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1993-94

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system permits the use of acid or reducing agents to measure nitrite and other nitroso compounds. Sensitivity reaches 2 pmol/ml and the response is linear over four orders of magnitude. Because NO found in biological samples is short lived and in small quantities, it is hard to measure on conventional analyzers, which require larger samples and higher flow rates than the 270B. Sievers Instruments. Circle 89.

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1

Atomic Force Microscope

The TMX 1000 Explorer atomic force microscope (AFM) system can be placed directly on the sample, allowing AFM imaging of samples of any size. It can be used to image samples in air or while submerged in liquids. Ease of operation is provided by an optical microscope with ×200 magnification for viewing of the probe and sample and by computercontrolled probe approach, which allows the tip to be automatically moved into imaging position. The system can be used for scans from sizes varying from atomic resolution to areas as large as 150 by 150 µm. According to the manufacturer, the price is significantly less than any other instrument with its abilities. TopoMetrix. Circle 91.



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Bio Image RFLP Analysis Software makes use of image database technology to assign molecular weights to restriction fragment length polymorphisms (RFLPs) and protein band patterns; store images of the band patterns in a database; and compare the band patterns in one lane against virtually any number of lanes selected from the database. Matching patterns can be found in minutes. The software is available as part of a turnkey Bio Image Electrophoresis Image Analysis Sys-

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tem, or it can be added to existing Bio Image systems or SUN Microsystems computers. Millipore. Circle 92.

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HPLC Solvent Filter Degasser

The FG-256 HPLC Solvent Filter-Degasser System enhances the performance of high-performance liquid chromatography (HPLC) pumps and detectors by removing suspended particles and degas-



sing solvents. The unit screws directly onto a standard solvent bottle and can filter and degas as much as 1 gallon of solvent without refilling or operator attention. Degassing eliminates outgassing in HPLC detectors and filtration reduces wear of delicate pump valves and HPLC columns. Lazar Research Labs. Circle 94.

Literature

Albumin, An Overview and Bibliography covers albumin properties, functions, metabolism, and uses for researchers, clinicians, and manufacturers. Miles. Circle 95.

SPEX Fluorolog-2 Spectrofluorometers is a 20-page brochure that includes sample spectra and descriptions of optical configurations. It includes accessories such as flow cells, fiber optic sample accessories, and sample cells. SPEX Industries. Circle 96.

1992–1993 Intergen Catalog highlights an expanded range of products in addition to bovine albumins and fetal bovine serum. A complete range of media supplements for cell culture is introduced; these products include bovine and human transferrin, fetuin, aprotinin, fibronectin, and bovine insulin. Intergen. Circle 97.

Electrochemistry Work Station is a brochure about a line of computer-driven instrument systems for measuring and controlling the pH and ion content of inorganic solutions and for titrations. Computer Chemistry Corp. Circle 98.

Carver Laboratory Presses & Accessories details more than 30 models ranging in capacity from 12 to 100 tons. Fred S. Carver Inc. Circle 99.

Cross-Reference to Aldrich Products is designed to make ordering from Janssen Chimica easier for chemical buyers. The 184-page book is organized by Aldrich catalog number and lists the corresponding Janssen catalog number and product name with it. Spectrum Chemical Manufacturing Corp./Janssen Chimica. Circle 100.

Cold Spring Harbor Laboratory 1993 Spring Courses

PROTEIN PURIFICATION & CHARACTERIZATION April 13-26

William Brennan, Jr., Penn State University College of Medicine Richard Burgess, University of Wisconsin-Madison James Kadonaga, University of California, San Diego Daniel R. Marshak, Cold Spring Harbor Laboratory

This course is intended for scientists who are not familiar with techniques of protein isolation and characterization. It is a rigorous program that includes laboratory work all day and a lecture with discussion session every evening. Each student will become familiar with each of the major techniques in protein purification by actually performing four separate isolations including: (I) a regulatory protein from muscle tissue; (ii) a sequence-specific, DNA-binding protein, (iii) a recombinant protein overexpressed in E. coli; and (iv) a membranebound receptor. A variety of bulk fractionation, electrophoretic, and chromatographic techniques will be employed including: precipitation by salts, pH, and ionic polymers; ion exchange, gel filtration, hydrophobic interaction, and reverse phase chromatography; lectin affinity, oligonucleotide affinity, and immunoaffinity chromatography; polyacrylamide gel electrophoresis, two-dimensional gel electrophoresis and electroblotting; high performance liquid chromatography. Methods of protein characterization will be utilized including immunological and biochemical assays, peptide mapping, amino acid analysis, protein sequencing, and mass spectrometry. Emphasis will be placed on strategies of protein purification and characterization rather than on automated instrumental analysis. Guest lecturers will discuss protein structure, modifications of proteins, methodologies for protein purification and characterization, chemical synthesis of peptides and applications of protein biochemistry to cell and molecular biology. Last year's lecturers included: R. Aebersold, P. Casey, B. Erickson, J. Garrels, L. Gierasch, G. Hart, A. Kornberg, J. Kuret, N. Pace, Y. Paterson, G. Rose, J. Rothman, and N. Tonks.

Tuition, Room and Board.....\$1,605

CLONING & ANALYSIS OF LARGE DNA MOLECULES

April 13-26

Hadi Abderrahim, Cell Genesys, Inc. Bruce Birren, California Institute of Technology Sue Klapholz, Cell Genesys, Inc. Doug Vollrath, Whitehead Institute

This course will cover the theory and practice of manipulating and cloning high molecular weight DNA. The course will focus on the use of yeast artificial chromosome (YAC), bacterial artificial chromosome (BAC) and bacteriophage P1 cloning systems for library construction and techniques of pulsed field gel electrophoresis (PFGE). Lectures and laboratory work will include an introduction to yeast genetics, the isolation and manipulation of high molecular weight DNA from a variety of sources, and preparative and analytical PFGE. YAC, BAC, and P1 clones will be produced and characterized by a number of approaches, including hybridization, recovery of YAC ends, physical mapping and PCR-based methods. A variety of size standards for PFGE will be prepared and their separation on many different types of PFGE gel boxes will be compared. Lectures by outside speakers on topics of current interest will supplement the laboratory work.

Tuition, Room and Board \$1,605

EARLY DEVELOPMENT OF XENOPUS LAEVIS April 14-22

Richard Harland, University of California, Berkeley Hazel L. Sive. Whitehead Institute

This course will provide extensive laboratory exposure to the biology and manipulation of embryos from the frog, Xenopus laevis. The course is particularly suited for investigators who have a current training in molecular biology and knowledge of developmental biology, but have had no experience with Xenopus. Intensive laboratory sessions will be supplemented by daily lectures from experts in both experimental and molecular embryology. Six main areas will be covered: (i) care and handling of adults and embryos, (ii) stages of embryonic development and anatomy, (lii) whole mount in situ hybridization and immunocytochemistry, (iv) microlnjection of eggs and oocytes, (v) micromanipulation of embryos, and (vi) induction assays. Guest lecturers include: J. Gerhart, B. Harris, R. Keller, M. Wickens and M. Whitman.

Tuition, Room & Board.....\$1,305

CONSTRUCTION & ANALYSIS OF TWO-DIMENSIONAL GEL PROTEIN DATABASES April 13-20

B. Robert Franza Jr., Cold Spring Harbor Laboratory James I. Garrels, Cold Spring Harbor Laboratory Gerald I. Latter, Cold Spring Harbor Laboratory Scott D. Patterson, Cold Spring Harbor Laboratory

The course will present the practical aspects of constructing and analyzing a protein database through quantitative analysis of two-dimensional gels. The instructors will lecture on methods of 2D gel electrophoresis, strategies and methodologies for database construction, analysis of protein databases, and methods for characterization and identification of proteins in two-dimensional cels. In the hands-on part of the course, students will build and analyze a protein database from existing 2D gel images. Topics in database construction will include data acquisition, protein quantitation, matching of proteins across sets of gels. Topics in data base analysis will include retrieval of quantitative data and annotations for known proteins, searches for common expression profiles, and statistical analysis to determine relatedness of protein samples. Guest speakers and instructors will cover applications in cell regulation, medical research, protein identifications in 2D gels, and connections to genome sequencing projects. This course is intended for those who have prior experience with two-dimensional gels. Experience with computers is unnecessary.

Tuition, Room and Board.....\$1,185

Application Deadline: January 15, 1993

Application/information may be obtained from: REGISTRAR



Cold Spring Harbor Laboratory 1 Bungtown Road, Cold Spring Harbor, New York 11724-2213

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POSITIONS OPEN

ASSISTANT PROFESSORSHIPS IMMUNOLOGIST, PLANT SYSTEMATIST

The Department of Biological Sciences at California State University (CSU), Chico, invites applications for two tenure-track assistant professorships beginning 1993–1994 academic year. IMMUNOLOGIST. Candidate must have a doctoral

IMMUNOLOGIST. Candidate must have a doctoral degree, a specialization in medical immunology, demonstrated knowledge of bacteriology and animal virology, experience with traditional and molecular immunological techniques, a demonstrated ability to develop a research program, teaching experience at the undergraduate level, and a strong interest in teaching excellence. Responsibilities include teaching courses in immunology and virology and graduate and lower division courses in biology and microbiology. PLANT SYSTEMATIST. Candidate must have a

PLANT SYSTEMATIST. Candidate must have a doctoral degree, a demonstrated knowledge of plant systematics, experience with classical and modern research methods in systematics, be able to develop a research program in plant systematics/evolution, teaching experience at the undergraduate level, and a strong interest in teaching excellence. Responsibilities include teaching a field-oriented course in taxonomy of vascular plants, a graduate course in systematics/evolution, and lower division biology courses for majors and general education students, and directing the University herbarium.

Applicants should submit a letter of application, curriculum vitae, a statement of teaching philosophy, complete academic transcripts, copies of reprints, and three letters of reference by 5 January 1993 to: Dr. William F. Derr, Chair, Department of Biological Sciences, C.S.U. Chico, CA 95929–0515. An Equal Employment Opportunity/Affirmative Action/IRCA Employer.

FACULTY POSITION IN REPRODUCTIVE/ DEVELOPMENTAL BIOLOGY

THE UNIVERSITY OF MISSOURI-COLUM-BIA invites applications for a tenure-track position of ASSISTANT PROFESSOR within the College of Agriculture, Food and Natural Resources. The successful candidate will hold a Ph.D. degree and have had at least two years of postdoctoral training. The research program will be housed in the Animal Science Research Center and is part of the Food for the 21st Century Program which provides funds for research and core facilities and for graduate student and postdoctoral training. The individual selected will join a sizable interdisciplinary group conducting basic research in reproduction. Candidates should have a background in reproductive biology with training in cell, molecular or developmental biology. Applicants for the position should provide curriculum vitae, a description of research experience and interests and have three letters of reference sent to: Dr. R. Michael Roberts, 158 Animal Science Research Center, University of Missouri, Columbia, MO 65211 before February 1, 1993. Telephone: 314-882-7957; FAX: 314-882-6827. The University of Missouri is an Equal Opportunity/Affirmative Action Employer and specifically invites and encourage applications from qualified women and minorities.

FACULTY POSITION IN CELL AND MOLEC-ULAR BIOLOGY, University of Connecticut Health Center. The Department of Microbiology is seeking to fill a tenure-track position at the rank of ASSISTANT PROFESSOR. Candidates whose research involves the application of genetic, biochemical and molecular techniques to fundamental problems of cellular, molecular or developmental biology are encouraged to apply. Areas of interest include but are not limited to: cell division, differentiation and development, signal transduction, and protein-nucleic acid interactions. A background in protein structure-function or yeast genetics would be especially desirable. Applicants should have at least two years of postdoctoral experience and the ability to develop a high quality research program and to teach effectively at the graduate level in the Program for Molecular Biology and Biochemistry. Applications should include complete curriculum vitae including description of research experience and future research plans, copies of the candidate's most significant publications, and names of at least three references, and should be submitted to: Dr. L. Rothfield, Search Committee, Department of Microbiology, University of Connecticut Health Center, Farmington, CT 06030. An Equal Opportunity/Affirmative Ation Employer.

POSITIONS OPEN

PLANT EVOLUTIONARY BIOLOGIST REED COLLEGE

The Reed College Biology Department invites applications from Ph.D.'s with postdoctoral experience for a tenure-track faculty appointment at the ASSISTANT **PROFESSOR** level beginning with the 1993–94 academic year. The successful applicant is expected to teach a one-semester upper division lecture/laboratory course in plant evolution, ecology, and diversity and to participate in a team-taught introductory biology course. Candidates must have experience with vascular plants. Knowledge of both population and community levels is preferred. The successful applicant must establish an active research program and supervise senior thesis research. We seek an individual committed to teaching and research in the undergraduate environment. Reed College is a selective liberal arts institution with a distinguished record of educational accomplishment and a strong commitment to scholarship. Final budget approval is expected by the closing date. Applications including curriculum vitae and three recent letters of reference should be sent by 4 January 1993 to:

Dr. Robert H. Kaplan, Chair Plant Biology Search Committee Biology Department Reed College, Portland, OR 97202

Reed College is an Affirmative Action/Equal Opportunity Employer.

Morehead State University (MSU) invites applications for a nine-month tenure-track position as Assistant Professor of Biology (Genetics) beginning August 1993. **Responsibilities**: Teaches undergraduate courses in genetics, principles of biology for majors, general biology for non-majors, and/or other service courses such as human anatomy and physiology. Other specialty courses may be developed in respective areas for graduate students. Qualifications: Ph.D. in biological science. Expertise in genetics and molecular biology. Evidence of potential for successful teaching, research, and service. Submit letter of application, résumé, and references no later than January 15, 1993, to: Office of Personnel Services, Attention: Bio.Genetics, Morehead State University, HM 101, Morehead, KY 40351. MSU is an Equal Opportunity/Affirmative Action Employer.

GENETICIST

Applications are invited for a full-time, tenure-track appointment at the ASSISTANT PROFESSOR level in Biology, Rider College, beginning fall 1993. Applicants should have broad training in the discipline with eukaryotic molecular genetics emphasis. The successful candidate will have a demonstrated ability in teaching and commitment to developing a research program involving undergraduates. Postdoctoral experience desirable. Apply by sending a letter of interest, curriculum vitae, and names, addresses, and telephone numbers of three references by January 1, 1993 to: Dr. James E. Riggs, Search Committee, Department of Biology, Rider College, 2083 Lawrenceville Road, Lawrenceville, NJ 08648–3099. Rider College is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

THE UNIVERSITY OF CALIFORNIA, SAN DIEGO, DEPARTMENT OF CHEMISTRY invites applications for tenure-track faculty positions in all fields of CHEMISTRY and BIOCHEMISTRY at the AS-SISTANT PROFESSOR level. Candidates must have a Ph.D. and a demonstrated ability for creative research and teaching at the undergraduate and graduate levels. Salary commensurate with qualifications and based on University of California pay scale. Open position subject to availability of funds. Candidates should send curriculum vitae, a list of publications, reprints of up to five representative papers, a summary of research plans and names and addresses of three references to: Chairman, Staffing Committee, University of California, San Diego, Department of Chemistry–0332, La Jolla, CA 92093–0332. Prompt response is recommended but all applications received by January 31, 1993 will be given thorough consideration. The University of California is an Equal Opportunity/Affirmative Action Employer.

Postdoctoral Opportunities.

Listed below are a few of the excellent opportunities for conducting research that are now available with leading scientists at the National Institutes of Health.

Biochemistry and Signal Transduction Stephen B. Shears, PhD

The cell signaling roles of inositol polyphosphates and newly discovered inositol pyrophosphates are being characterized through studies of their metabolism and function. Current work in the laboratory includes enzyme purification and characterization, molecular biology and signaling studies with intact cells. Candidates should have less than five years postdoctoral experience. Laboratory of Cellular and Molecular Pharmacology (OE-21), MD 7-10, P.O. Box 12233, Research Triangle Park, NC 27709.

Cellular and Molecular Immunology Sharon M. Wahl, PhD

Regulatory mechanisms that control activation, differentiation, and apoptosis of mononuclear phagocytes are being investigated. The phenotypic and functional changes in mononuclear phagocytes associated with inflammation and infectious diseases are being characterized and the regulation of these events by cytokines, growth factors, and immunomodulators is being studied. Experience in molecular biology is desirable. Laboratory of Immunology (OE-21), NIDR, Building 30, Room 331.

Cellular and Molecular Neurobiology Vittorio Gallo, PhD

Neurotransmitter receptors in glial cells are studied using molecular, biochemical and pharmacological techniques. The expression of genes encoding receptor subunits is studied in cell culture to understand neurotransmitter receptor functional properties and their role in development. Experience in molecular or cellular biology is required. Laboratory of Cellular and Molecular Neurophysiology (OE-21), NICHD, Building 36, Room 2A21.

DNA Mutagenesis Roger Woodgate, PhD

The molecular mechanisms of mutagenic DNA repair in prokaryotic and eukaryotic cells are currently under investigation. Prokaryotic research is focused on the roles of the Umu-like family of mutagenesis proteins. Future projects include the isolation and characterization of genes necessary for mutagenic repair of DNA in eukaryotic cells. Experience in cloning and expression of recombinant proteins in eukaryotic cells is desirable. Section on Viruses and Cellular Biology (OE-21), NICHD, Building 6, Room 1A13.

Molecular Neurobiology and Neuroendocrinology William C. Wetsel, PhD and Andres Negro-Vilar, MD, PhD

Investigations in molecular neurobiology include the study of the regulation of gene expression, RNA splicing, protein processing and trafficking, peptide secretion, and intracellular signaling. Particular emphasis is placed on the molecular and cellular mechanisms which underlie these events. Candidates should have experience in molecular biology, cell biology, and biochemistry. Laboratory of Molecular and Integrative Neuroscience (OE-21), NIEHS, P.O. Box 12233, Building 101, Room C4-07, Research Triangle Park, NC 27709.

Retrovirus and Cellular Gene Regulation David Derse, PhD

The cis- and trans-acting components of transcriptional and post-transcriptional gene regulatory pathways are being examined in retrovirus model systems. Current studies are focused on characterizing cell type-specific and inducible DNA-binding proteins that control eukaryotic transcription. The structures, functions and mechanisms of Tat and Rev proteins from human and non-human lentiviruses are also under investigation. Laboratory of Viral Carcinogenesis (OE-21), NCI, Frederick Cancer Center, Building 560, Room 21-49, Frederick, MD 21702-1201.

Additional Postdoctoral Fellowship Opportunities

For an on-line listing of additional postdoctoral openings you may access the NIH EDNET Bulletin Board's POSTDOC conference via modem (1,3014922221 or 1,8003582221). The settings for modem access are "7,Even,1". When connected to NIH, type in ",vt100" at the connect message, "F5E" at initial, and "AJL1" at account.

Those interested in receiving information on other postdoctoral opportunities in NIH research laboratories, as well as information on clinical training opportunities, may contact the Office of Education, Building 10, Room 1C129. Phone: 301-496-2427.

To Apply

If you hold a PhD, MD, or equivalent degree and would like to be considered for one of these positions, please send a cover letter, *curriculum vitae*, bibliography, and statement of research interests to the address listed with each

position. In addition, please arrange to have letters of recommendation sent from three scientists who can provide an evaluation of your qualifications.



National Institutes Of Health

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ENVIRONMENTAL MICROBIOLOGIST TENURE-TRACK

The Department of Biological Sciences, University of Cincinnati, is inviting applications for an envi-ronmental microbiologist at the ASSISTANT PRO-FESSOR level, starting 1 September 1993. We are a comprehensive state university, with an enrollment of approximately 36,000 students. The department has 32 full-time faculty and 83 graduate students. We are seeking a person who will complement an already seeking a person who will complement an already strong program in the department encompassing mi-crobial ecology, biodegradation and toxicology, and who demonstrates a very strong background in molec-ular biology/biochemistry and/or microbial physiology/ genetics. The successful candidate will be expected to develop a vigorous, externally funded research pro-gram train graduate students, and teach graduate as develop a vigorous, externally funded research pro-gram, train graduate students, and teach graduate as well as undergraduate courses related to an expanding curriculum in microbiology. The position requires a Ph.D. with postdoctoral experience. Applicants should submit as soon as possible, but no later than 4 January 1993, curriculum vitae, a one-page description of their current research interests and future research plans, and arrange to have three letters of recommendation sent to:

Dr. Richard D. Karp Environmental Microbiologist Search Committee Department of Biological Sciences Mail Location #006 University of Cincinnati Cincinnati, OH 45221

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FACULTY POSITIONS IN MOLECULAR PHARMACOLOGY UNIVERSITY OF SOUTHERN CALIFORNIA School of Pharmacy

tenure-track ASSISTANT/ASSOCIATE Two **PROFESSOR** positions exist in the Department of Molecular Pharmacology and Toxicology. Candidates must have Ph.D. degree in Pharmacology or related discipline, postdoctoral experience, and strong commitment to excellence in research and teaching in the professional and graduate programs. Preference will be given to candidates with demonstrated research accomplishment in growth factor/neurotransmitter/neuropeptide receptor pharmacology using biochemical and/or molecular approaches. Candidates will be expected to program. Send curriculum vitae, set of selected re-prints, brief statement of research interests, and names of three references to:

Dr. Timothy Chan, Chairman Department of Molecular Pharmacology and Toxicology USC School of Pharmacy 1985 Zonal Avenue Los Angeles, CA 90033 Equal Opportunity Employer M/F/H.

CELL BIOLOGY ASSISTANT PROFESSOR

The Department of Biology, Hamilton College, in-vites applications for a tenure-track position at the assistant professor level, effective 1 July 1993. Applicants must have a Ph.D.; postdoctoral experience pre-ferred. Teaching for the successful applicant will include cell and developmental biology at the introduc-tory level, an upper level course in cell biology, and an additional course in an area of interest. An ongoing additional course in an area of interest. An ongoing research program emphasizing cellular processes and involving undergraduates is expected. The Department maintains a fully-equipped TEM and SEM facility. Send curriculum vitae, statements of teaching and research interests, and three letters of reference to: David A. Gapp, Chair, Biology Department, Hamil-ton College, 198 College Hill Road, Clinton, NY 13323–1292. All application materials must be re-ceived by 1 January 1993. Women and members of minority groups are encouraged to apply. Hamilton College minority groups are encouraged to apply. Hamilton College is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN



ASSISTANT PROFESSOR MOLECULAR IMMUNOLOGY

TENURE-TRACK POSITION in the Department of Medical Microbiology/Immunology. We are seeking an enthusiastic and dedicated scientist to teach medical and graduate students and to do creative research toward an understanding of the molecular biology of the im-mune system. Ph.D. and postdoctoral experience re-quired. Intellectual freedom and handsome start-up package assured. Please forward a description of your research plans and accomplishments, curriculum vitae, and the name and address of three references by January 11, 1993 to:

Dr. L. E. Maroun, Chair, Search Committee Southern Illinois University School of Medicine Department of Medical Microbiology/Immunology P.O. Box 19230

Springfield, IL 62794-9230

SIU is an Equal Opportunity/Affirmative Action Employer.

The Division of Biological Sciences continues a multi-year hiring program with 2 tenure-track faculty positions at the ASSISTANT PROFESSOR level. NEUROBIOLOGY

Candidates will be expected to develop an independent research program utilizing cellular, molecular, physiological, or neuroethological approaches to basic problems in neurobiology.

EVOLUTION OF BEHAVIOR

Candidates will be expected to develop an independent research program in evolution of behavior. Desirable areas of research include, but are not limited to, studies of

areas of research include, but are not limited to, studies of population/behavioral genetics, behavioral ecology, com-munication, and social behavior. These positions are offered at highly competitive salary with excellent research start-up funds, laboratory space, and research support facilities. Candidates should have a Ph.D. and a demonstrated record of research accomplishment. Women and minorities are encouraged to apply. Curriculum vitae, statement of research and teaching interests, copies of recent publications and the names, ad dresses and telephone numbers of three references should be submitted by December 15, 1992 to: Dr. John David, Director, Division of Biological Sciences, University of Missouri, 105 Tucker Hall, Columbia, MO 65211

The University of Missouri is an Equal Opportunity Employer.

MICROBIOLOGY OR IMMUNOLOGY. The Department of Biology at the University of Colorado at Denver seeks applicants for an anticipated ASSISTANT **PROFESSOR** tenure-track position to begin August 1993. Applicants must have a Ph.D. in one of these or a related field. Postdoctoral and teaching experience are desirable, and a commitment to quality teaching and externally funded research is essential. Teaching responsibilities consist of two courses per semester, including microbiology and immunology. Salary commensurate with education and experience. Applications should in-clude letter, curriculum vitae, and names, addresses and telephone numbers of three references. Apply before January 1, 1993 to: Dr. Alan P. Brockway, Chair, Department of Biology, Campus Box 171, University of Colorado at Denver, P.O. Box 173364, Denver, CO 80217. The University of Colorado at Denver, is committed to enhancing the diversity of its administration, faculty and staff and invites and strongly encourages nomina tions and applications from women, members of ethnic and racial minorities, veterans, and people with disabilities. Al-ternative formats of this ad or job description are available upon request.

Neurobiologist Opening: Department of Biology. Tenure-track ASSISTANT PROFESSOR starting January 1993. Candidate must have Ph.D., postdoctoral uary 1993. Candidate must have Ph.D., postdoctoral and/or teaching experience and active research program. Teaching responsibilities include neuroanatomy/neuro-physiology for Occupational/Physical Therapy students each spring, and assistance with Gross Anatomy labs each fall. Possible opportunity to teach courses in own area of expertise. Send curriculum vitae and names of three references by December 15, 1992 to: Dr. Harold Pier, Associate Dean for Science and Mathematics, Utica College of Syracuse University, Utica, NY 13502. Utica College is an Eaual Opportunity/Affirmative Action Utica College is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR CELL AND DEVELOPMENTAL BIOLOGY

The Division of Biology at Kansas State University (KSU) has a tenure-track position available at the Assistant Professor level beginning August 1993. Applica-tions are invited from investigators with postdoctoral experience using techniques of molecular biology and genetics in cell and/or developmental biology studies. Investigators using plant systems are particularly encour-aged to apply. The Division has a strong research program in molecular, cell and developmental biology, excellent facilities, and a distinguished faculty with sev-eral millions of dollars in extramural grants. The position provides an opportunity to interact with members of a new NASA Center in Gravitational Biology established in the Division of Biology at KSU. The successful candidate will be expected to establish a vigorous and creative scholarly research program and to participate in undergraduate and graduate instruction. Candidates should apply by December 15, 1992 by submitting curriculum vitae, a brief description of research plans, and having three letters of reference sent to:

Dr. Jerry S. Weis, Interim Director Division of Biology, Ackert Hall Kansas State University Manhattan, KS 66506–4901

KSU is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF OTTAWA DEPARTMENT OF PHARMACOLOGY

A tenure-track ASSISTANT PROFESSOR position is available for candidates with a background in pharma-cology. The successful candidate will have a Ph.D. or equivalent degree, at least two years of postdoctoral experience and a strong commitment to research and teaching. Preference will be given to candidates with a CELLULAR and MOLECULAR approach to research in areas of interest in the department which include in areas of interest in the department which include secretion, neuropharmacology, immunopharmacology, cardiovascular pharmacology, endocrine pharmacology, cancer and toxicology. The department has teaching responsibilities for medical, nursing and undergraduate students as well as graduate students in the M.Sc. and Ph.D. programs. Knowledge of French is an asset. Applications, which must include curriculum vitae, three letters of recommendation, a brief description of research and traching experience a statement of corter objectives and teaching experience, a statement of career objectives and an outline of proposed research, should be sent to: Dr. J.-M. Trifaró, Chairman, Department of Pharmacology, Faculty of Medicine, University of Ottawa, 451 Smyth Road, Ottawa, Ontario, Canada, K1H 8M5. The closing date for applications is 15 January 1993

The University of Ottawa offers equal employment access to members of the following groups: women, members of visible minorities, aboriginal peoples and persons with disabil-ities. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

CELLULAR NEUROSCIENCE-PHYSIOLOGY ASSISTANT PROFESSOR

Applications are invited for an Assistant Professor (tenure-track) position in the Department of Physiology at the University of Minnesota in the field of cellular at the University of Minnesola in the field of central neuroscience-physiology. The position is not restricted to a specific sub-discipline. We encourage applications from individuals who are studying cell and molecular function in any of a wide variety of areas, including ion channel and receptor physiology, transport mechanisms, second messenger systems, and computational analysis. The successful applicant will be expected to conduct an The successful applicant will be expected to conduct an innovative, independent research program and to partic-ipate in teaching and graduate education in the Depart-ment of Physiology and in the interdisciplinary Neuro-science Graduate Program. Applicants must have a Ph.D., M.D. or equivalent degree, with a minimum of two years of postdoctoral training. Last date for receipt of applications is 1 February 1993. Send curriculum vitae, one-page description of research interests and three letters of reference to Dr. Eric A. Newman, Denartletters of reference to: Dr. Eric A. Newman, Depart-ment of Physiology, 6-255 Millard Hall, 435 Dela-ware Street SE, University of Minnesota, Minneapo-

lis, MN 55455. The University of Minnesota is an Equal Opportunity Educator and Employer.



The International Center for Tropical Agriculture

SENIOR SCIENTISTS ON MANAGEMENT OF NATURAL RESOURCES

Forest Margins is one of CIAT's four research programs working on a holistic view of environmental problems. Production and conservation are integrated with social and political processes. Its activities focus on the development of ecologically stable and economically viable forms of land use to improve the productivity of forests and agricultural lands, as a way of reducing deforestation pressures from existing settlers. An interdisciplinary team, operating in the context of participatory action-research studies, is being assembled for that purpose, including positions in:

Applied Agricultural Anthropology/Rural Sociology

The specialist will characterize and monitor the behaviour of existing systems, emphasizing farmer and community decision-making under trade-offs between short-term gains and long-term conservation of the resource base. The social scientist will also evaluate causes of deforestation and seek alternatives at a range of levels from indigenous knowledge to land use. Links will be made to policy analyses across different population pressures and social organizations. Field experience in participatory research is highly desirable.

Multispecies Production Systems

The biological scientist will evaluate existing farming-forest systems to identify non-sustainable management practices and to uncover or develop alternatives. Links will be made to strategic research on sustainability indicators. The specialist will also design and evaluate strategies for the sustainable development of a range of systems in agricultural and forestry lands. Farmers' relations to agroindustry and market opportunities will be assessed. Field experience in on-farm research is required.

Ph.D. in a relevant field, a publication record in refereed journals, demonstrated experience in multidisciplinary research and practical knowledge of tropical agriculture are strongly desirable for both positions. Excellent command of English is required, and competence in Spanish or Portuguese are assets.

Application letters for each position must include Curriculum Vitae, names and full addresses of three referees, three reprints, and be addressed to Dr. Filemon Torres, Deputy Director General, CIAT, A.A. 6713, Cali, Colombia, before 30 December, 1992. Positions to be filled in January, 1993, or when a successful candidate is identified.

CIAT is a nonprofit organization with almost 100 internationally recruited scientists earning competitive salary packages and having privileges and immunity similar of those of U.S. organizations. It is based in Cali, Colombia, an attractive, hospitable, medium-sized city at the foothills of the Andes. The climate is pleasant; housing, schooling and health services are excellent, as well as the communication systems, which include daily national and international flights.

RESEARCHER

R5, Position number 87392, School of Ocean and Earth Science and Technology, Hawaii Natural Energy Institute, University of Hawaii, 11-month appointment, permanent, full-time, tenure-track position, state funds, to begin approximately December 11, 1992. DUTIES: Performs research and manages research program in biomass production and utilization, energy conversion, and environmental control, including the conversion of biomass into transportation fuels or electricity and coproducts; optimization of combustion processes; and control of emissions from combustion systems. Instructs courses in thermal sciences, biomass production, and energy conversion. Plans and develops new programs in area of research. Supervises technical staff and graduate assistants. MINIMUM QUALIFICATIONS: Ph.D. in mechanical engineering with emphasis on thermal sciences and chemically reacting systems. At least ten years of professional experience at the managerial level in research and development relating to biomass production and conversion into energy and coproducts, and environmental control; and extensive interaction with industry relating to those areas. Demonstrated experience with federal funding agencies, generation of funded research proposals, and management of research projects and teams. Ability to design and test processes to convert biomass into transportation fuels, electricity, and other products and to analyze those processes in a total system framework. Experience in teaching engineering courses at the university level. MINIMUM SALARY: \$82,080.00 per year. Inquiries: Dr. Patrick Takahashi (808) 956-8346. To apply, send a statement of research and teaching interests, curriculum vitae and three letters of recommendation to Personnel Officer, Hawaii Natural Energy Institute, University of Hawaii, 2540 Dole Street, Holmes 246, Honolulu, Hawaii 96822. Closing date: December 3, 1992. EEO/AA EMPLOYER

Wadsworth Center for Laboratories and Research Staff Scientist Positions

Applications are invited for staff positions at the Wadsworth Center which is a multidisciplinary basic research and public health laboratory. Core technical facilities in Biochemistry, Ultrastructural Analysis, Immunology, Molecular Genetics and Information Resources ensure state-of-the-art equipment and laboratory services. Participation in the graduate program of the School of Public Health, State University of New York, provides an opportunity for academic interaction in graduate education. The level of appointment is commensurate with experience. The successful candidates will be expected to establish an externally-funded research program in their area of expertise.

CELL/MOLECULAR BIOLOGY OF DRUG RESISTANCE. An investigator experienced in drug-cell interactions and the molecular mechanisms of acquired drug resistance in mammalian cells is sought. Areas of basic research interest include the molecular biology of drug transport and metabolizing systems in transformed cells. The position will complement ongoing studies at the Center on drug resistance in several biological systems. Dr. John Galivan, Search Committee Chair

PROKARYOTIC GENETICS/NUCLEIC ACID DYNAMICS. Candidates should have research interests in some combination of nucleic acid-protein interactions, DNA rearrangements, genetic recombination, RNA splicing and/or molecular evolution. Experience in using genetic and biochemical approaches essential; backgrounds in microbial genetics, protein and/or nucleic acid chemistry highly desirable. Dr. Marlene Belfort, Search Committee Chair

HUMAN MOLECULAR GENETICS. A molecular geneticist is sought with experience in all aspects of DNA analysis of human specimens. Individual will interact with medical community to provide diagnostic reports and regulatory oversight of clinical testing laboratories. A productive research program in the area(s) of the molecular genetics of human disease chromosome and/or gene structure, or gene expression is expected. Dr. Kenneth Pass, Search Committee Chair

Applicants, who must have a doctoral degree and two years post-doctoral experience, should send curriculum vitae with a description of career goals and the names of three references to the attention of the appropriate Search Committee Chair at the Wadsworth Center for Laboratories and Research, New York State Department of Health, P.O. Box 509, Albany, New York 12201-0509.

THE CANCER INSTITUTE OF NEW JERSEY UMDNJ-Robert Wood Johnson Medical School

The Cancer Institute of New Jersey (CINJ), a recent recipient of an NCI Cancer Center Planning Grant, seeks highly qualified cancer clinicians and researchers. All faculty will hold primary appointments in The Cancer Institute with a joint appointment in the Department of Medicine, Pharmacology, or other relevant discipline.

Medical Oncologist

Assistant/Associate Professor Level. Outstanding candidate with an MD or MD, PhD primarily devoted to clinical research. The individual should have experience in the design and conduct of clinical trials.

Medical Oncologist

Assistant/Associate Professor Level. Outstanding candidate with an MD or MD, PhD primarily devoted to laboratory research in the areas of molecular biology, immunology, or pharmacology. The individual will have finite clinical responsibilities.

Clinical Pharmacologist/Medical Oncologist

Assistant/Associate Professor Level. Outstanding candidate with an MD, MD-PhD, or PhD primarily devoted to the design and pharmacokinetic monitoring of clinical research trials.

Bone Marrow Transplant/Stem Cell Biologist

Assistant/Associate Professor Level. Outstanding candidate with an MD or MD, PhD primarily devoted to research and patient care in the area of bone marrow transplantation. The Robert Wood Johnson University Hospital is nearing completion of an 8-10-bed bone marrow transplantation unit.

Fellowships in Medical Oncology

Available for July 1, 1993. Outstanding applicants who have completed a residency in internal medicine will be eligible for this guaranteed two year training program which will include a year of clinical experience followed by a year devoted to formal training in basic or clinical research.

Submit CV by February 15, 1993 to: Michael A. Gallo, PhD, Interim Director, The Cancer Institute of New Jersey, Kilmer Square, 100 Albany Street, Suite 201, New Brunswick, NJ 08901. UMDNJ, New Jersey's university of the health sciences, is an Affirmative Action/Equal Employment Opportunity Employer, m/f/h/v, and a member of the University Health System of New Jersey.



The University of Medicine and Dentistry of New Jersey & UMDNJ-Robert Wrod Johnson Medical School
 Robert Wood Johnson University Hospital
 Sc. Peter's Medical Center



ANNOUNCING APPLICATIONS FOR THE VARICELLA-ZOSTER VIRUS POSTGRADUATE FELLOWSHIPS Two \$50,000/Year Awards

The VZV Research Foundation announces an international competition for two postgraduate fellowships to study the pathogenesis of the varicella-zoster virus (VZV) and associated sequelae.

Applicable research areas include: virus host interactions: neuron growth; nerve cell interactions; postherpetic neuralgia and pain management.

Each \$50,000 grant includes \$35,000 annual salary plus benefit allowance, and research allowance for the sponsoring lab. Second year support is contingent on satisfactory progress.

Foundation requires mentor letter of intent and evidence of external funding for research on VZV or allied field.

> Applications available October 1, 1992. Filing deadline January 31, 1993. Fellows will be notified April 1, 1993. Funding starts July 1, 1993.

For application, write: Fellowship Committee-S, The VZV Research Foundation, Inc., 40 East 72nd Street, New York, NY 10021.

The VZV Research Foundation, established in 1991, is the only nonprofit organization fighting all manifestations of VZV. Guided by 24 international physicians and scientists.

CARDIOVASCULAR PHYSIOLOGIST

The Division of Pediatric Cardiac Surgery at Temple University School of Medicine, St. Christopher's Hospital for Children is seeking an individual in the area of fetal and neonatal cardiovascular research. Qualifications should be suitable for appointment. Level commensurate with experience. Candidate should be able to direct basic research program in area of cardiopulmonary physiology and experimental cardiopulmonary surgery of the fetus and neonate. Experience and demonstrated capability of directing clinical fellows and graduate students in basic research projects is essential. The successful candidate must have research background utilizing biochemical and physiological approaches to study local vascular regulatory mechanisms during development. Interest in cell signalling aspects of local humoral factors (i.e. arachidonic acid metabolites and related compounds) and protein kinase C mediated signal transduction mechanisms in the developing microvasculature is preferred. Candidate must have Ph.D., 3 years postdoctoral experience in physiology or related field, experience with large and small animal models, and demonstrated history of productivity and ability to secure extramural funding. A minimum of 30 publications in competitive peer review journals and a mini-

mum of 7 years post graduate experience is preferred. Please send CV to: Dr. Pierantonio Russo, Section Chief, C.T. Surgery, St. Christopher's Hospital for Children, Erie at Front Street, Philadelphia, PA 19134-1095. Temple University is an equal opportunity/affirmative action employer and strongly encourages applications from women and minorities.



United States Department of Agriculture (USDA) Agricultural Research Service (ARS)

A Geneticist (Plants) position in the Plant Physiology and Genetics Research Unit, Urbana, IL, housed in the Department of Agronomy facilities, University of Illinois. The incumbent will serve as Assistant Curator/ Curator of the Maize Genetics Cooperation-Stock Center. The incumbent will be responsible for coordinating the maintenance, categorization, and expansion of the maize genetics collections in the stock center, and for providing seed samples of stock upon request. The incumbent will also be responsible for supporting research conducted at the stock center. Work will be conducted cooperatively with scientists within the USDA/ARS, the University of Illinois, and the community of maize researchers world-wide. Professional experience in maize genetics is required. Additional knowledge, abilities and skills will be required. U.S. Citizenship is required. Salary range is \$26,798-\$50,516 (GS 9/11/12; Category III). Starting date is approximately April 1993. Applicants must contact the Personnel Office (301-344-1858) for required forms and application procedures; indicate Adv. No. 3N001. Closing date is November 30, 1992. For more information about this position, contact Martin M. Sachs, 217-244-0864; FAX: 217-244-7703; E-mail: msachs@ux1.cso.uiuc.edu. ARS is an equal opportunity employer.



UNIVERSITY COLLEGE LONDON CHAIR OF PSYCHOLOGY

Applications are invited for one of the two established Chairs of Psychology tenable at UCL and based in the Col-

lege's large and well-resourced Department of Psychology. The Chair will be vacated on the retirement of Professor R J Audley and the new appointment is expected to be effective from 1 October 1993 (negotiable). Professor T Shallice holds the other established Chair of Psychology in the Department, which also houses the Ergonomics Research Unit (headed by Professor J B Long), the endowed Freud Memorial Chair of Psychoanalysis (held by Professor P Fonagy), two other titular Professors and over 30 other academic staff. The Department also has strong links with the MCR Cognitive Development Unit (headed by Professor J Morton).

We are seeking to appoint an individual with a strong commitment to, and an outstanding record of achievement in research—preferably, but not necessarily, in the areas of experimental, physiological or clinical psychology. Research in the Department spans a wide spectrum. Current strengths include cognition and its neuropsychological, computational and clinical aspects; basic perceptual processes; and speech.

Informal enquiries may be made to and further particulars obtained from **Professor T Shallice (Department of Psychology, University College London, Gower Street, London WC1E6BT—tel. 071-380-7561).** Applications, including a full *curriculum vitae* and the names of three referees, should be addressed to the Provost, University College London, Gower Street, London WC1E 6BT, to be received no later than 27 November 1992.

Salary (negotiable) within the professional range. Equal Opportunities Employer

Vertex Pharmaceuticals is a leader in the use of structure-based rational drug design, a scientific abbroach to drug discovery which uses atomic level information to design synthetic compounds that interact with protein targets involved in disease processes. Vertex is using advanced techniques of biology, chemistry and biophysics to create novel, small molecule compounds that the Company plans to develop as orally deliverable drugs to treat major human diseases. Vertex is concentrating on the development of drugs in the areas of immunology, inflammation and antiviral therapy.

At Vertex, it's how we work together that sets us apart. We unite these scientific disciplines in a collaborative approach to accelerate the discovery and development of novel therapeutics. In this parallel process we've created a unique environment where you'll work directly with some of the top research and development scientists in the industry.

ERTEX

PARALLEL PROCESS, UNPARALLELED PROGRESS.

Protein Biochemists

We are seeking individuals at the PhD and MS/BS levels to help lead an existing research team, dedicated to the purification and biochemical characterization of medically important proteins, especially soluble enzymes, identified as targets for the design of novel therapeutic drugs. You will design and implement innovative strategies for the purification of proteins at the 10-1000 mg scale, and will be primarily responsible for the ongoing availability of these proteins for X-ray crystallographic and high-field NMR analysis.

Successful candidates will have 3+ years' experience with a diverse array of chromatographic protein isolation methods (including HPLC and FPLC), and with modern electrophoretic and spectroscopic methods for evaluating protein purity and integrity. Familiarity with biophysical methods for characterizing protein-ligand interactions would be a distinct advantage; strong communicative and interpersonal skills are a must.

Enzymologist

We are seeking a highly motivated Enzymologist to join a productive research group dedicated to the analysis of enzyme inhibitors and the mechanism and structure-function relationships of enzyme drug targets. You will lead enzymology research in one or more project areas.

Candidates should have a PhD in biochemistry or related discipline, postdoctoral training in enzymology, and 3+ years' experience in enzymology within the pharmaceutical industry. Experience in site-directed mutagenesis, enzyme kinetic analysis and/or automation of enzyme assays is highly desirable, as well as the proven ability to collaborate within an interdisciplinary scientific team. Enzymologists with BS or MS degrees and significant professional research experience may also apply.

Fermentation Technologist/Molecular Biologists

You will be working on the small-scale fermentation (1-10L) of incroorganisms for the production of recombinant proteins for X-ray erystallography, NMR spectroscopy and biochemical analysis. You will be involved in the daily operation of our research fermentation facility, which includes fully automated, state-of-the-art equipment including DCU measurement and control system with computer logging and equipment of cell harvesting.

The successful candidate must have a BS or MS degree in a related field with 1-3 years' full-time experience in the fermentation and workup of recombinant organisms on this scale, preferably in both bacteria and eukaryotes. Substantive independent laboratory experence in gene expression, molecular genetics, gene manipulation and analysis of recombinant proteins is also required.

With our resourceful approach to structure-based rational drug design and a strong financial base, we invite you to take advantage of our excellent salaries, benefits and professional development potential. Please forward a detailed resume to: Vertex Pharmaceuticals Incorporated, c/o Recruiting Coordinator SC116/2, 40 Allston Street, Cambridge, MA 02139-4211. We are an Equal Opportunity, Affirmative Action Employer.

> VERTEX PHARMACEUTICALS INCORPORATED We're Not Leaving Success To Chance.

ASSISTANT PROFESSOR(S) IN (1) BIO-CHEMISTRY/MOLECULAR BIOLOGY AND (2) ORGANIC CHEMISTRY. The Department of Chemistry is seeking applications for two 9-month tenure-track positions, effective September 1993. (1) Biochemistry/ Molecular Biology: The successful candidate must have a Ph.D. with evidence of extensive training in both molecular Biology and biochemistry and postdoctoral experience and will be expected to: (i) develop a productive, externally funded research program in the area of chemical and biochemical approaches to problems in molecular biology; (ii) contribute to the Department's teaching responsibilities in biochemistry and molecular biology at both the undergraduate and graduate levels; and (iii) receive a joint appointment in the School of Medicine. (2) Organic Chemistry: The successful candidate must have a Ph.D. in organic chemistry or related field and postdoctoral experience and will be expected to: (i) develop a productive research program and (ii) contribute to the Department's teaching responsibilities at both the undergraduate and graduate levels. Applications must be postmarked by December 11, 1992. Excellent opportunities exist for research collaboration; competitive start-up funds are available. Interested individuals should submit a letter of application, a short research proposal, curriculum vitae, and have three letters of recommendation sent directly to: Search Committee, Department of Chemistry, University of Minnesota-Duluth, 10 University Drive, Duluth, MN 55812– 2487. The University of Minnesota is an Equal Opportunity

ORNITHOLOGIST

The University of Kansas Department of Systematics & Ecology and Museum of Natural History invite applications for a tenure-track position as ASSISTANT PRO-FESSOR AND CURATOR OF ORNITHOLOGY starting 1 July 1993. We seek a productive researcher in avian systematics, who will participate actively in graduate and undergraduate teaching, and in curation of ornithological collections. Annual salary: \$38,000 to \$42,000. Applicants should request a complete position description. Send a letter of application; a statement of goals in research, teaching, and curation; curriculum vitae; reprints of recent publications; and three letters of recommendation to: Dr. William E. Duellman, Chairman, Ornithology Search, Museum of Natural History, University of Kansas, Lawrence, KS 66045–2454. Telephone: (913) 864-4540; FAX: (913) 864-5335. Application deadline 18 December 1992 (postmarked). Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR, ANALYTICAL CHEMISTRY. Coe College, a selective private liberal arts college of about 1100 students, is inviting applications for a tenure-track position in the area of analytical chemistry, to begin in September 1993. The appointment is expected to be at the Assistant Professor level. Coe College's program is accredited by the American Chemical Society. Candidates should have a Ph.D. and a strong commitment to teaching and carrying out research with undergraduates, and will be expected teach in the areas of analytical chemistry, instrumental analysis, and general chemistry. Submit curriculum vitae, undergraduate and graduate transcripts, and a statement of teaching and research interests and arrange to have at least three letters of reference sent to: Dr. Wendy Dunn, Associate Dean for Academic Affairs, Coe College, Cedar Rapids, IA 52402. Application deadline is December 7, 1992. As an Affirmative Action/Equal Opportunity Employer, Coe College is especially interested in identifying women and minority candidates.

The Department of Medicine, Baylor College of Medicine invites applications for two positions at the rank of **INSTRUCTOR** or **ASSISTANT PROFESSOR**. These appointments will emphasize innovative research and opportunities for patient care and teaching of students, residents, and fellows. Applicants should have training in the techniques of molecular biology and be interested in conducting basic research in diabetes and participating in a multi-departmental diabetes research center. A flexible, competitive compensation package will be offered commensurate with background and accomplishments of the successful applicants. For additional information please contact: Glenn R. Cunningham, M.D., Acting Chief, Division of Endocrinology and Metabolism, One Baylor Plaza, Room 537E, Houston, TX 77030.

POSITIONS OPEN

FACULTY POSITION—YEAST MOLECULAR GENETICS. Applications for a tenure-track position are invited from individuals with doctoral training and postdoctoral research experience in molecular genetics who will use yeast as an experimental organism in their research. This appointment is contingent on final admin-istrative approval and is part of a continuing expansion within the area of Cell and Molecular Biology in the Syracuse University Biology Department. Appointment is most likely to be made at the ASSISTANT PROFES-SOR level, but more senior candidates are also welcome to apply. The successful candidate will carry out an independent research program and participate in teaching of undergraduate and graduate students. Applica-tions should include curriculum vitae, a brief description of proposed research and the names of three scientists willing to write letters of recommendation. Applications should be sent by December 15, 1992 to: Chair of Yeast Molecular Biology Search Committee, Lyman Hall, 108 College Place, SYRACUSE UNIVERSITY, Syr-acuse, NY 13244–1270. Affirmative Action/Equal Opportunity Employer; women and members of all ethnic groups are especially encouraged to apply.

NEUROBIOLOGIST

The Biology Department of the University of Pennsylvania invites applications for a tenure-track position at the level of ASSISTANT PROFESSOR. We are particularly interested in candidates studying the cellular, genetic or molecular mechanisms of processes in developmental neurobiology, neurophysiology or behavioral neurobiology. Candidates are expected to have demonstrated excellence and productivity in research and must have an interest in undergraduate and graduate teaching in neurobiology. The successful candidate will be part of a strong program in neuroscience at Penn, centered in the Institute of Neurosciences. Interested candidates should submit curriculum vitae, statement of research and teaching interests, and three letters of recommendation to: Neurobiology Search Committee, Department of Biology, University of Pennsylvania, Philadelphia, PA 19104–6018. Review of applications will begin December 11, 1992. The University of Pennsylvania is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

DEVELOPMENTAL BIOLOGIST

The University of Scranton, an independent Jesuit University, invites applications for a tenure-track ASSIST-ANT PROFESSOR in developmental biology. The successful candidate will teach an upper division laboratory course in developmental biology and participate in the General Biology courses for majors and non-majors. Excellence in teaching and maintenance of an active research program that will involve undergraduate students are expected. Applicants should submit curriculum vitae, a statement of teaching and research interests, and three letters of reference by 8 January 1993 to: Dr. Barry R. Anderson, Chair, Department of Biology, University of Scranton, Scranton, PA 18510–4625. The University of Scranton is an Affirmative Action/Equal Opportunity Employer and Educator.

FACULTY POSITIONS Department of Biological Chemistry Penn State University College of Medicine

Applications are invited for two tenure-track positions to begin on or after June 1, 1993. We seek individuals who have demonstrated excellence in physical, cell, molecular or developmental biochemistry. Preference will be given to applicants at the ASSISTANT PROFESSOR level although outstanding individuals at the ASSOCI-ATE PROFESSOR level will be considered. Applicants must hold a Ph.D. and/or M.D. degree and have had postdoctoral research experience. Successful applicants are expected to establish an independent, extramurally funded research program and to participate in the education of graduate and medical students. Applicants should send curriculum vitae, a synopsis of research plans, and the names and addresses of three individuals who will provide letters of reference to: Chair, Search Committee, Department of Biological Chemistry, Box 850S, Penn State University, Hershey, PA 17033. Applications should be submitted by January 31, 1993.

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

POSITIONS OPEN

MICROBIAL ECOLOGIST

The Faculty of Biological Science at the University of Tulsa invites applications for a tenure-track position at the ASSISTANT PROFESSOR level. Successful applicants will have a Ph.D., preferably with postdoctoral experience, will be expected to teach in the undergraduate and graduate curricula, and will demonstrate the potential for establishing an independent, funded research program that is capable of attracting M.S. and Ph.D. students. Salary and start-up funds are competitive. Please submit curriculum vitae, statements of research and teaching interests, and three letters of recommendation to: Lamont Anderson, Microbial Ecology Search, Faculty of Biological Science, University of Tulsa, 600 South College Avenue, Tulsa, OK 74104– 3189. Review of applications will begin on January 1, 1993 and continue until the position is filled.

The University of Tulsa, an Equal Opportunity/Affirmative Action Employer is committed to diversifying its faculty and staff. Members of underrepresented groups (including people of color, people with disabilities, women and veterans) are strongly encouraged to apply.

YALE UNIVERSITY SCHOOL OF MEDICINE DEPARTMENT OF GENETICS

The Department of Genetics invites applications for a tenure-track faculty position at the level of ASSISTANT **PROFESSOR** in a stimulating academic environment that includes excellent laboratory and clinical facilities. We seek a person with a Ph.D., M.D., or M.D./Ph.D. degree with a strong record of accomplishment in basic research. Individuals with expertise in developmental biology, cell growth regulation, genome structure, oncogene or tumor suppression gene function are particularly encouraged to apply. Applicants should submit curriculum vitae, reprints, a statement of research interests, and should arrange to have three letters of recommendation sent to: Chair, Faculty Search Committee, Attention: Wersity School of Medicine, PO Box 3333, New Haven, CT 06510. The deadline for applications is February 1, 1993. Yale is an Equal Opportunity/Affirmative Action Employer.

MICROBIOLOGIST

The Department of Biology at Tennessee Technological University invites applications for a full-time, tenuretrack position at the ASSISTANT PROFESSOR level beginning August 1993. The person hired will teach general microbiology and other biology courses, including introductory level courses, as required. He/she is also expected to conduct independent research and direct M.S.-level graduate students. Applicants must have a Ph.D. in microbiology or related field with a strong interest in environmental microbiology. Submit letter of application describing teaching experience and research interests, together with curriculum vitae, unofficial transcripts, and names and addresses of three references, to: Dr. Susan Goss, Department of Biology, Box 5063, Tennessee Technological University, Cookeville, TN 38505, prior to December 15, 1992. An Affirmative Action/Equal Employment Opportunity Employer.

COMMUNITY ECOLOGIST

The Faculty of Biological Science, University of Tulsa, invites applications for a tenure-track position at the ASSISTANT or ASSOCIATE PROFESSOR level beginning Fall Term 1993. The University of Tulsa is a comprehensive, independent university that emphasizes excellence in teaching and research. The Faculty of Biological Science consists of 16 members with diverse research interests; degrees are offered at the B.S., M.S., and Ph.D. levels. We seek an individual with research interests in plant or animal species. Salary and start-up funds will be commensurate with experience. Applicants should submit curriculum vitae, a statement of teaching and research interests, recent reprints and three letters of reference to: Dr. James R. Stewart, Ecologist Search Committee, Faculty of Biological Science, University of Tulsa, 600 South College Avenue, Tulsa, OK 74104. Review of applications will begin in January 1, 1993 and continue until the position is filled. The University of Tulsa, an Equal Opportunity/Affirmative Action Employer, is committed to diversifying its faculty and staff. Members of underrepresented groups (including people of color, people with disabilities, women and veterans) are strongly encouraged to apply.

Postdoctoral Fellow in Molecular Hematopoiesis

Amgen is an innovative leader in the discovery, development and marketing of human therapeutics. Our advanced research in biotechnology has resulted in such breakthrough products as EPOGEN (recombinant human Erythropoietin) and NEUPOGEN (recombinant human Granulocyte Colony Stimulating Factor).

We currently seek a postdoctoral fellow with a recent Ph.D. in Molecular/Cellular Biology. This individual will have experience in cDNA cloning, PCR, and other molecular biology analytical skills. Some cell culture experience and an interest in hematopoiesis would be desirable. The selected fellow will be involved in an interactive program studying the molecular regulation of hematopoietic stem cell migration, proliferation and differentiation.

Amgen offers a very competitive compensation and benefits package in addition to a stimulating work environment. If you have the necessary qualifications and would like to be part of an organization that places its highest value on the contributions of its people, send your resume to: Amgen Inc., Staffing Dept., (Mail Code 10-1-A-411), Job Code# S-505, Amgen Center, Thousand Oaks, CA 91320-1789. Amgen is an equal opportunity employer.

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POSTDOCTORAL FELLOWSHIPS at the WOODS HOLE OCEANOGRAPHIC INSTITUTION

* Applied Ocean Physics & Engineering * Biology * Marine Chemistry & Geochemistry * Marine Geology & Geophysics * Physical Oceanography

Applications are invited from new or recent doctorates in science or engineering with interests in physical oceanography, meteorology, marine chemistry, marine geology and geophysics, biological oceanography, or applied ocean physics and engineering. Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

* Marine Policy and Ocean Management

Research fellowships are offered in the social sciences or natural sciences with emphasis on economics and law. Topics of special current interest include marine biological diversity, marine reserves, sea-level change, advanced marine technologies, historic shipwrecks, and Arctic affairs. Other research interests also may be appropriate.

Fellowships are awarded for one year (extendable up to two years in special circumstances) with a stipend of \$34,500 plus group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by January 15, 1993 for the 1993-94 awards. Awards will be announced in March. Write for application forms to: Dean of Graduate Studies, P.O. Box S, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543.





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Research Scientist I

A laboratory research position is currently available to conduct *in vivo* and *in vitro* experimental studies in cardiovascular drug discovery. Specifically, these preclinical studies are intended to identify and characterize compounds that are antagonists of endothelin receptors or inhibitors of endothelin synthesis.

Candidates need a four-year college curriculum with a major concentration in biological or biochemical sciences PLUS two years of experience in cardiovascular receptor research **OR** a Master's degree in a biological or biochemical science with an emphasis on cardiovascular receptor research. Candidates selected for interview will take an on-site scientific writing assessment.

At Burroughs Wellcome Co., you will enjoy a compensation and benefits package that is among the best in the pharmaceutical industry, along with the advantages of being part of an innovative pharmaceutical leader. Please send your resume, indicating **POS. #64129-29** in your cover letter, by **November 23, 1992**, to: **Burroughs Wellcome Co., Recruiting and Staffing, 3030 Cornwallis Road, Research Triangle Park, NC 27709.**

For information on other job opportunities with Burroughs Wellcome Co., call our Job Information Line at **(919) 248-8347**.



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SYSTEMS NEUROSCIENTIST at the University of Pennsylvania. The Department of Neuroscience at the University of Pennsylvania School of Medicine invites applications for a tenure-track position in systems neurobiology. Preference will be given to appointments at the ASSISTANT PROFESSOR level. Areas of research interest from small ensembles of neurons up to the behaving primate will be considered. Candidates should (by January 1, 1993) send curriculum vitae, statement of research interests and the names of three individuals willing to provide letters of evaluation to: Dr. Brian M. Salzberg, Systems Neuroscience Search, Department of Neuroscience, 215 Stemmler Hall, University of Pennsylvania School of Medicine, Philadelphia, PA 19104– 6074. Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR of Biology—Tenuretrack position in physiology to begin August 1993. Ph.D. with teaching experience required. Teaching load of 9 hours will include upper-division Vertebrate Physiology with Lab, Anatomy and Physiology for Allied Health students, and supervision of undergraduate research. Xavier University (X.U.) is a Jesuit, liberal arts, coeducational institution with a strong emphasis on quality teaching at the undergraduate level. Applicants should send a letter of application with curriculum vitae, list of three references (with telephone numbers), and unofficial transcripts, and have three letters of recommendation sent to: Dr. Carolyn Chambers, Biology Department, Xavier University, 3800 Victory Parkway, Cincinnati, OH 45207–4331. Deadline for completed applications is December 15, 1992. X.U. is an Equal Opportunity/Affirmative Action Employer.

EVOLUTIONARY BIOLOGIST

The Department of Zoology at Duke University seeks applicants for a position in evolutionary biology; persons with an interest in systematics, macroevolution, or paleobiology are particularly encouraged to apply. The appointment will be at the tenure-track ASSISTANT **PROFESSOR** level, beginning in the fall of 1993. Applicants should have demonstrated outstanding ability in research. Initial teaching responsibilities will consist of participation in an introductory biology course, and an intermediate or advanced course of the appointee's choice. By 7 December 1992, send curriculum vitae, brief statements of research and teaching interests and experience, and three letters of reference to: Evolution Search Committee, Department of Zoology, Duke University, Box 90325, Durham, NC 27708–0325. Duke University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF BIOLOGY

Active, five-person department seeks cellular/molecular biologist, prepared also to teach microbiology. Ph.D. and commitment to undergraduate teaching required; research focus open; research involving students a plus. New laboratory facility opens January 1993. Send curriculum vitae and reference list to: Dr. Ralph I. Peters, Chair; Department of Biology; Lynchburg College; 1501 Lakeside Drive; Lynchburg, VA 24501-3199 by November 30, 1992. Lynchburg invites applications from women and minority candidates. Equal Opportunity Employer.

FACULTY POSITION IN MOLECULAR AND CELLULAR BIOLOGY

The interdisciplinary doctoral program in Molecular and Cellular biology at Ohio University involving the Departments of Biological Sciences, Chemistry, Environmental and Plant Biology, and Psychology has a tenuretrack faculty appointment available at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. The new faculty member is expected to participate in teaching, to maintain an active independent research program, and direct graduate students. The area of research specialization is open, although possible areas may include regulation of gene expression, modeling of biomolecular interactions, receptor biology, molecular genetics and host-pathogen interactions. The starting salary will be competitive, and the minimum will be \$35,000.

Please submit curriculum vitae, statement of research interests, reprints and three letters of recommendation by January 1, 1993 to: Secretary, Molecular and Cellular Biology Program, 228 Irvine Hall, Ohio University, Athens, OH 45701. Ohio University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITIONS in Eukaryotic Molecular Biology

The Department of Biochemistry, University of Rochester Medical Center is seeking applications for the positions of ASSISTANT and ASSOCIATE PRO-FESSOR. Applicants should be prepared to conduct active independent research, using molecular techniques to study cellular mechanisms of growth and regulation. Appropriate prior research experience is required. The University provides wide opportunities for collaboration with investigators in clinical and basic science departments, and in the Cancer Center. Send curriculum vitae and letters of recommendation to: Dr. Fred Sherman, Chairman, Department of Biochemistry, University of Rochester, 601 Elmwood Avenue, Rochester, NY 14642.

ASSISTANT OR ASSOCIATE PROFESSOR

The Department of Biomathematical Sciences of The Mount Sinai School of Medicine invites applications for a tenure-track faculty position. A Ph.D. degree is required; postdoctoral and teaching experience is desirable. The department is looking for applicants with research and teaching interests in the area of mathematical and theoretical approaches to the structure and interactions of biological macromolecules, with experience in an appropriate field of mathematics, physical chemistry, or biophysics. Candidates will be evaluated according to their potential to sustain a nationally recognized, funded research program. The position is open at the level of assistant or associate professor; rank and salary to be commensurate with qualifications. Applicants should submit curriculum vitae, including a summary of current research, a list of publications and a brief description of reference to be sent before January 15, 1993, to: Professor Craig J. Benham, Department of Biomathematical Sciences, Box 1023, The Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029–6574. An Equal Opportunity Employer.

PLANT PHYSIOLOGICAL ECOLOGIST

The Department of Biology of the University of Pennsylvania invites applications for a tenure-track position at the level of ASSISTANT PROFESSOR. We seek candidates with demonstrated research excellence in any aspect of the physiological cology of plants, including the physiological basis of plant/animal or plant/ pathogen interactions. The successful candidate will join already strong programs in ecology and plant science and is expected to participate in undergraduate and graduate teaching in these areas. Applicants should submit curriculum vitae, a statement of research and teaching interests, and three letters of recommendation to: Chair, Plant Ecology Search Committee, Department of Biology. University of Pennsylvania, Philadelphia, PA 19104– 6018. Review of applications will begin December 11, 1992. The University of Pennsylvania is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

LEWIS & CLARK COLLEGE invites nominations and applications for the WILLIAM SWINDELLS **PROFESSOR IN THE NATURAL SCIENCES** for appointment as Professor of Biology. Candidates must be outstanding teachers, distinguished researchers with a strong record of extramural funding, and committed to undergraduate research.

We are interested in candidates with teaching and research interests in either ecology or eukaryotic cell biology. An understanding and appreciation of the role of research at an undergraduate institution is essential. The successful candidate should expect to assume the role of Chair of the Biology Department at a mutually agreed upon future date.

Qualified candidates should submit a letter of application and supporting materials to: Professor James A. Duncan, Chair of the Search Committee and Dean of Mathematical & Natural Sciences, Lewis & Clark College, 0615 SW Palatine Hill Road, Portland, OR 97219. Every effort will be made to respect requests of confidentiality. Review of applications and nominations begins 4 January 1993; the search will remain open until the position is filled.

Lewis & Clark College is an Equal Opportunity Employer and encourages the application of women and minority candidates.

POSITIONS OPEN

TENURE-TRACK FACULTY POSITIONS at the MEDICAL COLLEGE OF GEORGIA

Applications are invited for two tenure-track positions in the Department of Biochemistry and Molecular Biology. Rank may be either ASSISTANT or ASSOCIATE **PROFESSOR**, depending on experience and research accomplishments. Selected candidates will be expected to maintain vigorous research programs, direct graduate students, and participate in the teaching programs of the department. Opportunities exist for interacting with ongoing programs in vision research, biochemistry and physiology of membrane proteins, and molecular genetics of hemoglobins. Molecular biologists with strengths in these and related areas are especially encouraged to apply. The positions offer highly competitive salaries, fringe benefits, and start-up funds. Curriculum vitae, statement of research plans, and names of references should be sent to: David F. Scott, Faculty Search Committee, Department of Biochemistry and Molecular Biology, Medical College of Georgia, Augusta, GA 30912–2100. To ensure full consideration, materials should be received by 15 January 1993. The Medical College of Georgia is an Affirmative Action/Equal Opportunity Employer.

The Department of Anatomy invites applications for a 12-month, tenure-track position at the ASSISTANT, ASSOCIATE, or FULL PROFESSOR level. The department anticipates hiring at the junior level, but a senior level appointment would be considered for an unusually qualified candidate. The department is seeking candidates who complement existing research interests, which include cellular and molecular techniques to study problems in developmental biology or neurobiology. The successful candidate will be expected to establish an independent research program and participate in a teamtaught gross anatomy course. Experience in gross anatomy is desirable but not necessary. Opportunities are available to participate in several interdepartmental graduate training programs. Send curriculum vitae, three letters of recommendation, and a short summary of research interests to: Dr. John K. Harting, Chair, Department of Anatomy, University of Wisconsin, 1300 University Avenue, Madison, WI 53706. Application deadline is March 1, 1993. State of Wisconsin law requires that, unless confidentiality is requested in writing, information regarding the applicants must be released upon request. Finalists cannot be guaranteed confidentiality. An Affirmative Action/Equal Opportunity Employer.

BAYLOR COLLEGE OF MEDICINE HOUSTON, TEXAS

Department of Anesthesiology is inviting applications and nominations for faculty positions at ASSISTANT **PROFESSOR** and ASSOCIATE PROFESSOR levels. Fellowship positions are also available in Cardiovascular Anesthesia. These positions offer excellent opportunities to develop an academic career in a department with excellent clinical and research resources and facilities. We are interested in qualified candidates in general anesthesia, and some positions require cardiovascular or pediatric anesthesia subspecialty training and experience. Qualified candidates should send curriculum vitae to: William F. Childres, M.D., Chairman, Department of Anesthesiology, Baylor College of Medicine, 6550 Fannin, Suite 1003, Houston, TX 77030. Baylor College of Medicine is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITIONS GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE

Tenure-track positions are available for experienced ASSISTANT/ASSOCIATE PROFESSORS in cellular and molecular aspects of neuroscience and cardiovascular physiology in the Department of Physiology and Biophysics. Applicants should have grant support for a well developed independent research program, an excellent publication record, and be proficient in teaching physiology to medical and graduate students. Submit curriculum vitae and three references to: Martin Morad, Chairman, Department of Physiology and Biophysics, Georgetown University School of Medicine, 3900 Reservoir Road, N.W., Washington, DC 20007. Georgetown University is an Equal Opportunity/Affirmative Action Employer.

INSTITUT DE BIOLOGIE STRUCTURALE

DIRECTOR

The "Institut de Biologie Structurale" (IBS) in Grenoble (France) is committed to study biological macromolecules with emphasis on structure-function relationships and reaction mechanisms.

The IBS was founded jointly by the Commissariat à l'Energie Atomique (CEA) and by the Centre National de la Recherche Scientifique (CNRS), to reinforce structural biology in France. Other organisms, like the Université Joseph Fourier (UJF) will be associated with the IBS.

Nine pluridisciplinary research teams, comprising eighty four people, are presently working at the IBS, but the IBS will ultimately be able to accommodate twice as many people.

The goal of the IBS is to promote outstanding international research in structural biology in a very well equipped laboratory that should moreover benefit from the proximity of the Institut Laue Langevin (ILL) with its high flux neutron reactor and of the European Synchrotron Radiation Facility (ESRF), the latest generation source of synchrotron radiation (commissioning scheduled in 1994)

The CEA and the CNRS are at present looking for a scientific personality to direct the Institute, whose role will be to animate and coordinate the research carried out by the different groups, and in particular, to use all available means to assure the development of research programs at the forefront of structural biology.

Jean-Pierre EBEL was the director of the laboratory during its installation phase, until his sudden death in June 1992. The interim is presently assured by Pierre VIGNAIS.

The candidate should be a biologist familiar with structural chemistry and biology. He or she should ideally have as wide as possible an experience in chemistry and biology and will also need expertise in the different techniques used at the IBS, including their instrumentation.

The new director will have the possibility of integrating a research team of his own into the IBS

depth,

Applicants should contact the Administrative Council, c/o IBS, 41 Avenue des Martyrs, 38027 Grenoble Cedex 1, France, Tel (33) 76.88.95.52. Fax (33) 76.88.54.94. The application deadline is January 31, 1993



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What do you have to do to get a position

COMMISSARIAT A L'ENERGIE ATOMIQUE

Biochemist

ž

Chairperson, **Dept. of Physiology**

TEMPLE UNIVERSITY SCHOOL OF MEDICINE is seeking a Chairperson, Department of Physiology. Individual must have a doctoral degree, extensive experience in research, teaching and administration and academic qualifica-tions to be appointed as a transformation tions to be appointed as a tenured profes-sor. Must be respected for research accom-plishments, and have a record of significant publications in peer reviewed journals and of continuing successful compe-tition for peer-reviewed research. Must have had administrative experience in directing a major research program, sec-tion or department. Must have served on substantive school-wide or universitywide committees. Must be able to manage the multiple needs of an academic department which has responsibility for teaching graduate students and professional students in medicine, dentistry and allied health professions. Should have a broad perspective on the educational process, and the interrelation of basic and clinical science departments in a medical school. Must also have a commitment to faculty Must also have a commitment to faculty development in both teaching and research. Send curriculum vitae and bibli-ography to Ms. Betty Berdel, Office of the Dean, TEMPLE UNIVERSITY SCHOOL OF MEDICINE, 3400 N. Broad Street, Phila-delphia, PA 19140. Temple is an affirmative action/equal oppor-

action/equal oppor-tunity employer and strongly encourages applications from women and minorities.



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As our work continues, we are now seeking a Biochemist to join our Biochemistry and Microbiology Department and participate in R&D programs in the household products area. To qualify, you must possess a PhD in Biochemistry or a related field, along with a strong background in protein chemistry and enzymology. Experience with biochemical catalysis or surfactant science is a plus. Excellent interpersonal, communication and organizational skills are also required.

> We offer a competitive salary and benefit package and a convenient location, situated directly across the Hudson River from New York City. For consid-

eration, send your resume to: Mr. Jim Conti, Manager, Employee Relations, Unilever Research U.S., 45 River Road, Edgewater, NJ 07020. Equal **Opportunity Employer.**



Unilever Research U.S.

DEPARTMENT OF MICROBIOLOGY AND THE COMPREHENSIVE CANCER CENTER

Applications are invited at the Assistant, Associate or Professor levels for a vacant faculty position in Molecular Immunology jointly supported by the Department of Microbiology and the Ohio State University Comprehensive Cancer Center. Research areas of special interest include molecular biology of macrophage activation, regulation of cytokine gene expression, signal transduction mechanisms and processing/presentation of antigens. The successful applicant is expected to develop and maintain an internationally recognized, molecular-oriented research program in cancer immunology and to participate in graduate and undergraduate teaching. An attractive package for set-up is available. This position is one of several new cancer-related positions that will be filled to expand the research program of the O.S.U. Comprehensive Cancer Center coincident with the establishment of the Arthur G. James Cancer Hospital and Research Institute.

Applicants should submit a curriculum vitae, statement of current research interests and future plans and the names of three references to Bruce S. Zwilling; Chair, Immunology Search Committee, Department of Microbiology, The Ohio State University, Columbus, OH 43210; Tel. 614-292-3310 or FAX 614-292-1538. Review of applications will begin immediately and continue until the position is filled. Women and minority candidates are very strongly encouraged to apply. The University is an Affirmative Action/Equal Opportunity Employer.



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LA TROBE UNIVERSITY

BUNDOORA, MELBOURNE, VICTORIA, AUSTRALIA

School of Biological Sciences

Applications are invited for appointment to the Chairs of Microbiology and Zoology in the School of Biological Sciences.

CHAIR IN MICROBIOLOGY

(Reference No. 150-01-69)

The Department of Microbiology has research strengths in environmental microbiology, microbial genetics, molecular microbiology, animal virology, microbial cell biology and microbial ecology

Applicants should be distinguished microbiologists with an established record in research and funding and should be prepared to undertake vigorous development of an area of research compatible with existing strengths of the Department, but with special concern for applying the latest advances in knowledge in areas such as molecular biology, biotechnology and ecological and environmental studies.

CHAIR IN ZOOLOGY (Reference No. 150-01-68)

The Department of Zoology has thirteen academic staff engaged in teaching and research, five research fellows and three honorary academics. The Department has strong research interests in insect ecology; taxonomy; conservation and physiology; analytical electron microscopy and microprobe analysis of epithelial transport; muscle physiology; vertebrate and invertebrate behaviour and behavioural ecology; marsupial reproductive and developmental biology; coral physiology; respiratory physiology; vertebrate paleontology; and biogeography Applicants must have a proven capacity for academic leadership, a demonstrably broad knowledge of the discipline and a distinguished record of research and scholarship at the whole animal, organ or cell level in any field of ecological or physiological zoology. Salary: \$A77,900.

ARTHUR G. JAMES CANCER HOSPITAL **RESEARCH INSTITUTE**

The appointees will be expected to have experience in, and participate in, teaching to undergraduate students and supervision of postgraduate research.

Further information may be obtained from the Dean of Biological Sciences, Professor R. W. Parish (telephone (613) 479 2228) or from the Secretary to the Selection Committee (telephone (613) 479 1295).

Applications should quote the reference number and include a curriculum vitae and the names and addresses of three referees. The application, marked 'In Confidence', should be forwarded to the Secretary to the relevant Selection Committee, La Trobe University, Bundoora, Victoria 3083, Australia, by 12 December, 1992.

La Trobe University is an Equal Opportunity Employer and provides a smoke free work environment

POSITION ANNOUNCEMENT Dean of School of Forestry and Director of the Montana Forest and **Conservation Experiment Station** The University of Montana at Missoula

The University of Montana seeks applications and nominations for the position of Dean of the School of Forestry and Director of the Montana Forest and Conservation Experiment Station at Missoula.

The School of Forestry has academic programs in Forestry Resources Man-Recreation Management, agement. Range Resources Management, Wildlife Biology and Wilderness Studies. The school enrolls, nationally and internation-ally, approximately 600 undergraduate and 125 graduate (Master's and Ph.D.) students. The Montana Forest and Conservation Experiment Station administers research programs that are national and global in scope. In all, there are 33 teaching and research faculty and another 30 research staff.

The job description and selection criteria may be obtained from:

Dr. David Strobel

Associate Graduate Dean and Chair of the Search Committee The University of Montana, Missoula, MT 59812

(406) 243-2572, FAX (406) 243-4593. Review of applications begins Januay 18, 1993, and will continue until a candi-

date is found.

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

National Institute of Allergy & **Infectious Diseases** NATIONAL INSTITUTES OF HEALTH

MOLECULAR GENETICIST

The Laboratory of Microbial Structure & Function, Rocky Mountain Laboratories, Hamilton, Montana, Public Health Service invites applications for an immediate opening. Applicants must have a Ph.D., M.D., D.V.M., or equivalent experience, plus postdoctural research experience. Salary begins at \$37,000 and is common unter with \$37,000 and is commensurate with experience. The applicant must have backgrounds in pathogenic bacteriology and molecular genetics, and he/she should be knowledgeable in the techniques necessary for study of triplex DNA. The successful applicant will join a research group involved in studying a variety of genes of Neisseria gonorrhoeae, especially the opa gene family and its control.

To apply send curriculum vitae and three letters of recommendation to:

Dr. John Swanson Chief Laboratory of Microbial Structure & Function Rocky Mountain Laboratories National Institute of Allergy & Infectious Diseases National Institutes of Health 903 South Fourth Street Hamilton, MT 59840



NIH is an Equal Opportunity Employer

RESEARCH PHYSICIST/ASTROPHYSICIST GS-1310/1330-11/12 \$32,423 to \$38,861 (salary dependent upon gualifications)

The Office of Strategic Phenomena of the Naval Research Laboratory's Space Science Division is seeking physical and computational scientists with an interest in pursuing practical problems of natural background radiation as viewed from space. Resumes are invited from scientists, especially recent PhD's, interested in modeling and simulation of such backgrounds and in the analysis of experimental data. The principal objective is support of the Strategic Defense Initiative, but some non-SDI data will be included and non-SDI applications will be pursued to a limited extent.

The primary mission is to develop and maintain the means by which phenomenology data are to be archived, distributed, and analyzed by the community of designers, experimenters, and scientists working in the area of ballistic missile defense. In the case of modeled data, this extends to the means by which realizations (such as simulated scenes) are generated and validated for use in the design, simulation, and testing of surveillance sensors and defensive systems concepts.

Qualifications: PhD or equivalent experience in Physics, Astrophysics, or Atmospheric Physics is required.

Interested applicants should submit a Standard Form 171 by 30 November 1992 to:

> NAVAL RESEARCH LABORATORY Human Resources Office (Code 1812) Attn: 41-054-92 (PT) 4555 Overlook Avenue, SW Washington, DC 20375-5000 (202) 404-8305/6

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1993 Summer Courses at the Marine Biological Laboratory



Biology of Parasitism: Modern Approaches (June 13-August 14) This course, for students, postdocs, and faculty focuses on the molecular basis of parasite function and the host/parasite interaction, with special emphasis on the most recent and exciting developments in this area. The course has four sections: cell biology, immunology, molecular biology, and biochemistry. Each section includes daily lectures from course faculty and outside speakers, and intensive laboratory experimentation. Limited to 20 students.

Director: John C. Boothroyd, Stanford University; Associate Director: Richard Komuniecki, University of Toledo

Embryology: Cell Differentiation and Gene Expression in Early **Development** (June 18-July 30)

An advanced level course intended for graduate students, postdoctoral fellows, and other research scientists who wish a current treatment of major issues in the experimental analysis of developmental biology of the embryo, and the diverse intellectual approaches now useful in this field. Limited to 24 students. Directors: Eric H. Davidson, California Institute of Technology; Michael Levine,

University of California, San Diego; and David R. McClay, Duke University

Marine Ecology: Concepts, Techniques, and Applications of Molecular Probes (June 14-July 25)

An intensive course for graduate students, postdoctoral fellows, and established investigators who wish to learn the techniques of molecular biology and their application to physiological and ecological investigations. Lectures and discussions will accompany the laboratories and will focus on the technologies being learned and applications to specific problems in marine ecology. Limited to 24 students.

Microbial Diversity (June 13-July 29)

An intensive laboratory and lecture course intended for graduate or postdoctoral students as well as established investigators who desire to become competent in microbiological techniques for isolating and working with a broad range of microbes. Limited to 20 students.

Directors: Martin Dworkin, University of Minnesota; and John Breznak, Michigan State University

Neural Systems and Behavior (June 13-August 6)

Intended for graduate and postdoctoral students as well as established investigators. The central theme of this course is the neural bases and ontogeny of behaviors. Twenty students participate in intensive laboratories/lectures which combine state-of-the-art neurobiological techniques with behavioral and developmental analyses.

Directors: Ronald Calabrese, Emory University; and Martha Constantine-Paton, Yale University

Neurobiology (June 13-August 14)

For 12 pre- and postdoctoral fellows who intend to work in cellular and molecular neurobiology. Postdoctorals and students at an advanced stage of their graduate training are particularly encouraged to apply. The themes will be the functions of neural cells, the molecules involved in these functions, and the organization of molecular components required to generate cellular activity.

Directors: Leonard K. Kaczmarek, Yale University; and Irwin Levitan, Brandeis University

Physiology: Cellular and Molecular Biology (June 12-July 24) For a class of 36 graduate students, postdoctoral fellows, and established investigators who desire to learn the methods and research strategies used to study physiology at the cellular and molecular levels. Recent college graduates on their way to graduate school and physicians reentering laboratory research are also encouraged to apply. Interested students may apply for two weeks of postcourse research starting July 26.

Director: Thomas D. Pollard, Johns Hopkins University

Application Deadline: March 2, 1993

Partial financial aid is available to qualified applicants.

CONTACT: Dorianne Chrysler • Admissions Coordinator Office of Sponsored Programs • Marine Biological Laboratory Woods Hole, MA 02543 • (508) 548-3705, x401

ASSOCIATE OR ASSISTANT PROFESSOR. BIOCHEMISTRY. The Department of Chemistry and Biochemistry at the University of Oklahoma has a tenure-track opening in biochemistry or structural biology at the Associate or Assistant Professor level. Minimum qualifications include a Ph.D. in biochemistry, chemistry, molecular biology, or closely related field, one year of postdoctoral experience, and excellent credentials in, as well as a strong commitment to, both research and teaching. Candidates at the Associate Professor level must have an active, funded research program, while candidates at the Assistant Professor level must show promise of developing a strong, vigorous research pro-gram which includes active supervision of graduate students in research. Minority and women candidates are strongly encouraged to apply. Review of candidates will begin November 16, 1992, and will continue until an appointment is made. Applicants should submit com-plete curriculum vitae that includes research and teaching plete curriculum vitae that includes research and teaching experience, a description of ongoing and future research plans, and a statement of teaching interests. Applicants should also have at least three letters of reference sent to: Dr. Arthur E. Johnson, Chair, Search Committee, Department of Chemistry and Biochemistry, Univer-sity of Oklahoma, Norman, OK 73019. The University of Oklahoma is an Affirmative Action/Equal Opportunity Devalues. Ĕmployer.



The newly established Division of Cancer Biology in The newly established Division of Cancer Biology in the Department of Radiation Oncology at Emory University School of Medicine invites applications for tenure-track, basic science faculty positions at the AS-SISTANT, ASSOCIATE, or FULL PROFESSOR levels. Faculty members will also have the opportunity to participate in the graduate student training and teaching programs of the Emory University Graduate School Division of Biological and Biomedical Sciences. Areas of emphasis include, but are not restricted to, DNA damage and repair, mutagenesis, oncogenes, oxygen radical toxicity, radiobiology, and mechanisms of tumor progression/metastasis. Collaborations are anticipated with faculty in the basic science and clinical departments, as well as the Winship Cancer Center of Emory University. Competitive salaries, start-up funds and resources have been committed for these positions. Ph.D. or M.D. degree required. Faculty rank commen-surate with demonstrated background and potential. Applications will be accepted until positions are filled. Applications together with curriculum vitae and a Applications together with curriculum vitae and a statement of research interests and the names of three references should be sent to: Paul W. Doetsch, Ph.D., Department of Biochemistry, Emory University School of Medicine, Rollins Research Center, Atlan-ta, GA 30322–3050. Emory University is an Equal Opportunity/Affirmative Action Employer.

ANALYTICAL CHEMISTRY: The College of Staten Island, a senior college of The City University of New York (CUNY), invites applications for a tenure-track position at the ASSISTANT or ASSOCIATE PROFESSOR level. The Chemistry Department par-ticipates in the CUNY Ph.D. programs in Chemistry and Biochemistry and interacts with several research institutes. A Ph.D. is required for this position, with postdoctoral experience preferred. Candidates should have research expertise in areas that complement the Department's strengths in polymers. biopolymers, and Department's strengths in polymers, biopolymers, and NMR. Sustained commitment to undergraduate teach-ing, scholarship, and service, and to establishing a vigorous research program, is required. Beginning in June 1993 the College will occupy buildings on a new campus equipped for first-rank programs in research and teaching. Applicants for this September 1993 anticipated opening should submit curriculum vitae, list of publications, descriptions of research and teaching interests, with names and addresses of three refer-ences by January 4, 1993 to: Dean Fred Naider, The College of Staten Island/CUNY, Room 502, 130 Stuyvesant Place, Staten Island, NY 10301. Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

FACULTY POSITION, Molecular Biology of In-FACULTY POSITION, Molecular Biology of In-fectious Diseases. The Department of Microbiology at Colorado State University invites applications for a ten-ure-track ASSISTANT or ASSOCIATE PROFES-SOR position to address the molecular biology of infectious diseases. Host-parasite interactions, with particular regard to basic mechanisms of pathogenesis by bacteria, viruses, or other parasitic microorganisms are areas of viruses, of other parasitic microorganisms are areas of research interest appropriate to this position. Candidates should possess the Ph.D., D.V.M./Ph.D., M.D./Ph.D. or equivalent degree, and postdoctoral research experience in the biomedical sciences. The successful applicant will be expected to establish an independent research pro-gram, and participate in the teaching of undergraduate and graduate courses within the Department and the College. There will be ample opportunity to interact with faculty and students in our nationally recognized programs such as those concerning mycobacteria and arthro-pod-borne infectious diseases. Applicants should send curriculum vitae, a statement of research interests, and a list of at least three references, to: Dr. Ian Orme, Search Committee Chairman, Department of Microbiology, Colorado State University, Fort Collins, CO 80523, Telephone: 303-491-5777 by December 31, 1992. Colorado State University is an Equal Opportunity/

Affirmative Action Employer.

FACULTY POSITIONS IN BIOCHEMISTRY AND MOLECULAR BIOLOGY. The Department of Biochemistry and Molecular Biology of Louisiana State University Medical Center in Shreveport invites applica-tions for tenure-track faculty positions at the rank of ASSISTANT, ASSOCIATE OR FULL PROFES-SOR. The Department and other basic science departments are undergoing a major expansion in both faculty size and research space. A ten-story biomedical research institute is currently under construction adjacent to the medical school. Successful applicants should have a Ph.D. or M.D. degree, postdoctoral research experience, and a commitment to excellence in both teaching and research. The Department will assist new faculty appointees in developing a vigorous independent research i program with technical resources and start-up funds. Faculty gram with technical resources and start-up funds. Faculty members are expected to develop funded research pro-grams and teach both medical and graduate students. Salaries are competitive and commensurate with qualifi-cations. We especially encourage applicants in areas of structural and physical biochemistry, lipids and cell sur-faces or receptors and signal transduction. Applicants should send curriculum vitae, a brief statement of current and forware senserial interast and the neurone of there should send curriculum vitae, a brief statement of current and future research interests and the names of three referees to: Robert E. Rhoads, Ph.D., Professor and Head, Department of Biochemistry and Molecular Biology, LSU Medical Center (LSUMC), P.O. Box 33932, Shreveport, LA 71130–3932. LSUMC is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR OF BASIC MEDICAL SCIENCE. The Division of Basic Medical Sciences, Mercer Uni-

versity School of Medicine seeks a tenure-track faculty member experienced in molecular/cellular biology and with academic training in one of the traditional basic medical sciences. Duties include participation in a problem-based medical curriculum and to develop an inde-pendent research program. Consideration will be given only to applicants with training and experience beyond the doctoral degree. Send résumé, names of three refer-ences, and a brief description of research interests, to: Dr. Robert J. Moon, Chairman, Division of Basic Medical Sciences, Mercer University School of Med-icine, Macon, GA 31207. An Equal Opportunity/Affimative Action Employer. Women and minority candidates are encouraged to apply.

BIOPHYSICAL CHEMISTRY OPENING AT THE UNIVERSITY OF ILLINOIS AT URBANA. Junior-level (ASSISTANT PROFESSOR) or seniorlevel (PROFESSOR or ASSOCIATE PROFESSOR) level (PROFESSOR of ASSOCIATE PROFESSOR) opening in Biophysical or other areas of physical chem-istry for candidates of outstanding accomplishment and promise in scholarship and teaching. For details, see the Department of Chemistry's advertisement in Chemi-cal and Engineering News, October 12, p. 105. Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY

The Department of Biology at Loyola College invites applications for an entry level, tenure-track position to begin Fall 1993. Loyola College is a small liberal arts college with a strong commitment to quality teaching. Applicants should have a Ph.D. degree and both teaching and research experience. Responsibilities include two undergraduate courses with laboratory components each semester. Courses to be taught include a sophomore-level general genetics course, a molecular genetics course, an introductory biology course, and one additional course. Faculty are expected to conduct active research programs. Please send curriculum vitae, statement of teaching and research interests and names and addresses of three references by December 10, 1992 to: Dr. Donald Keefer, Chairman, Department of Biology, Loyola College, 4501 North Charles Street, Baltimore, MD 21210-2699. Loyola College is an Affirmative Action/ Equal Opportunity Employer.

ASSISTANT/ASSOCIATE/FULL PROFESSOR MOTOR BEHAVIOR. University of Wisconsin-Mad-ison, August 1993. Required: Ph.D., teaching experi-ence and refereed publications. Candidate will establish research program and teach. Send curriculum vitae, three reprints and references to: Professor Michael Kane, 2000 Observatory Drive, Madison, WI 53706. NOTE: Names, titles, occupations and addresses of applicants and nominees cannot be kept confidential. Deadline: December 31, 1992. Equal Opportunity/Affirmative Action Employer.

PROFESSOR/ASSOCIATE PROFESSOR SKELETAL/CELL/MOLECULAR/ DEVELOPMENTAL BIOLOGY

The Orthopaedic Research Laboratory at Thomas Jefferson University is inviting applications from estab-lished investigators in the field of skeletal biology to insted investigators in the field of skeletal biology to complement a growing research unit. The senior faculty member will carry out an independent, extramurally funded research program, and participate in the building and strategic planning of the research unit. The tenured appointment offers highly competitive salary and gener-ous start-up. Please send curriculum vitae and names of seference to Dr. Bocky S. Than Professor Director reference to: Dr. Rocky S. Tuan, Professor, Director of Orthopaedic Research, Department of Ortho-paedic Surgery, Thomas Jefferson University, Phila-delphia, PA 19107.

USDI/NATIONAL PARK SERVICE

SUPERVISORY ECOLOGIST. Great Smoky Mountains National Park. Serves as research administra-tor for the park science program. Supervises/coordinates program planning and execution, administrative func-tion of the park science program. program planning and execution, administrative func-tions, contracts and agreements. Manages park air quality program and coordinates long-term ecological monitor-ing program. May function as Principal Investigator on ecological research projects. GM-13 salary range is \$46,210 to \$60,070 (per annum). To obtain application information, contact: (615) 436-1222. Equal Opportu-vity Employe nity Employer.

ENDOWED CHAIR DIABETES RESEARCH The Department of Medicine, Baylor College of Medi-cine invites applications for the Rutherford Chair Pro-fessorship for Diabetes Research. The applicant must have established a nationally recognized program in diabetes-related research. Applications of M.D. investi-cators who have active basic research programs and who gators who have active basic research programs and who currently are associate professors or professors are sought currently are associate professors or professors are sought for this prestigious position. A letter of interest, curric-ulum vitae, and the names of at least three references should be sent to: Glenn R. Cunningham, M.D., Acting Chief, Division of Endocrinology and Metab-olism, Baylor College of Medicine, One Baylor Plaza, Room 537E, Houston, TX 77030.

ASSISTANT DIRECTOR FOR EDUCATION, Laboratory Animals Section, The Humane Society of the United States. Doctoral degree and teaching experience in the life sciences preferred. Dedication to animal proin the life sciences preferred. Dedication to animal pro-tection and to reform in the use of animals in education and training, particularly at the post-secondary level Good writing and speaking skills. Approximate star date: January 4, 1993. Send résumé, references, to Martin Stephens, HSUS, 2100 L Street, NW, Wask ington DC 20037.

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Please send resume/curriculum vitae to: Personnel Director, EcoScience, One Innovation Drive, Worcester, MA 01605. An equal opportunity employer.

UNIVERSITY OF CALIFORNIA, LOS ANGELES UCLA DEPARTMENT OF ATMOSPHERIC SCIENCES

The Department of Atmospheric Sciences at UCLA is seeking to fill a faculty position in the area of atmospheric chemistry and radiation. The position is tenure track at the Assistant Professor level with a 9month salary up to \$40,500, a substantial set-up package, including housing assistance, is available. Salary and set-up depend on the qualifications of the candidate and are contingent on the availability of resources. The start date is July 1, 1993, or as early as possible thereafter.

Candidates will be expected to establish a teaching and research program in atmospheric chemistry and/ or radiation focusing on issues related to Global Change. Teaching ability is essential for a faculty appointment at UCLA. Research emphasis on theoretical modeling and analysis, or laboratory experimentation, is preferred. Opportunity exists for interactions with a broader program in atmospheric modeling for climate change, stratospheric ozone depletion, ocean-atmosphere coupling and biogeochemical cycles.

Applications should include a curriculum vitae, publication list, and three or more names and addresses of people familiar with the applicant's work. Files submitted by January 15, 1993 will be given full consideration. Applications should be directed to: Professor Richard Turco, Search Committee Chair, Department of Atmospheric Sciences; University of California, Los Angeles; 405 Hilgard Avenue; Los Angeles, California 90024-1565. Telephone: 310-825-6936; FAX: 310-206-5219.

UCLA strongly encourages applications from women and minorities in building a diverse faculty. UCLA is an affirmative action/equal opportunity employer. Tenure track position, Assistant Professor, Biology Department, Providence College available September 1993. Qualifications include a Ph.D. in botany with strong background in taxonomy, morphology and plant ecology, demonstrated or potential for excellence in teaching at the undergraduate level and a commitment to continued scholarship and research. Salary commensurate with experience.

Teaching responsibilities include a rigorous course in introductory bontany, field botany, contribution to the team taught general biology course for majors, departmental and extradepartmental non-majors courses. Course development in areas of expertise,

Course development in areas of expertise, establishment and maintenance of a productive research program that may involve undergraduate participation, active involvement in departmental activities such as student advising, curriculum review and development, as

departmental activities such as student advising, curriculum review and development, as well as committee work are also expected. The Biology Department, currently with eight full time faculty members and 150 undergraduate majors, offers programs of study leading to BA and BS degrees, a minor and numerous double majors and individualized programs. Most biology majors pursue post baccalaureate graduate or professional study in the biological sciences or health professions. Providence College is a Roman Catholic, four year, liberal arts college conducted under the auspices of the Dominican Friars. Its main

Providence College is a Roman Catholic, four year, liberal arts college conducted under the auspices of the Dominican Friars. Its main objective is the intellectual development of its students through the disciplines of the sciences and humanities, equipping them to become productive and responsible citizens. Applicants should submit curriculum vitae in-

Applicants should submit curriculum vitae including names addresses and telephone numbers of three references along with a cover letter by December 4, 1992 to Dr. Carol B. Crafts, Chairperson, Biology Department, Sowa 236, Providence College, Providence, RI 02918.Providence College is an equal opporunity employer and educator. GENSIA PHARMACEUTICALS INC. is a publicly-traded biopharmaceutical company located in San Diego. We are seeking highly motivated scientists for research programs focused in the area of cardiovascular, central nervous system and diabetes.

Molecular Biologists-PhD/BS/MS - PhD candidates should possess 1–5 years postdoctoral experience in cloning, sequencing and expression of genes and their mutant forms, and purification and characterization of recombinant proteins. Experience in expression of enzymes in mammalian cells is desirable. BS/MS candidates must have demonstrated laboratory experience in several of these techniques: gene cloning, expression and site-directed mutagenesis, PCR, DNA sequencing, DNA and protein gel electrophoresis, protein chromatography including FPLC.

Protein Biochemist - PhD level candidates should possess 1–5 years postdoctoral experience in identification, isolation and characterization of enzymes and enzyme kinetics. Knowledge of protein structure, pharmacology and/or molecular biology is desirable.

Gensia Pharmaceuticals, Inc. is a rapidly growing company which offers competitive salaries, comprehensive benefits including a stock option program, and a stimulating, work environment. We invite qualified candidates to send a CV to Human Resources/SCI/JA, 11025 Roselle Street, San Diego, CA 92121–1204.

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Baxter Diagnostics, Inc., located in Miami, FL has an open fellowship position for a Clinical Research Associate to work with the Research and Development team for the Dade Division. Baxter Diagnostics is the recognized world-wide leader in the area of Hemostasis testing and providing clinical laboratory control products.

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Baxter Diagnostics, Inc. offers excellent R&D facilities on the Florida "Gold Coast", along with excellent company benefits. Please submit cover letter, CV, and references to: Baxter Diagnostics, Inc., Dade Division, Mail Station #699, P.O. Box 520672, Miami, FL 33152. Equal Opportunity Employer. We conduct pre-employment drug screening.

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Executive Director ILSI Risk Science Institute

The International Life Sciences Institute (ILSI), a worldwide nonprofit, scientific foundation, seeks an **executive director** for its **Risk** Science Institute (RSI). The RSI was established in 1985 to improve risk assessment methodology by strengthening the scientific principles on which assessments are based through the direct support of research efforts and the sponsorship of other scientific activities involving scientists from academia, government, and industry.

The RSI executive director is responsible for identifying critical areas where research is needed to improve the methodology of assessing human health risks and where the Institute might foster cross-disciplinary cooperation. Operationally, the executive director is responsible for directing and managing RSI's scientific programs, investigator-initiated research and the institute's education and training activities, including an aggressive publication agenda. The executive director provides oversight and guidance for grants with outside agencies, including units of the U.S. government. In addition to scientific duties, the executive director's responsibilities include proposing and administering a yearly budget, personnel management and development, and identifying and maintaining funding sources for RSI's programs.

The successful candidate must possess a relevant doctoral degree such as an M.D. or Ph.D. in toxicology, pharmacology, or related science, and have at least ten years of progressively responsible scientific and managerial experience. The individual selected should also have outstanding communication skills, including public speaking, writing, editing and interpersonal skills; a knowledge of government grants and contracts procedures and of regulatory affairs; and an ability to analyze and critique scientific documents.

Interested candidates should submit a curriculum vitae to International Life Sciences Institute, Attn: Human Resources, 1126 16th. Street, NW, Washington, D.C. 20036.

Head, Department of Veterinary Pathobiology

The College of Veterinary Medicine, Texas A&M University, is seeking applicants for the position of Department Head of Veterinary Pathobiology, which consists of the former Department of Veterinary Microbiology and Parasitology and Department of Veterinary Pathology. Qualifications must include one or more of the following degrees or their equivalents: Ph.D., D.V.M., M.D. A distinguished record of teaching, service, and research, and outstanding administrative skills is required. The Department of Veterinary Pathobiology supports the instructional, research, patient care, and outreach programs of the College in the disciplines of genetics, immunology, microbiology, parasitology, and pathology. The department includes 35 tenure-track faculty members and more than 70 graduate students and residents. Courses are offered in the undergraduate, professional, and graduate degree programs of the College. Active clinical and/or research programs are conducted in bacteriology, cell biology, immunology, molecular genetics, pathology, parasitology, toxicology, and virology, as applied to diseases of avian, aquatic, wildlife, food animal, and comp ion animal species, as well as humans. The Department Head has administrative responsibilities for departmental teaching, research, and service activities. The Department Head is also expected to provide leadership in the development of interdisciplinary programs that capitalize on the opportunities for collaboration between the agricultural and biomedical components of Texas A&M University and other institutions. Important interactions involve the College of Agriculture and Life Sciences, the College of Medicine, the Texas Agricultural Experiment Station, the Texas Agricultural Extension Service, the Texas Veterinary Medical Diagnostic Laboratory, the National Training Center for the Fool-Safety Inspection Service, and the Institute of Biosciences and Technology. The successful candidate will be encouraged to continue a personal program of scholarly activity. Applicants should submit a letter of intent, a curriculum vitae, and the names of three references by December 1, 1992, to Dr. William J. Banks, Search Advisory Com-December 1, 1992, to DT. William J. Dannas, Starten Autorory Con-mittee Chair, Dean's Office, College of Veterinary Medicine, Texas A&M University, College Station, TX 77843-4461. Inquines may be directed to Dr. Banks at (409) 845-3878 (phone), or (409) 862-4016 (fax). This search will continue until a suitable candidate is identified.

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POSTDOCTORAL OPPORTUNITIES

The National Science Foundation Center for Microbial Ecology at Michigan State University conducts multidisciplinary research on microorganisms in natural and controlled environments, including soil, water and engineered systems. Presently four positions are open in the areas of Environmental Control of Gene Expression, Biotransformation and Gene Flow and Molecular Evolution. We are **looking for** individuals with a background in **molecular genetics**, interested in studying the structure, function and regulation of microbial genes involved in stress-response, lignin degradation and aromatic pollutant degradation.

in Microbial Genetics

Interested individuals are encouraged to submit a curriculum vitae and names of three references to the postdoc coordinator, Dr. Frans J. de Bruijn, at the address given below. *MSU is an affirmative action/equal opportunity employer*.



CENTER FOR MICROBIAL ECOLOGY MICHIGAN STATE UNIVERSITY 540 Plant & Soil Sciences Building East Lansing, MI 48824-1325 Phone: (517) 353-9021 Fax: (517) 353-2917 Bitnet Address: debruijn@MSU.BITNET

CHAIR DEPARTMENT OF PATHOLOGY

The University of Washington invites applications for Professor and Chair of the Department of Pathology. Candidates should be recognized scientific leaders with a vision for advancing programs in experimental and clinical pathology, who are committed to basic research, clinical training and graduate education in an academic setting. Applications (which should include curriculur vitae and the names of three references) should be sent to: Dr. Roger M. Perlmutter, Chair, Pathology Search Committee, Department of Immunology, SL-05, University of Washington, Seattle, WA 98195. The University of Washington is an Afirmative Action/

Equal Opportunity Employer.

PROGRAM DIRECTOR FOR WEATHER RESEARCH

The Office of Oceanic and Atmospheric Research/ National Oceanic and Atmospheric Administration is seeking applicants for the position of Program Director for Weather Research. This is a Senior Executive Service Position, pay range \$90,000 to \$112,000. Duties: the incumbent serves as the senior Program Director for development of a NOAA-wide program in weather research. As such, he/she develops and advocates policies with other federal agencies to further the interests of weather research nationally and to benefit NOAA missions in weather forecasts and warnings. Serves as spokesperson for the U.S. Weather Research Program to improve the utilization of NOAA's new observing systems and for NOAA responsibilities to the Committee on Earth Environment Science. This position is located in Silver Spring, MD. Appli-

This position is located in Silver Spring, MD. Applicants must submit an application package by November 23, 1992 to: National Oceanic and Atmospheric Administration, Personnel Division—OA2/SSMC1/ Room 3102, 1335 East-West Highway, Silver Spring, MD 20910. For a listing of additional qualification requirements and additional information call Debbie School (301) 713-0530. Refer to Vacancy #: NOAA 92-12DS. DOC is an Equal Opportunity Employer.

DIRECTOR, PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY University of Massachusetts at Amherst

Applications are invited for the position of Director of the Graduate Program in Molecular and Cellular Biology (MCB)/Professor. The program has 60 faculty members and modern research support facilities. The faculty are drawn from a wide variety of biological and chemical disciplines at UMass and nearby Amherst, Mount Holyoke and Smith colleges. The Director provides intellectual and administrative leadership for the program and represents the MCB community in broader initiatives, including continuing growth and integration of the biosciences at UMass. Candidates should have a distinguished record of scholarly accomplishment and will be expected to maintain a vigorous research program. The Director will have a tenured appointment in an appropriate department. Rank and salary will be commensurate with experience. The position is available Fall 1993. Applications should be complete by December 15, 1992; however, all candidates will be considered until the position is filled. Curriculum vitae and names of at least four references should be submitted to: Search Committee, MCB Program 435 Morrill Hall North, University of Massachusetts, Amherst, MA 01003. The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.

The CINCINNATI MUSEUM OF NATURAL HISTORY seeks a CURATOR OF PALEONTOL-OGY to oversee the Museum's fossil collections, establish an active research program, and contribute to educational programs and development of exhibits. Research area, salary and curatorial level are negotiable. Ph.D., museum experience, and an established record of research and funding are desirable. Ideally, applicants will take advantage of the rich' Paleozoic fossils in the Cincinnati region. Send letter of interest, curriculum vitae, and three letters of recommendation by 1 January 1993 to: Dr. Robert Kennedy, Cincinnati Museum of Natural History, 1720 Gilbert Avenue, Cincinnati, OH 45202. An Equal Opportunity Employer.

POSITIONS OPEN

MOLECULAR BIOLOGIST

The Division of Cardiovascular Disease of the University of Alabama at Birmingham invites applications for a FACULTY MEMBER to work with hypertension research group. Must be expert in cardiovascular gene regulation and transgenic animal models of cardiovascular disease. Apply to: Hypertension Program of the Division of Cardiovascular Disease, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294, Attention: Donna Cline. An Equal Opportunity/Affirmative Action Employer.

ANATOMY/PHYSIOLOGY/MICROBIOLOGY

The American University of the Caribbean School of Medicine, in Montserrat, West Indies, seeks to fill teaching positions in the above areas. Excellent salary and benefits. Send résumé to: P.O. Box 400, Montserrat, West Indies. FAX: (809) 491-2913.

CHAIRPERSON CHEMISTRY DEPARTMENT UNIVERSITY OF MIAMI

The Department of Chemistry solicits applications and nominations for the position of Chair. The candidate is expected to possess a distinguished record of research, teaching, and extramural funding, as well as demonstrated skills in leadership, administration, and interpersonal relations. In addition to normal academic duties within a department dedicated to excellence in both research and teaching, the responsibilities of the position specifically include the direction of departmental initiatives in research at the interface of chemistry and biology, and interamerican scientific collaboration. The Department consists of 13 faculty and offers Ph.D., M.S., B.S. (with and without ABCS certification), and A.B. degrees. Inquiries, applications, and nominations should be directed to: Dr. Manuel A. Huerta, Chair, Search Committee, Department of Chemistry, University of Miami, P.O. Box 249118, Coral Gables, FL 33124.

Inquiries, applications, and nominations should be directed to: Dr. Manuel A. Huerta, Chair, Search Committee, Department of Chemistry, University of Miami, P.O. Box 249118, Coral Gables, FL 33124. The application should include letters of recommendation or names of referees. To be assured of consideration, all materials should be received by December 31, 1992. The University of Miami is an Equal Opportunity/Affirmative Action Employer and a smoke/drug-free workplace. We do not discriminate on the basis of race, religion, color, sex, age, national origin, or disability. We encourage applications from females, veterans, the disabled, and minority groups.

SEARCH CONTINUED CHAIRPERSON DEPARTMENT OF CHEMISTRY DUQUESNE UNIVERSITY

The Department of Chemistry at Duquesne University invites applications and nominations for the position of Chairperson. Duquesne University is a private Catholic institution located in Pittsburgh, Pennsylvania with a total enrollment of 8400 students. The Department, which consists of 12 full-time faculty and approximately 30 graduate students, offers the B.S., M.S., and Ph.D. degrees in Chemistry and Biochemistry. We are seeking an individual with nationally recognized research accomplishments and a commitment to undergraduate and graduate education. The successful candidate will demonstrate the ability to provide leadership and vision in a growing department's research and educational programs. The area of expertise, rank, and salary are open. Applications should consist of a cover letter, curriculum vitae, and names and addresses of four references.

Applications should consist of a cover letter, curriculum vitae, and names and addresses of four references. Review of applications will begin December 15, 1992. Direct inquiries and applications to: Search Committee, c/o Dr. J. W. Hausser, Interim Chair, Department of Chemistry, Duquesne University, Pittsburgh, PA 15282. Equal Opportunity/Affirmative Action Employer.

BOTANY CURATOR: Oversee museum collections, conduct research, and work with exhibits and education departments. Individuals with Ph.D. encouraged to apply. Deadline for receipt of complete applications December 31, 1992. For application details, minimum qualifications, and state application forms contact; Personnel, New Mexico Museum of Natural History and Science; 1801 Mountain Road, N.W.; Albuquerque, NM 87104, or telephone: 505-841-8837. New Mexico State Government does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or provision of services.

MOLECULAR BIOLOGY OF CANCER

Tenure-track appointments at the ASSISTANT and ASSOCIATE MEMBER level are available at Memorial Sloan-Kettering Cancer Center in the cellular and molecular biology of human cancer. Among areas of interest are regulation of growth and differentiation, signal transduction, oncogene activity and suppressor genes/cell cycle regulation. Candidates with M.D. and/or Ph.D. degrees should

Candidates with M.D. and/or Ph.D. degrees should have a successful record of research achievements and the capacity to establish an independent research program. Attractive start-up packages are available to establish the successful candidates' laboratories. Collaborations with basic and clinically bridging laboratory investigators at the Cancer Center are encouraged.

the Cancer Center are encouraged. Interested applicants should forward curriculum vitae, bibliography, the names of three references and a research statement to:

John Mendelsohn, M.D. Memorial Sloan-Kettering Cancer Center 1275 York Avenue New York, NY 10021

Memorial Sloan-Kettering Cancer Center is an Equal Opportunity/Affirmative Action Employer.

TENURE-TRACK FACULTY POSITIONS UCLA SCHOOL OF MEDICINE

Outstanding applicants employing molecular and cellular techniques to study fundamental biological processes will be considered for positions in biomedical sciences. Departmental appointments, basic or clinical, will be made according to the research interests of the applicant.

will be made according to the restarting interests and a brief applicant. Submit curriculum vitae, list of references, and a brief description of research interests to search committee co-chairmen: S. Larry Zipursky, Department of Biological Chemistry, or Stephen T. Smale, Department of Microbiology and Immunology, 5748 MacDonald Research Laboratories, UCLA School of Medicine, 10633 LeConte Avenue, Los Angeles, CA 90024– 1662. Priority will be given to applications received by January 10, 1993. UCLA is an Affirmative Action/Equal Opportunity Employer.

TENURE FACULTY POSITIONS

The Department of Molecular Pathology, University of Texas M. D. Anderson Cancer Center, invites applications for a tenure-track position at the Assistant Professor level. The M. D. Anderson Cancer Center, an internationally renowned facility, is located in the Texas Medical Center within southwest Houston together with 2 medical schools, a graduate school and several other internationally recognized biomedical facilities. Applicants must hold a Ph.D., M.D., or M.D./Ph.D. degree and have at least 3 years of postdoctoral research training. Salaries/benefits and research start-up support are nationally competitive. Submit curriculum vitae, description of research interests, and names of 3 references to: Dr. Ralph B. Arlinghaus, Chairman, Department of Molecular Pathology (Box 89), The University of Texas, M. D. Anderson Cancer Center, Houston, TX 77030. Equal Opportunity/Affirmative Action Employer. SMOKE-FREE ENVIRONMENT.



SCIENCE recruitment ads reach thousands of scier tists in all disciplines, worldwide. Classified Advertisin telephone: 202-326-6555. FAX: 202-682-0816.

The Section of Cardiology at the University of Chicago is seeking applicants for the following full-time positions:

DIRECTOR OF HEART FAILURE/TRANSPLANT DIRECTOR OF HYPERTENSION CLINICAL ELECTROPHYSIOLOGIST

We have a large and growing academic cardiology program. We are actively seeking Cardiologist clinicians/educators to expand our clinical practice and to develop new programs for fellows. Applicants should send their CVs to: Jeffrey M. Leiden, M.D., Ph.D., Chief, Section of Cardiology, Department of Medicine, The University of Chicago, 5841 S. Maryland Ave., MC6080, Chicago, IL 60637 or Fax to 312-702-1385.



THE UNIVERSITY OF CHICAGO

An Affirmative Action Equal Opportunity Employer

Quality Biotech Inc. is a leading, international biotechnology service company engaged in contract research and biosafety testing for the biopharmaceutical industry. As part of our expansion, the following openings are available:

Virology

DIRECTOR—Requires a PhD, 5-10 years of relevant experience, a record of independent scientific leadership, an accomplished supervisory background and excellent communications skills.

RESEARCH ASSOCIATES—Requires MS/BS, 2+ years of academic/industrial experience and a strong background in virology/ cell biology.

The successful candidates will be involved in the development and implementation of novel assays for the detection of retroviral and other contaminants in cell substrates and products using state-of- the-art techniques such as PCR, DNA hybridization, marker rescue assays, etc.

Quality Biotech is located in the Greater Philadelphia region -an area rich in scientific, cultural and recreational diversity. We offer excellent opportunities for professional growth, a competitive salary, relocation assistance, medical and dental benefits, tuition reimbursement and 401(k) and flex benefit plans. Please send resume and salary history to: Quality Biotech Inc., Human Resources-A1, 1667 Davis Street, Camden, NJ 08104. An Equal Opportunity Employer







Postdoctoral Fellows/ Research Scientists

Children's Hospital Oakland Research Institute, an expanding, well-funded, multidisciplinary biomedical research organization, has several excellent opportunities for talented Ph.D. scientists in the following disciplines:

Signal transduction.

A position is available to investigate the interaction of integrins with the cytoskeleton and the role this plays in regulating integrin function and signal transduction mechanisms. Research will involve biochemical, morphological, and molecular biology approaches. #20356

Red blood cell membrane phospholipids.

Projects involve biochemistry, cell biology and molecular biology approaches to study factors regulating phospholipid molecular species composition in normal red blood cells, during red cell maturation and in pathologic red blood cells. Expertise in phospholipid biochemistry and molecular biology desirable. #20358

Cystic Fibrosis.

Current studies include the regulation of chloride channel activity in the apical membrane and possible roles for the CFTR in intracellular membranes. Experience with tissue culture is essential; experience with in vivo protein labeling, electrophysiology, or the use of florescent indicators to measure intracellular ions is desirable. #20232

Mass spectrometry.

Research primarily involves structural characterization of important biological materials produced by researchers at the institute or by local biotechnology companies. A strong background in HPLC and mass spectrometry obtained during Ph.D. studies is needed; knowledge of the new Electrospray technique is desirable. Four mass spectrometers, two GC/MS instruments, a FAB/thermospray instrument and an HPLC/ Electrospray instrument are available in the department. This position provides good entry-level scientific training in a rapidly expanding field. #20357

Regulation of fetal and adult hemoglobin genes.

Research involves the use of factors to induce fetal globin gene expression and includes clinical trials of agents to treat sickle cell anemia and thalassemia. Experimental systems include human erythroid cell culture, transient and stable expression systems with cell lines, a large animal model, transfections, RNA analysis and footprinting. Previous experience with molecular biology techniques (DNA & RNA isolation and quantization) and experience in establishing a variety of experimental techniques is desirable. #20224

The Institute, located in the San Francisco Bay Area close to the U.C. Berkeley campus, has a staff of 75 engaged in various basic and clinical research programs. Opportunities exist for outstanding scientists ultimately to develop independent research programs. Salaries and fringe benefits are highly competitive. Appointments will be made at the Postdoctoral Fellow or Research Assistant level, depending on qualifications and experience. Forward resume and references to Human Resources, 747 52nd St., Oakland, CA 94609. Indicate Job #. (510) 428-3420. EOE.



JUNIOR OR SENIOR FACULTY POSITIONS. Department of Anatomy & Cell Biology, Columbia University, College of Physicians and Surgeons. The Department of Anatomy and Cell Biology invites applications for its Junior and Senior faculty positions. The search is focused on cellular and developmental biology. Successful candidates should have demonstrated ability to carry out an independent research program. One position (Junior or Senior) will have teaching responsibility in gross anatomy; the other (Junior) in cell, developmental or neurobiology. Candidates should submit curriculum vitae, the names of three references, and a short description of goals and research interests to: Michael D. Gershon, M.D., Department of Anatomy and Cell Biology, 630 West 168th Street, New York, NY 10032.

GENETICS RESEARCH PROGRAM FACULTY

A faculty position is available at the Barbara Davis Center for Childhood Diabetes at University of Colorado Health Sciences Center. The successful applicant must have an M.D. or Ph.D. and will be expected to establish a research program in the genetics of human autoimmunity within an expanding Center with basic and clinical investigations exploring the immunobiology of Type I diabetes. Demonstrated success in studies of mammalian genetics is highly preferred. Appointment (Assistant, Associate, or full Professor) will be at a level commensurate with qualifications and experience. Please send curriculum vitae and letter of interest to: Kevin Lafferty, Ph.D., Research Director, Barbara Davis Center, UCHSC, 4200 East 9th Avenue, Box B140, Denver, CO 80262. The University of Colorado Health Sciences Center is committed to Equal Opportunity and Affirmative Action.

CELL BIOLOGIST

The Department of Anatomy, Indiana University School of Medicine announces a **TENURE-TRACK FACULTY POSITION** (rank open). We seek an individual with demonstrated excellence in fundamental problems in cell biology. Preference will be given to applicants whose work complements existing research interests in our department, including: bone matrix biology and regulation of osteoblast/osteoclast function, polarized cell structure/function in the renal tubule, cytoskeletal function, cellular neurobiology. Teaching: participate in one lecture/lab team-taught course (Neurobiology, Gross Anatomy or Histology) and develop graduate cell biology topic(s) in area of interest. Send curriculum vitae, research statement, names and addresses of three references to: Dr. David B. Burr, Chairman, Department of Anatomy, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46202–5120. Review process to begin December 1, 1992. Indiana University is an Affirmative Action/Equal Opportunity Employer (M/F).

FACULTY POSITION IN BIOORGANIC CHEMISTRY. The Division of Bioorganic Chemistry and Molecular Pharmacology in the Department of Molecular Biology and Pharmacology at the Washington University School of Medicine invites applications for a tenure-track faculty position. Candidates with records of creativity in bioorganic chemistry who wish to participate in an interdisciplinary program in bioorganic chemistry should forward curriculum vitae, a short summary of current and future research plans and the names and addresses of three references to: Search Committee; Division of Bioorganic Chemistry and Molecular Pharmacology; Washington University School of Medicine; 660 South Euclid Avenue, Box 8020; St. Louis, MO 63110. Washington University School of Medicine is an Affirmative Action/Equal Opportunity Employer committed to increasing the representation of women and minority groups on its faculty.

POSTDOCTORAL(S) in Muscle Physiology/Locomotion. Positions for energetic individuals. My laboratory studies muscle function during locomotion using kinematics, muscle mechanics, histology, electrophoresis, EMGs, and neurophysiology. Skills in these and computer programming and electronics helpful. PENN houses the PENN Muscle Institute specializing in cellular aspects of muscle contraction. Please send curriculum vitae to: Dr. Larry Rome, Biology Department, University of Pennsylvania, Philadelphia, PA 19104. FAX: (215) 898-8780.

POSITIONS OPEN

The Department of Chemistry of Yale University seeks qualified candidates with Ph.D. degree to fill one or more positions as non-ladder **LECTURERS** in undergraduate chemistry laboratories. Responsibilities include the organization of the course, supervision of teaching assistants, and writing recommendations.

The appointment is effective July 1, 1993. Candidates should submit a résumé and three letters of recommendation to: Lecturer Search, Yale University, Sterling Chemistry Laboratory, Box 6666, 225 Prospect Street, New Haven, CT 06511-8118. The deadline for applications is January 15, 1993. Yale University is an Affirmative Action/Equal Opportunity Employer.

MUSCLE PHYSIOLOGIST

The Bowman Gray School of Medicine of Wake Forest University invites applications for a full-time, joint FAC-ULITY POSITION in the Department of Physiology and Pharmacology and Department of Internal Medicine. We are seeking an individual who has demonstrated competence in the use of molecular biological approaches to conduct research in muscle function and aging. This is an excellent opportunity to interact with a multidisciplinary research group in the study of physical performance and aging. Candidates with a Ph.D. and a strong record of independent research are encouraged to apply. Academic rank will be commensurate with the experience of the candidate. Interested candidates should submit curriculum vitae to: Walter Ettinger, M.D., Medical Center Boulevard, Winston-Salem, NC 27157. Women and minority candidates are encouraged to apply. Wake Forest University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION

Available immediately to investigate molecular mechanisms of tumor cell growth regulation by interferons, including the role of cell cycle regulatory factors such as RB protein, cyclins and CDC2 kinases (see Proc. Natl. Acad. Sci. 89, 6599–6603, 1992). Molecular biology and/or signal transduction experience preferred but not essential. Send curriculum vitae and three references to: Rakesh Kumar, Ph.D., Department of Medicine/Oncology, Pennsylvania State University, Hershey Medical Center, P.O. Box 850, Hershey, PA 17033.

POSTDOCTORAL POSITION HARVARD MEDICAL SCHOOL

CYTOKINE REGULATION OF EOSINOPHIL GENES. Postdoctoral or Research Associate position available for Ph.D. in molecular biology to characterize the promoters and enhancers of eosinophil genes, to identify, isolate and characterize transcription factors which regulate eosinophil-specific gene expression, and to investigate the role of these factors in eosinophil lineage commitment, differentiation and functional maturation of these granulocytes. Genes of interest include those encoding the IL-5 receptor alpha chain and eosinophil granule proteins. Experience in gene regulation and/or transcription factor research is highly desirable. Send curriculum viae, three letters of reference and reprints to: Dr. Steven J. Ackerman, Infectious Disease Division, Research East 219, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.

POSTDOCTORAL POSITION, HARVARD MEDICAL SCHOOL. Available immediately. Organic Chemist will synthesize radionuclide carrier molecules as part of a multidisciplinary group examining the diagnostic and therapeutic potential of radionuclides. Salary based on experience (NRSA Guidelines). Must be a U.S. citizen or permanent resident. Please contact: Dr. A.I. Kassis, SWRL, 50 Binney Street, Boston, MA 02115. Telephone: 617-432-3999. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION is available immediately in the Harvard-MIT Division of Health Sciences and Technology to study the biochemistry of growth factor interaction in vascular cells. Expertise in biochemistry, mammalian cell culture, and growth factor biology preferred. Send curriculum vitae and names of three references to: Dr. Elazer Edelman, Room 20A-124, Massachusetts Institute of Technology (MIT), Cambridge, MA 02139. Massachusetts Institute of Technology is an Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION IN MOLECU-LAR GENETICS available immediately to study molecular aspects of the fungus *Candida albicans*. Projects include the mechanisms of differentiation and pathogenesis of the organism and the structure/function and molecular interactions of the fungal specific translation elongation factor three. The candidate should be experienced in molecular genetics techniques and biochemistry, experience in yeast molecular genetics desirable. Send curriculum vitae and names of three individuals to be contacted for references to: Dr. William A. Fonzi, Department of Microbiology & Molecular Genetics, College of Medicine, University of California, Irvine, Irvine, CA 92717–4025. Affirmative Action/Equal Opportunity Employer.

SIGNALING BY INTEGRINS

POSTDOCTORAL POSITION available to study regulation of intracellular signal transduction pathways by integrins. Requires Ph.D. in Biochemistry, Cell or Molecular Biology. Contact: Dr. Martin Schwartz, The Scripps Research Institute, 10666 North Torrey Pines Road, Mail Code CVB-4, La Jolla, CA 92037. Telephone: 619-554-7140.

A POSTDOCTORAL POSITION is available to study signal transduction pathways and molecular mechanisms of osteoblast growth and development. We are currently investigating the role of HLH proteins and PKC activation of non-receptor tyrosine kinases. Applicants should have experience with biochemical and molecular approaches. Send curriculum vitae and the names of three references to: Dr. L. Darryl Quarles, Box 3036, DUMC, Durham, NC 27710. Duke University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available to study the biochemistry and biology of unsaturated fatty acid oxygenase activation in human keratinocytes and mesothelial cells. A background in biochemistry, lipid chemistry, or molecular biology is desirable. Applicants should write (with enclosed curriculum vitae, names of three references, and a brief sketch of research experience) to: Floyd A. Green, M.D., Department of Medicine, State University of New York at Buffalo, 3495 Bailey Avenue, Buffalo, NY 14215.

POSTDOCTORAL POSITION available immediately at the Johns Hopkins University School of Medicine, Center for Medical Genetics for an NIH-funded project on the Molecular Genetics of Hemophilia A. Background in molecular biology is necessary. Submit curriculum vitae and up to three letters of recommendation to: Dr. S. Antonarakis or H. Kazazian at the Johns Hopkins Hospital, Department of Pediatrics, 600 North Wolfe Street-Blalock 1033, Baltimore, MD 21287-4922 FAX: (410) 614-0673.

POSTDOCTORAL POSITION available at UC Berkeley for a recent graduate in ecology or related field to conduct research on effects of climate warming on plants and nutrients. Will originate research centered around a climate warming simulation experiment at the Rocky Mountain Biological Laboratory and collaborate in the group project now underway. Starting date negotiable. Send by January 1, 1993, curriculum vitae, samples of publications and three references to: John Harte, Soil Science Department, 108 Hilgard, University of California, Berkeley, CA 94720. The University of California is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP

University of Hawaii, Biotechnology Program, Pacific Biomedical Research Center, full-time, federal funds, to begin January 1993, continuation pending availability of funds, annual stipend \$28,000 to \$30,000. The incumbent will investigate the molecular biology of hydrogen production in cyanobacteria. Particular emphasis directed at purification of hydrogenases and development of genetic systems in hydrogenases and the biology is required. Send letter of application, curriculum vitae, publications, and names of three references to: Dr. Edward Bylina, Pacific Biomedical Research Center, 1993 East-West Road, Honolulu, HI 96822. Telephone: (808) 956-4757. All applications must be re ceived by December 15, 1992. The University of Hawai is an Equal Employment Opportunity/Affirmative Action Employer.

GRADUATE PROGRAM CELL AND MOLECULAR BIOLOGY (INTER-DISCIPLINARY)

• GENE EXPRESSION AND REGULATION

- THE HUMAN GENOME AND GENE THERAPY
- DEVELOPMENTAL BIOLOGY AND GENETICS
- CELL CYCLE, GROWTH CONTROL AND CANCER BIOLOGY
- MOLECULAR VIROLOGY, IMMUNOLOGY AND AIDS
- STRUCTURAL AND COMPUTATIONAL BIOLOGY
- SIGNAL TRANSDUCTION AND MEMBRANE BIOLOGY
- LIPID METABOLISM AND CARDIOVASCULAR BIOLOGY

The Graduate School at BAYLOR COLLEGE OF MEDICINE has created a graduate program in CELL AND MOLECU-LAR BIOLOGY stressing basic research in the above areas. Students accepted for studies leading to the Ph.D. will receive financial support. For further information please contact Dr. Savio L.C. Woo, Director at the following address:

Graduate Program in Cell and Molecular Biology Baylor College of Medicine The Graduate School One Baylor Plaza Room S-101 Houston, Texas 77030

Phone: (713) 798-6557

PH.D

A **Neurobiology Division** of a major independent **Pharmaceutical Laboratory near PARIS** has a position available for **PH. D** with

post-doctoral experience in the field of in vitro neurochemical techniques involving receptor binding and second messenger studies.

The candidate will participate in collaborative drug discovery work, and fundamental research, especially in the field of **monoamines** and **neuropeptides**.

An ability to **work independently** as well as a willingness to **communicate** and **collaborate** with other groups within the Division is indispensable.

A knowledge of French would be an asset.

Please submit a C.V., a photo and a hand written letter to **PUBLIVAL/11001** — 27, Route des Gardes 92190 MEUDON (France)

ATHOGENESIS

PathoGenesis is a newly formed company dedicated to the discovery, diagnosis and treatment of infectious agents that are associated with chronic disease. We are developing new research programs related to the following organisms: Retroviruses, Mycobacteria, Nosocomial Infections, and Chlamydia.

Several positions for Ph.D.-level Scientists and Senior Scientists are available.

Molecular Biologists

• with extensive experience in DNA cloning and sequencing.

Cell Biologists

• with an interest in elucidating the pathogenesis of microbial and viral disease.

Virologists

• with experience in isolation and characterization of retroviruses.

Microbiologists

• with interest and experience in microbial pathogenesis & mechanisms of drug resistance.

Chemists

• with a strong background in medicinal chemistry and an interest in novel methods of drug discovery and development.

PathoGenesis is located in Seattle and offers competitive salaries and a benefits program that includes insurance and stock options. Send your resume to:

PathoGenesis

201 Elliott Avenue West Suite 150 Seattle, WA 98119 Attn: Director of Personnel

equal opportunity employer

W.M. Keck Foundation Graduate Fellowships University of Colorado at Boulder

The University of Colorado at Boulder and the Center for the Study of Earth from Space (CSES)/CIRES are offering two fellowships for the academic year 1993–1994 to firstyear graduate students with degrees or strong backgrounds in physics, mathematics, or chemistry to pursue studies in interdisciplinary earth sciences in the Departments of Geological Sciences, Geography, or Environmental, Population, and Organismic Biology. Applicants must have a strong analytical training, proven scholarship, and demonstrate interest in pursuing a Ph.D. with a focus in global change research. Research should address broadscale questions from a theoretical point of view or experimentally with techniques such as remote sensing.

Stipends include tuition and half-time financial support for 12 months. Applications for entrance to the graduate program and for the W.M. Keck Foundation Fellowships should be addressed to one of the above departments at the University of Colorado at Boulder, Boulder, Colorado 80309. The deadline for receipt of applications is January 15, 1993.

For further information, address inquiries to: **Professor Alexander F. H. Goetz, Director, Center for the Study of Earth from Space, Campus Box 449, University of Colorado at Boulder, Boulder, CO 80309–0449.**

The University of Colorado, 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.

US Environmental Protection Agency Health Effects Research Laboratory Neurotoxicology Division

AMENDMENT TO SEPTEMBER 4, 1992 AD INVITES PROPOSALS FOR COOPERATIVE AGREEMENTS IN THE AREA OF NEUROTOXICOLOGY

The EPA is mandated to assess risk associated with exposure to environmental neurotoxic agents. New information in a number of areas is essential to accurately assess these risks. We are seeking projects to study neurotoxicity in one of three areas: 1) developmental susceptibility of human infants, children and/or the aged, and related research which may facilitate extrapolation from animal data to human effects, 2) environmentally induced neurotoxicity in exposed adult human populations, and 3) in vitro research on pesticide-related neurotoxicity, using cell cultures. Preference will be given to proposals showing relevance of research to the risk assessment process. Some of these goals may be achieved through interactions with on-going research at EPA, and EPA will have significant involvement in the projects. Pre-proposals should be brief (5-10 pages) and describe proposed work under one of the three areas described above, including statement of the problem within the risk assessment context, approach to be used, expected results, cost estimates and staff qualifications. Following peer review of preproposals, selected applicants will be asked to submit final proposals, which must be cleared through appropriate institutional review boards. It is anticipated that funding will not exceed \$200,000 (including indirect costs) per year for three years in each of the three areas. Within an area, this amount may be distributed among two or more projects. DEADLINE for receipt of pre-proposals is November 27, 1992. To submit proposals or for additional information: Raelyn Janssen (919) 541-7547, FAX (919) 541-4849; or MAIL: NEUROTOX PRE-PROPOSAL, Yvonne Johnson (MD-51), US EPA, Health Effects Research Laboratory, Research Triangle Park, NC 27711. This solicitation is subject to Parts 30, 31 and 40 EPA Grant Regulations. Profit-making organizations are prohibited from applying. EPA reserves the right not to make any awards from this solicitation

Chairperson, Dept. of Anatomy and Cell Biology

Temple University School of Medicine is seeking a Chairperson, Department of Anatomy and Cell Biology. Individual must have a doctoral degree, extensive experience in research, teaching and administration and academic qualifications to be appointed as a tenured profes-sor. Must be respected for research accom-plishments, preferably in developmental or cell biology, and have a record of sig-nificant publications in peer reviewed journals and of continuing successful competition for peer-reviewed research. Must have had administrative experience in directing a major research program, section or department. Must have served on substantive school-wide or university wide committees. Must be able to manage the multiple needs of an academic department which has responsibility for teaching graduate students and professional students in medicine, dentistry and allied health professions. Should have a broad perspective on the educational process, and the interrelation of basic and clinical science departments in a medical school. science departments in a medical school. Must also have a commitment to faculty development in both teaching and research. Send curriculum vitae and bibli-ography to Ms. Betty Berdel, Office of the Dean, TEMPLE UNIVERSITY SCHOOL OF MEDICINE, 3400 N. Broad Street, Philadel-

OF MEDICINE, 3400 N. Broad Street, Philadelphia, PA 19140. Temple is an affirmative action/ equal opportunity employer and strongly encourages applications from women and minorities.



FACULTY POSITION AVAILABLE

Assistant/Associate Professor Level Department of Surgery Robert Wood Johnson Medical School at Camden

Robert Wood Johnson Medical School at Camden is seeking applications at the level of Assistant Professor for the Division of Surgical Research.

Newly created research program seeks an independent and pioneering M.D. or Ph.D. who will help develop the facility and the program.

Interest in the areas of cell culture, smooth muscle cell biology, wound healing, nutrition, monoclonal antibodies or microvascular physiology would be an asset.

The candidate would also be expected to develop his/her own interests with available support.

Salary and research support are available and would be commensurate with experience and activity of the applicant. Curriculum Vitae should be submitted to:

Edward J. Doolin, M.D. Division of Pediatric Surgery Department of Surgery Robert Wood Johnson Medical School at Camden Three Cooper Plaza, Suite 411 Camden, NJ 08103 EOE CHAIR/PROFESSOR, Food Science and Human Nutrition Department, University of Florida's Institute of Food and Agricultural Sciences: 12 mo. tenure track. Qualifications include a doctorate as well as a distinguished professional record commensurate with the rank of a tenured Full Professor, demonstrated professional leadership, fiscal and personnel administrative skills, as well as a strong background in research, teaching, or extension; ability to communicate effectively as well as to attract extramural funding from government agencies and private sources; ability to maintain a close working relationship with allied departments for the development and implementation of programs; a strong commitment to faculty, student, and staff development demonstrated through encouraging professional improvement. Duties and responsibilities include the administrative affairs requiring organizational skills and the ability to communicate effectively with faculty. University administrators, and clientele. Submit a resume of academic training, professional experience, statement of professional objectives, and other information relative to the position. Include transcripts for all academic training, a list of all publications, and the names of five references. Applicants must have all requested information submitted by March 1, 1993 to: Dr. Lynn B. Bailey, Chair, Search and Screen Committee, Food Science and Human Nutrition Department, Institute of Florida, P.O. Box 110370, Gaineeville, FL 32611-0370. Telephone: 904/392-1991, Ext. 113; FAX: 904/392-9467. The University of Florida is an Equal Opportunity/Affirmative Action Institution. We encourage applications from women and members of racial minorities.

FACULTY POSITIONS UMDNJ-New Jersey Medical School

The Division of Injury Sciences, Department of Anatomy, Cell Biology and Injury Sciences of the UMDNJ-New Jersey Medical School, seeks distinguished candidates for faculty appointments at the Assistant Professor level. Candidates should possess a doctoral degree and demonstrated academic productivity in the areas of cell biology, biochemistry, physiology or immunology as related to studies of the host defense response to injuries, sepsis or shock. Resumes and additional information may be sent to: Dr. John H. Siegel, Chairman, Anatomy, Cell **Biology and Injury Sciences**, 185 South Orange Avenue, Newark, NJ 07103; telephone (201) 456-4414 or FAX (201) 504-7489. UMDNJ, NJ's university of the health sciences, is an Affirmative Action/Equal Employment Opportunity Employer, m/f/h/v, and a member of the University Health System of New Jersey.



DEAN **College of Sciences** General Description As the chief academic officer of the College, the Dean is responsible for all instruction, research, and public ser-vice programs within the College. The Dean reports to the Provost and Vice President for Academic Affairs. Institutional Context Institutional Context Old Dominion University is a state-assisted, doctoral-granting institution which enrolls nearly 17,000 students, including 5,500 graduate students. The University is located in Norfolk, one of seven cities making up the Hampton Roads region of Virginia, a major seaport and recreation area with a population in excess of 1.4 mil-lion people. The Norfolk Naval Base, the largest naval base in the world, is three miles from the campus. Majo federal research installations that focus upon space, aeronautics, oceanography, and nuclear physics are nearby. 7 The College of Sciences consists of the departments of Biological Sciences, Chemistry and Biochemistry, Computer Science, Geological Sciences, Mathematics and Statistics, Oceanography, Physics, and Psychology. The College offers a wide range of undergraduate and graduate programs, including doctoral programs in nine areas. A full-time faculty of 153 generated over \$7 million of external research funding during fiscal year 1991. Z esponsibilities Responsibilities The Dean is expected to provide dynamic leadership in teaching, research, and professional service. The person selected should be able to stimulate a collegial, intellectual environment, promote the continued development of nationally recognized research programs, and work productively with faculty, staff, and students. The Dean should be able to represent the College within the University and the professional community as well as to out-side agencies and the general public. \bigcirc Ζ Qualifications Candidates should have an earned doctorate, a record meriting appointment as a full professor in a department of the College, and administrative experience at the level of academic department chair or the equivalent. Candidates must have a strong commitment to academic excellence and an ability to work with diverse con-N Applications/Nominations Application materials, including a resume and the names, addresses, and telephone numbers of five references, should be sent to: \bigcirc $\widehat{}$ Dr. Ernest J. Cross, Jr., Chair College of Sciences Dean Search Committee c/o Office of Academic Affairs Old Dominion University Norfolk, Virginia 23529-0011 (804) 683-3260 $\widehat{}$ Initial screening of applicants will begin December 1, 1992, but applications will be accepted until the position is filled. \bigcirc Old Dominion University is an Affirmative Action Equal Opportunity Employer and complies with the Immigration and Naturalization Act of 1986.

ASSISTANT PROFESSOR LANDSCAPE ECOLOGY UNIVERSITY OF MINNESOTA

The Departments of Horticultural Science and Landscape Architecture invite applications for a joint, 12-month tenure track position in landscape ecology at the rank of assistant professor beginning July 1, 1993. Teaching responsibilities in Landscape Architecture include advising graduate students and, typically, teaching two courses each year, a course on ecological concepts for sustainable landscape design and a landscape design course as a partner to a landscape architect.

Teaching responsibilities in Horticultural Science include advising graduate students and, typically, teaching one course per year in the theory and practice of establishing and maintaining sustainable plant systems. Research responsibilities could include areas of inquiry such as understanding how managed plant communities, in both urban and agricultural settings, affect landscape structure and function; understanding the ecological implications of planting systems in both landscape and production settings; or defining biological and environmental parameters for the integration of sustainable plant communities into design landscapes.

Minimum qualifications include a Ph.D. in a biological field related to horticulture or ecology, demonstrated effectiveness in research, and demonstrated effectiveness in teaching-related activities.

Desired qualifications include evidence of background in landscape ecology, consulting or teaching related to landscape design or planning; evidence of successful program initiation, development, completion, and publication in refereed journals; practical experience in horticulture, agriculture or design; and clear potential for collaborative work and future scholarly contribution.

Applicants should submit a curriculum vitae, a statement of teaching and research interests as related to this position, and the names, addresses, and telephone numbers of three references to: Chair, Landscape Ecology Search Committee, Department of Horticultural Science, University of Minnesota, 305 Alderman Hall, St. Paul, MN 55108.

Application materials must be received by December 31, 1992. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.



Agouron Pharmaceuticals, Inc., a recognized pioneer and leader in the field of rational drug design, is located in San Diego, California in the midst of a dynamic and challenging environment of academic and industrial research centers. We are seeking talented Ph.D. scientists to join our multidisciplinary team in the following areas:

BIOCHEMISTRY - CODE N1

Requires expertise in quantitative analysis of molecular interactions. Traditional assays of inhibitor binding will be extended to innovative studies of binding thermodynamics. Protein-protein interactions will also be analyzed. Senior scientists are encouraged to apply.

PROTEIN EXPRESSION AND PURIFICATION — CODE N2 Requires a broad range of molecular biology talents, including expression vector design and modern purification techniques. Prior experience with insect and/or mammalian cell expression is a plus. Postdoctoral experience is expected.

The successful candidate for each of the above positions must be willing to interact closely with colleagues in a wide range of scientific disciplines.

We offer competitive salaries and benefits in a superb location. Please send résumés (coded to the position for which you are applying) and the names of references in confidence to:

Human Resources

AGOURON PHARMACEUTICALS INC. 3565 General Atomics Court, San Diego, CA 92121

POSTDOCTORAL POSITION in Cancer Biology to examine the role of reactive oxygen and nitric oxide in tumor metastasis. Study effects of oxidant stress on either integrin function or the metastasis suppressor gene NM23. Experience in cell or molecular biology required. Send curriculum vitae and names of three references to: Dr. A. M. Fulton, Department of Pathology, Univer-sity of Maryland, 10 South Pine Street, Baltimore, MD 21201.

POSTDOCTORAL POSITION supported by NIH grant, available January 1993, to study molecular biology of coagulation factors VII and X. Study to involve PCR, recombinant DNA, site-directed mutagenesis, documen-tation of genetic variants, eukaryotic cell expression, structure-function correlates related to interactive sites, computer-assisted molecular modeling, and design of inhibitory peptides. Send curriculum vitae, selected pa-Ph.D., Department of Biochemistry, The University of Texas Health Center at Tyler, Tyler, TX 75710. Telephone: (903) 877-7003, FAX: (903) 877-7558. Equal Opportunity/Affirmative Action Employer, M/F/H.

POSTDOCTORAL POSITION available immediately to investigate the infection of American elm with Ophiostoma ulmi, the causative agent for Dutch elm disease: identify and characterize host plant defense mechanisms or elicitors of the host defense response. Ph.D. mechanisms or elicitors of the host defense response. Ph.D. in Plant Molecular Biology or related plant sciences. Knowl-edge of plant biochemistry and tree physiology is desirable. Annual salary (GS-11) is \$32,423 plus benefits. Send cur-riculum vitae and names of three references to: J. C. Kama-lay, USDA Forest Service, Northeastern Forest Experi-ment Station, 359 Main Road, Delaware, OH 43015. Telephone: (614) 369-4476; FAX: (614) 363-1437. Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION, AGRO/LAND-SCAPE ECOLOGY. Interagency study in Iowa on effects of landscape structure on bird abundance, species composition, and nest predation in midwestern agroec-osystems. Applicant must have a Ph.D. or equivalent in cology or related field, background in avian ecology, good quantitative skills, evidence of research productiv-ity. GIS knowledge and supervisory experience desirable. Bary based on experience; research expenses fully fund-ed. Position begins ASAP and preferably by January 1993; ends spring 1995. Send résumé, transcripts, letters of reference to: LOUIS B. BEST, Department of Animal Ecology, Iowa State University, Ames, IA 50011; Telephone: (515) 294-7477.

INTERNATIONAL LABORATORY OF MOLECULAR BIOLOGY FOR TROPICAL DISEASE AGENTS

NINE POSTDOCTORAL RESEARCH FEL-LOWSHIPS FOR EGYPTIAN NATIONALS. The program is funded by USAID for the "Transfer of Technology in Molecular Biology to Egypt." Primary objective is the development of recombinant vaccines and rapid diagnostic kits for rinderpest and other livestock diseases. Applicants must be Egyptian nationals and have a D.V.M. and/or Ph.D. in Molecular Biology, Microbiology, Biochemistry or related field. Upon completion, ology, blochmstry of related field. Opon completion, candidates are required to serve in a modern molecular biology laboratory at Abbassyia, Egypt. Send curriculum vitae and 3 letters of recommendation to: Dr. T. Yilma, V.M.: Microbiology, University of California, Davis, CA 95616. (FAX: 916-752-2801) Equal Opportunity/ Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS MOLECULAR BIOLOGY OF CARDIAC MUSCLE HARVARD MEDICAL SCHOOL

Applications are invited for postdoctoral positions, available immediately, in the Cardiovascular Division at Brigham and Women's Hospital, Harvard Medical School. Successful applicants will join a laboratory of pharmacologists, physiologists and cell biologists inves-tigating the molecular and cell biology of cardiac muscle. A strong background in molecular biology is essential. Salary and Harvard appointment commensurate with qualifications and experience. Send curriculum vitae and the name and telephone number of three references to: Dr. Thomas W. Smith, Cardiovascular Division, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115. Boston, MA 02115.

POSITIONS OPEN

PROTEIN CRYSTALLOGRAPHY

Applications are invited for POSTDOC-TORAL POSITIONS in the laboratory of Dr. John Kuriyan, whose current research involves crystallographic investigations of proteins in-volved in DNA replication and in cellular signal transduction. A strong background in protein biochemistry or protein crystallography is de-sired. Candidates with training in protein engi-neering or computational methods who wish to learn protein crystallography are also encouraged to apply. This laboratory is well equipped for crystallography (area detector and mini-super-computers) as well as molecular biology and protein purification.

Send curriculum vitae to: John Kuriyan, Lab-oratories of Molecular Biophysics, Box 3, The Rockefeller University, 1230 York Avenue, New York, NY 10021. An Equal Opportunity Employer.

POSTDOCTORAL POSITION

A postdoctoral position to work on the phenotypic alterations of the blood vessel wall after injury is available at Elf Sanofi, a subsidiary of Elf Aquitaine, in Toulouse, France.

The research project aims at evaluating the variations of thrombogenecity of the vascular endothelium, consec-utive anoxia, sepsis or occurring after regeneration fol-Inving vascular injury. The candidate should have a background in pharma-

The candidate should have a background in pharma-cology, cell physiology or biochemistry but also a good knowledge of the basic methods in molecular biology (Northern blotting, PCR . . .). Cell culture will be an important component of the experimental work. The research group is headed by Dr. J. M. Herbert and includes approximately 30 people who work on various aspects of vascular pharmacology and biochemistry. Duration of the fellowship is one year and it might be renewable for a second year

renewable for a second year. Applications, including curriculum vitae, bibliography

and name of two references should be sent to:

Ms. Mélisende Bart 1899 L Street, N.W., Suite 500 Washington, D.C. 20036

POSTDOCTORAL FELLOWSHIP: To participate in investigations of cytoskeleton structure and function during human cell destruction by the parasite, *Entamoeba histolytica*. Ongoing experimental approaches include: preparative 1- and 2-D PAGE, protein microsequencing, PCR, recombinant DNA technology and cell-cell interaction studies. Candidates with experience in one or more of these are preferred. American microticities cen interaction studies. Candidates with experience in one or more of these are preferred. American minorities are particularly encouraged to apply. Please send curric-ulum vitae and names of three references to: Dr. Gordon Bailey, Department of Microbiology and Immunolo-gy, Morehouse School of Medicine, 720 Westview Drive, Atlanta, GA 30310.

FELLOWSHIPS IN TROPICAL BIOLOGY Smithsonian Tropical Research Institute

Predoctoral, postdoctoral, senior postdoctoral, and 10-week graduate students fellowships are available to conduct research at the Smithsonian Tropical Research Institute (STRI) in the Republic of Panama. With a multinational staff of 30 scientists, STRI is an interna-tional center for advanced study in tropical biology (ecology, paleoecology, evolution, behavioral ecology, plant physiology and molecular evolution) and archaeol-ogy. STRI provides logistical support for visitors at its facilities: housing and laboratories on Barro Colorado and near Soberania National Park (tropical moist forest); at marine stations on the Atlantic and Pacific coasts; and at marine stations on the Atlantic and Pacific coasts; and research library and laboratory complex in Panama City. For applications contact:

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

Awards are based upon merit, without regard to race, color, religion, sex, national origin, age or condition of handicap of the applicant.

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIP **Biophysics and Cardiac Electrophysiology**

A postdoctoral fellowship is available in the Living State Physics Group of the Department of Physics and Astronomy and in the Department of Pharmacology at Vanderbilt University. Several collaborating investigators have an active research program utilizing magnetic and electric measurements to study electrical activity and action potential propagation in cardiac muscle. Experi-ence in cardiac electrophysiology and data acquisition systems and/or computer programming and mathemati-

systems and/or computer programming and mathemati-cal modeling is desirable. Send curriculum vitae, representative publications, and names and addresses of three references to: Dr. John P. Wikswo, A. B. Learned Professor of Living State Physics, Department of Physics and Astronomy, Vanderbilt University, P.O. Box 1807, Station B, Nashville, TN 37235. Vanderbilt University is an Equal Employment Opportu-nit/Affirmative Action Femployer

nity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH FELLOW to work in laboratory at V.A. Medical Center on project involving aging of steroidogenic tissues. Experience in cell biology and molecular biology desirable. U.S. citizenship required. Available February 1, 1993. Send cur-riculum vitae and names of three references to: Dr. Salman Azhar, GRECC 182B, V.A. Medical Center, 3801 Miranda Avenue, Palo Álto, CA 94305.

1993 SUMMER FELLOWSHIPS MOUNT DESERT ISLAND BIOLOGICAL LABORATORY

The Mount Desert Island Biological Laboratory (MDIBL), an internationally renowned marine facility for biomedical and comparative physiological research, invites applications for fellowships in the following categories.

• Young Investigator Fellowships, sponsored by an NSF-EPSCoR grant and privately donated fellowship funds, are for scientists with a doctorate and evidence of independent research. Fellowship amount is based on individual needs and can include a stipend, laboratory space, housing, and funds for supplies and travel. •Undergraduate Student-Faculty Fellowships supported by the Pew Charitable Trusts, Burroughs-Wellcome and

the Grass Foundation are available for student/faculty pairs with the following qualifications: (1) undergradu-ate students with a minimum of 1 year of both biology and chemistry; (2) faculty members with Ph.D. actively teaching biology at the undergraduate level. A few individual student or faculty awards may be made. Awardees may work from 1 to 4 months at MDIBL with perior scientists or in the case of faculty or student/ Awardees may work from 1 to 4 months at MDBL with senior scientists or, in the case of faculty or student/ faculty pairs, may choose to work independently. Fund-ing provided for housing, travel, research costs and a stipend; maximum faculty award is \$14,000 with up to \$6,000 stipend; maximum student award is \$7,000 with up to \$2,600 stipend.

Applications may be obtained by calling the office at 207-288-3605 or writing to: MDIBL, P.O. Box 35, Salsbury Cove, ME 04672.

Young Investigator applicants write to Department YIF. Deadline for completed applications is 8 Janary 1993

Undergraduate Student-Faculty applicants write to: De-partment USFF. Deadline for completed applications is December 1992.

POSTDOCTORAL FELLOW/RESEARCH AS-SOCIATE—Positions are available for individuals with a background in molecular biology research and an interest in applying molecular biological techniques to pharmacological problems to study: (1) molecular mech-anisms of glutamate (especially NMDA) receptor activation and ethanol effects on glutamate receptor function in nimals and cell culture; experience with cell culturing, Northern/Western analysis, solution and *in situ* hybridization and/or fluorescent calcium measurements is desirable; and (2) the molecular mechanism of action of arginine vasopressin in the CNS, including effects on proto-oncogene expression; experience with autoradiog-raphy, *in situ* hybridization and/or immunocytochemistry is desirable. Send curriculum vitae and 4 letters of reference to: Dr. Paula L. Hoffman, Department of Pharmacology C-236, University of Colorado Health Sciences Center, 4200 East 9th Avenue, Denver, CO 80262. UCHSC is committed to Equal Employment Gpportunity and Affirmative Action.

MOLECULAR HEMATOLOGY/ONCOLOGY TRAINING PROGRAM The Beth Israel Hospital/Harvard Medical School

The Hematology/Oncology Division of the Beth Israel Hospital, Harvard Medical School, has established a program for training M.D.s, Ph.D.s or M.D., Ph.D.s in hematology/oncology research. The primary focus of the program is basic research in molecular hematology/oncology. In addition, M.D.s and M.D./Ph.D.s will have the opportunity to design a flexible clinical program leading to board eligibility in hematology and/or oncol-OOV.

Faculty includes:

- Steven J. Ackerman, Ph.D. Regulation and function of eosinophil specific genes
- Steven Balk, M.D., Ph.D. Molecular immunology of MHC-like mole cules; mucosal lymphocytes
- Kenneth Bauer, M.D. Biochemistry of hypercoagulable states
- Glenn Bubley, M.D. DNA alkylation, repair and mutagenesis, prostate

Clyde Crumpacker, M.D. Molecular biology of HIV

- Harold F. Dvorak, M.D. Biology of tumor growth and stroma generation
- J. Paul Eder, M.D. Topoisomerases and chemotherapy resistance Bing Lim, M.D., Ph.D. Hematopoietic specific genes and stem cells
- Benjamin G. Neel, M.D., Ph.D. Non transmembrane tyrosine phos-
- phatases; retinoic acid receptor abnormalities in cancer Anne Nicholson-Weller, M.D. Biochemical mechanisms of comple-
- ment regulation Robert Rosenberg, M.D., Ph.D. Endothelial cell biology and hemostasis
- Lowell E. Schnipper, M.D. Genetic instability in cancer; mechanisms of resistance to antineoplastics
- Howard Steinberg, Ph.D. Hematopoiesis Daniel Tenen, M.D. Myeloid gene regulation, retinoids and AML
- Peter F. Weller, M.D. Immunobiology of eosinophils; mechanisms of inflammation

Applicants please send Curriculum Vitae and three letters of recommendation to Dr. Lowell Schnipper, Chief, Oncology Division, Beth Israel Hospital, 330 Brookline Avenue, #DA-601, Boston, MA 02215, FAX: (617) 735-3915.

ASSISTANT/ASSOCIATE PROFESSOR MICROBIAL PATHOGENESIS **MOLECULAR IMMUNOLOGY**

The Department of Microbiology and Immunol-ogy at West Virginia University School of Medicine is currently recruiting tenure-track faculty members in the areas of microbial pathogenes (2 positions) and immunology (1 position) with demonstrated research skills in molecular biolo-gy. Successful candidates will be expected to develop independent and funded research programs in these areas. Research interests in microbial pathogenesis that complement the current faculty interests on spirochetes and rickettsial disease, and in molecular immunology that complement faculty interests in antigen presentation, developmental immunology, immunotoxicology, mechanisms of intracellular resis tance, and mucosal immunity are preferred. Applicants must have a Ph.D. degree, postdoctoral experience and significant research productivity in the application of molecular biological techniques to current problems in microbiology and immunology. The department is well equipped and a P-3 laboratory is available in the department. Teaching responsibilities of the department include professional and allied health students as well as graduate students. Appointment at the Associate Professor level requires a demonstrated record of extramural research funding. A highly competitive salary and start-up package is available. Deadline for applications is December 1, 1992. Submit a curriculum vitae, summary of current and future research, and names of three references to: John B. Barnett, Ph.D., Chair, Department of Microbiology and Immunology, West Virginia University Health Science Center, P.O. Box 9177, Morgantown, WV 26506-9177

Affirmative Action/Equal Opportunity Employer

ASSISTANT RESEARCH ASTROPHYSICIST **CENTER FOR PARTICLE ASTROPHYSICS**

University of California at Berkeley

The Center for Particle Astrophysics, an NSF Science and Technology Center, invites applications for the position of Center Fellow.

The Center is investigating the dark matter problem through four lines of experimental attack: using conventional and cryogenic detectors to detect the interaction of dark matter particles in the laboratory; studying the diffuse radiation from the early universe (particularly the 3K microwave background); using distant supernovae to determine how much dark matter exists; and studying the role of dark matter in the evolution of large-scale structure. The Center Fellowship is intended to provide a young experimentalist with the opportunity to bring fresh insight (particularly from other fields of physics) to bear on dark matter. This two year position will start in January 1994, with a possible extension for a third year.

Candidates should have a Ph.D. in Physics or Astronomy. Salary will be commensurate with experience. Interested applicants should submit a statement of their research interests, a curriculum vitae, and arrange for letters of support from three referees who are familiar with their work. These items and a letter of application should be sent to:

Professor Bernard Sadoulet **Center for Particle Astrophysics** 301 Le Conte Hall University of California Berkeley, CA 94720 The closing date for applications will be December 31, 1992. The University of California is an Affirmative Action/Equal Opportunity Employer.

HEALTH SCIENTIST ADMINISTRATORS **OFFICE OF RESEARCH INTEGRITY**

The newly organized Office of Research Integrity (ORI), Public Health Service (PHS), Department of Health and Human Services (HHS) in the United States Government, invites applications for the positions of Health Scientist Administrator at the GS-13/14 grade level, with a current salary range of \$46,210 to \$70,987 per annum.

The ORI has the primary responsibility for the implementation of PHS policies and procedures regarding research integrity in the extramural and intramural biomedical and behavioral research community. This involves the review, oversight and conduct of investigations of possible allegations of scientific misconduct, as well as prevention and education activities designed to promote integrity in research.

The ORI offers the opportunity for intellectually challenging use of analytical, scientific, and investigatory skills. Scientists with a research and/or research administration background in university, institute, Government, or private research organizations are encouraged to apply.

The complete vacancy announcement which lists the technical qualifications required, and the Application for Federal Employment (SF 171), are available by letter or by telephone call to 301-443-6900. Completed applications must be received no later than November 30, 1992 at the following address:

Office of the Assistant Secretary for Health Personnel Operations Office Room 17A-07 5600 Fishers Lane Rockville, Marvland 20857



PHS is an Equal Opportunity Employer. The Office of the Assistant Secretary for Health is a smoke-free work place. Relocation expenses will not be paid.

NRC · CNRC

NRC – Canada's top R&D organization – helps its industry partners become stronger global competitors. Currently, NRC's Plant Biotechnology Institute is looking for those rare people who can help further our record of excellence.

Research Officer (Saskatoon, Saskatchewan)

The Plant Biotechnology Institute of the National Research Council of Canada in Saskatoon has a continuing staff position for a Research Officer. The scientist will work in the legume biotechnology group on the development and use of transgenic plants. Major duties will be the planning, managing and reporting of independent research within the context of an integrated group project, but participation in overall project planning and promoting interaction between the project and external partners is expected. Duties also include supervision and evaluation of laboratory personnel.

Applicants must have a Ph. D. in plant biotechnology or related discipline, with emphasis on plant molecular genetics. A good understanding of molecular biology, biochemistry and genetics in relation to crop improvement and a strong record of publication are expected. Experience in production of transgenic plants and in molecular identification of plant genes or regulation of gene expression in plants is required. The position requires high levels of scientific creativity and judgement, the ability to function both individually and as a team member or leader and good skills in verbal and written communication in English.

SALARY RANGE: Commensurate with qualifications.

Ceux qui désirent recevoir une copie de cette annonce en français peuvent communiquer avec l'agent de dotation à l'adresse ci-dessous.

Apply in writing, before November 30, 1992, giving complete details of education and experience to: The Recruitment and Staffing Section, National Research Council of Canada, Ottawa, Ontario, K1A 0R6. In reply, please quote PB-91-16. TPC

National Research Conseil national Council Canada de recherches Canada Canadä

THE UNIVERSITY OF MICHIGAN MOLECULAR GENETICS OF PROTEIN FOLDING

The Institute of Gerontology and the departments of Biological Chemistry and Pathology announce the availability of joint tenure-track faculty positions at the assistant/associate professor level, to investigate protein folding, assembly and trafficking by modern molecular genetic or biochemical approaches.

One position is in the general area of protein folding mechanisms; while other positions focus on folding and assembly of motion-facilitating molecules in skeletal muscle or of proteins involved in signal transduction in immune cells.

Each successful candidate is expected to develop a vigorous, independent research program and to participate in undergraduate/graduate teaching in the appropriate department.

The University of Michigan provides an excellent research environment as well as competitive salary and fringe benefits.

Applications should include curriculum vitae, list of publications, summary of past research and statement of plans for future work, as well as the names, addresses, telephone and fax numbers of at least three individuals who may be contacted as references.

Completed applications should be sent to:

Dr. Ari Gafni Chair of the Search Committee The University of Michigan Institute of Gerontology 300 N. Ingalls Ann Arbor, MI 48109-2007.

Review of applications will begin on November 15, 1992 and continue until suitable candidates are identified.

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

UNIVERSITY OF BRISTOL CHAIR OF ZOOLOGY

Applications are invited for the Chair of Zoology in the School of Biological Sciences. The successful candidate, whose field of interest may be in any area of zoology, will be expected to provide the major leadership role in the development of research and teaching in the School.

Applications, which should include the names and addresses of three referees should be sent to the Personnel Director, University of Bristol, Senate House, Tyndall Avenue, Bristol BS8 1TH, UK. Tel: (0272) 303157; Fax: (0272) 259473, from whom further particulars may be obtained.

Closing date for application is 4th December 1992.

An Equal Opportunities Employer.

DIRECTOR, CLINICAL MICROBIOLOGY

Rush Medical College and the Clinical Laboratory Services at Rush-Presbyterian–St. Luke's Medical Center are seeking a top quality professional to assume a key position as Director of Clinical Microbiology.

The Clinical Microbiology laboratory consists of the units of General Microbiology, Virology, and Special Microbiology. The successful candidate will direct the clinical and technical aspects of the laboratory and will also participate in educational programs for pathology residents and for medical technology, doctoral (Ph.D.) and postdoctoral students. The candidate should have a strong commitment to service, research and education and will be expected to develop a strong, independent research and/or R&D program and to teach in the University.

Specific areas of responsibility within the laboratory, professional rank in the Rush Medical College, and salary will be dependent upon the candidate's training and expertise. Applicants must possess an M.D. and/or Ph.D. or equivalent degree.

Preference will be given to applicants who are Board Certified or eligible or equivalent.

Applicants should submit a curriculum vitae, a statement of research interests, and the names of three references to:

Alan L. Landay, Ph.D. Chairman, Search Committee Department of Immunology/Microbiology Rush-Presbyterian–St. Luke's Medical Center 1653 West Congress Parkway Chicago, IL 60612

Application deadline is: February 1, 1993 An Equal Opportunity/Affirmative Action Employer

BIOLOGY FACULTY

The Department of Biology, University of Southwestern Louisiana invites applications for three tenure-track positions in support of the doctoral program in Environmental and Evolutionary Biology. Faculty are expected to develop active research programs, seek extramural funding and participate in undergraduate and graduate education. The biology professorial faculty numbers 30, with research interests ranging from molecular to ecosystem studies. USL has an exceptionally well-equipped Electron Microscopy Center and Center for Advanced Computer Studies. Other resources include the Primate Research Center, Center for Crustacean Research. Center for Molecular Evolution. Louisiana Universities Marine Consortium (LUMCON) Marine Laboratory and research vessels, U.S. Fish and Wildlife Service's National Wetlands Research Center and National Marine Fisheries Service's Estuarine Habitats and Coastal Fisheries Research Center.

We seek qualified individuals in the following

INSECT BIOLOGY - preferred research emphasis is cellular, developmental or evolutionary.

FISH BIOLOGY - preferred research area is molecular, cellular or developmental. MICROBIAL ECOLOGY - preferred research in field and experimental settings concerning estu-

arine or marine ecosystems, including biogeochemical effects. Applicants should submit curriculum vitae, selected

reprints, a concise statement of research goals, and names, addresses and telephone numbers of three referees. Review of applications will begin 15 Jan uary 1993 and continue until positions are filled. Direct application to: Faculty Development Search Committee, Department of Biology, University of Southwestern Louisiana, Lafayette LA 70504-2451. AA/EOE.

Postdoctoral Fellow in Cardiac Metabolism

The Cardiac Metabolism Laboratory at the University of Texas Medical School at Houston is accepting applications for a postdoctoral research fellow with interest in biochemistry and physiology. The laboratory is part of a busy Cardiology Division with a full-time faculty of 22 (of whom 6 are PhDs). It is located within the Texas Medical Center and within walking distance of Rice University. The main effort of the Cardiac Metabolism Lab is directed at an improved understanding of the relation ship between intermediary metabolism and contractile function of the heart. New methods, including positron-labelled tracers and molecular probes, are used to explore mechanisms of the short- and long term control of cardiac energy metabolism, both in the isolated working heart in vitro as well as in the human heart in vivo., We are seeking candidates with basic research experience and an interest in applying the techniques of cellular and /or molecu-lar biology to the following areas: heart perfusion, tracer kinetics, metabolic regulation, trans-membace signaling and/or gene expression. The labo-ratory has a strong record of training young investi-gators, both at a pre-and post-doctoral level. A commitment to experimental research and the desire to work independently in a well structured lab are essential for the candidate's success.

Applicants (MDs, PhDs or both) should submit their curriculum vitee, reprints of published work, a statement of current and intended research activi-ties and the names of three references to:

Heinrich Tægtmeyer, MD DPhil University of Texas Medical School at Houston Division of Cardiology 6431 Fannin #1224 Houston, TX 77030. Telephone (713) 794-4123; FAX (713)792-5187. Special consideration will be given to PhDs prepar-ing for a career in biomedical research.

The University of Texas Health Science Center is an affirmative action/equal opportunity employer. Women and minorities are encouraged to apply.



University of Pittsburgh

SENIOR VICE CHANCELLOR FOR THE HEALTH SCIENCES

The University of Pittsburgh invites applications and nominations for the position of Senior Vice Chancellor for the Health Sciences. The Senior Vice Chancellor for the Health Sciences reports directly to the Chancellor, and works closely with the Provost, the President of the University of Pittsburgh Medical Center, the Senior Vice Chancellor for Health Administration, and the Senior Vice Chancellor for Business and Finance in directing the academic, fiscal, and administrative affairs of the University

The Senior Vice Chancellor for the Health Sciences is responsible, through the deans, for the undergraduate, graduate, and professional programs in the six schools of the health sciences, as well as the affiliated hospitals and centers. Included in these responsibilities are the academic, research, and clinical programs in the Schools of Dental Medicine, Health and Rehabilitation Sciences, Medicine, Nursing, Pharmacy, and the Graduate School of Public Health.

The University seeks a person who understands the evolving biomedical environment as it relates to academics, research, and clinical care, and has the vision to lead the health sciences of the University of Pittsburgh into the 21st century. A qualified candidate shall have established leadership skills and the ability to deal creatively and effectively with the organizational, financial, and managerial responsibilities of the office. Requirements include an earned doctorate, eligibility for senior faculty appointment by virtue of sound scholarly accomplishments, and demonstrated success in health sciences administration.

The University of Pittsburgh is an independent, state-related research university and a member of the Association of American Universities. The University consists of 17 undergraduate, graduate, and professional schools on the Pittsburgh campus, plus four regional campuses, serving some 35,000 students. The health science complex is located on the main campus of the University and is set in the civic and cultural center of Pittsburgh, recently cited as "one of the most livable cities in the United States".

The University offers an excellent salary, benefit, and retirement package.

Letters of application or nomination with resume should be sent, by 15 December 1992, to: Chairperson

Search Committee for the Senior Vice Chancellor for the Health Sciences 479 Crawford Hall

University of Pittsburgh Pittsburgh, Pennsylvania 15260

The University is an affirmative action/equal opportunity employer.

Case Western Reserve University Dean of the College of Arts and Sciences

Case Western Reserve University invites nominations and applications for the newly created position of Dean of the College of Arts and Sciences.

Case Western Reserve, a major private research university, enrolls more than 9,000 undergraduate, graduate, and professional students in the College of Arts and Sciences, School of Graduate Studies, and seven professional schools. The University has completed the major portion of a \$350-million capital campaign. Located in University Circle, the intellectual center of Cleveland, CWRU is adjacent to the major cultural, scientific, and medical institutions of the city.

The Dean is the chief academic and administrative officer of the College, providing leadership for programs of education and research involving nearly 200 full-time faculty and 2,500 students in 21 departments. This position is created by the consolidation of the faculties of Humanities, Arts, and Social Sciences and Mathematics and Natural Sciences into a single academic unit. The Dean will be responsible for developing academic, administrative, and support structures for the College

Qualifications include a record of achievement in teaching and scholarship, with substantial experience and demonstrated success in providing academic and administrative leadership. The successful candidate will be expected to qualify for a tenured senior faculty appointment in one of the disciplines represented within the College

Applications should include a letter of interest, current curriculum vitae, and the names and addresses of at least three references. Correspondence should be addressed to: Chair, Search Advisory Committee for Dean,

College of Arts and Sciences

c/o Office of the President

Case Western Reserve University

10900 Euclid Avenue

Cleveland, OH 44106-7001

Review of materials will begin immediately and continue until an appointment is made. The anticipated appointment date is July 1, 1993.



In employment, as in education, Case Western Reserve University is committed to equal employment and affirmative action.

TWO POSTDOCTORAL FELLOWS

To work on basic and applied aspects of catalytic anti-VIP antibodies, neuropeptide receptor function of calmodulin (J. Biol. Chem. 267, 19617; J. Biol. Chem. 267, 13142; Science 244, 1158) and/or volatile anesthetic/calmodulin interaction using recombinant DNA, protein chemistry, lipid-chemistry, and cell culture methods. Skills in basic biochemistry and/or molecular biology methods needed, preferably evidenced by publications in reputed journals. Appropriate reagents (e.g. antibody cDNA and phage display vectors) and core facilities for peptide synthesis and sequencing, recombinant DNA work and monoclonal antibodies are available. Salary commensurate with experience and accomplishments. Apply with curriculum vitae and names and addresses of three references to: Dr. Sudhir Paul, Department of Anesthesiology, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198– 4455; FAX: (402) 559-5592. Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.

RESEARCH ASSOCIATE SCIENTIST position with Molecular Geriatrics, Incorporated. Position involves isolation, characterization and mapping microsatellite repeat polymorphic DNA markets from human genomic and CDNA libraries; construction and generation of physical and genetic maps of the human genome; genetic linkage mapping of human inherited disorders. Requires M.S. in bio-genetics with two years of experience in cytogenetics and molecular genetics on development and mapping of genetic polymorphic markets. Salary is \$36,000 per year; working hours are 40 per week, Monday through Friday. Send two copies of curriculum vitae including three personal references and this advertisement with J.O. #1318 to: DOES, 500 C Street, N.W., Room 325, Washington, D.C. 20001. Telephone: (202) 724-3770. Equal Employment Opporunity/Affirmative Action.

POSTDOCTORAL RESEARCH IN MOLECULAR BIOLOGY OF MATRIX GENES

Position available immediately for work on the recombinant expression, mutagenesis, and functional analysis of cloned domains of the cartilage proteoglycan aggrecan. Experience with protein purification and analysis, immunochemical methods, and recombinant DNA techniques essential. Send curriculum vitae and three references to: Kurt Doege, Ph.D., Shriners Hospital for Crippled Children, and Department of Biochemistry and Molecular Biology, Oregon Health Sciences University, 3101 SW Sam Jackson Park Road, Portland, OR 97201.

Shriners Hospital is an Equal Opportunity Employer which maintains a drug/alcohol-free workplace.

POSTDOCTORAL RESEARCH ASSOCIATE

Position is available immediately in the Department of NMR and Medical Spectroscopy at the Fox Chase Cancer Center. The research is focused on the metabolism and functions of novel, diabetes-associated metabolites and enzymes (Szwergold et al., Science 247:451, 1990; Peterson et al., Biochem. J. 284:363, 1992). Some experience in carbohydrate chemistry, cell biology and NMR spectroscopy is desirable. Candidates are requested to submit curriculum vitae and names of three references to: Dr. Benjamin Szwergold, c/o The Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE

The Immunohematology/Immunochemistry Research Program of the Blood Research Institute-The Blood Center of Southeastern Wisconsin seeks qualified individuals (M.D., Ph.D., and/or M.D./Ph.D.) with research interests in either immunohematology or vascular biology plus experience/expertise in protein chemistry, molecular biology, or cell biology. Candidates for postdoctran fellowship training or for staff appointment will be considered. Please send résumé and references to: Peter J. Sims, M.D., Ph.D., Associate Director, Blood Research Institute, The Blood Center of Southeastern Wisconsin, 1701 West Wisconsin Avenue, Milwaukee, WI 53233. Equal Opportunity Employer, M/F/H/V. **POSITIONS OPEN**

POSTDOCTORAL RESEARCH position avail-

able immediately to study insertion of proteins into cell

membranes by fusion with proteoliposomes. Experience

with membrane proteins, membrane fusion, or cell culture methods desired. Salary to \$30,000 depending on

telephone numbers of 3 references by December 1, 1992 to: Dr. Martin Teintze, Department of Chemistry and

Biochemistry, Montana State University, Bozeman, MT 59717. Affirmative Action/Equal Opportunity/ADA/

RESEARCH ASSOCIATE with postdoctoral train-

ing is invited to join a team at a laboratory affiliated with the University of Montreal. Experience in protein puri-

fication and molecular biology. Available immediately. Please send curriculum vitae to: M. Gagnan-Brunette,

M.D., Maisonneuve-Rosemont Hospital, Research Center, 5415 Boul. de l'Assomption, Montreal, Que-

> ASSISTANT PLANT PATHOLOGIST EXTENSION PLANT PATHOLOGIST AT

WSU-Mt. Vernon

Position is available April 12, 1993. This is a tenuretrack, 75% research - 25% extension appointment to conduct research on diseases of vegetables and vegetable seed crops important in the Pacific Northwest.

Candidate will assume leadership in planning and im-

plementing research and extension vegetable programs in plant pathology. Strong background in applied plant pathology is required. Interest and background in fungal disease and disease control desired. Ph.D. in Plant Pathology is required. Salary will be commensu-

Tate with training and experience. Position located at Washington State University's Mount Vernon Research and Extension Unit, Mount Vernon, WA. Send

search and Extension Unit, Mount Vernon, WA. Send résumé, copies of publications, transcripts, and the names and addresses of four individuals willing to send letters of reference by January 15, 1993 to: Dr. Gary Chastagner, Search Committee Chairman, WSU Puyallup Research and Extension Center, 7612 Pioneer Way, Puyallup, WA 98371-4998 (Telephone 206/840-4500 or FAX: 206/840-4671). WSU is an Equal Opportunity/Affirmative Action Educator and Employer. Members of ethnic minorities, women, Vietnam-era or disable veterons persons with disabilities and/or per-

or disabled veterans, persons with disabilities, and/or persons between the ages of 40 to 70 are encouraged to apply. (WSU Search No. 854)

TECHNICAL WRITER

draft patent applications. Additional activities will in-

clude writing scientific articles for refereed journals, and competitive grant proposals. The position requires

and competitive grant proposals. Ine position requires excellent writing proficiency, strong organizational ability and exceptional interpersonal skills. An advanced degree in molecular biology (Ph.D. preferred) and a commitment to writing is required. We offer a competitive compensation package in an outstanding professional environment. For consideration, please submit

your résumé, references, and a sample of your writing to: Laboratory Director, Syntro Research Laboratories, 3535 General Atomics Court, San Diego, CA 92121.

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SCIENCE

SYNTRO Corporation, a biotechnology-based animal health company with research laboratories in San Diego, has an immediate opening for a Technical Writer. The selected individual will be responsible for collaborating with patent counsel and staff scientists to

and

experience. Please send curriculum vitae and names

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bec, Canada H1T 2M4.

POSITIONS OPEN

RESEARCH ASSOCIATE/ELECTROPHYSI-OLOGIST: Conduct independent neurophysiological research on the specific mechanisms of the central nervous system which are used to control and execute movements in primates. Perform single neuron recording during complex motor tasks using behavioral paradigms in trained primates. Select, instruct, supervise and train doctoral students, postdoctoral fellows, and technicians to assist in research projects and experiments. Organize research projects and monitor experiments. Write com-puter programs to collect and analyze data. Thoroughly analyze, examine and evaluate data using multivariate analyze, examine and evaluate data using multivariate statistical techniques. Write and publish scientific papers describing the experiments and their findings. Present results at scientific conferences. The two-year postdoc-toral requirements to include: (1) One year experience through postdoctoral training in working with primates and mastery of single unit and extracellular field potential recording techniques in primates; (2) Experience using electrophysiological methods to study the central ner-vous system of mammals; (3) The ability, through education or experience in computer programming to write computer programming for electrophysiological studies in C and Fortran; (4) One year of experience or education in S.A.S. Statistical Analysis System including experience with multivariate statistical analysis. Salary: \$32,000 per year, 40 to 50 hours weekly, 8:00 a.m. to 6:00 p.m. approximate. Send résumés to: Sara Spring-meyer #2-89, MDJT - Room 203, 777 East Lake Street, Minneapolis, MN 55407. The Employer is an equal Opportunity Employer and specifically invites and encourages applications from women and minorities.

VIDEOMICROSCOPY SUPERVISOR: Ph.D. scientist with experience in fluorescence imaging, optics, computer analysis of data, and epithelial ion transport to supervise multiuser facility devoted to single-cell imaging. Appointment at Senior Research Associate level. U.S. citizenship or permanent residency essential. Please respond with curriculum vitae and names and addresses of three references to:

P. B. Davis, M.D. Pediatric Pulmonary Division Rainbow Babies and Childrens Hospital 2101 Adelbert Road Cleveland, OH 44106.

Case Western Reserve University is an Equal Opportunity Employer.

DEVELOPMENTAL BIOLOGIST. Faculty position available in the Department of Anatomy for a Developmental Biologist with research program in molecular aspects of development, e.g., gene expression, cell and tissue interactions, role of regulatory molecules in development. Must have postdoctoral experience and ability to develop independent, productive research program. Teaching responsibilities include participation in teaching anatomical sciences in the Medical-Dental curriculum; participation in the graduate program in developmental biology. Prior teaching or training in anatomy desirable but not required. Applicants should submit curriculum vitae, list of publications, projected research plans, and names of three references to: Dr. S.J. Cooperstein, Professor Emeritus and Acting Head, Department of Anatomy, MC 3405, The University of Connecticut Health Center, Farmington, CT 06030. Applications will be accepted until the position is filled. *AN EQUAL OPPORTUNITY EMPLOYER*.

BIOLOGIST

M.S. in cell biology/microbiology or related discipline and three to five years of laboratory experience conducting preclinical *in vitro* drug efficacy studies in tumor and normal tissue systems. Good writing skills and knowledge of epithelial culture systems is required. Experience in image analysis, radiotracer experiments, and organ culture are desired. Duties will include experimental design and analysis, report generation, and some laboratory supervision. Southern Research Institute offers a competitive salary and benefits package. To apply, send curriculum vitae to:

Mr. G. Dwayne Johnson Human Resources Representative Southern Research Institute, Department 667 P.O. Box 55305 Birmingham, AL 35255-5305 Equal Opportunity/Affirmative Action Employer.

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SCIENCE Magazine New Lab Service Department 1333 H Street, N.W., Rm 830 Washington, DC 20005



Cell Biologist Scale-Up Group

Genetic Therapy, Inc., a leading biotechnology company, is working with researchers at the National Institutes of Health and academic medical centers to develop retroviral mediated and other gene transfer technologies applicable to human gene The Scale-up group is therapy. currently seeking a scientist with a Ph.D. in cell biology or related fields and at least two years of postdoctoral experience in mammalian cell cultures. The candidate will develop scale-up cell culture techniques for viral vectors. Experience and familiarity with large scale cell cultures is helpful. GTI offers a stimulating and challenging research environment with competitive salaries and benefits. Please send a resume along with the names and addresses of two references to:



Genetic Therapy, Inc. Human Resources - SU1 19 Firstfield Road Gaithersburg, MD 20878

GTI is an equal opportunity employer.



Manager of Seed Physiology Program

Based in West Chicago, Illinois, this person will be primarily responsible for seed physiology to assist and support the overall breeding and production research effort at PAS. Will report ongoing research findings to other members of the PAS research team and seed physiology researchers in the industry. Will also supervise lab personnel.

This position requires a M.S. or Ph.D. in Horticulture, Plant Physiology, Environmental Science or other related fields. Significant lab experience essential and familiarity with lab equipment, including HPLC and electrophoresis is necessary.

Please send resumes, including salary history, to:

Anne Leventry-Jeffers Geo. J. Ball, Inc. 622 Town Road West Chicago, IL 60185

The Department of Pathology at Harvard Medical School and the Division of Human Retrovirology of the Dang-Farber Cancer Institute are jointly recruiting an Assistant Professor in the area of immunology and virology with a particular emphasis on human retrovirology. The successful candidate will be expected to develop an independent research program and must have the ability to compete for independent funding. The candidate must have a Ph.D. and/or an M.D. degree and several years post-doctoral training with a major commitment to original and independent laboratory research with specific experience in the area of virus-host cell interactions. She/he is expected to participate in research training and in the medical student and/or graduate student education programs of the Department of Pathology.

Candidate should send a C.V. and statement of research interests to Dr. Martin Hirsch, Chair, Search Committee, Professor of Medicine, Massachusetts General Hospital, 32 Fruit Street, Boston, MA 02114. Harvard Medical School and The Dana-Farber Cancer Institute are affirmative action/equal opportunity employers. Women and minorities are encouraged to apply.

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Senior Principal Scientist

There are a number of components to success in the pharmacentical research process. The most important is our people. At Schering-Plough, we hire the best talent in our industry. Then, we provide them with the technical resources they need to do their best work: the most advanced instrumentation: the latest computerized systems: modern lab facilities. Finally, we spend over \$500 million annually on R&D, and are completing a \$300 million R&D facility.

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As part of Schering-Plough's Safety Evaluation Center, you will be a senior staff member in General Toxicology participating in drug safety activities supporting all of our pharmaceutical product registrations. Your responsibilities will include the definition of project requirements, overseeing SEC and contract projects, interpretation of results and preparation of written reports. You will serve as a staff consultant on toxicology issues and represent Drug Safety on a corporate-wide therapy team.

The successful candidate will possess a Ph.D. in Toxicology or related discipline, board certification in toxicology and at least 8 years' relevant experience in industrial pharmaceutical toxicology. Effective written and verbal communication skills are essential. Desirable work experience includes interaction with government regulatory authorities, leadership for multidisciplinary tasks and participation in mechanistically oriented research.

We offer highly competitive salaries and an excellent benefits package. Please send resume to: W. Decker, Schering-Plough Research Institute, 60 Orange Street, Bloomfield, NJ 07003. We are an equal opportunity employer.



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FRENCH "ACADEMIE DES SCIENCES" PROFESSORSHIPS

In order to foster international cooperation between academic and industrial research, the French Académie des Sciences, the Centre National de la Recherche Scientifique and Elf Aquitaine will open several one-year professorships in France for the 93–94 academic year.

These openings are reserved for research professionals, typically at the Associate to Full Professor level, and may be held in conjunction with a sabbatical leave. They include generous benefits, such as housing arrangements and travel expenses, depending upon the candidate's experience.

The scientific domains involved cover Elf Aquitaine's activities in oil, chemical and pharmaceutical research:

 Earth Sciences, with an emphasis on surface seismology, sedimentology, organic and mineral geochemistry and the physics of oil-related fluids, including interactions with rocks;

 Chemical Sciences, with an emphasis on polymers, halogen and thiochemistry, catalysis, and process engineering research;

• Life Sciences, with an emphasis on studies dealing with thrombosis, the cardio-vascular and the central nervous systems.

Prearranged agreements with French academic laboratories are eligible for these professorships, and they will be appreciated although not mandatory.

There are no citizenship restrictions. Mastery of French is not required, although some familiarity with French culture would be helpful.

Additional information can be obtained from the following contacts:

 For North America-based candidates:
 J. BODELLE, Vice President Research & Development Elf Aquitaine, Inc.
 1899 L Street, N.W., Suite 500
 Washington, D.C. 20036

For other candidates:
 C. JABLON, Chief Scientist
 Elf Aquitaine, DRDIE
 Tour Elf, Cedex 45
 92078 Paris-La-Défense. FRANCE

Formal applications should include a detailed résumé, a description of the research project and any other relevant information in order to select the most qualified candidates. They should be sent to the above addresses before January 31st, 1993. They shall be processed in confidence and the professorships are scheduled for announcement before the end of April 1993.

CELL BIOLOGIST DIVISION OF CELL AND DEVELOPMENTAL BIOLOGY DEPARTMENT OF MOLECULAR AND CELL BIOLOGY

UNIVERSITY OF CALIFORNIA AT BERKELEY

The Department of Molecular and Cell Biology at the University of California at Berkeley invites applications from outstanding candidates for a tenure-track Assistant Professor position in the Division of Cell and Developmental Biology. Candidates with research interests that utilize modern approaches for the study of the function of cells and their components are especially encouraged to apply. Areas of particular interest include: Cell cycle regulation, signal transduction, hormone biology, growth control, membrane physiology, nuclear structure, cytoskeletal architecture, extracellular matrix, cell-cell communication, intracellular protein transport and organelle assembly. This position can commence as early as 1 July 1993.

Applications should include a cover letter clearly stating an intent to apply for this position, a detailed *curriculum vitae*, an up-to-date list of all publications and one copy of each of three of the most significant papers, a brief statement (1-2 pages maximum) of research objectives and teaching interests, and three letters of evaluation (to be sent directly from three individuals who are most familiar with the candidate's accomplishments and potential).

Please note the closing date for receipt of at least the letter of intent is December 15, 1992. Applications should be submitted to:

Cell and Developmental Biology Search Committee Department of Molecular and Cell Biology University of California at Berkeley Room 299, Life Sciences Addition (LSA) Berkeley, CA 94720

The University of California at Berkeley is an Affirmative Action/Equal Opportunity Employer. Women and individuals from ethnic minorities traditionally under epresented in the biological sciences are especialty encouraged to apply.

PRESIDENT, INSTITUTE FOR HEALTH SCIENCES

St. Luke's-Roosevelt Hospital Center, a 1,315-bed teaching hospital on Manhattan's West Side and an affiliate of the Columbia University College of Physicians and Surgeons, invites nominations and applications for a President of its Institute for Health Sciences. The Institute is an independently funded free-standing science and research unit of the Hospital Center that promotes and conducts biomedical research, provides research training, and supports a suitable physical and intellectual environment in which to conduct research.

The President must be an M.D. or Ph.D. with a strong record of achievement in clinical or basic research, must have demonstrated significant administrative or leadership experience at a senior level in a research setting, and should have an interest in continuing his/her own research. The candidate's academic credentials should qualify him/her for a senior faculty appointment at Columbia University College of Physicians and Surgeons. The President will be charged with overseeing the further growth of the Institute, with setting its direction for the future, and with enhancing its independent financial base. The President will be expected to foster an appropriate intellectual and academic environment for productive research, develop and supervise a grants management office, allocate research space, appoint and oversee the Institutional Review Board, and supervise all aspects of the Institute's administration and operation. To carry out these responsibilities, the President will report to the President and CEO of the Hospital Center, and report to the Dean, College of Physicians and Surgeons, Columbia University in his or her capacity of Associate Dean for Research.

The Hospital Center offers an excellent salary and benefits program. Please forward curricula vitae to:

Sigurd H. Ackerman, MD Chair, Committee to Search for a President Institute for Health Sciences St. Luke's-Roosevelt Hospital Center 1111 Amsterdam Avenue New York, NY 10025

SUNY Purchase is a liberal arts and fine arts college of some 3,500 students (1500 in residence) located 30 miles north of New York City near White Plains in Westchester County. The College of Letters and Science is the largest academic unit of the College, with 85 full time faculty offering 15 majors and several interdisciplinary programs.

NORTHEAST REGIONAL ASSISTANCE CENTER FOR SCIENCE AND MATHEMATICS EDUCATION

The State University of New York (SUNY) at Purchase seeks a Director for its highly successful Center (part of a college/school collaborative, the SUNY Purchase Westchester School Partnership). The Director will be responsible for maintaining current programs and developing new initiatives for elementary and secondary mathematics and science teachers and students. The Director will hold a concurrent faculty appointment in the Division of Natural Sciences and will be expected to teach undergraduates part time. A Ph.D. in either mathematics or in a physical or biological science is preferred. This position requires the candidate to be both an ambassador for mathematics and science education and a successful grant-writer. Applications for this state-supported, eleven-month position will be reviewed as received. Send resume and three letters of recommendation.

UNDERREPRESENTED MINORITIES PROGRAM

SUNY Purchase is participating in a state-wide program to appoint underrepresented minorities to its permanent faculty. Candidates can be from any discipline taught at the College in the Natural Sciences, Social Sciences or Humanities. Candidates should have the Ph.D. by September 1, 1993. This tenure-track Assistant Professor position starts September, 1993 with competitive salary and a possibility for housing on campus in a faculty-in-residence program. Screening for applications will begin on December 1 and will continue until an appointment is made.

SUNY Purchase is an AA/EOE. Send all applications to Affirmative Action Office, SUNY Purchase, Purchase, New York 10577

Scientific/Senior Scientific Writers

Wyeth-Ayerst Research is an international leader in the Research and Development of a broad range of highly advanced Pharmaceuticals, Biologicals and Nutritional Products.

Our Clinical R&D Department seeks an individual to be responsible for writing, editing, abstracting, proofreading and revising a wide variety of clinical documents for U.S. and international drug registration and marketing support. Will also organize the presentation of clinical studies in New Drug Applications (NDAs) and write manuscripts and abstracts for publication. Ph.D. or Pharm.D. required. Demonstrated writing skills and the ability to organize scientific data are essential.

We offer competitive salaries and a comprehensive benefits package. For confidential consideration, please send resume to: Wyeth-Ayerst Research Personnel, Position #116/123, P.O. Box 8299, Philadelphia, PA 19101. Equal Opportunity Employer, M/F/D/V responses encouraged.



NOVEX has rapidly become a leading manufacturer of pre-cast electrophoresis gels and related life-science separations products. We are committed to bringing innovative, timesaving separations products and excellent service to the research market in order to maintain rapid growth and market leadership.

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The successful candidate will have a Ph.D. in chemistry or biochemistry and 5+ years experience in product development management. Fundamental knowledge of separations techniques, and practical experience with electrophoresis is essential. Knowledge of polymer chemistry is desirable. Excellent communication skills and a multi-disciplinary approach are required to form an effective partnership with marketing and manufacturing.

Please send your resume in confidence to: Rita McFayden, NOVEX, 4202 Sorrento Valley Blvd., San Diego, CA 92121

DIRECTOR AND PROFESSOR Division of Biology Kansas State University

The Division of Biology seeks an individual to lead a dynamic teaching and research unit. A unit in the College of Arts and Sciences, the Division has 60 faculty/staff, 50 graduate students, 25 postdoctoral researchers, 17 support staff, and 400 undergraduate majors. Undergraduate degrees are offered in Biology, Microbiology, and Fisheries and Wildlife Biology. Extramural funding and the Kansas Agricultural Experiment Station support a strong research program at the masters, doctoral, and postdoctoral levels.

The director will be responsible for administrative leadership and future development in research, instruction, and service. In addition to evidence of administrative ability, essential qualifications include a record of outstanding accomplishment in research and teaching appropriate to the rank of professor. Candidates should submit a statement of career goals, a current curriculum vitae, and the names, addresses and telephone numbers of three persons who can provide information on the applicant's qualifications. Applications or nominations should be addressed to Dr. R. J. Robel, Chair, Biology Directorship Search Committee, c/o Dean of Arts and Sciences, Kansas State University, Manhattan, Kansas 66506-1005. Applications must be received by December 20, 1992.

KSU is an Equal Opportunity/Affirmative Action Employer

University of Idaho Dean, College of Agriculture

The University of Idaho invites applications or nominations for the position of Dean of the College of Agriculture. The college consists of 11 academic and research departments, the School of Home Economics, four district offices, seven research and extension centers, and 42 county extension offices. The College of Agriculture was established in 1901 and currently has more than 800 students (including more than 200 graduate students) and 620 staff and faculty on the main campus in Moscow and throughout the state.

The Dean of the College of Agriculture is the chief administrator of the college and, along with the three Associate Deans/Directors for research, extension, and academic and international programs, is responsible to the Provost and President for the implementation of policies defined by the college or university faculty and approved by the appropriate authority. The Dean is responsible for establishing an environment that stresses academic excellence, for managing personnel and budgets, and for fostering interactions with the agricultural community. Primary qualifications for the position include sufficient credentials to hold a tenured full professorship; a successful teaching record; outstanding leadership in research or extension activities; a proven record of external funding; outstanding communication skills; proven administrative capabilities as shown by success as the chair of an academic department or equivalent position in academe, business or government; a demonstrated commitment to the land-grant philosophy; and the vision and capability to address the challenges facing agriculture, natural resources, and family and community development.

The position is available July 1, 1993. Search and selection procedures will be closed when a sufficient number of qualified applicants has been identified, but not earlier than January 1, 1992. Applications (including a letter of application, a curriculum vitae, a general statement on administrative philosophy, and the names of five references) or nominations are to be submitted to Professor David Oliver, Chair, College of Agriculture Dean Search Committee, Department of Bacteriology and Biochemistry, University of Idaho, Moscow, ID 83843. Telephone: (208)885-7164.

The University of Idaho is an Affirmative Action/Equal Opportunity employer and educational institution.

NANOTECHNOLOGY Reprint

Engineering a Small World: From Atomic Manipulation to Microfabrication

This 42-page special section, reprinted from the 29 November issue of **SCIENCE**, is your entry to the expanding world of small-scale engineering. It's a field that spans microelectronics, materials science, chemistry, molecular biology, and microscopy. In this special section, ten illustrated articles by research leaders and by science journalists present the full scope of this small world.

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IMMUNOCHEMIST AND CELL/MOLECU-LAR BIOLOGIST. Two tenure-track faculty positions are available immediately. Excellent basic science envi-ronment. We seek individuals interested in human au-toimmunity, cell-cell and/or cell-matrix adhesion. Send toimmunity, cell-cell and/or cell-matrix adnession. Send curriculum vitae to: L. A. Diaz, M.D., Department of Dermatology, Medical College of Wisconsin (MCW), 8701 Watertown Plank Road, Milwaukee, WI 53226. Telephone: 414-266-4087. FAX: 414-266-4955. MCW is an Affirmative Action/Equal Opportunity Employer.

ANESTHESIA SCIENTIST

Application invited for tenure-track or tenured posi-tion in the Anesthesiology Department at the University of California at Irvine (UCI) for M.D. and/or Ph.D. Scientist. Candidate must develop and sustain indepen-dent program in basic anesthesia research. Opportunities exist for collaborating with established scientists working on molecular or cellular mechanisms in neuroscience, cardiovascular disease, and pharmacology/toxicology. Cardiovascular disease, and pnarmacology/rox(cology). Salary and benefits are commensurate with qualifications and experience. Send curriculum vitae to: David H. Wong, Pharm.D., M.D., Long Beach VA Medical Center, 5901 East 7th Street, Anesthesiology Service (139A), Long Beach, CA 90822. UCI is an Affirmative Action/Equal Opportunity Employer.

WALLAC, INC. (formerly Pharmacia LKB Nu-WALLAC, Inc.), a world leader in nuclear counters (Beta and Gamma), seeks a PRODUCT SPE-CIALIST to support a new product line. A background in Molecular and/or Cellular Biology, along with practical experience in receptor-ligand assays, cell proliferation studies and immunoas-ter and a set of the set o assays, cell promeration studies and inimitioas-says, would be very helpful. Computer experience a must. Responsibilities will include the develop-ment, organization and presentation of seminars of a technical nature in the pharmaceutical and academic community. Will interface with R & D academic community. Will interface with R & D for product development and with marketing de-partment for product marketing. Résumés to: Inga Graf, Director of Human Resources, Wal-lac Inc., 9238 Gaither Road, Gaithersburg, MD 20877. Wallac Inc. is an Equal Opportunity Employer.

MICROBIOLOGIST/PLANT BIOLOGIST: Tenure-track position teaching microbiology, botany and additional courses. Our facilities support cell/tissue culture, DNA, biochemical genetics and environmental research. Greenhouses and terrestrial field sites available. Send curriculum vitae, transcripts, teaching and research interests and three letters of reference to: Search Chair, Biology Department, Adrian College, Adrian, MI 49221. Closing date: 15 Jan 1993. Equal Opportunity Employer. Women and minorities are encouraged to apply.

SENIOR SCIENCE WRITER SPECIALIST

California Institute of Technology is seeking a Senior Science Writer Specialist to be responsible for writing science news releases, promoting Caltech to the science media, working in concert with the media relations director on a wide range of assignments, researching, writing and arguments writing, and promoting news releases on scientific sub-jects related to Caltech, serving as a Caltech spokesperson on South California earthquakes; organizing and man-aging press conferences; and answering inquiries from the media.

the media. This position requires a B.S. degree in a scientific major and a minimum of four years of science writing experience or equivalent. Experience working with sci-ence media is essential. Must be able to express complex subjects in clear and readable lay language, handle several projects at once, and possess excellent interpersonal skills. Candidates with an advanced degree will be given pref-erence. Interested candidates may submit a résumé along with salary requirements to: with salary requirements to:

Caltech Employment Department Position #566 1201 East California Boulevard Pasadena, CA 91125

Caltech is an Affirmative Action/Equal Opportunity Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

GLYCOPROTEIN CHEMIST

Interferon Sciences (ISI), a leading biophar-maceutical company located in central New Jer-sey, has FDA approval to manufacture natural human leukocyte interferon. The R&D Department has a position available for a Ph.D. or M.S. with experience in the isolation and quantitation of monosaccharides, and determination of carbohydrate sequence in glycoproteins. Knowledge and experience in protein purification and char-acterization is a plus. ISI offers an excellent compensation and benefits package. Qualified candidates should send résumé to: Personnel Department (KFB), Interferon Sciences, Inc., 783 Jersey Avenue, New Brunswick, NJ 08901. An Equal Opportunity Employer.

RESEARCH VIROLOGIST

Position in veterinary virology and immunology available immediately with rapidly growing biotechnology avai-firm, located just outside Des Moines, Iowa. Candidates must possess M.S. or Ph.D. degree, preferably with 5 plus years of work experience. Required skills: cell culture manipulation, virus and antibody assays, experimen-tal design and evaluation of veterinary vaccines utilizing latest virological and immunological technology. Please send résumé to: Human Resources, Ambico, Inc., Box 522, 902 Sugar Grove Avenue, Dallas Center, IA 50063.

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A Postdoc and a junior-level staff person are being sought to study a recently cloned gene expressed prefer-entially in T lymphocytes at Immunobiology Research Institute, a small, focused research and development Johnson. These individuals will map cis-acting DNA regulatory elements and trans-acting proteins that confer tissue-specific expression in T cells, as well as participate in studies investigating expression of the gene in discrete T cell subsets and during development, and in studies of

gene function. We offer an excellent salary and benefits package, a campus-like setting in close proximity to New York and Philadelphia, and the opportunity to join a group of outstanding scientists bringing together individual areas of expertise to achieve common goals in basic research of expertise to achieve continion goals in Joan tosatch and drug development. For consideration, send your résumé to: Human Resources, Immunobiology Re-search Institute, Route 22 East, P.O. Box 999, An-nandale, NJ 08801–0999. We are an Equal Opportunity Employer.

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M.S. IN BIOTECHNOLOGY. A 2-year graduate m.s. IN **BIOTECTNOTOGY**. A 2-year graduate program in biotechnology. It includes extensive training in cell biology and recombinant DNA methodologies and either co-op experiences with industry or a thesis. Financial assistance is available. Please apply to:

Program Director, Biotechnology M303 Walters Life Sciences Building The University of Tennessee Knoxville, TN 37996–0830

CARNEGIE MELLON

Graduate Study in Engineering and Public Policy (EPP) leads to a research-based Ph.D. specializing in policy issues in areas such as: telecommunication, computer and other information technologies; energy and environmental systems (including climate change); tech-nical issues in international security; manufacturing and industrial policy; and risk analysis. Applicants must hold B.A. or B.S. in engineering, physical sciences, or math. Education or experience beyond the B.S. very desirable. Contact: Denise Murrin-Macey, Engineering and Public Policy (07), Carnegie Mellon, Pittsburgh, PA 15213.

POSITIONS OPEN

RESEARCH VIROLOGIST ENTEROVIRUS SECTION RESPIRATORY AND ENTERIC VIRUSES BRANCH Division of Viral and Rickettsial Diseases,

Center for Infectious Diseases, Centers for Disease Control

The Centers for Disease Control (CDC) is seeking qualified applicants for a staff position in the Enterovi-rus Section, Respiratory and Enteric Viruses Branch, Division of Viral and Rickettsial Diseases, Center for Infectious Diseases. The persons appointed will direct and participate in studies on enteroviruses, including molecular studies of genetic and antigenic variation and its role in human disease, immune response to infection and development of advanced diagnostic technologies and development of advanced diagnostic technologies. Research virologists with molecular biology and se-quencing experience are being sought. Qualifications preferred include a doctoral degree, significant scientific accomplishments in one or more areas of relevant research, and the ability to provide leadership for support staff. Salary range is \$38,861 to \$60,070 per annum, depending on qualifications. Further informa-tion can be obtained from: Mark A. Pallansch, Ph.D, Chief, Enterovirus Section, Respiratory and Enteric Viruses Branch (G17), Division of Viral and Rick-ettsial Diseases, Centers for Disease Control, At-lanta, GA 30333. Telephone: (404) 639-2749. Fac-simile: (404) 639-1307. Interested candidates also may send their curriculum vitae in confidence along with the name of these performance by with the names of three professional reference and February 1, 1993 to: Janie L. Oddy, Personnel Man-agement Office, Centers for Disease Control (D01), Atlanta, GA 30333. CDC is an Equal Opportunity Employer and provides a smoke-free work environment.

RiboGene, Inc.

RiboGene is a biotechnology company developing

commercial applications of its proprietary cell-free pro-tein synthesis technology. This growing company has openings for experienced scientific staff at both the Ph.D. and non-Ph.D. levels in the areas of:

- protein biochemistry
 - enzymologymolecular biology

 - assay development
 - product characterization.

Knowledge of cell-free protein synthesizing systems high-ly desirable, but not required. RiboGene, Inc. offers competitive salaries and an excellent benefits package. *M/F/H/V*. Send résumé to: **RiboGene, Inc., Attn: Human Resourc-**es, 21375 Cabot Boulevard, Hayward, CA 94545.

SENIOR RESEARCHER. Develop research program to increase commercial value of soybean grain; work with existing basic and applied researchers. Three-year, non-tenure-track appointment (adjunct faculty); continuation after three years dependent on funding. Ph.D. required, postdoctoral experience pre-ferred. Contact: Dr. A. L. Barta, Department of Agronomy, Ohio State University, Wooster, OH 44691; Telephone: 216-263-3887.

STAFF SCIENTIST

RESPONSE TECHNOLOGIES, INC. is a progressive national network of ourpatient cancer treatment centers, which specializes in high dose chemotherapy. We are currently seeking a Staff Scientist for our Memphis headquarters.

An extensive hematology background is needed to coordinate development of stem cell laboratory. Please call for more information, 1-800-422-2591, and send your résumé to: RTI Human Resources, 2001 Char-lotte Avenue, #100, Nashville, TN 37203. Equal Opportunity Employer.

ASSOCIATE SCIENTIST AND POSTDOCTORAL POSITIONS

Available in the laboratory of Dr. Kenneth M. Baker to study the molecular and biochemical mechanisms of angiotensin II-mediated cardiac growth and the regulation of expressed angiotensin II receptors. Molecular and biochemical background required. Send curriculum vitee and the names and addresses of

three references to: Geisinger Human Resources De-partment (KMB), 100 North Academy Avenue, Dan-ville, PA 17822–1529.

The American Physical Society

SENIOR MANAGEMENT OPPORTUNITIES

The American Physical Society (APS) is the world's leading membership organization dedicated to the dissemination of physics information and the strengthening of physics education. To assist the Society accomplish these goals, two Ph.D. physicist management professionals are sought to fill the positions of Associate Executive Secretary and Director of Physics Profession Programs. Both of these positions will be based at the new American Center for Physics in College Park Maryland, scheduled to open during the fall of 1993.

The primary function of the Associate Executive Secretary (AES) is to support the Executive Secretary in the general management of Society affairs. The AES has direct responsibility for the Meetings, Membership, Special Publications and Honors programs; is responsible for interacting with the APS subunits and assisting their activities; and acts as editor of the Bulletin of the American Physical Society and of APS News. This position requires extensive familiarity with the physics research community -its leaders, its institutions, and its practices. Strong background and demonstrated accomplishments in management and administration are essential.

The primary function of the Director of Physics Profession Programs is to administer, guide and support the Education program and the Women and Minorities in Physics programs and to be a liaison to other scientific organizations. The Director provides staff support for the APS Committee on Education and several other committees; directs fund-raising efforts for select Education and other projects; and manages the staff of the Physics Profession Programs department. This position requires significant experience in physics education and familiarity with physics research. Strong skills in program management, an interest in the issues of concern to the Physics Profession Programs, and staff supervisory abilities are necessary.

APS offers competitive salaries and an outstanding benefits package. For consideration send cover letter, resume and professional references to:

Dr. N. Richard Werthamer, Executive Secretary The American Physical Society 335 East 45th Street New York, NY 10017 EOE

DIRECTOR

NATIONAL CENTER FOR RESEARCH RESOURCES, NATIONAL INSTITUTES OF HEALTH

The National Center for Research Resources (NCRR) is seeking applicants for the position of Director, National Center for Research Resources. This position is located in Bethesda, Maryland, and is a permanent full-time position with a salary range of \$90,000 to \$112,100 per annum commensurate with qualifications. Physicians may be eligible for Physician Comparability Allowance ranging with \$5,000 to \$20,000 per year.

A recruitment bonus of up to 25 percent of base pay may be available to a non-federal selectee for this position.

A relocation bonus of up to 25 percent of base pay (subject to approval) may be available to a permanent Federal employee who must relocate to accept this position.

The Director, NCRR is responsible for providing leadership and guidance in the development and support of multi-categorical research resources needed for health-related research. Plans, directs, coordinates, and administers the Center's programs to provide the most effective and efficient support for the health research activities of the PHS research institutes and other public and private organizations involved in biomedical research. Applicants for this Senior Executive Service position must have a Doctor of Medicine degree, Doctor of Veterinary Medicine dgree or Ph. D. in one of the health sciences (or equivalent combination of experience and training). Send applications to Ms. Pathenia Wiggins, NCRR, 9000 Rockville Pike, Building 31, Room 3B40, Bethesda, MD 20892. For application forms and a copy of the requirements contact Ms. Wiggins at NCRR on (301)496-1524. Deadline for applicants is 11/27/92.

Public Health Service Commissioned Officers interested in performing duties of the position within the Commissioned Corps may submit a resume to the above address.



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MOLECULAR CELL BIOLOGY

The W. Alton Jones Cell Science Center is a not-forprofit research institution with established programs in growth factors, signal transduction, molecular carcinogenesis and developmental biology. We are seeking two investigators with established reputations in molecular cell biology and a commitment to excellence in basic research. Areas of interest are transcription, cell cycle control or neurodevelopmental biology, however, overall scientific excellence is the primary criterion. Individuals with an interest in combining these disciplines with environmental health sciences are encouraged to apply. Appointments will be at the **SENIOR SCIENTIST** levels and will carry salary guarantees and a liberal start-up package. Submit curriculum vitae, a statement of research interests and the names of three references to: **Faculty Search Committee**, c/o **Personnel Office**, **W**. **Alton Jones Cell Science Center, Lake Placid, NY 12946. The W. Alton Jones Cell Science Center is an Affirmative Action/Equal Opportunity Employer.**

ANNOUNCEMENTS

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PROPOSALS SOUGHT FOR IN VITRO SCREENING OF VAGINAL VIRUCIDES. The Contraceptive Research and Development (CONRAD) Program is seeking proposals to evaluate the anti-HIV activity of spermicidal and other compounds supplied by CONRAD. Application deadline is February 1, 1993. For information, contact: Lee E. Claypool, Ph.D., CONRAD Program, 1611 North Kent Street, Suite 806-A, Arlington, VA 22209, Telephone: (703) 524-4744.

MEETINGS

LITE WORKSHOP LIGHT IN THERMAL ENVIRONMENTS Sponsored by NSF, RIDGE & NASA January 10–12, 1993 Woods Hole, Massachusetts

Discoveries of light emitted by high temperature, deep ocean hot springs, and of novel photoreceptors in shrimp living at the hot springs raise questions of the source of light and its possible biological exploitation. This workshop is intended to gather scientists from a broad range of disciplines to examine these issues. Space is limited; some funding is available. Write a one-page letter of interest to: A. Norton, RIDGE Office, Woods Hole Oceanographic Institution, Woods Hole, MA 02543 by 22 November 1992.

COURSES AND TRAINING

CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain the Doctor of Optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: Dr. D. Chauncey, Program Director, Accelerated Program, The New England College of Optometry, Room S, 424 Beacon Street, Boston, MA 02115.

COURSES AND TRAINING

Seminar Announcement: "The Science of Freeze-Drying," Instruction given by Dr. Felix Franks, Pafra Biopreservation, Cambridge, England. The seminar will address the key factors which control the properties and stability of lyophilized materials, including pharmaceuticals.

January 11–12, St. David's (Philadelphia), PA. January 14–15, Cambridge, MA. Contact: **Thomas Iakubowski. Pafra Biopres**

Contact: Thomas Jakubowski, Pafra Biopreservation, 4711 Golf Road, Suite 702, Skokie, IL 60076; Telephone: 708-679-3503, FAX: 708-679-3510.

PHARMACEUTICAL DESIGN USING EPITOPE SELECTION TECHNOLOGIES

February 1–2, 1993; Hyatt Rickeys, Palo Alto, CA. SPEAKERS: G. Smith, M. Geysen, R. Balint, R. Houghten, J. Wells, R. Hoess, K. Lam, R. Ladner, M. Kahn, W. Dower, J. Winter, C. Craik, L. Loeb, A. Ellington, L. Griffin, J. Szostak, S. Fodor, C. Tuerk, J. Blaney, C. Barbas, F. Cohen, D. Burton, B. McDowell, J. Marks. Organizers: James Larrick; Robert Balint. Abstracts due: January 15, 1993. Sponsor: Palo Alto Institute of Molecular Medicine; 2462 Wyandotte Street, Mountain View, CA 94043; FAX: 415-851-3959; Telephone: 415-694-4996.

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MARKETPLACE





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