculum vitae, list of publications, description of research and names of three references to: Chairman, Search Committee, Department of Biochemistry and Molecular Biology, Texas College of Osteopathic Medicine (TCOM), 3500 Camp Bowie Boulevard, Fort Worth, TX 76117-2600. TCOM is an Affirmative Action/Equal Opportunity Employer.

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**GLAXO INSTITUTE FOR MOLECULAR BIOLOGY**

Research at the Glaxo Institute in Geneva is focused on discovering the molecular mechanisms of diseases of the CNS, allergies and inflammatory conditions. We have an outstanding opportunity for a

**Cellular Immunologist to study the role of T lymphocytes in inflammation**

The successful applicant will have a key role in research programmes directed towards understanding antigen presentation, T cell activation or cell migration. These projects are aimed at identifying the molecular mechanisms involved in conditions such as chronic inflammation, allergy and neuroinflammation.

The ideal candidate will have several years of relevant post doctoral experience and a proven track record of research in cell biology or cellular immunology.

The institute provides a dynamic international research environment and actively encourages collaborative projects with academic groups as well as the publication and presentation of results at scientific meetings. GIMB is part of the Glaxo group, one of the world’s most successful healthcare companies which has an outstanding reputation for the quality of both its research and products.

We offer an excellent compensation and benefits package and significant opportunities for career development. Geneva situated in a very attractive part of Europe, has many advantages as a place to live.

If you are interested in this position, please send your curriculum vitae with a list of publications and the names of three referees to: Rita Gloor, Personnel Manager, Glaxo IMB, 14, chemin des Aulx, case postale 674 1228 Plan-Les-Ouates, Geneva, Switzerland.
FACULTY POSITION. ANIMAL CELL BIOLOGY OR ANIMAL PHYSIOLOGY. Applications are invited for a tenure-track position to begin in August of 1992. The position is being advertised subject to final budgetary approval. The appointment may be made at either the junior or senior level. The successful candidate will teach lecture/laboratory courses in biology for non-majors in his/her area of expertise. The Ph.D. and a commitment to teaching and undergraduate training are required. The department operates a strong program of research for undergraduates, and the candidate should be capable of directing undergraduate students in independent research. This is an independent Christian University under the control of a self-perpetuating Board of Regents and is affiliated with the Churches of Christ. A degree in biology will be required by December 1991. Submit letter of application containing a statement of teaching philosophy, names and addresses of three references, and curriculum vitae to: Dr. Gary Tallman, Natural Science Division, Pepperdine University, Malibu, CA 90263. Equal Opportunity Employer.

RESEARCH FACULTY POSITION MOLECULAR PATHOGENESIS

The Public Health Research Institute (PHRI) invites applications for a position as a member of its research faculty at either the junior or senior level. Candidates must have training and experience in one of the highest quality and an exciting research program addressing fundamental questions on the mechanism of pathogenesis. The research program must be funded or, in the case of a junior candidate, fundable. Candidates must submit curriculum vitae, a statement of research interests and accomplishments, and a list of at least three references. Review of applications will begin immediately, and applications will be accepted until the position has been filled. Applications should be sent to: Dr. Leonard Minkh, Chairman, Recruitment Committee, PHRI, 455 First Avenue, New York, NY 10016. The PHRI is an Equal Opportunity Employer.

FACULTY POSITIONS DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY THE UNIVERSITY OF CHICAGO

The Department of Biochemistry and Molecular Biology at The University of Chicago invites applications and nominations for several tenure-track and tenured faculty positions to be filled within the next few years. We hope to fill at least two positions in the 1991–1992 academic year. Candidates must have training, experience and accomplishments that demonstrate the potential for the development of an independent research program of academic and scientific significance. Tenured positions require a record of strong research accomplishments at the forefront of the field. Candidates with research interests in any area of modern biochemistry and molecular biology, over the coming academic year our main emphasis is on candidates with research interests in structural and functional neuroendocrine systems, who employ techniques such as x-ray diffraction, nuclear magnetic resonance spectroscopy, and molecular dynamics. Applications should include curriculum vitae, a list of publications, a summary of current research activities and future research plans, and the names of at least four individuals from whom letters of research may be solicited. Although there is no formal deadline, we would appreciate receiving applications by 1 October 1991. Please send applications or nominations to: Marvin W. Makinen Chairman Department of Biochemistry and Molecular Biology The University of Chicago Chicago, IL 60637

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

A POSTDOCTORAL POSITION in neuro-oncology is available to study mechanisms underlying differences between normal and transformed glial cells to repair alkylating agent-induced DNA damage. Experience in molecular biology, cell culture and enzyme assays is desirable. Send curriculum vitae and three references to: J. R. Silber, Department of Neuroligical Surgery, RI-20, University of Washington, Seattle, WA 98195.

FACULTY POSITION PHYSIOLOGICAL PSYCHOLOGIST/BEHAVIORAL NEUROSCIENTIST

College of the Holy Cross invites applications for a tenure-track position in the area of behavioral sciences. Candidates must be committed to both research and teaching in a small, liberal arts college. Candidates with research interests in any area of neuroscience/psychology will be considered. Course requirements will include introductory psychology, experimental psychology, and courses within a psychology concentration in the candidate’s area of interest. Ph.D. is required. Rank and salary are open. Applications must be received by 18 October 1991. Materials must include curriculum vitae; three letters of recommendation, at least one of which comments on teaching or teaching potential; and recent reprints. Send all materials to: John Axelson, Chair, Department of Psychology, College of the Holy Cross, Worcester, MA 01610. The College of the Holy Cross, a Jesuit, undergraduate institution with a strong commitment to teaching, scholarship, and the liberal arts, is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION. Joint academic/industry appointment (University of Washington School of Medicine/Cell Systems Corporation). Candidate to develop systems to study monolayers of polar microvascular endothelial cells. Research focused on adhesion/invasion/transportation system. Experience with recombinant Curricular vitae and references: Cell Systems Corporation, 12815 NE 124, Kirkland, WA 98034. The University of Washington and Cell Systems are Equal Opportunity/Affirmative Action Employers.

POSTDOCTORAL POSITIONS. Available to study the molecular biology of the neutrophil oxidase complex involved in superoxide production. Projects include expression and analysis of recombinant oxidase proteins during cellular differentiation, targeted mutagenesis of specific genes in murine embryonic stem cells, and investigation of inherited oxidative defects in chronic granulomatous disease. Experience in molecular biology, biochemistry and/or cell biology is required. Please send curriculum vitae and names of three references to: Mary C. Dinauer, M.D., Ph.D., H. B. Wells Center for Pediatric Research, James Whitcomb Riley Hospital for Children, Indiana University School of Medicine, 702 Barmhill Drive, Indianapolis, IN 46202. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS. Available to study the molecular biology of the neutrophil oxidase complex involved in superoxide production. Projects include expression and analysis of recombinant oxidase proteins during cellular differentiation, targeted mutagenesis of specific genes in murine embryonic stem cells, and investigation of inherited oxidative defects in chronic granulomatous disease. Experience in molecular biology, biochemistry and/or cell biology is required. Please send curriculum vitae and names of three references to: Mary C. Dinauer, M.D., Ph.D., H. B. Wells Center for Pediatric Research, James Whitcomb Riley Hospital for Children, Indiana University School of Medicine, 702 Barmhill Drive, Indianapolis, IN 46202. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION. Available immediately for projects using computerized microscopic image analysis to study cellular movement and receptor organization and orientation in vivo. Experience with computerized image analysis and molecular biology preferred. Please send curriculum vitae and names of three references to: Steven L. Talaman, M.D., Director, Division of Infectious Diseases, Department of Medicine, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, KS 66103. The University of Kansas Medical Center is an Equal Opportunity Employer.

POSTDOCTORAL POSITION. Available immediately to study transcriptional regulation of the human pyruvate dehydrogenase α and β subunit genes in cells and transgenic animals. Some experience with molecular biology methods in mammalian cell lines is required and names of three references: Dr. M. S. Patel, Department of Biochemistry, Case Western Reserve University School of Medicine, Cleveland, OH 44106.

POSTDOCTORAL POSITIONS. Postdoctoral positions in molecular and cellular mechanisms of carcinogenesis are available at The University of Texas M. D. Anderson Cancer Center–Science Park. Research programs focus on the following areas: DNA repair and mutagenesis, carcinogen metabolism, adduct formation, tumor promotion, role of oncogenes and tumor suppressor genes in multistage carcinogenesis, normal and tumor cell differentiation, retrovirology, chemoprevention and nutrition in cancer. Applicants must have a Ph.D., M.D., or D.V.M. degree. For application forms, contact: Dr. Thomas Slaga, Director, University of Texas Science Park–Research Divi- sion, 12001 Stuebner Airline Rd., Houston, TX 77285. Telephone: 713-272-4303. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

DROSOPHILA MOLECULAR NEUROBIOLOGY

POSTDOCTORAL POSITION in molecular neurobiology to study the development and regulation of inhibitory neurotransmitter systems in Drosophila. Experience in molecular biology, immunocytochemistry, and/or Drosophila genetics is essential. This NIH-funded position begins in the fall 1991. Send curriculum vitae and names of three references to: Marvin D. Jackson, PO Box 2147, San Antonio, TX 78228–0147. Equal Opportunity Employer, M/F.

POSTDOCTORAL POSITION. Available immediately for projects using computerized microscopic image analysis to study cellular movement and receptor organization and orientation in vivo. Experience with computerized image analysis and molecular biology preferred. Please send curriculum vitae and names of three references to: Steven L. Talaman, M.D., Director, Division of Infectious Diseases, Department of Medicine, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, KS 66103. The University of Kansas Medical Center is an Equal Opportunity Employer.

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POSITIONS OPEN

POSTDOCTORAL POSITIONS. Open for individuals with expertise in molecular biology or protein chemistry. Research focuses on lipid mediators, signal transduction, and second messengers involved in inflammatory events. Please send curriculum vitae and three references to: Fred L. Snyder, Ph.D., Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117.

POSTDOCTORAL POSITION IN VASCULAR BIOLOGY. Available immediately to study cerebral circulation and brain function in a well-funded, productive laboratory. Emphasis will be on cellular and molecular approaches to elucidation of mechanisms of vascular functions in normal and damaged vessels, and interactions between vessels and glia/neurons. Please submit curriculum vitae with names and addresses of three references to: Dr. David Busija, Department of Physiology and Pharmacology, Bowman Gray School of Medicine, Wake Forest University, Medical Center Boulevard, Winston-Salem, NC 27157-1083.

OXIDATIVE DNA DAMAGE

A unique opportunity for a biochemist to pursue exciting postdoctoral research in the area of oxidative DNA damage in mammalian cells. Position requires knowledge of DNA chemistry and free radical biochemistry. Experience in cell culture, chromatography, and use of GC/MS advantageous. Fluency in English and ability to drive a car desirable. The position is for 3 years and applications will be received until 6 September 1991. Please send resume and three references to: Drs. Govind Rao or Mirarl Disdaroglu at Department of Chemical and Biochemical Engineering, 227 TRC, University of Maryland, College Park, MD 20742. UMBC is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL. Electron microscopy laboratory, TEM, SEM, light and confocal microscopy. Expertise in one of following: computer-assisted image analysis, confocal microscopy, freeze fracture.

Respond to: Department MH-EM, BOEHRINGER INGELHEIM PHARMACEUTICALS, INC., P.O. Box 368, Ridgefield, CT 06877. Equal Opportunity Employer, M/F/H/V.

POSTDOCTORAL/LECTURER POSITION. Available in January 1992 to join an NIH-funded investigation of the disposition of reactive metabolites of drugs, mechanism for their reaction with proteins and toxicological properties. Clinical studies with aged patients will be conducted in collaboration with University of Texas Health Sciences Center, San Antonio. Candidate should have a Ph.D. in biological sciences or chemistry. Experience with pharmacokinetics and HPLC is desirable. An English proficiency is required for the position as Lecturer. Send curriculum vitae and three letters attesting to research and teaching ability to: Dr. Philip C. Smith, College of Pharmacy, PHR 4.214, The University of Texas at Austin, Austin, TX 78712. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP. Available immediately to characterize the effects of chemopreventive agents on oncogene mRNA using PCR. Previous experience with PCR and/or molecular biology preferred.

Contact: Donald M. Miller, M.D. at 205-934-1977, University of Alabama at Birmingham, 1918 University Boulevard, Birmingham, AL 35294.

MAMMALIAN MOLECULAR GENETICIST. Position is available in a research group studying the organization and regulation of mammalian genes and the molecular characterization of genetic mutations at the levels of DNA and protein sequences. The geneticist will participate in the research project on the regulation of mammalian gene expression. A POSTDOCTORAL FELLOW will work on protein engineering of mammalian enzymes. Applicants should have a Ph.D. or equivalent degree in molecular biology, genetics, or biochemistry and experience in recombinant DNA techniques and mammalian cell culture. Candidates with up to 3 years of postdoctoral experience will be considered. For more information, contact Dr. Steven Li at 919-541-4253. For prompt consideration, send cover letter indicating area of interest, curriculum vitae and three letters of reference by 30 September 1991 to Mr. Bruce Wiggins, NIHES Personnel Office (HIN49), P.O. Box 12233, Research Triangle Park, NC 27709. NIH is an Equal Opportunity Employer.

DIRECTOR, ACADEMIC INFORMATION SYSTEMS

Center for Knowledge Management
University of California, San Francisco

The Center for Knowledge Management is an innovative division created by the Division of Academic Affairs and the University Library to serve as a campus focal point for knowledge-based applications of information technology.

The Director, AIS, will perform a variety of challenging administrative functions by serving as a member of the senior management team. Some duties will include: participating in the Center's ongoing strategic planning; directing operational planning for applications, computing and communications technologies; designing, planning, implementing and maintaining the computing and communications infrastructure to support the Library's bibliographic information systems and services and the Center's knowledge-based activities.

The qualified candidate must have a PhD in Information or Computer Science, or equivalent, and an additional subject degree in the biological sciences, with a minimum of 5 years experience in developing and managing Information Systems in a complex environment, preferably an academic health sciences center. This position also requires superior interpersonal and communication skills, strong team management ability, knowledge of current trends in information technology, and a strong commitment to service functions. Salary range at appointment: $66,900-$83,600.

Application deadline: September 30, 1991. Please forward resumés to: Kenneth R. Weeks, Assistant Director for Planning & Administration, UCSF Library, Box 0840, San Francisco, CA 94143-0840. AA/EOE/MFHV
The University of British Columbia
Department of Chemistry
ASSISTANT PROFESSOR

The Department of Chemistry, University of British Columbia, invites applications for a tenure-track assistant professorship in organic chemistry, starting July 1, 1992. Preference will be given to candidates who propose to carry out research in the organic chemistry of biological systems or in organic polymer chemistry; however, outstanding candidates in related areas of organic chemistry will be considered. A Ph.D., postdoctoral experience, and a strong research track record are required. The successful candidate would be expected to teach courses at the undergraduate and graduate level. The salary will be commensurate with education and experience.

The University of British Columbia encourages qualified women and minority applicants. The position is subject to final budgetary approval and, in accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Applications should consist of a curriculum vitae, list of publications, summary of research interests, a detailed research proposal, and the names and addresses of at least three references. The applicant should arrange for the complete application and letters of reference to be sent by October 1, 1991 directly to: Professor E. Piers, Chairperson, Future Appointments Committee, Department of Chemistry, THE UNIVERSITY OF BRITISH COLUMBIA, 2036 Main Mall, Vancouver, B.C. CANADA V6T 1Z1.

RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

The Department of Biotechnology is seeking applicants for our ongoing program of crop improvement. Pioneer offers competitive salaries, excellent facilities and a highly cooperative research environment. Successful candidates will be expected to interact extensively with ongoing programs in transformation, gene expression, gene isolation or RFLP programs.

PROJECT LEADER, DNA CORE FACILITY — The DNA Core Facility within the Gene Expression Group will meet the needs of the entire department for design and construction of vectors for proper expression in plants, oligonucleotide synthesis, plasmid DNA preparation, DNA minipreps, and strain inventory. The successful candidate for this position will be responsible for managing the DNA Core Facility and these functions in the facility. A Ph.D. or equivalent work experience in molecular biology or related field and 3-5 years relevant laboratory experience are required. Excellent skills in DNA methods, good organizational skills and the ability to manage and train personnel are also essential.

RESEARCH ASSOCIATE, OLIGONUCLEOTIDE SYNTHESIS (DNA CORE FACILITY) — The successful candidate for this research associate position will be responsible for the synthesis and purification of oligonucleotides. This person will also have the opportunity to participate as part of a team in the design and construction of vectors for expression in plant cells. A B.S. degree or equivalent work experience in biology, chemistry or related field and 3 years of directly related laboratory experience are required. Direct experience in oligonucleotide synthesis and working knowledge of basic molecular methods are strongly preferred. Experience in gene cloning or gene constructions would be considered an additional asset.

Applications received by September 6, 1991 will be assured of consideration. However, applications will be considered until the positions are filled.

PIONEER HI-BRED INTERNATIONAL, INC. is an Equal Opportunity/Affirmative Action employer. Please send resume including the names of three references and the position for which you are applying to:

PIONEER HI-BRED INTERNATIONAL, INC.
Plant Breeding Division
Department of Biotechnology Research
Attn: Jane Blacketer
P.O. Box 38
Johnston, Iowa 50131-0038

Scientist
Molecular Pharmacology

The Medical Research Division of American Cyanamid Company has an immediate opportunity available for an individual to join the Molecular Pharmacology Group of the Cardiovascular/Central Nervous System Disease Research Section. The BS/MS level scientist will conduct research on the molecular aspects of receptor-ligand interactions and signal transduction mechanisms. Training in recombinant DNA techniques is required. Additional experience in performing receptor binding assays would be beneficial.

American Cyanamid offers a competitive salary along with an attractive benefits package including a 401K Savings Plan and relocation assistance.

We are located in Rockland County on the 580 acre campus-like setting of Lederle Laboratories. We are 25 miles north of NYC which affords easy access to several universities and medical schools. For consideration, interested candidates may send a resume/c.v. with the names and telephone numbers of three references to: Medical Research Division, Dept. RN, Lederle Laboratories, Pearl River, NY 10965. An Equal Opportunity Employer M/F.

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RESEARCH PHARMACOLOGIST
(POST - DOCTORAL LEVEL)

French Pharmaceutical research center situated near Paris is recruiting a:

The post involves research into aspects of memory and neurodegenerative diseases.

The candidate should be familiar with behaviour studies in non‐rodent species and should be able to work as part of the team as well as individually to implement a personal research programme.

Please subscribe with C.V. + Hand written letter on the ref. of 607 to
R.S.C.G. CARRIERES-2, rue Rouget de Lisle - 92130 Issy-Les-Moulineaux FRANCE.
BIOCHEMIST
The Molecular Pharmacology and Biochemistry Department is seeking one candidate with a BS or MS degree or equivalent plus extensive experience to join a multi-disciplinary research team studying the structure-function relationships of receptors. Candidates should have extensive experience in mutagenesis, protein expression, biochemical or biophysical characterization membrane receptors. A demonstrated ability for problem solving and independent basic research is desirable.

Merck Sharp and Dohme Research Laboratories is located in Rahway, NJ approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. For consideration, send your resume with the names of three references to Human Resources Manager, Merck & Co., Inc., P.O. Box 2000, AD #90, Rahway, NJ 07065 (RY80-A3).

EEO/AA/VH EMPLOYER

ORGANIC CHEMIST
POSTDOCTORAL FELLOW
We are a state-of-the-art cancer research institute, located on the campus of the New York Medical College in lower Westchester. We now have an excellent career opportunity for a devoted professional with a Ph.D. in Organic Chemistry.

You will apply synthetic and analytical skills to challenging problems relating to the metabolism of carcinogenic nitrosamines.

We offer a competitive salary, an excellent benefits package, plus the opportunity to make a meaningful contribution to the medical field. For confidential consideration, please send your curriculum vitae to: Department SSH, American Health Foundation, One Dana Road, Valhalla, New York 10595.

We are an equal opportunity employer m/f/h/v.

American Health Foundation

Postdoctoral Scientist Opportunities

The Skin Biology Unit of the R.W. Johnson Pharmaceutical Research Institute is seeking postdoctoral fellows who have earned their PhD in experimental biological science and who are interested in joining a group studying the basic biological problems of hair growth.

Candidates should be familiar with the techniques of molecular biology and recombinant technology, and familiar with the problems of embryology, and developmental biology. The positions offer full laboratory support, the most state-of-the-art tools, and readily accessible informational resources.

The R.W. Johnson Pharmaceutical Research Institute integrates worldwide R&D efforts for various Johnson & Johnson Companies to maximize our traditional R&D efforts and our strengths in biotechnology. We offer competitive salaries and comprehensive benefits at our campus-like setting in Raritan, New Jersey . . . midway between New York City and Philadelphia. Ours is a smoke-free workplace.

Please submit your curriculum vitae and the names of 3 references to:
Mr. Thomas Hutton, Human Resources Dept. 38, R.W. Johnson Pharmaceutical Research Institute, P.O. Box 300, Raritan, New Jersey 08869-0602.
An Equal Opportunity Employer, M/F

R &D Scientists
CANJI, INC., a startup bio-pharmaceutical company in the San Diego area, is engaged in the development of innovative cancer diagnostics and therapeutics based on tumor suppressor gene technology. We have challenging opportunities available in the following positions:

Analytical Chemist—To analyze primary structure of protein and peptides and to develop and validate methods for product assay, material testing and quality control. Will develop stability protocol and give analytical support to pharmacology, protein purification and clinical testing. Requires Ph.D. in Biochemistry or M.S. with 3 years of experience.

Process Scientist—To purify recombinant proteins according to GMP guidelines. Write batch record for scaling-up protein purification methods and perform process monitoring and quality control testing. Requires an M.S. in Biochemistry or a B.S. with 3+ years of industrial experience.

Pharmacologist—To design and carry out efficacy and pharmacokinetic studies utilizing animal tumor models to test cancer suppressor drugs. Requires Ph.D. in Clinical Pharmacology and 3+ years of pharmaceutical experience.

Group Leader and Scientist Positions available in:

Gene Therapy Development—To develop high titer retroviral vectors as gene therapy vehicles employing tumor suppressor genes. Requires Ph.D. in Molecular Biology with a strong background and postdoctoral experience in viral vectors, particularly retroviral vectors. Knowledge of tumor suppressor genes/oncogenes preferred.

Exploratory Research—To develop alternative gene delivery systems. Requires Ph.D. in Molecular Biology with 2+ (Scientist) or 4+ (Group Leader) years' postdoctoral experience. Knowledge and experience in T-Cell chemotherapy required and in mammalian viral vectors preferred.

Canji offers successful candidates competitive compensation and benefits. Please send curriculum vitae and names and addresses of three references to: Personnel, CANJI, INC., 11077 N. Torrey Pines Road, La Jolla, CA 92037. An Equal Opportunity Employer.
POSTDOCTORAL FELLOWSHIP
A postdoctoral position is available to study the aggregation and crystallization kinetics of amyloids and proteins.
Experience with light scattering is desirable. Please send curriculum vitae and names of three references to: Dr. Nair Rodri-

STRICTURAL BIOLOGY OF RECEPTORS—POSTDOCTORAL FELLOWSHIP. The paradigm of biological membranes is the genera-
tion of molecular signals of importance in regulation of cellular function is the structural biology goal. Explora-
tion by mutagenesis of the three-dimensional structure: function and structure of plasma-borne and secreted receptor
function and initiate the coagulation protease cascades as in thrombogenesis and inflammation is the model. Environ-
mental hormesis, mathematic modeling, and threedimensional structural basis of molecular function and of cellular re-
sponses. Applicants should have demonstrated experi-
ence in molecular biology and are invited for a 9-month position: to: Thomas S. Edgington, M.D., Vascular Cell and Molecular Biology Program, The Scripps Research Institute, 10666 North Torrey Pines Road, La Jolla, CA 92037.

POSTDOCTORAL FELLOWSHIP
THE ROCKEFELLER UNIVERSITY
Postdoctoral fellowship in the area of microbe-induced autotoxicity and human genetics. Applicant should have expertise in area of molecular biology. Experience in molecular biology and immunology is desirable. Send curriculum vitae, resume of research interests and names of three refer-
tees to: Dr. John B. Zabriskie, Laboratory of Bacter-
iology, Rockefeller University, 1230 York Avenue, New York, NY 10021. An Equal Opportunity Employment/Active
Action Employer.

POSTDOCTORAL FELLOWSHIP
MOLULAR PLANT PATHOLOGY
POSTDOCTORAL AND PREDOCTORAL FELLOWS
The Center for Engineering Plants for Resistance Against Pathogens (CEPRAP), an NSF Science and Technology Center, recently was established at the University of California, Berkeley. CEPRAP has a focus on the molecular biology of the interaction of plants, especially
tomato, with viral, fungal, bacterial and nematode pathogens. For research groups wishing to house at the CEPRAP
facility: Resistance Genes, Plant Responses, Cellular Pathogens, and Engineered Resistance. Several postdoctor-

dal and predoctoral positions funded by the center grant are available. Interested applicants should contact: Dr. B. L Metha, Department of Plant Pathology, University of California, Davis, CA 95616. Fax: 916-752-5674. Positions are available until filled. The University of California is an Equal Opportunity/Affirmative
Action Employer.

POSTDOCTORAL FELLOWSHIP
AGRICULTURAL RESEARCH SERVICE (ARS)
POSTDOCTORAL RESEARCH ASSOCIATE
Immunologist, GS-11/12 ($31,116 to $37,294). Position available immediately with the USDA, ARS, Hel-
mintic Disease Research Unit, Beltsville, Maryland, to conduct research on mast cell activity and interleukin expression in parasite-resistant breeds of live-
stock. The position requires a Ph.D. in immunology and knowledge of mast cell function; some veterinary experience
would be helpful. Opportunities exist for additional training in areas of molecular biology and biochemistry. Send
curriculum vitae and names of three references to: Dr. H. Ray Gamble, USDA, ARS, LPSI, HDL, Building 1040, Room 2, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. For USDA is an Equal Employment Opportunity Employer.

POSTDOCTORAL FELLOWSHIP
THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO
A POSTDOCTORAL RESEARCH POSITION available immediately to participate in an active research program examining host-parasite interactions and the pathogenic interactions of protozoan parasites of hosts. This 2-year position requires background in protein chemistry, isolation of bacterial membranes, and a working
ability in molecular biology and microbiology. Suc-
cessful applicant will conduct studies of the role of bacterial proteins as virulence factors in tissue-destructive mechanisms. The studies will involve the use of both in vitro and animal models; post-parasite interactions.
Send curriculum vitae to: Dr. Stanley C. Holt, The University of Texas, Health Science Center at San Antonio, Department of Periodontics, 7703 Floyd Curl Drive, San Antonio, TX 78284-7894. The Uni-
versity of Texas Health Science Center at San Antonio is an Affirmative Action/Equal Opportunity Employer.

U.S. DEPARTMENT OF AGRICULTURE (USDA)
AGRICULTURAL RESEARCH SERVICE (ARS)
POSTDOCTORAL RESEARCH ASSOCIATE
We'll Help You Build A New Lab
To study molecular mechanism(s) involved in the expression of proteins following xenobiotic insult. Tech-
niques include cell culture, immunoblot analysis, hybrid-
ization analysis (Northern, Southern, etc.), PCR, primer extension, DNA library screening, cloning, sequencing, mobility shift assays, transfection, cell-free

transcription and translation. Send curriculum vitae and the names of three references to: Dr. Raymond F. Novak, Postdoctoral, Institute of Toxicology, 2727 Second Avenue, Room 4000, Detroit, MI 48201. Wayne State is an Equal Opportunity/Affirmative
Action Employer.
As a leader in discovery research, we are integrating new molecular and cellular technologies with established approaches to drug design. Our research and development team has fostered an atmosphere of innovation and creativity by emphasizing basic biomedical research approaches to the study of human disease. Critical to the creation of this research environment is our postdoctoral fellowship training program. Trainees are involved in an interdisciplinary program to explore the basic mechanisms underlying many biological and cellular processes in therapeutic areas such as cardiovascular and neurological disorders, cancer, infectious disease, immunopathology, diabetes and others. Interactions with our collaborators at nearby University of Michigan and many other academic institutions are encouraged, and publication and presentation of results is expected. Established research programs include:

**Gene Regulation and Expression**
Study the structure and regulation of genes that play a role in human disease. Investigate the biology of transcription factors and posttranslational protein modification, hormonal control of gene expression, DNA repair mechanisms, viral gene expression, and DNA binding motifs. Participate in the design of new compounds to control gene expression.

**Intracellular Signaling**
Using modern techniques in molecular and cellular biology, explore the fundamental interactions between receptor/oncogene products and key signaling proteins. Investigate the roles of protein phosphorylation and dephosphorylation, second messengers, phospholipid and arachidonic acid metabolism in the regulation of cellular growth and metabolism.

**Membrane Biology**
Participate in multidisciplinary research programs to clone and characterize membrane receptors, transporters or ion channels. Use molecular receptor binding or electrophysiological techniques to explore new directions in the biology of neurotransmitters, growth factors, or cell-cell interactions.

**Molecular Engineering and Biochemistry**
Apply molecular and computational techniques such as site-directed mutagenesis, computer modeling, x-ray crystallography, and NMR to study and design molecular structures with specific functions. Explore mechanistic aspects of enzymes such as proteases, protein kinases, phosphatases, reverse transcriptase and others.

**Animal Models of Disease**
Investigate the pathophysiology of human disease processes using animal models. Integrate basic approaches in biochemistry, physiology and histology to evaluate the pathogenesis of diseases involving behavioral, metabolic, ischemic or vascular disorders.

**Mechanistic Toxicology**
Using both in vitro and in vivo models, elucidate the pathogenesis of toxicity of drugs, as related to molecular mechanisms of cell proliferation and immunotoxicology. Explore the mechanisms of mutagenesis and cytotoxicity.

Interested scientists should forward a CV and list of references to Human Resources, Box IDA-POS, PARKE-DAVIS, 2900 Plymouth Road, Ann Arbor, MI 48105. Smoke-Free Work Environment. Equal Opportunity in Action.
Scientists

At Genentech, we are proud of the reputation we have built for the quality, commitment and diversity of our research efforts as well as for our business success. Our commitment to R&D starts with finding the top scientific talent in many fields of biological science, and continues with an R&D expenditure of 40% of revenues. Our scientists publish over 220 papers per year that are cited an average of 45 times per paper, significantly more than any other biotechnology company or top academic institution. We are currently building an $80 million, 250,000-square-foot research facility, scheduled for completion in 1992, to house our Research organization.

We are interested in hiring a few outstanding scientists currently at the postdoctoral or assistant professor level who can join us in our long-term commitment to research. You should have a superior publication record with graduate or postdoctoral experience in excellent laboratories as well as the drive, creativity and vision to make outstanding scientific advances. You should also share our ultimate goal of developing products that help combat serious human medical conditions. We will set mutually agreeable research goals and provide laboratory space and support.

Genentech also values and contributes to a balanced life by providing extensive benefits for employees and their dependents, including dental/medical/vision coverage, child care facilities and health club membership. To apply, please send your Curriculum Vitae to Dr. Art Levinson, Vice-President of Research, Mailstop WS, 460 Point San Bruno Blvd., South San Francisco, CA 94080. We are an equal opportunity employer. Women and minorities are encouraged to apply.

Genentech, Inc.

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At Vertex Pharmaceuticals we’re pioneering a unique approach to take the guesswork out of drug development. By combining biotechnology with chemistry and physics, we’re making pharmaceutical development a more rational and efficient process if you're looking for a position at the forefront, come to Vertex.

Vertex is a public company founded in 1989 to develop human therapeutics through the integrated application of structure-based rational drug design. We’re using the latest advances in chemistry, biology and physics to design unique molecules based on the structural features of proteins involved in the control of disease processes. Our goal is to become a major pharmaceutical firm by taking advantage of rational drug design in the discovery and development of novel drugs.

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At Vertex, our chemistry leaders are all active experimentalists. As one of those leaders, you will work closely with biologists, biophysicists and computational chemists in an intense and challenging interdisciplinary environment where your proven synthetic organic chemistry skills and medicinal chemical experience can be used and appreciated. The successful candidate must have three or more years of experience in medicinal chemistry within the pharmaceutical industry and must currently be spending a majority of time at the bench. We are seeking those with a Bachelor’s, a Master’s or a Ph.D. degree in synthetic organic chemistry who have a compelling and a continued record of independent medicinal chemical research. An eagerness and ability to apply insights from biology, structural biophysics and computational chemistry to the process of drug design is essential.

Our salaries and benefits are excellent along with potential for equity and virtually unlimited professional development. Please forward a detailed resume with salary history to Vertex Pharmaceuticals Incorporated, c/o Recruiting Coordinator, 40 Allston Street, Cambridge, MA 02139-4211. We are an Equal Opportunity Employer.

Nutritional Immunologist Nutritional Research

This is your opportunity to join Wyeth-Ayerst Laboratories, a major division of American Home Products, a Fortune 100 company and one of the largest pharmaceutical companies in the world.

Our Research Division has facilities in Radnor, PA, Princeton, NJ and Rouses Point, NY, and employs over 2000 people actively involved in research and development. Our commitment to bring to market the right products at the right time depends upon the efforts of our talented R&D teams.

We currently have an opportunity for a Research Scientist in our Radnor, PA facility. Position requires a PhD in Nutrition or related area with a minimum of three years relevant research experience and some experience in immunology. You will be responsible for investigating the interactions of nutrition with the immune system using a wide variety of in vivo and in vitro assay technologies. Additionally, you may participate in the investigation of novel ingredients to infant formula.

Wyeth-Ayerst offers competitive salaries and a comprehensive benefits package. Our beautiful suburban Philadelphia location is convenient to many of the East Coast cultural and recreational attractions. For consideration, please send your resume and salary requirements to: Personnel Administrator, Wyeth-Ayerst Research, P.O. Box 8299, Philadelphia, PA 19101. Equal Opportunity Employer. M/F/H/V responses encouraged. Principals Only.

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New York, NY 10036
**POSITIONS OPEN**

**ASSOCIATE RESEARCH SCIENTIST**

To join ongoing research on fluid and electrolyte transport across ocular epithelia. Work involves obtaining cells by culture or dissection, assaying their transport activity with radiolabels, measuring electrical properties and rate of fluid movement across epithelial layers, performing cell volume measurements by optical techniques, and using biochemical and molecular biological techniques to study epithelial proteins. Ph.D. or M.D.; training in ophthalmology (clinical or research) preferred. Salary: $27,000 per year. Start: 1 September 1991. Send curriculum vitae to: Dr. Jorge Fischbach, Department of Ophthalmology, 630 West 168th Street, New York, NY 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.

**RESEARCH ENGINEER**

for northeastern Ohio manufacturer to design, develop and apply artificial neural networks based upon naturally occurring nervous systems to the development of expert systems. Will use artificial intelligence technologies and knowledge engineering to capture and retain knowledge and decision-making processes of experts and create computer programs for their expertise. Will be Systems Manager for our Artificial Intelligence Laboratory. No requirement for specific experience in job as described, but to qualify applicants must have a graduate degree in biomedical engineering and, as part of an academic program or industrial employment, 2 years of research experience in the area of artificial intelligence and knowledge engineering including development of expert systems and artificial neural networks through simulation and mathematical modeling of sensor motor coordination found in biological nervous systems using Explorer LISP machine, VAX and SUN computer hardware, LISP, Flavors and C++ computer languages, and Personal Consultant Plus Expert System shell, and including at least 6 months experience as Systems Manager in the area of artificial intelligence and knowledge engineering. Must have proof of legal authority to work permanently in the United States. Forty hours per week, 8:30 a.m. to 5:00 p.m. Salary: $31,750 to $33,460 per month. Benefits. Send resume (NO CALLS) to: J. Davies, J08#1255785, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.

**POSITIONS OPEN**

**RESEARCH SCIENTIST** required for the development of new techniques to expedite the localization and mapping of DNA sequences to chromosomes and identification of genes underlying specific genetic disorders and neoplastic diseases. Specific requirements include experience with production of high-quality metaphase chromosome spreads, high-resolution in situ suppression hybridization using multicolor fluorescence, laser scanning confocal microscopy, detailed computer-enhanced image analysis and electronic reconstruction of chromosome images, analysis of DNA sequence in interphase nuclei by in situ hybridization, pulsed field gel electrophoresis, isolation and detailed characterization of human DNA contained in yeast artificial chromosomes, and experience in the techniques of physical and genetic mapping as applied to the study of the human genome. Ph.D. in biomedical science with extensive research laboratory experience and training in areas of cyogenetics, molecular genetics and DNA biochemistry. M.D. degree with specialization in hematology/oncology and clinical residency in hematology/oncology highly desirable; or, Ph.D. degree in hematology and oncology with laboratory training in neoplasia, cell biology, cyogenetics. Clinical experience in hematology highly desirable. Salary negotiable in accordance with NIH guidelines. Direct inquiries to: Box 9, SCIENCE Classified Advertisements, 1333 H Street, N.W., Room 940, Washington, DC 20005.

**ONCOR**

A leader in DNA diagnosis of human disease is seeking a highly motivated individual to join our technical service department as an APPLICATION LABORATORY TECHNICIAN. B.S./M.S. in molecular biology with experience in Northern/Southern analysis, chromosome in situ, cloning, PCR and FISH. Forward resume to: ONCOR, Human Relations, 209 Perry Parkway, Suite 7, Gaithersburg, MD 20877. An Equal Opportunity Employer.

**POSITIONS OPEN**

**PROFESSIONAL OPPORTUNITIES**

**PROFESSIONAL OPPORTUNITIES**

**POSITIONS AVAILABLE**

The Patuxent Wildlife Research Center, Fish and Wildlife Service, U.S. Department of the Interior, has continuing opportunities for SCIENTISTS with training or experience in the field of ecotoxicology. Ongoing research efforts include studies on the effects of agricultural and industrial contamination on wildlife, including supporting terrestrial, estuarine and wetland habitats, biomarkers of contaminant exposure and damage in migratory birds and other species, and population studies of environmental pollution. Permanent and temporary (postdoctoral and sabbatical) positions, from entry to senior level, are available in community/population modeling, ecological risk assessment, wildlife toxicology, histopathology, biochemical toxicology, and environmental chemistry. Please forward curriculum vitae, Standard Form 171 (if available) and a statement of interest to: Barnett A. Rattner, Ph.D., Deputy Chief, Branch of Environmental Contaminants Research, Patuxent Wildlife Research Center, Laurel, MD 20708. An Equal Opportunity Employer.

**ASSISTANT STAFF SCIENTIST**

Medical facility in northeastern Ohio. Uses technical expertise in the isolation, purification, characterization and reconstitution of plasma membrane and associated proteins. Researches the biochemistry of proteins involved in adenergic receptor-mediated signal transduction. Performs and interprets kinetic analyses, thermodynamic analyses and studies of enzymes and other biomolecular reactions. Applies chromatographic procedures used in protein purification; and utilizes gel electrophoresis, radioligand binding assays, radioimmunoassays, and dyes and dyes used for protein visualization and reconstitution. Requires Ph.D. in biochemistry and 3 years experience in the position offered or as a Research Associate. Forty hours per week, Monday through Friday, 8 a.m. to 5 p.m., $42,000 per year. Must have proof of legal authority to work permanently in the United States. Send resume, in duplicate (no calls), to: S. Holton, J.O. #1255136, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.

**PROTEIN CHEMIST**

Immunochemist

SangStat Medical is a dynamic and growing company in the field of therapeutic and monitoring products for cell and organ transplantation. We have the following openings in our R&D group:

**Protein Chemist:** to study unique therapeutic approaches to graft rejection.

**Immunochemist:** to develop novel immunoassays.

Successful candidates must have a PhD in Biochemistry, Immunology, or a related discipline, at least 3 years postdoctoral experience, and a substantial record of productive research.

This is an unusual opportunity for outstanding individuals to grow quickly with a young company. SangStat Medical offers an excellent compensation and benefits package, including significant equity participation. Please send a CV including references, in confidence, to:

SangStat Medical Corp.
Human Resources
1505B Adams Drive
Menlo Park, CA 94025.
BioOrganic Chemist

The PARKE-DAVIS Pharmaceutical Research Division of the Warner-Lambert Company, a leader in pharmaceutical discovery research, has an immediate opening in its newly created BioOrganic Chemistry Section for a PhD BioOrganic Chemist.

This successful candidate will have experience in and a solid understanding of organic chemistry. A working knowledge in the chemistry and manipulation of nucleic acids and/or experience in the modern techniques of molecular biology is required. This position will allow the successful candidate to have an immediate impact on a new exploratory effort within the company's Biological Chemistry Department.

PARKE-DAVIS' modern and expanding facilities are located in Ann Arbor, Michigan adjacent to the University of Michigan. Our dynamic and challenging research environment offers ample opportunity for personal and professional creativity and advancement. If you are qualified please forward your resume and a list of references to Human Resources, Box JDM-91073, PARKE-DAVIS Pharmaceutical Research Division, Warner-Lambert Company, 2800 Plymouth Road, Ann Arbor, MI 48106-1047. "Smoke-Free Work Environment" - Equal Opportunity in Action"

BIOCHEMIST/CELL BIOLOGIST

Mechanism Based Drug Discovery

The Department of Biochemical Parasitology in the Merck Sharp & Dohme Research Laboratories has an immediate opening for a Senior Research Biochemist interested in exploring the biochemistry of the free living nematode, Caenorhabditis elegans in order to identify novel drug targets for the treatment and prevention of parasitic diseases.

Primary responsibilities include characterization of receptor-dependent transmembrane signaling mechanisms, intracellular signals and the design of screens for the discovery of novel antiparasitic agents. This position offers a unique opportunity to interact with a team of scientists in various disciplines focused on developing new chemotherapeutic agents.

The position requires supervisory experience, a Ph.D. or equivalent in Biochemistry and at least 3 years post-doctoral experience in a relevant field of biochemistry. Superior skills in protein purification are essential. The applicant's practical skills should be complemented by a high level of initiative and superior communication skills.

Merck Sharp & Dohme Research Laboratories is located in Rahway, New Jersey approximately 25 miles from New York City. Our facilities are state-of-the-art and our renowned research environment is excellent. For consideration, please send your resume with the names of three references to Human Resources Manager, Merck & Co., P.O. Box 2000, WBC-155, Dept. S-25, Rahway, NJ 07065.

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Merck & Co., Inc.
ANDROLOGIST. The Department of Obstetrics and Gynecology of the University of Arizona has an opening for an andrologist. Minimum qualifications include a Master's degree, although a Ph.D. is preferred. This individual will direct the andrology laboratory and conduct research in andrology with the opportunity to teach technicians, medical and graduate students. Duties include the performance of semen testing and processing for clinical use, development and implementations of clinical research protocols in andrology. Preference is given to someone with experience in clinical andrology with proven research capability. The candidate must be willing to learn and use CASA. The University of Arizona is an Equal Opportunity Employer. Women and minorities are urged to apply. Send curriculum vitae to: P. J. Conley, M.D., Director, Reproductive Endocrinology and Infertility, Department of Obstetrics and Gynecology, Arizona Health Science Center, 1501 North Campbell Avenue, Tucson, AZ 85724.

RESEARCH SCIENTIST Position available for Ph.D. with postdoctoral experience to study molecular aspects of childhood leukemia. Experience in molecular biology and preferably in immunology is necessary. The Department of Pediatrics at Cedars–Sinai Medical Center and in the Southern California Pediatric Research Center, is academically linked with the University of California, Los Angeles, and offers an exciting and diverse research experience. For consideration include curriculum vitae to: Nathan Fischel-Ghodsiain, M.D. Director of Molecular Hematology Department of Pediatrics Cedars-Sinai Medical Center 8700 Beverly Boulevard Los Angeles, CA 90048

SENIOR SCIENTIST: Conduct fundamental research-analysis and characterization of polymers to provide insight into mechanisms to improve existing or develop new products. Develop new technologies and methods. Understand, characterize and analyze polymers and materials using traditional analysis techniques such as DSC and TG/MS and spectroscopic methods. Install and interface mass spectrometer to existing TGA instrumentation. Design and test configuration for materials. Conduct ongoing fluorescence spectroscopy experiments. Design and develop new fluorescence spectroscopic techniques. Requirements: Ph.D. in physical chemistry; 3 years of experience; ability in holographic microscopy, spectrometry and spectroscopic analysis. Strong background in thermodynamics, statistical mechanics and electronic spectroscopy. Priority in computers and interfacing to EM. Demonstrated ability to use and maintain vacuum systems, ion optics, optical systems and digital and analog circuit boards. Excellent understanding of spectroscopy and spectroscopic analysis. Forty hours per week. $30,000 per year; plus curriculum vitae to: Philadelphia Job Bank, 444 North 3rd Street, Philadelphia, PA 19123. JO#4382563 with proof of legal authority to work in the United States.

STAFF SCIENTIST FRED HUTCHINSON CANCER RESEARCH CENTER (FHRC) Applications are invited for a Ph.D. level position in a well-established transplantation biology laboratory for an investigator with molecular biology experience. Interest and knowledge in T-cell and macrophage Fcgamma receptor or clonotype hybridization techniques necessary. Specifically we are seeking someone to establish molecular typing methods for DLA (canine) I and II alleles for bone marrow transplantation studies in the dog. This position provides an opportunity to interact in a large, internationally known research group and to perform groundbreaking research in a new system. The position will be fully funded for 3 years as work establishing a typing laboratory is initiated. It is anticipated that opportunities for collaborative and independent research as well as refinement of oligotyping techniques will be pursued in subsequent years. A support technician and supervisor will be available. We are an Equal Opportunity Employer and provide a smoke-free environment. Salary will be commensurate with experience. Applications, including curriculum vitae, statement of research interest, and desired salary range, should be sent to: Barbara Johnson, D.V.M., FHRC, 1124 Columbia Street, Seattle, WA 98104.

ELECTRON MICROSCOPE (EM) LABORATORY SUPERVISOR The Institute of Chemical Toxicology, Wayne State University, is seeking a supervisor of the EM facility. Duties include the supervision of other investigators requiring EM use. Candidates with experience in autoradiography, immunocytochemistry and in situ hybridization will be preferred. Please state curriculum vitae and names, addresses and telephone numbers of three references to: D. F. Choppa, Institute of Chemical Toxicology, Wayne State University, 2727 Second Avenue, Room 4000, Detroit, MI 48201. Wayne State University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE Children's Hospital of Orange County now has the following positions available for research associates:

- **BONE MARROW TRANSPLANT LABORATORY.** Design and performance of immunologic experiments related to the purging and culture of bone marrow. Responsible for tissue culture maintenance, experimentation, and calculation and presentation of all data. Master's degree (or higher) in biological science, preferably with 5 plus years of experience in immunology research required. Extensive knowledge in tissue culture, certification in radioisotope use, experience in receptor analysis, monoclonal antibodies, cytochemistry, and basic histology also required.

- **PEDIATRIC CANCER RESEARCH LABORATORY.** Performance of basic and clinical research involving the investigation of molecular aspects of the characteristics and functions of hematopoietic cells; these projects shall be managed by the laboratory supervisor under the direct guidance of the director. Responsible for training of laboratory assistants and hematologyp fellowship in specific procedures of the molecular hematology section. Ph.D. degree in molecular biology, or related field, with plus 2 years experience in molecular biology research or hematology research required. Extensive knowledge and certification in radioisotope handling and use, experience in DNA/RNA sequencing, cloning, Southern, Western, and Northern blotting also required. Please send résumé and salary history to: Children's Hospital of Orange County, 455 South Main Street, Orange, CA 92666, attention: Personnel.

HOW TO MAKE MICROCAPSULES A HANDS-ON COURSE A laboratory course designed to teach the art and science of microcapsule making. Suitable for biologists, pharmacists, chemists, life scientists and engineers. Enrollment limited to 40 students and laboratory sessions will be directed by Dr. Curt Thies, Professor of Chemical Engineering at Washington University in St. Louis. Fall sessions: 27 to 30 November 1991. For information call: 314-935-6066.

MEETINGS The John Marshall Law School's Center for Intellectual Property Law (CIP) is holding a joint meeting with McAndrews, Held and Malloy in Chicago will present NATIONAL SYMPOSIUM ON PATENT PROTECTION FOR MEDICAL DEVICES on 26 and 27 September 1991. This symposium will focus on patent protection issues facing medical device manufacturers. Conference will address the following topics: Medical patents in the past; medical patents today; the impact of the Bolar doctrine; issues facing medical device manufacturers as patent issues arise; and a panel discussion of the future of medical device patents.

BIOCHEMIST. Temple University is seeking a biochemist to join a research group studying protein interactions in the early stage of blood coagulation. Applicants should have a Ph.D. in biochemistry with at least 3 years of postdoctoral experience in protein chemistry including purification, characterization, kinetics and selected physical methods. Familiarity with HPLC, immunochemical methods and end group analysis desirable. This is a nontenured faculty position with the rank of RESEARCH ASSOCIATE PROFESSOR. Send résumé and three references to: Dr. Peter N. Walsh, Codirector, Thrombosis Research Center, Temple University Health Sciences Center, 3400 North Broad Street, Philadelphia, PA 19140. An Equal Opportunity/Affirmative Action Employer.

ORGANIC CHEMIST. The Position Emision Tomography Program at the University of California, Los Angeles (UCLA), has a postdoctoral position available. The project involves the synthesis of new biochemical probes for in vivo assessment of pre- and postsynaptic neurotransmitter function. Applicants must have a Ph.D. degree in synthetic organic chemistry. Opportunity for expanded knowledge and training in this rapidly expanding field. Salary range: $26,220 to $35,808 per year depending on qualifications plus benefits. Send résumé to: Dr. Jorge R. Berruezo, UCLA School of Medicine, Division of Nuclear Medicine and Biophysics, Los Angeles, CA 90024-1721. Equal Opportunity/Affirmative Action Employer.
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