Personnel Placement

SOCIAL SCIENCE & GOVERNMENT


STUDIES IN NONLINEAR AEROSCIENCE, Earl H. Dowell, Martin Marit Hansen. Springer-Verlag, New York, 1988, xvi, 455 pp., Illus. $68.


ASSISTANT IN ENGINEERING. Ttontenure-track faculty position. Responsibilities include operation, maintenance, and research proposal generation of GC/MS facility as well as GC, HPLC, AAS, UV-VIS and TOC instruments. Position requires minimum of M.S. degree in chemistry or closely related field with experience in computerized analytical chemistry, including extensive GC/MS experience. Familiarity with USEPA methodology, QA/QC plans, electron microscope, methods development and hazardous substance analyses is desirable. Involves supervision of analytical laboratory, teaching instrument use and data interpretation, input to QA/QC plans, and local collaborative and development of instrument SOPs. Application including résumé and names, addresses, and telephone numbers of three references is forwarded to: Dr. Joseph J. Delfino, Chairman, Search Committee, Department of Environmental Engineering Sciences, Black Hall, University of Florida, Gainesville, FL 32611 within 30 days of publication of this announcement. The position will be filled as soon as practical after that date. The University of Florida is an Equal Opportunity/Affirmative Action Employer. Salary is negotiable based on training and experience.

ASSISTANT PROFESSOR—Theoretical ecologist or theoretical population biologist. Applications are invited for a tenure-track assistant professorship beginning August 1989. Responsibilities include teaching theoretical ecology or population biology course and participation in undergraduate offerings. The University of Wisconsin-Madison is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply. Please submit curriculum vitae, copies of publications, description of research and teaching interests, and have three letters of recommendation sent by 1 March 1989 to: Chair, Population Biology Search Committee Department of Zoology University of Wisconsin Madison Madison WI 53706 Telephone: 608-262-1087

ASSISTANT PROFESSOR, Department of Physiological Optics, School of Optometry, The University of Alabama at Birmingham. The Department of Physiological Optics is seeking a vision scientist for a faculty position at the assistant professor level. The successful candidate will be expected to teach professional level and graduate level courses. Candidates should have a Ph.D. in a related discipline, postdoctoral experience, and a strong record of accomplishment. The rank of assistant professor will be dependent upon experience, training, and qualifications. This position is expected to begin 15 April 1989. The position will include curriculum vitae and the names of at least three references. Send application to: Dr. Graeme Wil- son, Department of Physiological Optics, School of Optometry, The University of Alabama at Birmingham, Birmingham, AL 35294, UAB, An Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR, MOLECULAR BIOLOGY OF RETROVIRUSES. The Division of Biology at Kansas State University has a tenure-track position available at the assistant professor level effective August 1989. Applications are invited from individuals who have demonstrated excellence in research in the molecular biology of retroviruses and/or related oncogene expression. The individual will be expected to establish a research program in retrovirus and/oncogene research, and to participate in graduate and undergraduate instruction. Candidates should apply by submitting a curriculum vitae, a brief description of future research plans, and having three letters of reference sent to: Terry C. Johnson Division of Biology, Ackert Hall Kansas State University Manhattan, KS 66505 KSU is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR. One long-term tenure-track position. Begin late Aug 1989. Ph.D. required, some teaching experience—geneticist. Expected to teach upper and lower division courses and conduct research with undergraduate biology majors with innovative nonscience course development. Liberal arts environment. Some possibilities in area of molecular biology. Applicant must have a Ph.D. in a related discipline, postdoctoral experience, and a strong record of accomplishment. Send application to: Dr. Claudia E. Wilt, Department of Biological Sciences, School of Optometry, The University of Alabama at Birmingham, Birmingham, AL 35294, UAB, An Affirmative Action/Equal Opportunity Employer.

ASSOCIATE DIRECTOR. This is a high level administrative position responsible for research program objectives and accomplishments. The applicant must have an earned doctorate, documented record of accomplishment in agriculture or a related area and thorough familiarity with the philosophical base of the land-grant system. To apply, submit a letter of application, curriculum vitae, names, addresses, and telephone numbers of three references. Send to: Dr. D. Marsh, Associate Director, NEVADA AGRICULTURAL EXPERIMENT STATION, UNIVERSITY OF NEVADA—RENO, Reno, NV 89557-0149.

TRUDEAU INSTITUTE, INC., BASIC RESEARCH SCIENTISTS. The Trudeau Institute is always interested in receiving applications for tenure-track, full-time research staff position from appropriately trained individuals. Appointments may be made at the associate, assistant, or full member (professor) levels, depending on scientific ability and past performance. Successful applications will be expected to develop independent research programs in immunology, immunopathology, molecular immunology or related fields. The Trudeau Institute is a not-for-profit, basic research Institute with modern facilities, up-to-date equipment, in-house production, efficient management and an international reputation for excellence. Current staff interests include: Cancer immunology, transplantation immunology, immunity to infectious and parasitic diseases, regulation of immune responses, and the production and function of cytokines. Adequate start-up funding for new projects is available from Institute resources. Some benefits are competitive, and working conditions are conducive to a productive career in research. Applications consisting of curriculum vitae, the names and addresses of potential references, and a description of research interests should be addressed to: Dr. Robert J. North, Director, Trudeau Institute, Inc., P.O. Box 59 Saranac Lake, NY 12983

ASSISTANT RESEARCHER. Postdoctoral, Kewalo Marine Laboratory, Pacific Biomedical Research Center, University of Hawaii, Honolulu, HI 96813. Applications are invited from individuals who have demonstrated excellence in research in any area related to marine biology and who have a Ph.D. degree as of March 1989, subject to availability of funds. Duties: Undertake research on the mechanisms of motility in sea urchin sperm flagella by studying the interaction of the beat pattern with a vibrating micropipet and comparing with appropriate theoretical models. Minimum qualifications: Ph.D. degree in biophysics, physical chemistry, with background in mathematics and molecular biophysics, and some experience in programming to analyze and interpret the hydrodynamic interactions between a flagellum and the medium. Experience in performing light microscope micromanipulation of biological cells and in designing theoretical models involving hydrodynamics of low Reynolds number systems required. Starting monthly salary, to be negotiated. Send résumé and two letters of recommendation to: Dr. Masao Okamoto, Pacific Biomedical Research Center, Kewalo Marine Laboratory, Honolulu, HI 96813. Closing date: 28 February 1989. Equal Employment Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR DEPARTMENT OF GENETICS. The Department of Genetics, University of Washington, seeks candidates for a tenure-track appointment at the rank of assistant or associate professor, to begin in 1989. Candidates must have a strong record of accomplishment and a notable record of achievement in basic research and a strong commitment to both undergraduate and graduate education. Area of specialization is open. The department includes neurogenetics, mammalian genetics and plant molecular genetics. Applicants should arrange to have three letters of recommendation sent and should submit curriculum vitae, reprints of publications, a description of research plans, and arrange to have three letters of recommenda- tion sent to: Dr. David W. Allen, Chair, Department of Biology, University of Washington, Seattle, WA 98195. The University of Washington is an Equal Opportunity/Affirmative Action Employer.

The Department of Biology at Queens College of the City University of New York invites applications for an anticipated tenure-track position in endocrinology, immunology, microbiology, or physiology at the rank of ASSISTANT OR ASSOCIATE PROFESSOR. Post-doctoral experience expected for assistant professor candi-dates. A strong commitment to an active research program and to undergraduate, master's and doctoral teaching required. Applicants should submit curriculum vitae, reprints of publications, a description of research plans, and arrange to have three letters of recommenda-tion sent to: Dr. Joseph S. Levenson, Chair, Department of Biology, Queens College, CUNY, Flushing, NY 11367. The position will be available until filled, but applications are encouraged to be received by 28 February 1989. The College of Queens College is an Equal Opportunity Employer. Applications from women and minorities are particularly encouraged.

ASSOCIATE DIRECTOR. NEVADA AGRICULTURAL EXPERIMENT STATION, UNIVERSITY OF NEVADA—RENO. This is a high level administrative position responsible for research program objectives and accomplishments. The applicant must have an earned doctorate, documented record of accomplishment in agriculture or a related area and thorough familiarity with the philosophy of the land-grant system. To apply, submit a letter of application, curriculum vitae, names, addresses, and telephone numbers of three references to: Dr. D. Marsh, Associate Director, NEVADA AGRICULTURAL EXPERIMENT STATION, UNIVERSITY OF NEVADA—RENO, Reno, NV 89557-0149. A affirmative action/equal opportunity employer. UNR employs only U.S. citizens and aliens lawfully authorized to work in the United States.


POSITIONS OPEN

POSITIONS OPEN

POSITIONS OPEN

POSITIONS OPEN

POSITIONS OPEN
IMMUNEX CORPORATION, a Seattle-based biotechnology company at the forefront of research and development in immune regulation, has a number of positions open as a result of an expansion in our research activities. We are recruiting:

**STAFF SCIENTISTS AND POSTDOCTORAL FELLOWS**

with experience in the following areas:

**Mammalian Cell Fermentation**
Applicants are needed to contribute to the mammalian cell fermentation research program. The position requires a background in mammalian cellular physiology, biochemical engineering or fermentation. Familiarity with a variety of cultivating methods, cell culture scale-up, and downstream processing is desirable.

**Proteolytic Enzymes**
A scientist is needed to purify and characterize therapeutically important mammalian and microbial proteases in conjunction with a team providing recombinant proteases and protein engineering for structure to function studies. Preference will be given to candidates with experience in the design of protease substrates and inhibitors coupled with a strong background in determining enzyme kinetic and thermodynamic constants.

**Biochemistry/Process Development**
Scientists are sought to work on the purification, characterization, and renaturation of recombinant proteins expressed in microbial and mammalian cell hosts.

**Experimental Hematology**
Researchers are needed for development of *in vitro* and *in vivo* models of hematopoiesis. Particular emphasis will be placed on the establishment of assays having the capacity to detect novel hematopoietic growth factors.

**Yeast Expression and Genetics**
An individual is sought who has experience in the expression of recombinant proteins in yeast. A background in yeast genetics, yeast physiology, and host strain improvement for enhanced recombinant protein expression is desired.

**Transgenic Research**
A researcher with a strong background in molecular biology is sought to be involved in the design and analysis of transgenic animal models. Experience in using stem cell methods with an interest in homologous recombination and stem cell biology is desired.

**Immunology**
The Dept. of Immunology is recruiting scientists with expertise in one or more of the following areas: 1. Autoimmunity. Must have extensive background and working model(s) for assessing the effects of cloned cytokines and their receptors *in vivo* and *in vitro*. 2. Immunologist with extensive expertise in monocyte/macrophage biology. Working familiarity with human cells is preferred but not essential. 3. Immunologist with a specialty in hypersensitivity, especially as it relates to cellular aspects of allergy and regulation by cytokines.

Staff Scientist candidates should hold a PhD degree and possess significant postdoctoral experience demonstrating independent research skill and creativity and will have demonstrated an ability to work in a collaborative environment. Successful candidates for postdoctoral fellowship positions should have completed a PhD degree and no more than two years' postdoctoral training.

Immunex Corporation offers excellent opportunity for career development as well as competitive salaries and an excellent benefits package. For consideration, please submit C.V., names of three references, and a list of publications to: Immunex Corporation, Human Resources Director, 51 University Street, Seattle, WA 98101. Immunex is an equal opportunity employer m/f/h.
LOOKING FOR A CAREER CHANGE?

An editorial position at Science is available for a PhD biomedical scientist with a broad range of interests and research experience in one or more of the following areas: molecular pharmacology and physiology, pre-clinical sciences, structural biology, or eucaryotic molecular biology. We are seeking someone with at least two or three years of post-doctoral experience in quantitative aspects of the life sciences and publications in the refereed literature. Editors have varied responsibilities in manuscript selection ranging from solicitation to editing for clarity. Previous editorial experience is not required. This is a full-time position in our Washington offices.

Please send resume and list of publications with cover letter and salary requirements to:

Mr. Gregory Stokes
AAAS
1333 H Street, NW
Washington, DC 20005
EOE

NUCLEIC ACID CHEMISTS

ISIS Pharmaceuticals, a San Diego-based pharmaceutical and technology company is seeking nucleic acid chemists at all levels to staff the Department of Nucleic Acid Chemistry. ISIS Pharmaceuticals is a new research and development company whose focus is to discover, develop and market novel therapeutics based upon antisense oligonucleotide analog chemistry. ISIS has secured funding, strong research programs, a world class scientific advisory board, an outstanding board of directors, and experienced scientists from the pharmaceutical industry who are dedicated to making ISIS a very special environment. The mission of the Department of Nucleic Acid Chemistry will be to develop an aggressive research program in the development of novel oligonucleotide analogs.

DIRECTOR OF NUCLEIC ACID CHEMISTRY. We seek an outstanding, creative individual to build and direct a state of the art nucleic acid synthesis and research facility. Initially, the Director will recruit a staff of approximately 4 Ph.D. and 4 BS/MS chemists. The successful candidate will have a Ph.D. in Nucleic Acid Chemistry plus at least five years’ experience in oligonucleotide analog synthesis as well as a strong desire and ability to develop an innovative research program.

SENIOR SCIENTISTS, Ph.D., NUCLEIC ACID CHEMISTRY. Successful candidates will have a Ph.D. in organic chemistry plus two years of postdoctoral experience preferably in nucleic acid synthesis.

SCIENTISTS MS/BS. Experience in organic synthesis or related area is desired. Relevant experience in analytical or structural chemistry is a plus.

Applicants should submit their CV and reprints of relevant publications to: ISIS Pharmaceuticals, Employment Department, 3000 Sand Hill Road, Building 3, Suite 225, Menlo Park, CA 94025. Applications will be kept confidential.

ISIS PHARMACEUTICALS

RESEARCH SCIENTISTS

Perceptual Research Related to Medical Imaging

Scientists (Ph.D.) in Experimental Psychology, Physics or Engineering

Major medical center in New York metropolitan area is seeking Scientists with Ph.D. in Experimental Psychology, Physics, Engineering or related disciplines with training and experience to conduct perceptual cognitive and performance analysis oriented research studies related to medical imaging.

Salary commensurate with experience. Qualified candidates should send Curriculum Vitae with specific indication of relevant experience, in confidence to: Andrea McGoldrick, Employment Office.

Long Island Jewish Medical Center
400 Lakeville Road, New Hyde Park, N.Y. 11042
LIJMC is an equal opportunity employer
**Vertebrate Developmental Biologist**

Yale University Department of Biology wishes to appoint a Vertebrate Developmental Biologist at the Assistant Professorship level. The successful candidate should carry on a vigorous, independent research program, supervise the research of graduate students and postdoctoral fellows, and contribute to undergraduate teaching.

Send curriculum vitae, description of research interests, and the names and addresses of three referees by March 1, 1989 to: Chairman, Department of Biology, Yale University, P.O. Box 666, New Haven, CT 06511.

Yale University is an Affirmative Action/Equal Opportunity Employer.

---

**Postdoctoral Researcher**

Genentech, Inc., a leader in the field of biotechnology, is seeking a Postdoc to take part in significant research on lipoprotein biochemistry and the development of atherosclerosis. Candidates with training in protein biochemistry, molecular biology or pharmacology will be considered.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to Dr. Richard Lawn, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer. Women and minorities are encouraged to apply.

---

**RESEARCH SCIENTIST BIOCHEMISTRY**

The Dermatological Research Group of the Bristol-Myers Pharmaceutical Research Development Division has an opportunity for a Research Scientist to join a multi-disciplinary team in the discovery of new drugs for the treatment of skin diseases. The position is in the PreClinical Biochemical Pharmacology Group.

This position requires a Ph.D. degree with 1-3 years post-doctoral experience in general biochemical techniques. Experience in enzymology or receptor binding techniques would be highly desirable. The successful candidate will be expected to develop an independent research effort aimed at identifying potential enzyme (or other) targets for the development of new anti-inflammatory drugs for the treatment of psoriasis and other skin diseases. Supervisory experience and leadership skills are important since the position will supervise other scientists.

This position offers an opportunity to work on scientifically exciting and state-of-the-art programs in dermatology. A very attractive and competitive salary and comprehensive benefits package is available. Submit resume and salary requirements in confidence to:

Manager, Human Resources
Bristol-Myers Company
Pharmaceutical R&D Division
100 Forest Avenue, Buffalo, N.Y. 14213
An Equal Opportunity Employer M/F/H/V

---

**POSTDOCTORAL RESEARCHERS**

The Life Sciences Division of the Los Alamos National Laboratory is seeking postdoctoral researchers in the Pulmonary Biology-Toxicology Program. Ongoing research conducted in this program includes isolation and characterization of pulmonary interstitial cell subpopulations, the development of advanced multiparameter flow cytometric techniques for analyzing cell structure and function, elucidation of cell-cell dialogues involved in cell recruitments and other interactions during the development and progression of pulmonary diseases, delineation of lung defense mechanisms, and the investigation of the potentiation of expression of lung injury by exercise following the inhalation of toxic agents. Individuals with a strong background in pulmonary cell biology and experience in electron microscopy/ morphometric analyses are especially encouraged to apply.

Applicants must have received their doctoral degree within the past three years and must meet the requirements for a Department of Energy security clearance. Postdoctoral appointments are for one year, renewable for a second year. The salary range is $33,640 - $35,445 per year. Interested candidates should send a curriculum vitae to Dr. Bruce E. Lehnert, Life Sciences Division, MS M882, Los Alamos National Laboratory, Los Alamos, NM 87545. (505) 667-2753.

To apply formally, send resume, employment application, graduate and undergraduate transcripts, and three letters of reference to Carol M. Rich, Human Resources Development Division PD-88-047, Los Alamos National Laboratory, Los Alamos, NM 87545.

Affirmative Action/Equal Opportunity Employer
U.S. Citizenship Required

University of California
Los Alamos
UNIVERSITY OF MIAMI
CHAIRPERSON
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

We are seeking a distinguished mathematician with a strong record in research. The department is firmly committed to excellence in research and teaching, has recently increased graduate enrollment, and anticipates several new faculty appointments in the near future. The new chairperson would play a major role in our further development and enhancement of our program.

Applicants should submit curriculum vitae and the names and addresses of four references to: Professor Chris Costanzo, Chair, Department of Mathematics and Computer Science, University of Miami, Coral Gables, FL 33124. The appointment could be effective as early as fall 1989, so immediate applications are encouraged. However, applications will be accepted until the position is filled.

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

DEPARTMENT CHAIR

The Department of Horticulture and Landscape Architecture, Washington State University, invites applications for a department chairperson. Major responsibilities include academic leadership, administrative management, and supervision of research, teaching and extension programs. A Ph.D. in horticulture or a closely related area in plant science or landscape architecture is required. Experience in research, teaching and/or extension is also required.

Applicants should have proven ability to attract extramural funding, a record of scholarly excellence, and must be eligible for tenure at the rank of full professor. Salary is competitive and commensurate with qualifications and experience. Application deadline: 31 March 1989. The application must include curriculum vitae, list of publications, names, and addresses of four references, and a statement of professional goals. Applications should be sent to: Professor B. W. Poovachai, Chairman, Search Committee, Department of Horticulture and Landscape Architecture, Washington State University, Pullman, WA 99164-6414. WSU is an Equal Opportunity/Affirmative Action Employer. Protected group members are encouraged to apply.

DIRECTOR, CLINICAL CYTOGENETICS

The Department of Medical and Molecular Genetics at the University of Pennsylvania invites applications for the position of Director of Clinical Cytogenetics. The incumbent will be expected to direct clinical laboratory. A unique opportunity for ABMG Board-certified eligible candidates with a Ph.D. and/or experience in clinical genetics and an experienced Ph.D. cytogeneticist to direct its clinical laboratory. Candidates should submit curriculum vitae, list of publications, and names, addresses, and telephone numbers of three references to: Professor D. J. DeAngelis, Chairman, Search Committee, Department of Medical and Molecular Genetics, University of Pennsylvania, Philadelphia, PA 19104. The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer. Protected group members are encouraged to apply.

EXPERIMENTAL PATHOLOGIST

Position is available for a person with an M.D. degree and trained in anatomic and/or clinical pathology, and techniques of molecular biology. Candidate must have a demonstrated record of productivity as evidenced by peer authorship publications in critically reviewed journals and as Principal Investigator on USPHS grants or contracts. Candidate will be responsible for initiating and maintaining an independent, extramurally-funded research program. At least 75% of time will be available for research; and teaching pathology to medical students and residents will be assigned.

Please send curriculum vitae and a letter describing current and planned research goals, and the names of three references to: John W. Kreider, M.D., Division of Experimental Pathology, Department of Pathology, Milton S. Hershey Medical Center, P.O. Box 850, Hershey, PA 17033.

The Milton S. Hershey Medical Center is an Equal Opportunity Employer. Women and minorities are encouraged to apply.
BS/MS SCIENTISTS
Virology Research

For more than a century, scientists at ELI LILLY AND COMPANY have developed innovative, high quality pharmaceutical products. In 1988, Lilly invested over $500 million in research-and-development programs. More than 3,000 scientists at the company’s Lilly Research Laboratories are pursuing innovative research programs that involve many important health care needs.

To further build its research capabilities, Lilly is seeking self-motivated, innovative scientists for the newly established Virology Research Division. The ideal candidate will have the following qualifications:

- Bachelor's or Master's degree in virology, microbiology, or a related discipline.
- Two to five years experience with virology or molecular virology research.
- Experience with tissue culture and aseptic techniques.

Eli Lilly and Company is committed to scientific excellence. Lilly provides a stimulating professional atmosphere with many opportunities for collaborative, multidisciplinary research. The company offers an attractive total compensation program. Entry level and salary will be based upon each candidate’s experience.

For prompt consideration, please forward your résumé to:

Maria L. Poor
Science Recruitment (AV-1)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285

The World’s Foremost Manufacturer of Research Biochemicals And Organic Compounds...

Sigma Chemical Company employs hundreds of staff personnel at our St. Louis laboratory and manufacturing headquarters. Our biochemicals and organic compounds are distributed to a quality conscious international market that relies on our integrity and professionalism. Openings are available in several production, analytical and technical service areas.

PRODUCTION/ANALYTICAL

**Fermentation Microbiologist, Molecular Biologist:** Requirements include BS, MS in microbiology or biochemistry. 1-3 years experience in large scale microbial and fungal fermentations helpful. Good mechanical aptitude necessary.

**Molecular Biology:** Requirements include a BS degree in biology or biochemistry with 2-3 years experience in molecular biology or an advanced degree. Duties include the production and analysis of restriction endonucleases, nucleic acid modifying enzymes and nucleic acids.

**Enzyme/Protein Analysis:** Requirements include a degree in chemistry or biochemistry. 2-3 years experience with traditional wet method chemistry or advanced degree in Biochemistry with emphasis in enzymology including: protein determination, enzyme kinetics preferred.

**Protein Purification:** Requirements include a BS, MS in the sciences and 3-5 years experience with protein purification techniques. Duties will include the development and large scale production of enzymes and other proteins.

TECHNICAL SERVICE

These positions offer the opportunity to utilize technical and problem solving skills to provide product information to customers worldwide.

**Tissue Culture:** Requirements include a degree in biology or biochemistry and 3-5 years general tissue culture lab experience. Scientific writing experience, knowledge of GMP and sterility and validation testing helpful.

**Immunohistochemistry:** Requirements include a BS degree in biology or biochemistry along with laboratory experience in one or more of the following areas: Immunohistochemistry, monoclonal antibody development, production and characterization, radioimmunoassay, or tissue culture.

All candidates must possess strong written and verbal communication skills and be able to work independently. Selected applicants will be provided with compensation commensurate with experience and education, plus full company-paid benefits package. Send your confidential resume to: SIGMA CHEMICAL COMPANY, P.O. Box 14508, St. Louis, MO 63178.
U.S. PATENT AND TRADEMARK OFFICE

POSITION: Microbiologist/Patent Examiner Opportunity involves the scientific and legal evaluation of patent applications involving recombinant DNA, molecular and cellular immunology, molecular genetics, microorganisms, cell biology, cell culture, fermentation, enzymology or clinical chemistry.

QUALIFICATIONS: A full 4-year or longer professional curriculum in an accredited college or university leading to a Bachelor's Degree or higher with specific study in Molecular Biology, Biochemistry, Immunology, Enzymology, Embryology, Protein Chemistry, Microbiology or Cell Biology. A Ph.D. or M.S. degree with relevant research experience is preferred. A B.S. degree with significant research experience will be considered.

Research Experience in any of the following areas would be beneficial: DNA cloning, protein chemistry, gene expression, sequencing techniques, mutagens, hybridoma technologies, monoclonal antibody applications, mammalian or plant cell lines, cell culture, immunosassays, hybridization techniques, fermentation, enzymatic reaction, diagnostics and automation of clinical analysis.

SALARY: Dependent upon experience and qualifications.

LOCATION OF POSITION: Arlington, VA

For further information contact:
Patent and Trademark Office
Office of Personnel, C&E
CPK 1, Suite 700
Washington, D.C. 20231
703-557-3631
Toll free: 800-368-3064

DEPARTMENT HEAD OF BIOCHEMISTRY AND BIOPHYSICS
TEXAS A&M UNIVERSITY

Applications and nominations are invited for the position of Head of the Department of Biochemistry and Biophysics at Texas A&M University.

The Department of Biochemistry and Biophysics, with a faculty of 23, is an administrative unit of the College of Agriculture, offering B.S., M.S. and Ph.D. degrees in Biochemistry and Genetics and is affiliated with the Texas Agricultural Experiment Station. The Department has been designated for continued growth and development by the University administration and will occupy a new 90,000 sq. ft. research building in the spring of 1989.

Candidates for the position must have a Ph.D. or equivalent degree, a record of research excellence in the fields of Biochemistry and/or Molecular Biology, demonstrated leadership in scholarly activities and a strong commitment to excellence in academic and research programs in Biochemistry/Molecular Biology. The successful candidate will have a major influence in filling several currently vacant faculty positions, including one endowed Chair.

The position is expected to be filled by September 1, 1989. Nominations and applications should include resumes and names and telephone numbers of at least three references. Review of applications will begin on February 1, 1989; however applications will be accepted until a suitable candidate is identified. These materials should be submitted to:

Dr. Charles J. Arntzen
Department Head Search Committee
Department of Biochemistry and Biophysics
Texas A&M University
College Station, Texas 77843-2128

Texas A&M University System is an affirmative action, equal opportunity employer.

GENE-TRAK Systems in just two years has become one of the largest groups in the world dedicated to the commercialization of DNA probe based projects for diagnosing infectious diseases.

VIROLOGIST

Research and development position available to develop an amplified nucleic acid based assay for the detection and diagnosis of the human immunodeficiency virus. Applicants should have a Ph.D. in virology and molecular biology experience. Industrial product development experience is preferred.

GENE-TRAK Systems, located in the western suburbs of Boston, offers a lucrative compensation and benefits package that includes equity participation. Send your CV to: Brian Mazar, Human Resources Director, Dept. SI-20.

GENE-TRAK Systems, 31 New York Avenue, Framingham, MA 01701.

An equal opportunity employer.

Yale UNIVERSITY

The McKnight Foundation

Molecular Genetics of the Flowering Process
Graduate and Postdoctoral Fellowships

An interdisciplinary research program at Yale University sponsored by The McKnight Foundation.

Applications are invited for Graduate and Postdoctoral Fellowships to join an interdisciplinary research program undertaken by ten faculty members in three departments at Yale University (Biology, Molecular Biophysics & Biochemistry, and Forestry & Environmental Studies).

Ongoing projects include the following:
- genetic analysis of cell-cell interactions in floral structures
- mutational and molecular fine-structure analysis of floral genes
- ectopic expression of growth regulators in the flowering process

The training program also includes technical workshops, seminar programs, and extensive collaborative work.

Graduate applicants must apply to the Director of Graduate Studies, Department of Biology, P.O. Box 6666, Yale University, New Haven, CT 06511 U.S.A., Telephone: (203) 432-3538 by March 1, 1989. Postdoctoral applicants should apply directly to the Project Coordinator with CV, three letters of reference, and a research interest statement. Postdoctoral fellows will be encouraged to develop independent collaborative projects on flowering.

For further information, contact Prof. Ian Sussex (Project Coordinator), Yale Biology Department, P.O. Box 6666, New Haven, CT 06511 U.S.A.

Yale University is an Affirmative Action/Equal Opportunity Employer.
PLANT BIOTECHNOLOGY

GARST SEED COMPANY is a member of the Agricultural Products Group of Imperial Chemical Industries PLC (London), the World's fourth largest chemical manufacturer and a diversified world leader in discovery, technology, and innovation. The dedication of a new Bioscience Laboratory near Ames, Iowa in October, 1988, marked the consolidation of Garst's traditional plant breeding program with the international bioscience capabilities of ICI.

The expectations of this new endeavor have created some challenging opportunities for competent scientists interested in applying biotechnology to crop improvement.

Molecular Biology
Ph.D and BS/MS level positions for those with theoretical foundation and practical experience in the application of RFLP technology to corn breeding.

Biochemistry/Physiology
BS/MS level positions for those with demonstrated competence in basic lab techniques to support senior scientists working on yield stability in corn.

Cell Biology Transformation
Ph.D. and BS/MS level positions for those with background in the molecular and biochemical characterization of transformed plants.

Positions for Ph.D. scientists could be permanent or a two-year Post Doctoral appointment with permanent position to follow by mutual agreement.

We offer a competitive salary commensurate with experience, comprehensive benefits, high professional standards and respect, and - most importantly - the career association with a world leader in meeting farmers' needs for the coming decade. Our growth over the past decade has been nothing less than phenomenal, and we invite your candidacy. Principals only. Please submit resume in confidence to Charles T. Brodigan, Associate Employment Manager, ICI Americas, Wilmington, DE 19897.

World Problems
World Solutions
World Class

RESEARCH STAFF POSITIONS
Ph.D., M.S., B.S. Levels

Hana Biologics, Inc. is a leader in the application of biotechnology and cell biology for production of therapeutic, diagnostic, and research reagents. Hana currently has openings at the Ph.D., M.S., and B.S. levels for individuals with expertise in cell biology, molecular biology, immunology, biochemistry, immunochemistry, clinical histopathology, endocrinology, and flow cytometry.

Salary and benefits are commensurate with qualifications and experience. Applications should include C.V., three references, and publication record where applicable.

Please send applications to:
Hana Biologics, Inc.
850 Marina Village Parkway
Alameda, CA 94501-1034
Attn: Personnel Director—Dept. R

Schering
Senior Scientist

If pioneering new advances in allergy research is what you have in mind, come to Schering-Plough Research.

Progressive in our thinking. Innovative in our research. And recognized worldwide for the products we develop. Schering-Plough is sharpening its competitive edge in the healthcare industry, creating exciting opportunities for accomplished scientific professionals.

As a member of our allergy research team you will be studying eosinophils. Requirements include experience in cell biology or biochemistry and a PhD with 0-3 years of post-doctoral experience or equivalent. Experience with eosinophils would be desirable.

We offer a highly competitive salary and benefits package along with a highly supportive, challenging environment. For prompt consideration please forward your resume to: Mr. R. Blackburn, Schering-Plough Research Division, 60 Orange Street, Bloomfield, NJ 07003. An equal opportunity employer.

What you have in mind, we put in action.

Schering-Plough
POSITIONS OPEN

ECOLOGY POSTDOCTORAL POSITIONS

Three positions are available for research at the Cedar Creek Long-Term Ecological Research Site. Postdoctoral candidates will be given the opportunity to develop research expertise in functional biodiversity, particularly as it relates to canopy health and growth, and to contribute to the joint Cedar Creek-Minnesota Nutrient Cycling/Soil and Sediments (MNICS) Program. The positions are available immediately and will be filled as funds become available. The U.S. Department of Energy-Office of Science Distinguished Postdoctoral Research Program offers a stipend of $40,000, a travel allowance, and an annual research budget of $5,000. Successful candidates will be expected to present research at scientific meetings and conferences. The positions are available immediately and will be filled as funds become available. The University of Minnesota is an Equal Opportunity Employer and specifically invites applications from women and minorities.

ENVIRONMENTAL CHEMIST/TOXICOLOGIST. Great Lakes Environmental Research Laboratory, Ann Arbor, Michigan. Postdoctoral position studying the interaction of benthic organisms with contaminated sediments using laboratory measurements of bioturbation. Research includes bioavailability, partitioning, bioaccumulation, biotransformation, and effects on invertebrates. The position, GS-11 ($28,852), is for 1 year with possible extensions. Successful candidates must have a Ph.D. in a closely related field. Applications should be submitted to Dr. David Timlan, Department of Ecology and Behavioral Biology, University of Minnesota, Minneapolis, MN 55455. The University of Minnesota is an Equal Opportunity Employer and specifically invites applications from women and minorities.

FOSSIL ENERGY POSTGRADUATE RESEARCHER. The Max-Planck-Institute of Biophysical Chemistry, 3400 Gottingen, West Germany, plans to appoint a JUNIOR INVESTIGATOR as head of an independent research group (Nachwuchsgruppe). The candidate is expected to establish a research program in membrane biophysics.

CORNELL UNIVERSITY MICROBIOLOGIST—ASSISTANT/ASSOCIATE PROFESSOR. Invited applicants are invited for the assistant or associate professor in the Department of Microbiology, College of Agriculture and Life Sciences, Cornell University. This is a tenure-track, 12-month appointment and will start 1 January 1990. Those applying should possess a strong background and interest in prokaryotic biology. Areas of interest include: comparative molecular approaches to environmental microbiology, photosynthesis, development, bioremediation, and interactions and other aspects of bacterial diversity. Inquiries are invited from all qualified applicants. Applicants should have a Ph.D. in microbiology or a related area, and should demonstrate a research ability. Women and minority candidates are encouraged to apply. Applications should be submitted before 15 March 1990 to: Dr. Robert L. Zinder, Chairman, Search Committee, Department of Microbiology, Stocking Hall, Cornell University, Ithaca, NY 14853. Cornell University is an Equal Opportunity/Affirmative Action Employer.
ACADEMIC RESEARCH ENHANCEMENT AWARD

The Academic Research Enhancement Awards (AREAs) provide funding for feasibility studies, pilot studies and other small-scale health related research projects. Awards are made in amounts of up to a total of $75,000 in direct costs (plus applicable indirect costs) for a period of up to three years; however, no more than $35,000 in direct costs may be awarded for any one year.

Eligibility Requirements
1. Applicant Institutions
   All domestic institutions offering baccalaureate or advanced degrees in the sciences related to health are eligible, except those that have received an NIH Biomedical Research Support Grant (BRSG) of $20,000 or more per year for four or more years during the period from FY 1982 through FY 1988.

2. Applicant Principal Investigators
   Must not have active research grant support (including an AREA) from either NIH or the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) at the applicant institution at the time of award of an AREA grant.
   May not submit a regular NIH or ADAMHA research grant application for essentially the same project as a pending AREA application.
   Are expected to conduct the majority of their research at their own institution, although limited access to special facilities or equipment at another institution is permitted.
   May not be awarded more than one AREA grant at a time nor be awarded a second AREA grant to continue the research initiated under the first AREA grant.

Award Criteria
   Funding decisions are based on the research project's scientific merit and relevance to NIH programs, and the institution's contribution to the undergraduate preparation of doctoral-level health professionals. Among projects of essentially equivalent scientific merit and program relevance, preference will be given to those submitted by institutions that have granted baccalaureate degrees to 25 or more individuals who, during the period 1978-1988, obtained academic or professional doctoral degrees in the health related sciences.

APPLICATION RECEIPT DATE
   June 22, 1989

Anticipated Number of Awards: Approximately 112 grants

For information and application materials, contact:
Office of Grant Inquiries
Division of Research Grants
National Institutes of Health
Westwood Building, Room 449
Bethesda, Maryland 20892
(301) 496-7441

POSTDOCTORAL FELLOWSHIPS

These positions, for a period of one to three years, will be available for highly qualified individuals with enthusiasm for discovery through basic research in the biological sciences. Publication of basic research findings is encouraged, as is participation in scientific meetings. Opportunities are available in the following areas:
- regulation of topoisomerases and DNA replication
- structure/function of protein kinases
- hormone-receptor signal transduction and regulation of protein kinase C
- molecular and cellular biology of neurodegenerative disorders
- regulation of gene expression in mammalian cell systems
- role of oncogenes and tumor suppressor genes in neoplastic transformation
- receptor structure elucidation and peptidomimetic design and synthesis

At Glaxo Inc. growth opportunities and state-of-the-art facilities are complemented by a location (Raleigh-Durham-Chapel Hill) that has excellent universities in close proximity. Further, we reward talent and creativity with an excellent salary and benefits package. Candidates interested in these positions, please send curriculum vitae, along with the names of three references, to:

Human Resources Dept.
Job #PF-S

Glaxo Inc.
PO Box 13398
Research Triangle Park, N.C. 27709
(No Phone Calls, Please)
No Private Agency Referrals, Please
An Equal Opportunity Employer M/F/H/V

Paving the way to a healthier world.
The University of South Florida
ROSKAMP CHAIR FOR BIOLOGICAL RESEARCH IN PSYCHIATRY

Applications are being sought for the Robert and Lee Roskamp Endowed Chair for Biological Research in Psychiatry at the University of South Florida Psychiatry Center. The Center is a recently constructed 114-bed teaching and research facility located on the USF Health Sciences Campus in Tampa.

Applicants should be established investigators with documented research experience and productivity in the biologic aspects of mental illness. They should possess demonstrated leadership and program development skills, an interest in teaching and functioning as a mentor and a record of independent grant and/or foundation support. The successful applicant will serve as Director of the Roskamp Laboratory for Biological Research in Psychiatry at the Center and will be expected to enrich its intellectual environment through his or her interactions with its faculty and trainees as well as with other USF departments. Preference will be given to individuals who have a medical degree and a clinically relevant focus for their research activities.

Applications and inquiries should be addressed to: Anthony Reading, M.D., Chair, Roskamp Search Committee, 3515 E. Fletcher Avenue, Tampa, Florida 33613. (813) 972-7050. The deadline for applications is March 30, 1989. The University of South Florida is an Equal Opportunity Affirmative Action Employer.
### OUR PAST. OUR PRESENT. YOUR FUTURE.###

In the world of biotechnology, we have a history. A history with a proven track record of growth and stability. Today, we are a world leader in the production of chemicals, instruments, and systems for industrial research, the life sciences and clinical diagnostics.

Our mission of helping science better serve mankind provides focus to our future of continued growth. And this growth promises interesting and challenging opportunities for both scientific and professional advancement.

Bio-Rad has a special need for scientists at all levels whose education and industrial experience include biology, biochemistry, chemistry, molecular biology, microbiology or virology. If you have experience in commercial immunoassay development, or the development of diagnostic systems for infectious diseases, consider our opportunities.

The pace here is stimulating, often going from concept to market application in a very short time. Which helps explain why we have been able to maintain a 25% annual sales growth.

If being a part of our team sounds interesting to you, apply today by sending your resume to: Bio-Rad Laboratories, Inc., Human Resources, Dept. SM0106, 1000 Alfred Nobel Drive, Hercules, CA 94547. An equal opportunity employer.

---

### TOXICOLOGIST###

CIBA-GEIGY's Agricultural Division has an excellent opportunity for a Toxicologist at its Environmental Health Center located in Farmington, CT. You will conduct mammalian toxicology studies; participate in study design; and be responsible for preparation of protocols, overall study supervision, interpretation of results and report preparation. You will also have opportunities for collaborative work on the pathogenesis of toxic effects.

The successful candidate will have a Ph.D. or equivalent in toxicology, pharmacology or a related life science and strong communication skills. Zero to three years experience with agricultural/industrial chemicals in a contract or industrial laboratory is desirable.

CIBA-GEIGY Corporation offers on-going growth opportunities, excellent salaries and an attractive package of paid company benefits. The Environmental Health Center is adjacent to the University of Connecticut Health Center, in one of the state's most attractive semi-rural towns. To apply, please send your resume, a brief description of your experience, and your salary requirements to: Mrs. P.A. Frutchey, CIBA-GEIGY Corporation, Agricultural Division, 400 Farmington Ave., Farmington, CT. 06032. We Are An Equal Opportunity Employer M/F/H/V.

---

### Science Serving Mankind###

CIBA-GEIGY

---

### Opportunities in Gastrointestinal Research###

The Procter & Gamble Company, a leader in health care R&D, is seeking to fill entry level openings in a multidisciplinary G.I. research group. This group has a broad interest in understanding physiological changes in disease states and works with in vitro and in vivo systems to design novel therapies. Major research focus areas include gastritis, ulcer disease, motility and diarrheal disease.

Successful candidates will have a Ph.D. degree in physiology, pharmacology, microbiology, or related field plus some general knowledge of gastrointestinal function. Postdoctoral experience is desirable but not required. Good written and oral communication skills are also important requirements. U.S. citizens or permanent residents preferred.

Send resume and publication list to:

Dr. T.J. Logan
G.I. Research Positions
THE PROCTOR & GAMBLE COMPANY
P.O. Box 398707
Cincinnati, Ohio 45239-8707

Procter & Gamble is an EQUAL OPPORTUNITY employer.

---

### Procter & Gamble###
**POSITIONS OPEN**

**NEW ZEALAND UNIVERSITY OF CANTERBURY**

**DEPARTMENT OF PLANT AND MOLECULAR BIOLOGICAL SCIENCES**

Applications are invited for the above position. Applicants should have a Ph.D. degree in microbiology. Preference will be given to a candidate with research experience in non-medical microbiology and microbial metabolism. The appointment will be expected to contribute to teaching and research in the Biophysics group. The successful candidate will develop a research program in an area of his/her expertise.

**DEPARTMENT OF PLANT PATHOLOGY**

The Department of Plant Pathology at the University of California, Davis is seeking a tenured faculty position in the area of molecular genetics and plant pathology. The University of California, Davis is an equal opportunity/affirmative action employer. Women and minorities are encouraged to apply. A Ph.D. degree in plant pathology, molecular biology, or a related field is required. The position is available immediately and applications will be accepted until the position is filled.

**MOLECULAR GENETICIST to establish and direct an independent research program in the nutritional regulation of gene expression at the Human Nutrition Research Center on Aging.**

Please send résumé to:

Dr. Irwin H. Rosenberg or Dr. Ernest J. Schaefer

Co-Chairs, Search Committee

USDA Human Nutrition Research Center on Aging

Tufts University

711 Washington Street

Boston, MA 02111

Telephone: 617-556-3100

An Affirmative Action/Equal Opportunity Employer.

**MARINE MICROBIOLOGIST (60% TIME)**

The Institute of Medicine of the National Academy of Sciences is seeking a staff officer for a project to evaluate the safety of fisheries products for its Food and Nutrition Board. Responsibilities include collecting and analyzing scientific data pertaining to the presence of diseases and background reports, and coordinating meetings and workshops. Position requires a Ph.D. or equivalent in microbiology with emphasis on marine microbiology and 2 years related experience. Excellent writing and communication skills desired. A salary commensurate with experience and an exceptional benefits package is offered. Please send résumé and references in confidence to:

Institute of Medicine

NAS 341 Park

2101 Constitution Avenue, N.W.

Washington, D.C. 20418

Equal Opportunity Employer.

**MOLECULAR GENETICS—NEUROBIOLOGIST**

Tenure-track position in the Andrus Gerontology Center and the Department of Biological Sciences. To establish a new laboratory research program in the general area of molecular genetics—neurobiology, with strong interests in aging and age-dependent neurological disease. This laboratory will be affiliated with the University-wide Neurological, Neuromuscular and Behavioral Sciences (NIBS) program. This position is being recruited at the assistant professorial level. However, more senior appointments will be considered. Please send curriculum vitae, bibliography, names of references and a brief description of research goals and research objectives by 24 February 1989 to:

Dr. Caleb Finch
Chairman, Search Committee

Molecular Genetics—Neurobiologist Department of Biological Sciences

University of Southern California

University Park

Los Angeles, CA 90089—0191

**MOLECULAR GENETICS IN PLANT PATHOLOGY ASSISTANT PROFESSOR**

A tenure-track, full-time research-teaching faculty position with research emphasis in molecular genetic applications to plant protection and plant production in agriculture. Development of a course in molecular genetics of plant disease, teaching in a Ph.D. core sequence, and graduate student advising required. A Ph.D. relevant to molecular genetics is required. A Ph.D. relevant to molecular genetics is required. Candidates with postdoctoral experience, in teaching, molecular genetics, or plant pathology, publishing in refereed journals, and have grant writing experience will be preferred. Applicants must send curriculum vitae, a letter of intent to apply for the position, and three or more letters of reference to:

Dr. Richard Zeyen, Department of Plant Pathology, 495 Bogard Hall, University of Minnesota, Minneapolis, MN 55455; telephone (612) 625-4754. Application deadline: 15 April 1989.

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

**MOLECULAR VIROLOGIST**

The School of Medicine at Case Western Reserve University invites applications from new or established investigators for a position in molecular virology. We are seeking faculty members with primary interests in virology, especially in the area of human retroviruses and AIDS research. The Case Western Reserve University School of Medicine provides a strong and interactive environment for collaborative research among basic and clinical investigators. Ample resources and newly renovated facilities are available for this program. Case Western Reserve University is an Affirmative Action and Equal Opportunity Employer. Interested candidates should contact Dr. Rong Kung, Ph.D., and Jerrold Elner, M.D., Co-Chairmen, Virology Search Committee, Office of Academic Programs, Case Western Reserve University School of Medicine, 11291 Abington Road, Cleveland, OH 44106.

**NEUROCHEMIST**

The Institute for Sensory Research at Syracuse University seeks applicants from individuals working in the area of neurochemistry for a tenure-track position at the level of assistant or associate professor. The successful candidate is expected to develop a strong independent research program and to teach in the graduate neurosciences program. The appointment will begin 1 September 1989. The position is supported by substantial start-up funds and newly constructed laboratory space. Applicants should include curriculum vitae, representative reprints, and a statement of aims for future research. Applications should include three individuals who will send letters of reference to:

Dr. Ray A. Malachan, Dean, School of Arts and Sciences, Missouri Southern State College, Joplin, MO 64801—1595. Equal Employment Opportunity/Affirmative Action Employer.

**NMR SPECTROSCOPY**

Postdoctoral positions are available to study structure, dynamics, and function using 2D NMR and other biophysical approaches. Applicants should have experience with modern NMR methods. Please send curriculum vitae, a description of research interests, and three letters of reference to:

Dr. J. W. Caughey, Department of Chemistry and Biochemistry, University of Pennsylvania, Philadelphia, PA 19104. Equal Opportunity/Affirmative Action Employer.
**Bioprocess and Bioengineering R&D**

The Upjohn Company, a worldwide leader in the research, production and marketing of pharmaceuticals, chemicals and agricultural products, is expanding its bioprocess and bioengineering staff, and its manufacturing capabilities. This is part of Upjohn’s on-going commitment to research and development which will approach $400 million for 1988. We are offering challenging career opportunities for BS, MS and Ph.D. level candidates with training and laboratory experience in the areas described. Multi-disciplinary groups with exceptional and innovative problem-solving skills will develop new and improved processes for producing commercially important biotechnology products.

**CELL BIOLOGY**

Develop positions for optimal expression of proteins from transfected cell lines and hybridoma cultures. Work cooperatively in translating laboratory processes to large-scale production. Expertise in somatic cell genetics, gene amplification, cell physiology and kinetics, electroporation and microinjection techniques highly desirable.

**PROTEIN CHEMISTRY**

Develop procedures for purification of heterologous proteins produced through recombinant DNA and mammalian cell culture technology. Work cooperatively in translating laboratory processes to large-scale production. Knowledge of protein folding, modern protein purification techniques, gel electrophoresis, affinity, low pressure, ion exchange, and size exclusion chromatographies highly desirable.

**MICROBIAL PHYSIOLOGY**


**BIOCHEMICAL/ CHEMICAL ENGINEERING**

Develop scale-up procedures for mammalian cell culture and fermentation. Work cooperatively in translating laboratory procedures to the pilot plant and production scale operations. Experience at pilot plant scale, knowledge of equipment design and operation, and a good knowledge of biology, biochemistry or microbiology is desirable.

These positions are challenging career opportunities for qualified BS, MS and Ph.D. candidates.

Upjohn is located in Kalamazoo, a medium-sized southwestern Michigan community offering an excellent quality of life with immediate access to a rich mix of cultural, educational, and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for personal and career growth, a highly competitive salary commensurate with experience, a comprehensive benefits program, and relocation assistance. You are encouraged to send your CV/resume and a copy of transcripts to: Corporate Employment, Biochemical, The Upjohn Company, Kalamazoo, MI 49001 and refer to advertisement number 5612-CA in your correspondence. We are an Equal Opportunity Employer M/F.

---

**PROTEIN BIOCHEMISTRY AND MOLECULAR GENETICS AT MONSANTO**

The Monsanto Biological Sciences Department, located in suburban St. Louis, is committed to quality research in molecular biology leading to new products in health care, animal nutrition and agriculture. Scientists at the indicated degree levels are being recruited to fill the positions described below.

**Protein Biochemistry**

Research will focus on protein structure to activity relationships with a goal of creating unique and useful biomolecules. The positions call for Ph.D. or M.S. level Protein Biochemists with proven track record in modern methods for protein purification and characterization.

**Biological NMR Spectroscopy**

Two-dimensional NMR techniques will be used to obtain structural information on proteins and nucleic acids. Scientists will be expected to interact with molecular modelers and crystallographers to apply structural data toward predictions of activity for macromolecules. Requires a Ph.D. in biophysics, biochemistry or related field and a minimum of two years of relevant NMR spectroscopy experience.

**Molecular Genetics**

Research will involve nucleic acid manipulations including gene isolation and expression. In addition, mammalian and/or insect cell culture experience will be required to produce and assay proteins and engineered variants of proteins. Candidates should have a Ph.D. in molecular genetics or related field and a minimum of 3 years' relevant experience in molecular genetics.

**Microbial Gene Expression**

Research involves development of novel meterological gene expression systems for bacteria or insect cells. Positions available for BS, MS, and Ph.D. level microbiologists or microbial geneticists. Candidates must have relevant experience in vector construction or in the genetic manipulation of microbes for screening and isolating strains that enhance protein expression.

These are excellent opportunities to apply your skills to new discoveries and challenges. Please send your curriculum vitae and names of three references to: Monsanto Company, BBSB-CC, 700 Chesterfield Village Parkway, St. Louis, MO 63198. Equal Opportunity Employer M/F/H/V.
PATHOLOGIST--CELL BIOLOGIST: M.D./ Ph.D. E. Enf. for faculty position. Basic experimental cell biology and/or immunology. Animal Genetics. Abundant opportunities for collaborative investigations. Women and members of minority groups are encouraged to apply. Please submit curriculum vitae to: John E. Craighead, M.D., Chairman, Department of Pathology, University of Vermont, Burlington, VT 05405. Replies will be accepted until position is filled. An Affirmative Action/Equal Opportunity Employer.

PEPTIDE CHEMIST/MOLECULAR BIOLOGIST--The Division of Endocrinology Research Laboratories at the Rhode Island Hospital seeks a research associate with experience in peptide chemistry and/or molecular biology to probe, isolate, analyze, and purify peptides or proteins by mass spectroscopy of probe. Applications are invited from qualified candidates. Applications with the names of three references to: Dr. Robert T. Lackey at the Corvallis Laboratories: 503-757-4364/4690. To obtain a complete vacancy announcement, application package, and instructions, write: EPA Personnel Office, P.O. Box 98516, Las Vegas, NV 89193-8516 no later than 15 February 1989. EPA is an Equal Opportunity Employer.

PHYSICIST--Research atomic defects and impurities in optical fibers with ultrasonic microprobe analyses of trace centers or isotope. Develop necessary spectroscopic techniques and optical detection and measuring equipment of low-loss, long-length optical fiber. Utilize methods and/or theories involving ion-electron microprobe, mass spectroscopy, neutron-detection, neutron activation, Rutherford backscattering and effects of nuclear radiation. Communicate with manufacturing/marketing personnel as to technical aspects of fiber-optic products. Ph.D. in physics or related discipline; 2 years postdoctoral experience in job or 2 years of experience as researcher in nuclear physics. Experience must include "hands-on" experience in ion/electron microprobe, neutron detection, neutron activation, Rutherford backscattering, effects of nuclear radiation. Forty hours per week, $46,500 per year. Send résumé or apply in person to: Georgia Department of Labor, 1535 Atkinson Road, Lawrenceville, GA 30043, or to the nearest Georgia Job Service Center. Control #GA 5331878.

PLANT STRUCTURAL AND CELLULAR BIOLOGIST, assistant professor. A tenure-track position to establish research programs in structural and subcellular aspects of plant growth, development, and differentiation. The research approach should involve modern methods of microscopy and cell biology as applied to plants. In addition to establishing a prominent research program, the incumbent will be expected to teach a course that provides training in modern research approaches. The position is available immediately with a December 15th deadline. The position is offered on a 10-month contract basis. Interested individuals should submit résumé, transcripts, statement of research objectives, and three letters of recommendation to: Dr. Carl Schildkraut, CH416, Albert Einstein College of Medicine, Bronx, NY 10461.

POSTDOCTORAL ASSOCIATE: Virology. Our F.A.R.D. MEDICAL SCHOOL. To investigate regulation of the heat-shock response in eukaryotic cells. Successful applicants will collaborate with a group using molecular genetic and biochemical approaches to study regulation of heat shock protein gene expression. Demonstrated expertise in molecular biology or protein biochemistry. Capacity for independent work is required. Salary according to experience. Send curriculum vitae, names of three references, and letter of interest to: Dr. Stuart Calderwood Dana-Farber Cancer Institute FJB 205 Harvard Medical School 44 Binney Street Boston, MA 02115.

POSTDOCTORAL POSITIONS: Available July 1989, for investigations of molecular mechanisms of neurodegenerative diseases. Candidate should have demonstrated expertise in cellular/molecular biology. Our laboratory investigates the role of molecular biological approaches to understanding the pathogenesis of human neurodegenerative diseases and their animal models. Send letter of interest and three letters of recommendation to: Donald L. Price, M.D., Neuropathology Laboratory, The Johns Hopkins University School of Medicine, 509 Patapsco Valley Road, Building Sciences, University of Arizona, Tucson, AZ 85721. The University of Arizona is an Equal Opportunity/Affirmative Action Employer. Because of funding requirements, applicants limited to U.S. citizens/permanent residents.

POSTDOCTORAL POSITION: To study the role of chromatin organization, DNA replication and oncogene rearrangements on gene regulation. Replicons from globin and immunoglobulin gene families and Epstein-Barr and bovine papilloma viruses are being studied. Projects include the determination of whether different origins are used in the replication of gene-specific vectors during differentiation. Send curriculum vitae and three letters of reference to: Dr. Carl Schildkraut, CH416, Albert Einstein College of Medicine, Bronx, NY 10461.

POSTDOCTORAL POSITION: Available immediately in Arteriosclerosis SOR program to investigate lipid metabolism and associated biochemical and molecular biological approaches. U.S. citizen or permanent resident. Send curriculum vitae to: Dr. Alan Tall Department of Medicine Columbia University New York, NY 10032.

POSTDOCTORAL POSITION available immediately to characterize the biochemical and functional properties of extracellular/matrix proteins involved in the expression of the transformed phenotype. Background in biochemistry, cell biology, molecular biology or immunology desirable. Send curriculum vitae and three letters of reference to: Dr. Susan P. Hawkes, Department of Pharmacy, S-926, University of California, San Francisco, CA 94143-0446.

POSTDOCTORAL POSITION available now through fall 1989 to study insulin/growth factor-regulated (Ser/Thr) protein kinases and tyrosine kinase substrates. Multidisciplinary program ongoing in well-equipped laboratory. New opportunities exist in protein purification or monoclonal antibody technology. Send curriculum vitae with names of three references and a description of career interests to: J. Avruch, Diabetes Unit, MGH East, Building 149, 13th Street, Charlestown, MA 02129.
The Alton Ochsner Award
Relating Smoking and Health

Purpose:
An annual award of $15,000 will be presented to one or more clinicians and/or basic science investigators, without regard to age, race, sex or nationality, for outstanding and exemplary scientific investigations that relate tobacco consumption and health. This scientific work may be clinical, fundamental, epidemiological or preventive in nature; the prime criterion for award selection is its scientific impact on this major health problem.

Award Donor:
Lakeside Pharmaceutical Division
Merrell Dow Pharmaceuticals Inc.

Institutional Sponsor:
Alton Ochsner Medical Foundation

Nominations:
Nominations must be made by a letter that outlines briefly and concisely the work and major contributions of the investigator to the field. Self nominations are excluded. The nomination must be supported by: (1) the candidate’s curriculum vitae and bibliography (citing the major publications); (2) at least two letters of support from outside the candidate’s institution; and (3) reprints of at least three major contributions. All material must be submitted in octuplicate, and no individual will be considered unless all supporting documentation is complete. We shall be pleased to review any other supporting documents and letters provided they are also submitted in octuplicate.

Nominations will be solicited from medical schools, Veterans Administration hospitals, and major clinics and research centers in this country.

There will be no more than three co-awardees for the Alton Ochsner Award in any one year. Nominees not receiving the Award will be considered for two additional years. New letters of support and updated materials in octuplicate are welcomed but are not mandatory on the two succeeding years following the first year of nomination.

Selection:
The Selection Committee consists of one member each from the Alton Ochsner Medical Foundation; the fields of Pulmonary Diseases, Cardiology, Surgery, Behavioral Sciences, Epidemiology; and the broad area of scientific achievement. In making its selection, the Committee will assess the candidate’s scientific impact on this important field of investigative achievement through the significance of the fundamental or clinical contributions made. No member of the Selection Committee will be considered for the Award.

Deadline for Nominations: Nominations must be postmarked by March 31, 1989.

Presentation of Award:
The Award will be presented in person, October 31, 1989 at the Annual Assembly of the American College of Chest Physicians in Boston, Massachusetts.

Mail nominations to: Edward D. Frohlich, M.D.
Vice President for Academic Affairs
Alton Ochsner Medical Foundation
1516 Jefferson Highway
New Orleans, Louisiana 70121
NATIONAL INSTITUTES OF HEALTH
Public Health Service
DEPARTMENT OF HEALTH AND HUMAN SERVICES

The National Institutes of Health (NIH) invites nominations and applications for the position of Director, National Institute on Deafness and Other Communication Disorders (NIDCD). This is a Civil Service position in the Senior Executive Service (SES), with a salary range of $68,700 to $76,400 per annum. The person selected may be eligible for Physician’s Comparability Allowance ranging from $5,000 to $20,000 per year. A one year probationary period must be served by the individual selected if not currently in the Senior Executive Service.

The National Institute on Deafness and Other Communication Disorders conducts, fosters, and supports research and research training on the causes, prevention, diagnosis, and treatment of deafness and other communication disorders. The Director, NIDCD, will be responsible for the coordination and direction of all programs and activities in the Institute.

For more information contact Ms. Patricia A. Southcomb at (301) 496-6521. The following forms are required: Application for Federal Employment (SF-171) accompanied by a current curriculum vitae and bibliography. These must be submitted to:

Ms. Patricia A. Southcomb
National Institutes of Health
Officer of the Director Personnel
Building 31, Room 1C-23
9000 Rockville Pike
Bethesda, Maryland 20892

Applications must be postmarked no later than March 17, 1989.

All qualified candidates will receive consideration without regard to race, religion, color, sex, age, national origin, lawful political affiliation, marital status, union membership, or nondisqualifying physical or mental handicap.

NIH is an Equal Opportunity Employer

MANAGER
Pesticide Development International

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

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

POSTDOCTORAL, GRADUATE ASSISTANTSHIPS AND RESEARCH ASSISTANT POSITIONS available at the W. Alton Jones Cell Science Center, Lake Placid, New York. Positions are supported by individual awards and institutional funds. The investigators and their research interests are:

GORDON H. SATO, Director: Cellular endocrinology/physiology. Manzanar Project-Aquaculture system for food production in coastal-desert areas. Tissue culture of plants.

VINCENTO BUONASSISO: Biochemistry and molecular biology of endothelial proteoglycans.

MYLES CARBO: Lipid metabolic pathways and cell signal transduction.

JOHN CRABB: Protein structure-function, molecular biology of visual cycle proteins.

STEPHEN HARRIS: Molecular biology of gene expression in steroid responsive tissues.

JUN HAYASHI: Developmental immunobiology of thymocytes and thymic epithelial cells.

SUSAN JAXEN: Regulation and activation of protein kinase C isozymes.

PER-ERIK MANSSON: Molecular biology of growth factor genes.

RYOTOHI MATSUDA: Developmental and molecular biology of muscle cells.

WALLACE McKEEHAN: Growth factors/receptors in blood vessels, liver and prostate.

GINETTE SERRERO: Molecular biology and hormonal control of mesenchymal cell differentiation.

JAMES STEVENS: Mechanisms of cellular and biochemical toxicology and carcinogenesis.

GRADUATE ASSISTANTSHIPS are available to graduate students who are currently enrolled at a university but wish to conduct research towards a degree at W.A.J.C.S. Applicants must have completed all course work and be able to concentrate on thesis research. The Center or the applicant must be able to make arrangements with their university so that research conducted at the Center can be used for the degree. The Center also participates in a graduate program with Clarkson University, Potsdam, NY and the University of Vermont, Burlington, VT. Course work is taken at the University and research work is conducted at the W.A.J.C.S. This program is open to excellent candidates who have completed their undergraduate degree in the specialties offered.

W. ALTON JONES CELL SCIENCE CENTER is located in the heart of the Adirondack State Park, Lake Placid, NY. The Center is equipped with state-of-the-art equipment (amino acid analyzer, amino acid and DNA sequencers, peptide and DNA synthesizers and various other analytical instruments) for studies in cell and developmental biology, protein chemistry and molecular biology. Salaries and benefits are competitive. Send curriculum vitae, names of three references and description of research interest to:


BIOTECHNOLOGY

CODON is a research and manufacturing, product-oriented biotechnology corporation specializing in the development and manufacture of high value-added recombinant protein products. We are rapidly expanding, and focused on finding novel solutions to today’s most complex medical and veterinary conditions.

Employment opportunities at Codon cover a wide range of disciplines, including protein chemistry, molecular biology, immunology, tissue culture, process development, fermentation, biochemical engineering and quality assurance. Most positions require a minimum of a baccalaureate degree and laboratory experience in the above or allied fields.

To find out how you may fit into this exciting, intellectually stimulating environment, please send your resume and letter outlining area of interest to: CODON, Human Resources Dept. 572, 213 E. Grand Ave., South San Francisco, CA 94080. Equal Opportunity Employer.

Our location, just south of San Francisco, California, places us in one of the major biotechnology centers in the country and affords close contact with prime educational institutions such as Stanford University, The University of California, San Francisco, and The University of California, Berkeley.

CODON

Merck & Co., Inc.
FACULTY POSITION IN PROKARYOTIC GENETICS

The Department of Biology at Texas A&M University invites applications for a tenure-track position in bacteriophage genetics and molecular biology. Candidates should be using a prokaryotic organism to study fundamental biological problems. Special consideration will be given to applicants interested in developmental, regulatory or membrane systems. Essential qualifications include a strong record of research accomplishment, the ability to develop a vigorous research program, and a commitment to training undergraduate and graduate students. The Department has excellent research facilities and will provide competitive salaries and startup funds. Please send curriculum vitae, a statement of research interests, and the names, addresses and telephone numbers of at least three references by February 15, 1989, to:

Dr. Michael D. Manson
Chairman, Microbiology Search
Department of Biology
Texas A&M University
College Station, TX 77843

Texas A&M University is an Affirmative Action/Equal Opportunity Employer. Minority candidates are especially encouraged to apply.

MONOClonAL ANTIBODY DEVELOPMENT
Research Scientist to establish new laboratory

Affymax Research Institute is a new venture in therapeutic drug discovery based on organic chemistry and advanced immunological science with participation of leading academic and industrial scientists.

Affymax seeks a person with extensive knowledge and experience in monoclonal antibody production with the ability to establish a laboratory and produce, independently, purified MABs to a wide range of haptenated immunogens and to develop related new methodologies including anti-idiotypes.

Skill requirements include immunization techniques, cell culture, fusion, hybridoma screening, antibody purification and characterization. Experience with in-vitro techniques is desirable.

A graduate degree in immunology, cell biology or biochemistry is desired. A bachelor's degree with extensive experience will be considered.

Attractive employment conditions in a new, first class facility make this an outstanding opportunity.

Send Resume To:
Chief Scientist
Affymax Research Institute
3180 Porter Drive
Palo Alto, California 94304

Important Contributions To An Essential Effort.

If you've been looking for an organization where your contributions will make a strong and positive impact, may we suggest The MITRE Corporation. A not-for-profit organization providing expert systems engineering solutions to military and civil agencies of the U.S. Government, we are currently providing technical support to manage the nation's hazardous waste problems for the EPA and to meet the mandates of the Defense Environment Restoration Act. These are the essential efforts that can make excellent use of your proven expertise.

Toxicologists

McLean, VA & San Antonio, TX

We currently have openings at our Washington Center and our San Antonio Site for professionals with high levels of skill and dedication to provide quality assurance of human health risk assessments performed by contractors on Air Force Installation Restoration Sites. Specific responsibilities include evaluating work plans for adequacy of approach; reviewing risk assessments for accuracy, completeness and validity of conclusions; and analyzing expect risk reductions. You will assist the Air Force in coordinating activities with EPA regional and state offices to ensure regulatory compliance. To qualify, you must have an advanced degree in Toxicology or related discipline, plus at least 3 years of experience in conducting chemical exposure and risk assessments, preferably at hazardous waste sites. Familiarity with CERCLA/SARA, the RIFFS process and EPA guidelines for conducting risk assessment at NPL sites is essential. Excellent communications skills a must.

POSTDOCTORAL POSITION: Available for the study of neurochemical basis of pain alterations associated with diabetes. Candidate with prior experience with EC-HPLC and opioid receptors is needed. Salary is $21,200 per year. Approximate starting date is 1 May 1989. Submit curriculum vitae and three letters of recommendation to: Dr. K. F. A. Soliman, Chairman, Basic Pharmaceutical Sciences Division, College of Pharmacy, Florida A&M University, Tallahassee, FL 32307 by 17 March 1989.

POSTDOCTORAL POSITION available immediately to participate in a study on the genetic component of the responses of animal tissues and cells to factors affecting metabolism. Applicants must have training in biochemistry, cell biology, or molecular biology. Send curriculum vitae and three references to: Dr. Edward F. Fisher, Department of Physiology and Biochemistry, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, PA 19129.

POSTDOCTORAL POSITION available to study enzymes and regulation of fatty acid metabolism. Candidates should have a Ph.D. degree and experience in one or more of the following areas: protein chemistry, molecular biology, cell biology, and protein purification. Applicants should submit curriculum vitae and letters of recommendation to: Dr. George A. Cook, Department of Pharmacology, University of Tennessee College of Medicine, 874 Union Avenue, Memphis, TN 38163.

POSTDOCTORAL POSITION for research on transgenic mice carrying new genes that modify germ cells and embryo development. Apply with curriculum vitae to: Dr. R. L. Brinster, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA 19104.

POSTDOCTORAL POSITION: ORGANIC/ MEDICINAL CHEMIST. The Center for Metabolic Imaging at Creighton University has an opening for an organic/medicinal chemist interested in biomedical research with position emission tomography (PET). Basic synthetic background required to develop compounds labeled with positron emitters 11C, 15N, and 18F for in vivo metabolic studies. Experience with handling of radioactive materials is desirable but not essential. Interested candidates should send résumé and names of three references to: Dr. Chyng-Yann Shue, Director, Center for Metabolic Imaging Creighton University 601 North 30th Street Omaha, NE 68131

POSTDOCTORAL PROTEIN STRUCTURE-FUNCTION Position available immediately at Stanford University Medical Center to investigate mechanisms of acute lung injury and strategies for prevention. Laboratory investigates lung injury utilizing small animal models, cell culture techniques, and optical signal transduction pathway biochemistry, patch-clamping, and receptor interaction studies. Position will have some supervisory responsibility. Approximate annual salary is $32,000. Please send curriculum vitae, a letter describing research interests, and three letters of recommendation to: Thomas A. Raffin, M.D., Acting Chief, Division of Respiratory Medicine, Room C-356, Stanford, CA 94305.

POSTDOCTORAL RESEARCH ASSOCIATE Position available immediately at Stanford University Medical Center to investigate mechanisms of acute lung injury and strategies for prevention. Laboratory investigates lung injury utilizing small animal models, cell culture techniques, and optical signal transduction pathway biochemistry, patch-clamping, and receptor interaction studies. Position will have some supervisory responsibility. Approximate annual salary is $32,000. Please send curriculum vitae, a letter describing research interests, and three letters of recommendation to: Thomas A. Raffin, M.D., Acting Chief, Division of Respiratory Medicine, Room C-356, Stanford, CA 94305.

POSTDOCTORAL RESEARCH ASSOCIATE Position available on June 1989 to study biochemistry of neurodegeneration in the eye lens, particularly as it is affected by aging or nutrition. Must be able to prove eligibility to work in the United States. A list of our recent papers is available. Please send curriculum vitae and names of three references to: Dr. Allen Taylor USDA Human Nutrition Research Center Tufts University 711 Washington Street Boston, MA 02111

An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE Position available to study the acute and chronic aspects of the negative effect of alcohol on antihypertensive therapy. Studies will involve hemodynamic and electrophysiologic measurements in chronically instrumented conscious rats as well as central administration of various agents. Send curriculum vitae, description of research experience, and names of three references to: Dr. Abdel A. Abdelshafy, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27858. Federal law requires proper documentation of identity and employability at the time of employment. It is requested that this documentation be submitted with your application. An Affirmative Action/Equal Employment Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE Position available for recent doctorate to use molecular approaches for studying DNA damage and repair in human skin in situ. This project is an outgrowth of ongoing collaboration with investigators in the Dermatology Department, Harvard Medical School, and requires frequent travel to Harvard to participate in research activities. Candidates should have strong background in biochemistry, molecular biology or related field; and courses and/or experience in DNA biochemistry and repair an advantage. Appointment is for an initial 1-year period, renewable for a second year, with a minimum salary of $23,000 per year. Position available 1 March 1989. Applicants should submit curriculum vitae and names of three references to: Dr. Betsy M. Satherland, Laboratory Director, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973. An Equal Opportunity Employer M/F.

BROOKHAVEN NATIONAL LABORATORY

POSTDOCTORAL RESEARCH OPPORTUNITY Position available immediately in a multidisciplinary group investigating the development and maintenance of chemically defined brain systems. Applicant may join ongoing research or develop own project within the general focus of the laboratory. Current studies include the use of pharmacological and neuroanatomical techniques in vivo and in vitro models. The objective of the research is to examine the development, aging and plasticity of CNS catecholamimines and opioid systems, with particular focus on neonatal rats. Previous experience in development and neurochemistry is desirable, but not essential. Salary range $23,000 to $25,000 plus benefits. Send curriculum vitae and three letters of reference to: Dr. F. M. Leslie, Department of Pharmacology, University of California, Irvine, CA 92717.

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

POSTDOCTORAL RESEARCH ASSOCIATE Position available immediately at Stanford University Medical Center to investigate mechanisms of acute lung injury and strategies for prevention. Laboratory investigates lung injury utilizing small animal models, cell culture techniques, and optical signal transduction pathway biochemistry, patch-clamping, and receptor interaction studies. Position will have some supervisory responsibility. Approximate annual salary is $32,000. Please send curriculum vitae, a letter describing research interests, and three letters of recommendation to: Thomas A. Raffin, M.D., Acting Chief, Division of Respiratory Medicine, Room C-356, Stanford, CA 94305.

POSTDOCTORAL RESEARCH ASSOCIATE Position available on June 1989 to study biochemistry of neurodegeneration in the eye lens, particularly as it is affected by aging or nutrition. Must be able to prove eligibility to work in the United States. A list of our recent papers is available. Please send curriculum vitae and names of three references to: Dr. Allen Taylor USDA Human Nutrition Research Center Tufts University 711 Washington Street Boston, MA 02111

An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE Position available to study the acute and chronic aspects of the negative effect of alcohol on antihypertensive therapy. Studies will involve hemodynamic and electrophysiologic measurements in chronically instrumented conscious rats as well as central administration of various agents. Send curriculum vitae, description of research experience, and names of three references to: Dr. Abdel A. Abdelshafy, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27858. Federal law requires proper documentation of identity and employability at the time of employment. It is requested that this documentation be submitted with your application. An Affirmative Action/Equal Employment Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE Position available for recent doctorate to use molecular approaches for studying DNA damage and repair in human skin in situ. This project is an outgrowth of ongoing collaboration with investigators in the Dermatology Department, Harvard Medical School, and requires frequent travel to Harvard to participate in research activities. Candidates should have strong background in biochemistry, molecular biology or related field; and courses and/or experience in DNA biochemistry and repair an advantage. Appointment is for an initial 1-year period, renewable for a second year, with a minimum salary of $23,000 per year. Position available 1 March 1989. Applicants should submit curriculum vitae and names of three references to: Dr. Betsy M. Satherland, Laboratory Director, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973. An Equal Opportunity Employer M/F.

BROOKHAVEN NATIONAL LABORATORY

POSTDOCTORAL RESEARCH OPPORTUNITY Position available immediately in a multidisciplinary group investigating the development and maintenance of chemically defined brain systems. Applicant may join ongoing research or develop own project within the general focus of the laboratory. Current studies include the use of pharmacological and neuroanatomical techniques in vivo and in vitro models. The objective of the research is to examine the development, aging and plasticity of CNS catecholamimines and opioid systems, with particular focus on neonatal rats. Previous experience in development and neurochemistry is desirable, but not essential. Salary range $23,000 to $25,000 plus benefits. Send curriculum vitae and three letters of reference to: Dr. F. M. Leslie, Department of Pharmacology, University of California, Irvine, CA 92717.

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

POSTDOCTORAL RESEARCH ASSOCIATE Position available immediately at Stanford University Medical Center to investigate mechanisms of acute lung injury and strategies for prevention. Laboratory investigates lung injury utilizing small animal models, cell culture techniques, and optical signal transduction pathway biochemistry, patch-clamping, and receptor interaction studies. Position will have some supervisory responsibility. Approximate annual salary is $32,000. Please send curriculum vitae, a letter describing research interests, and three letters of recommendation to: Thomas A. Raffin, M.D., Acting Chief, Division of Respiratory Medicine, Room C-356, Stanford, CA 94305.

POSTDOCTORAL RESEARCH ASSOCIATE Position available immediately at Stanford University Medical Center to investigate mechanisms of acute lung injury and strategies for prevention. Laboratory investigates lung injury utilizing small animal models, cell culture techniques, and optical signal transduction pathway biochemistry, patch-clamping, and receptor interaction studies. Position will have some supervisory responsibility. Approximate annual salary is $32,000. Please send curriculum vitae, a letter describing research interests, and three letters of recommendation to: Thomas A. Raffin, M.D., Acting Chief, Division of Respiratory Medicine, Room C-356, Stanford, CA 94305.
The successful candidate's primary academic responsibility will be instruction of professional students in histology and developmental anatomy with emphasis on histological variations of veterinary significance. The candidate should possess demonstrated expertise in one or more of the following areas of specialization: cellular biology, TEM/SEM, tissue culture, or tissue and cellular histochemistry at the light and electron microscopic levels. Current research interests in the department are gastrointestinal neuropeptides, cytoskeletal filaments, muscle biology, pulmonary organ injury, retrovirology, and the cardiovascular system. The candidate is expected to contribute to the department's research program and goals through participation in the graduate research program and collaborative/cooperative research efforts within the department. The development of an independent research program leading to cooperative studies with other departments within the college and the university will be encouraged. Senior faculty will be expected to contribute to the department's research goals by supporting program development of the junior faculty. Participation in fostering the national level is expected. Salary and appointment will depend on qualifications and experience. Interested individuals should submit a statement of research goals, curriculum vitae, and names and addresses of three referees to Dr. Jerry Masty, Chair, Search Committee, Department of Veterinary Anatomy, A1000 Sisson Hall, 1900 Coffey Road, The Ohio State University, Columbus, OH 43210. Applications will be accepted until the position is filled.

The Ohio State University is an affirmative action/equal opportunity employer.
ENDOWED CHAIR
FOR A RESEARCH LEADER IN
MOLECULAR GENETICS/
DEVELOPMENTAL BIOLOGY/
IMMUNOLOGY
UNIVERSITÉ DE MONTRÉAL

Thanks to a generous donation from a private corporation, the Université de Montréal is in a position to establish an endowed Chair in one of the following areas: molecular genetics, developmental biology or immunology.

Applicants must have demonstrated their ability to conduct world class research and must have experience with complex scientific approaches. They should be recognized in their fields of scientific endeavor with an excellent record of publications. An ability to create highly collaborative interactions along with a demonstrated experience in directing a research group of substantial size will be considered as important qualifications. The successful applicant will be expected to elaborate a coherent integrated program in one of the research areas mentioned above.

Applications should be submitted to:
Dr. René Simard
Chairman of Search Committee
Vice-rectorat enseignement et recherche
Université de Montréal
C.P. 6128, succursala A
Montréal (Québec)
H3C 3J7

and should include a curriculum vitae, list of publications and names of at least three references.

In accordance with Canadian immigration requirements, this advertisement is also directed to Canadian citizens and permanent residents of Canada.

BIOCHEMIST/
ANALYTICAL
BIOCHEMIST

The Enzymology Department of Merck, Sharp and Dohme Research Laboratories has immediate openings for a Biochemist/Analytical Biochemist. Responsibilities include research designed to determine the mechanism of enzymes selected as potential therapeutic targets and their inhibition. Candidates will have a BS, MS or equivalent in biochemistry or related field. Knowledge of enzymes required. Experience in biophysical techniques, (NMR, use of radioisotopes), chromatography, electrophoresis, lab automation, and computer use in data acquisition and analysis are desirable.

Merck Sharp and Dohme Research Laboratories is located in Rahway, New Jersey, approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Please send resume with salary history to Mr. Dan J. Hoffman, PO. Box 2000, Rahway, New Jersey 07085. Equal Opportunity Employer.

CCD R&D OPPORTUNITIES

JPL has recently established a Microdevices Laboratory in a new CCD Research and Development Laboratory. Modern facilities containing extensive clean rooms, state-of-the-art nanofabrication and characterization equipment and CCD electro-optical performance characterization equipment for advanced microelectronics research.

CCD R&D TASK MANAGER

Requires PhD or MS degree in Solid State Physics, EE, or the equivalent, from 5-8 years of experience in charge-coupled device (CCD) imaging array design and development. Also requires a demonstrated ability to provide technical leadership and supervision of a team of physicists and engineers.

We desire experience in solid-state materials and device research, an in-depth knowledge of industrial fabrication processes for semi-conductor devices, including CCDs and hands-on laboratory experience with device and materials preparation and characterization, including electro-optical performance characterization.

CCD RESEARCH SCIENTIST

Will initiate research in novel device test structure fabrication and characterization, not limited to silicon-based concept. Involves development of advanced device concepts for science imaging applications in the UV to IR region of the spectrum.

Requires a PhD in Solid State Physics or EE with 5 years experience in Physics aspects of CCDs and/or related solid-state devices.

Please submit resume to Professional Staffing, Department U97, Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Drive, Pasadena, CA 91109. An Equal Opportunity Employer M/F/H/V.
COLLABORATIVE PROJECTS IN AGRICULTURAL BIOTECHNOLOGY

Agracetus is a leading company applying biotechnology to crop agriculture. Agracetus' applied efforts have generated a number of ideas, materials, and methods that could be valuable to university researchers. Agracetus wants to make its expertise available to established investigators interested in pursuing the following projects.

**Agracetus has:**

A. Developed an electric discharge apparatus to engineer organisms by particle propulsion of DNA-coated gold beads. Soybean, corn, cotton and Caenorhabditis elegans have successfully been transformed by this apparatus.

B. Isolated genes involved with cotton fiber synthesis.

C. Isolated very high expressing variants of the B. thuringiensis delta endotoxin.

D. Developed new formulations for applying microbial inoculants to the seed or soil.

E. Developed microbial strains that enhance the yield of soybean and corn.

F. Developed transformed cotton lines that kill insects through expression of various insecticidal genes.

G. Developed transformed soybean, corn and cotton with marker genes.

**Collaboration desired:**

Determine role of a gene or regulatory sequence in soybean, corn, cotton or nematode.

Transform other organisms by this method.

Identify regulatory mechanisms for these genes.

Identify regulatory mechanisms for expression of these genes.

Test potential of certain microorganisms for improving plant growth under field conditions.

Determine basic mechanisms of biocontrol or growth enhancement.

Study ecological implications from agricultural use of these lines.

Use integrated marker genes for genome mapping.

Agracetus would provide ideas, materials or methods to the scientist. In some cases, Agracetus' equipment or facilities will be available to the university researcher. Unless Agracetus scientists contribute significant intellectual input to the collaboration, there is no need for Agracetus authorship. Collaborations normally will be funded by the investigator.

Investigators interested in pursuing any of these projects should submit a one-page outline of research interests including a list of previous publications relevant to the project. Requests should be sent to: c/o Collaboration, Agracetus, 8520 University Green, Middleton, Wisconsin 53562, U.S.A.
**POSITIONS OPEN**

**POSTDOCTORAL RESEARCH POSITION** available to study response of female germ cells of mice to chemical mutagens. Cytogenetics background is necessary to relate chromosome damage in oocytes to inherited aberrations. Send resume to: Dr. Walderlecco M. Generoso, Biology Division, Oak Ridge National Laboratory, P.O. Box 2009, M.S. 8077, Oak Ridge, TN 37831-8077.

**PROTEIN/DNA CORE FACILITY, CHIEF TECHNICIAN** needed to supervise, operate and maintain peptide synthesizer and sequencer, cell sorters, and DNA sequencer, plus supporting HPLC and other equipment. Applicants must have experience in maintaining and operating some equipment of this type and will probably have B.S. or M.S. in chemistry or biochemistry. Fully benefited position from $31,000 to $35,000 depending on experience. Send resume and names of references to: Program in Cellular and Molecular Biology, Lederle Graduate Research Towers, University of Massachusetts, Amherst, MA 01003. Deadline for applications is 15 February 1989 or until suitable candidates have been found. An **Affirmative Action/Equal Opportunity Employer**.

**RESEARCH ASSOCIATE PROFESSOR** position available in the Department of Biochemistry and Biophysics, Ph.D. with at least 3 years of postdoctoral experience to join a research program on amino acid and monoamine function in the central nervous system. The successful candidate will be expected to carry out a vigorous research program and to actively seek extramural funding. Applicants should have expertise in the regulation of catecholamine and serotonin metabolism as well as in receptor modulation of calcium homeostasis in neurons. Experience in purification of neuroactive compounds from brain tissue is desirable. Send resume and three letters of reference to: Ms. Ruth Keris, Staff Assistant, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA 19104-6059. Deadline: 1 March 1989. **Equal Opportunity/Affirmative Action Employer**. Minority and women candidates are encouraged to apply.

**RESEARCH ASSOCIATE.** A career development opportunity is available for an individual with a Ph.D. in microbiology/immunology to work in a well-equipped Infectious Diseases Laboratory. Requirements include postdoctoral productive experience and ability to establish a successful independent research program in the areas of microbial pathogenesis, host defense mechanisms or antimicrobial resistance. Send curriculum vitae, a statement of research interests and the names of three references to: Director, Division of Infectious Diseases, Hahnemann University, Broad and Vine, Philadelphia, PA 19102. **Equal Opportunity/Affirmative Action Employer**.

**RESEARCH ASSOCIATE FOR MOLECULAR SEQUENCE/SYNTHESIS FACILITY** Available immediately, a research associate position to operate Lombardi Cancer Center facility for protein sequencing, peptide synthesis and oligonucleotide synthesis. M.S. in chemistry or biochemistry required. Previous laboratory experience in operation of sequencing and synthesis equipment including HPLC is necessary. Candidates should send curriculum vitae, a description of their relevant research experience and the names of three references to: Dr. Carolyn Hurley, Department of Microbiology, Georgetown University, 3800 Reservoir Road, NW, Washington, DC 20007.

**RESEARCH SCIENTIST/Rochester:** Plan and perform biomedical research in area of renal physiology using knowledge of isolated perfused kidney techniques, and isolated cell techniques. Study renal metabolism and the effects of active oxygen, species radicals in the kidney. Master's degree in physiology, plus 2 years of experience in the job offered required. Forty hours per week; $25,000 per year. Send resume or letter in duplicate to: Job Service—S. Van Kempen, Job #NT0201707, 140 West Main Street, Rochester, NY 14614.

**RESEARCH SCIENTIST**—The Department of Surgery at North Shore University Hospital invites applications for an anticipated full-time research position in the Division of Basic Science Research. Candidates conducting basic research in Adult Respiratory Distress Syndrome or cardiac calcium metabolism are encouraged to apply, although other fields of interest will be considered. Applicants completing postdoctoral training ready to conduct independent research would be strongly considered. Candidates will be expected to develop an active research program with the potential of attracting extramural funding. Ph.D. and/or M.D. degree with a minimum of 3 to 5 years of postdoctoral experience are required. Please respond by providing a brief statement of research interests and plans, curriculum vitae and bibliography, and the names of three references to: Dr. Saul B. Powell, North Shore University Hospital, Box 665, Manhasset, NY 11030. **Equal Opportunity Employer M/F**.

---

**The Sartorians say new labs need perfect balance.**

Your new lab is about to take its first steps into the world of science. The Sartorians can help you start off on the right foot with absolute precision and accuracy.

The Sartorians bring you perfect balance. In fact, from heavy-duty floor balances to ultra-sensitive super micros, the Sartorians offer the world’s most technologically advanced scientific balances.

This is no time to waver. Call us at (800) 544-3409 and find out about how the Sartorians can give your lab perfect balance. We'll send you complete information.

---

**BUILDING A NEW LAB?**

**LET THE SCIENCE FREE PRODUCT INFORMATION SERVICE PUT YOU IN TOUCH WITH THE VENDORS WHOSE PRODUCTS YOU WILL NEED.**

**SIMPLY WRITE US A LETTER STATING THE SPECIFICS ABOUT YOUR PROPOSED LAB AND WE WILL DO THE REST.**

**WRITE TO:**

**SCIENCE MAGAZINE**  
**NEW LAB SERVICE DEPT.**  
**1515 BROADWAY**  
**NEW YORK, N.Y. 10036**
## INTERNATIONAL RESEARCH FELLOWSHIP OPPORTUNITIES
for U.S. and Foreign Postdoctoral Scientists

### *Senior International Fellowships*

These fellowships offer opportunities to U.S. biomedical, behavioral, or health scientists to conduct research in a foreign institution. The program is for scientists who have established themselves in their chosen career in the United States and whose professional stature is well-recognized by their peers and institutional officials.

The purpose of this program is to enhance the exchange of ideas and information about the latest advances in the health sciences, basic, clinical, and public health and to permit U.S. scientists to participate abroad in ongoing study or research in foreign institutions.

Fellowships are awarded for a period of 3 to 12 months and provide stipend, travel, and living allowance.

### *International Research Fellowships*

These fellowships offer opportunities to foreign scientists in the formative stage of their career to extend their research experience in U.S. laboratories. Selections are first made by the Nominating Committee in participating countries, regions, or areas. Over 50 countries or regions in the Americas, Africa, Asia and the Far East, Australia, Europe, and New Zealand participate in the program.

The purpose of this program is to forge relationships between distinguished scientists in the United States and qualified scientists in other countries in order to study health-related problems of mutual interest.

Fellowships are awarded for a minimum of 12 months and provide stipend, travel, and institutional allowance.

### *Foreign-Supported Fellowships*

These fellowships for U.S. scientists are supported by specific foreign countries and areas. They provide opportunities for scientists to conduct collaborative research in the country that provides funding.

The purpose of this program is to enhance the exchange of research experience and information in the biomedical, behavioral, and health sciences. The maximum period of support for all programs is 1 year and the minimum period of support varies with each program.

Participating countries and areas are: FINLAND, FRANCE, FEDERAL REPUBLIC OF GERMANY, IRELAND, ISRAEL, JAPAN, NORWAY, SWEDEN, SWITZERLAND, and TAIWAN.

### *AIDS Fellowships*

There are two programs to support scientists interested in AIDS research. The postdoctoral fellowship program supports U.S. and foreign scientists to conduct research abroad and in the United States, respectively. The minimum support is for 3 months, and the maximum support is for 24 months. Institutional awards have been made to four U.S. institutions for a 5-year period.

The epidemiology training grants provide long-term training which may lead to the M.S. or Ph.D. degree and short-term training in the United States or participating foreign countries. Only foreign scientists from developing countries may participate in this program.

Institutional awards have been made to eight U.S. Institutions for a five-year period.

The financial provisions of these programs include stipend, travel, and a host institutional allowance.

### **Health Scientist Exchanges**

These programs for U.S. scientists support short- and long-term visits to AUSTRIA, BULGARIA, HUNGARY, POLAND, ROMANIA, YUGOSLAVIA, and the SOVIET UNION.

The purpose of these programs is to conduct collaborative activities in one of the health sciences or the health-related fields that are of mutual benefit to the United States and the participating country. Priority is given to visits designed to strengthen or expand ongoing collaborative relationships or to explore prospects for long-term cooperation.

The financial provisions include round-trip travel and in-country costs.

*Requests for additional information on Senior International, International Research, Foreign-Supported, and AIDS Fellowships should be sent to: International Research and Awards Branch, John E. Fogarty International Center, National Institutes of Health, Bethesda, MD 20892.*

**Requests for additional information on Health Scientist Exchanges should be sent to: International Coordination and Liaison Branch (ICLB), John E. Fogarty International Center, National Institutes of Health, Bethesda, MD 20892.*
POSITIONS OPEN

RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

Department of Biotechnology Research at Pioneer Hi-Bred International, Inc. is seeking applicants for our ongoing program of crop improvement in major agronomic crops. Pioneer offers highly competitive salaries, excellent benefits, and a highly cooperative research environment. Successful candidates will be expected to interact extensively with ongoing programs in transformation, regeneration, and gene isolation.

CELL/MOLECULAR BIOLOGIST: This permanent position involves genetic transformation and subsequent analysis of putative transformants to confirm the presence of target genes using enzyme assays and southern blots. This position will complement a strong effort in transformation of major agronomic crops. The successful applicant will participate in the development of a collaborative research program that furthers the efficiency of plant transformation is expected.

RESEARCH ASSOCIATE: The successful applicant will assist in various aspects of projects involved in the application of transformation systems. Expertise in tasks such as bacterial genetics, molecular biology, protein characterization, enzyme assays, and cell culture techniques are desirable. The applicant should have a minimum of a 4-year degree or equivalent in biological sciences. Additional relevant research experience is preferred.

Pioneer Hi-Bred International is an Equal Opportunity/Affirmative Action Employer. Send resume with at least three references to:

Ginny Brown
Pioneer Hi-Bred International, Inc.
7300 N.W. 62nd Avenue, P.O. Box 38
Johnston, IA 50131

RESEARCH POSITIONS available immediately for (two) recent Ph.D.'s with strong background in molecular biology, recombinant DNA studies, and/or biochemistry. Projects involve studies on regulation of cellular and viral oncogenes and their products in mammary cells. Related areas of research include the expression of HIV genes under hormonal control. Technical help is available. Positions could lead to a tenure-track faculty position within 12 months, and the candidates will be given opportunity in developing independent research programs. Salary is negotiable. Please send curriculum vitae and names of three references to: Professor N. D. Sarkar, Head, Department of Molecular Virology, Department of Cell and Molecular Biology, Medical College of Georgia, Augusta, GA 30912-2100. An Equal Opportunity/Affirmative Action Employer.

Researchers at SUNY Stony Brook seek RESEARCH TECHNICIAN for AIDS laboratory studying viral pathogenesis, and we are also seeking strong candidates to participate in a collaborative effort in studying the role of HIV in the development of cancer in humans. The research facilities at SUNY Stony Brook are world-renowned and offer an excellent environment to work in. The position is available immediately and the salary is negotiable. Details can be obtained by contacting the following individuals:

Dr. R. Weiser, 516-444-1699/3491.

SUNY Stony Brook is an Affirmative Action/Equal Opportunity Employer.

RESEARCH TECHNICIANS: At S.K.I., your research today leads to tomorrow's breakthroughs. If you are interested in basic science, and want to work with the research professionals at Sloan-Kettering Institute and be on the forefront of some of the most important biomedical research, this position is for you. You will be a member of an inter-disciplinary team of investigators working in such key areas as molecular biology, immunology, cell biology, genetics, bone marrow transplantation, and using mammalian tissue culture techniques to understand cancer development is required. Hands-on experience and the ability to work independently are preferred. You can offer an excellent compensation package and a superb opportunity for career development in a state-of-the-art environment. To apply, please call: 212-639-3028 or send your resume to: Ms. S. Randolph, Employment Department, Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021. Equal Opportunity Employer, M/F/H/V.
ASSISTANT/ASSOCIATE INVESTIGATOR

The Lindsley F. Kimball Institute of The New York Blood Center

Position available for Ph.D. in molecular biology/immunology to work with Dr. A.R. Neurath, biochemical virology laboratory.

Applicant must have four or more years of postdoctoral experience, and publication record demonstrating innovative and independent research accomplishments. Will also be expected to participate in the design of immunogens eliciting B and T cell immunity against human viruses, including the human immune deficiency virus. Salary range $32,000-$50,000, depending upon experience and rank of appointment.

Send resume and three letters of recommendation to:

S.L./Human Resources Dept
The New York Blood Center
310 East 67th Street, NY, NY 10021

THE NEW YORK BLOOD CENTER
Equal Opportunity Employer M/F

GILEAD SCIENCES

Gilead Sciences, a pioneer in the field of genetic targeting, is designing novel compounds that selectively inhibit gene expression for use in human therapeutics. Talented, highly-motivated individuals should apply:

RESEARCH SCIENTIST - Organic Chemists/Molecular and Cellular Biologists - Ph.D. and M.S. level organic chemists with strong synthetic research experience will join our chemistry group to develop novel heterocyclic compounds and nucleotide derivatives. Molecular and cellular biologists with strong nucleic acid-related research experience are sought to study cellular and viral gene expression and the cellular recognition, uptake and transport of exogenous compounds.

POSTDOCTORAL SCIENTIST - Highly-qualified graduates are being sought as postdoctoral scientists to work on challenging projects in the synthetic organic chemistry group and the molecular and cellular biology group. Especially productive postdoctoral scientists can expect to be recruited for full-time research scientist positions.

RESEARCH ASSOCIATES - B.S. level chemists and biologists with one or more years of research experience are needed. Chemists should be skilled in liquid chromatography or organic synthesis; biologists in molecular biology and tissue culture.

Gilead Sciences offers a challenging research environment with excellent salary, benefits and a location in the San Francisco Bay Area. Strict confidentiality is assured. Please send C.V. and reference information to: Dr. Jeffrey Bird, Ph.D. Gilead Sciences, Inc. 344 Lakeside Drive, Foster City, CA 94404

RESEARCH SCIENTISTS ANALYTICAL BIOCHEMISTRY

Amgen has immediate opportunities for Research Scientists in Analytical Biochemistry to participate in the development of methods for protein characterization and protein stability using normal and reversed phase HPLC and other analytical techniques.

Qualified applicants for these positions must have a Ph.D. in Biochemistry or a related discipline with an emphasis in analytical methods and instrumentation.

Amgen is a dynamic and growing organization providing an exciting and innovative research environment as well as an attractive location northwest of Los Angeles. Amgen also offers an excellent compensation and benefits package.

Qualified candidates should send a c.v., including references, in confidence to:

Recruitment, Dept. #346
AMGEN
1900 Oak Terrace Lane
Thousand Oaks
CA 91320

AMGEN

MIT

It’s where you want to be

Chemical Engineering Post-Doctoral Associate

The Departments of Chemical Engineering at MIT and Pathology of Harvard Medical School have a position for a post-doctoral fellow in a vigorous research program studying growth factors and the extra-cellular matrix. Post-doctoral candidates should have experience in biochemistry, protein biochemistry, cell biology or related fields.

Applicants should submit curriculum vitae and names of three references to: Professor Robert Langer, Department of Chemical Engineering, MIT, Bldg. E25-342, 77 Massachusetts Avenue, Cambridge, MA 02139.

MIT is an Equal Opportunity/Affirmative Action Employer
MIT is a non-smoking environment

Massachusetts Institute of Technology

Gilead Sciences

Amgen

Gilead Sciences

Amgen
POSTDOCTORAL FELLOWSHIPS IN MOLECULAR AND CELL BIOLOGY

Postdoctoral Fellowships are available in the Genetics and Biochemistry Branch, National Institute of Diabetes, and Digestive and Kidney Diseases, National Institutes of Health. Applications are invited from individuals of the highest caliber with Ph.D., M.D., or M.D., Ph.D. degrees. Current research interests of the staff include:

- Biosynthesis and targeting of lysosomal enzymes, the reconstitution of the cellular protein folding machinery, and the molecular genetics of Tay-Sachs disease (Rick Prola)
- Eukaryotic DNA repair, molecular mechanisms of toxin action, and mechanisms of nuclear and cytoplasmic localization of proteins and nucleic acids in Xenopus (Eric Ackerman)
- Molecular mechanisms of homologous recombination in higher eukaryotes, the biochemistry of nucleic acid–protein interactions and the formation and recognition of DNA mismatches (Peggy Hsieh)
- Biochemistry of homologous recombination in eukaryotes and prokaryotes, immunoglobulin gene rearrangements in cell-free systems, gene targeting and gene disruption in mammalian cells and structure/function studies of the CD4 protein, the HIV receptor (Dan Camerini-Otero)

Interested candidates should send a letter stating their interests, their curriculum vitae and list of publications, and the names and addresses of three references to:

Dr. R. Daniel Camerini-Otero
Chief, Genetics and Biochemistry Branch
Building 10, Room 9D-15
9000 ROCKVILLE PIKE
National Institutes of Health
Bethesda, Maryland 20892
Telephone: (301) 496-2710

NIH is an Equal Opportunity Employer

THE UNIVERSITY OF SYDNEY AUSTRALIA

Applications and expressions of interest are invited for the following Chairs in the Faculty of Veterinary Science which will become vacant in January 1990.

Chair of Veterinary Pathology
Reference no. 48/19

The Department is responsible for teaching, research and diagnostic services in the field of Clinical Pathology, Microbiology and Parasitology. Veterinary qualifications or experience in teaching pathology to Veterinary Science students would be desirable.

Chair of Veterinary Physiology
Reference no. 48/03

Veterinary qualifications or experience in teaching physiology to Veterinary Science students would be desirable.

GENERAL INFORMATION: Intending applicants should obtain detailed statements of information concerning the Chairs from the Registrar, address below.

Salary will be at the rate of A$83,397 per annum.

The University reserves the right not to proceed with any appointment for financial or other reasons.

METHOD OF APPLICATION: Applications, in duplicate, quoting reference no., including curriculum vitae, list of publications and the names, addresses and FAX numbers of three referees, to the Registrar, Staff Office, University of Sydney, NSW 2006 Australia, FAX (612) 692 4316.

Applications close: 8 March 1989.

Equal employment opportunity is University policy.

GENE TRANSFER RESEARCH

WASHINGTON DC AREA

Genetic Therapy, Inc., is a recently established, rapidly growing company at the forefront of developing gene transfer techniques for gene therapy applications. Our researchers, in collaboration with major US Government and academic labs, are involved in retroviral-mediated gene transfer research, and cell implant techniques, to achieve somatic gene therapy in a variety of clinical applications.

We have immediate positions available for Research Scientists at the Ph.D. or M.D. level. Experience in recombinant DNA techniques, retrovirology, immunology, cell biology or protein purification is required.

We also have positions for Research Associates with BS or MS qualifications, and some expertise in mammalian cell culture, in vitro virus assays, flow cytometry and cellular immunological techniques.

Please send your resume, together with names and addresses of two references to:

Genetic Therapy, Inc.
Personnel Manager
19 Firstfield Road
Gaithersburg, MD 20878

(E) is an equal opportunity employer.
Research Assistants/Associates
Molecular Biology/Biochemistry

Genentech, Inc., a leader in the field of biotechnology, has opportunities available for Research Assistants/Associates. Working on programs to discover new human pharmaceuticals, these positions offer a challenging opportunity to be a key team participant.

Typical requirements include a BS/MS in Biochemistry, Molecular Biology, or closely related scientific field. Candidates must have a minimum of 2 years' experience in one or more of the following areas: molecular biology techniques including cDNA cloning, expression and DNA sequencing; biochemical techniques; and basic research techniques such as mammalian tissue culture and ELISA assays.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to Yvonne Davino, Human Resources Dept. DG, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer. Women and minorities are encouraged to apply.

---

Anticancer Therapy Research

The Pfizer Central Research anticancer drug discovery team has a position for a PhD biologist interested in exploiting novel targets to develop new antitumor drugs. Recent findings in oncogenes, signal transduction and cellular growth regulation provide exciting opportunities to explore new approaches to cancer therapy.

We are looking for a scientist with experience in one of these areas who is interested in a collaborative, project team-oriented approach to research. Experience in cancer therapy research would be of value. Formal training should include a PhD in Biochemistry, Pharmacology, or Cell Biology with a minimum of 2 years postdoctoral training.

This position offers an excellent opportunity for professional recognition and career growth. We also offer competitive compensation, benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and description of research accomplishments to: Dr. Jerry K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.

---

THE

**Science**

RECRUITMENT

"FOUR DAY CLOSE"

NOW YOU CAN SEE YOUR AD IN **Science**

FOUR DAYS AFTER SUBMISSION

Scientific Recruiters can now advertise positions almost as soon as the need arises. Instead of reserving space a month or more in advance, you can now place your ad four days before the magazine mailing date. Science is mailed on the cover date.

Film (right-reading, emulsion face down) or full camera ready art and insertion order must reach **Science**, Short Close Desk, 1515 Broadway, New York, NY 10036 by NOON Mondays (except for legal holidays when material must reach New York by Noon Fridays). Because space is limited, the four-day close page will be reserved on a first-come, first-served basis, at a 15% premium. ¼ and ½ page ads only.

Now you don't have to wait to find the researchers you need immediately, nor must you advertise in a Sunday paper that pans a lot of sand, but not much gold. Scientific employers know that **Science** ads fill the job better. Now they fill it faster too.

You can call it "INSTANT RECRUITMENT."

For further information, telephone Ed. Keller, Recruitment Advertising Manager, or Donna Rivera, Production Manager at Science: 212-730-1050, or write to: **Science**, 1515 Broadway, NY, NY 10036.

CURRENT DISTRIBUTION 160,000
POSITIONS OPEN

SCIENTISTS
Excellent career opportunities immediately available with client companies, located throughout the United States seeking entry through senior-level Research, Product Development, Clinical Management, Marketing and Manufacturing professionals. Confidentiality assured. Qualified, serious candidates only. Send résumé to:

Dr. Jeff Dean
Marvin’s Associates
272 North Bedford Road
Kisco, NY 10549

The Department of Biological Sciences at Texas Tech University seeks to fill TWO TENURE-TRACK POSITIONS. Candidates must hold the Ph.D. degree; postdoctoral experience is highly preferred. Successful applicants are expected to develop strong externally funded research programs, attract graduate students and interact with other faculty in their appropriate area.

C. A. animal will be chosen.

POSITIONS OPEN

TEACHING OVERSEAS: The Department of Biology at the American University of Beirut, Beirut, Lebanon (AUB), invites applications for faculty positions at the level of assistant professor, available 1 October 1989 in the following fields: Comparative vertebrate anatomy, botany, ecology, and zoology. Applicants should hold the Ph.D. degree, and will be expected to engage in both teaching and research. Postdoctoral experience desirable. Appointments will be made for a 3-year period. Interested persons should send curriculum vitae and three letters of recommendation by 31 March 1989 to:

Dr. F. Allan Baker
Faculty of Arts and Sciences
American University of Beirut, c/o New York Office of AUB, 850 Third Avenue, 18th Floor, New York, NY 10022.

AUB is an Equal Opportunity/Affirmative Action Employer.

Graduate Studies

GRADUATE TRAINING IN VIRAL ONCOLOGY AND IMMUNOLOGY. stipends are available for students pursuing a degree in molecular oncology or immunology beginning September 1989. The principal interests of participating faculty are viral and cellular oncogenes, growth control, and molecular and cellular tumor immunology.

Students will be supported chiefly by NIH programmatic training grants but also by U.S. citizenship or resident status. Limited funding is also available outside of this source. Information and application forms are available from:

Dr. R. W. Carroll, Graduate Student Advisor.
Department of Pathology, New York University Medical School, 550 First Avenue, New York, NY 10016.

NYU is an Equal Opportunity Employer.

GRANTS

RESEARCH GRANTS IN MEDICINAL HERBS

Applications invited to evaluate the medicinal properties of any of the following herbs: ginger, thyme, Nigella sativa. Send curriculum vitae with publications and pre-proposal to:

The Director,
Zayed Institute for Immunological Research and Medicinal Plants, 4000 East 3rd Street, Callaway, FL 32404. Telephone: 904-785-0408.
Deadline 28 February 1989.

INTERNERSHIP

NASA PLANETARY BIOLOGY INTERNSHIPS.

The Marine Biological Laboratory, Woods Hole, Massachusetts, invites applications from graduate students and seniors accepted to graduate programs for awards of $2000 plus travel to participate in research at NASA centers and collaborating institutions for approximately 8 weeks. Typical intern programs include: global ecology, remote sensing, microbial ecology, biomineralization, origin and early evolution of life. Application deadline: 1 March 1989. For information/applications, contact:

Dr. Michael Enzi, Planetary Biology Intern Program, Boston University, Department of Biology, 2 Cummington Street, Boston, MA 02115.

An Equal Opportunity/Affirmative Action Institution.

SYMPOSIUM

BELTSVILLE SYMPOSIUM XIV

THE RHIZOSPHERE AND PLANT GROWTH

8–11 May 1989

For a preliminary program schedule and registration materials, call: 301-712-7727. Request to:

Ms. M. Blackwell
HH 19 Building 011
Beltsville Agricultural Research Program
Beltsville, MD 20705

An Equal Opportunity/Affirmative Action Employer.
Cal Bio, a leading biotechnology company engaged in developing human therapeutics and protein drug delivery systems, offers excellent growth opportunities.

**Senior Diabetes Researcher**

Join Cal Bio in research on human therapeutics for diabetes/obesity, one of our three focus areas. As a staff or principal scientist, you will lead a group studying insulin action, play a significant role in the direction of diabetes/obesity research in general, and interact closely with our commercial partners in the development of our products. This position requires a minimum of 5-7 years’ relevant research experience in addition to a Ph.D.

**Peptide Chemist**

Lead a research group in the design of peptides focused in the areas of cardio pulmonary disease, diabetes/obesity, and/or tissue repair. Requirements include a PhD, at least 5 years’ experience and extensive work in the design and synthesis of novel peptides and related organic molecules.

Cal Bio offers a stimulating work environment and a competitive compensation and benefits program. For immediate consideration, please forward your resume, indicating position of interest, and three letters of reference, to: Liza Mingione, California Biotechnology Inc., Human Resources, MS-S120, 2450 Bayshore Parkway, Mountain View, CA 94043. We are an equal opportunity/affirmative action employer.

---

**PRE- AND POSTDOCTORAL FELLOWSHIPS TRAINING PROGRAM IN TROPICAL DISEASES**

**MEHARRY MEDICAL COLLEGE**

An NIH-sponsored program has been established at Meharry Medical College, directed to areas of research dealing with molecular biology and immunological approaches to Tropical Diseases. Specific areas of interest include:

- F. Villalta: Molecular interactions between *Trypanosoma cruzi* and host cells
- F. Hatcher: Immunology of Chagas’ Disease
- M. Valenzuela: Structure and replication of kinetoplast DNA networks
- D. Wilson: Isolation of malaria receptors
- G. Hill: Molecular and biochemical basis of differentiation in African trypanosomes
- G. Kidane: Gene expression and host-parasite interactions in *Leishmania*
- C. Carter: Molecular biology and immunology of schistosomiasis
- D. Colley: Immunoregulation in schistosomiasis, Chagas’ disease
- P. Patel: Immunology of leprosy
- J. Bhorjee: Characterization of nuclear proteins in trypanosomes

Some faculty members are at Vanderbilt University.

Postdoctoral fellows will train in any of the areas above. Formal course work, together with journal clubs and seminars, are available to provide trainees with a detailed understanding of both molecular biology and immunological approaches to Tropical Diseases. A program of graduate education in tropical diseases leading to the Ph.D or M.S. degree is available in the School of Graduate Studies. Applicants must have U.S. citizenship or permanent residency. Minority individuals are encouraged to apply. Predoctoral candidates can receive information on the graduate program from the address below. Postdoctoral candidates should send a letter of interest, curriculum vitae and the names of two references to:

- Dr. George C. Hill
- Director and Professor
- Division of Biomedical Sciences
- Meharry Medical College
- 1005 D. B. Todd Boulevard
- Nashville, TN 37208
- (615) 327-6193

An Equal Opportunity Affirmative Action Employer.

---

**REGULATORY SPECIALIST**

**GARST SEED COMPANY** is a member of the Agricultural Products Group of Imperial Chemical Industries PLC (London), the world’s fourth largest chemical manufacturer and a world leader in discovery, technology, and innovation. The dedication of a new Bioscience Laboratory in Slater, Iowa in October of this year marked the consolidation of Garst’s traditional plant breeding program with the international bioscience capabilities of ICI.

The Regulatory Specialist will report to Garst’s Executive Vice President and Director of Research, and lead ICI/Garst through the regulatory process:-

- Obtaining government approval for all aspects of new seed products;
- Monitoring the development of relevant regulations in North America;
- Formulating an overall registration strategy.

Inherent tasks will include planning and assembling a suitable package, negotiating with Federal and State officials, dealing with the press and public, streamlining systems and procedures, and consulting with our Government Relations staff in Washington.

We are looking for demonstrated competence - in familiarity with the regulatory process at state and federal level and awareness of trends and developments; in being equally at home with scientists, production, and marketing people; in being an effective spokesperson in varied forums in the private and public sectors; in understanding the entrepreneurial flavor of our business; and in skillful negotiation and the legal process. Any combination of degrees and experience contributing thereto would be welcome.

Position is located in Slater, Iowa, and will entail extensive travel throughout US and Canada, and possibly Central and South America.

We offer a competitive salary commensurate with experience, comprehensive benefits, high professional standards and respect, and - most importantly - the career association with a world leader in meeting farmers needs for the coming decade. Our growth over the past decade has been nothing less than phenomenal, and we invite your candidacy. Principals only. Please submit resume in confidence to Charles T. Brodigan, Associate Employment Manager, ICI Americas, Wilmington, DE 19897.
TRAINING PROGRAM

CELLULAR BIOLOGY OF THE HEART
POSTDOCTORAL TRAINING

NII-funded postdoctoral positions for training in cellular biology of the heart are available in the Department of Physiology at the College of Medicine of Penn State University. The program is designed to offer a background in the cell biology, molecular biology, biochemistry and physiology of cardiac disorders, in addition to specific laboratory training. The research projects available are in the areas of cell biology, who are members of the Departments of Physiology and Medicine, include the role of polynuclear, the extracellular matrix and other regulatory factors in control of cellular growth and differentiation; regulation of protein and RNA synthesis and degradation; transmembrane signaling and ligand binding; control of cellular transport; and mechanisms of neural regulation of vascular function. High-quality individuals, who hold a Ph.D. or M.D. and are U.S. citizens, may apply by submitting a statement of career goals, and the names of three references to: D. Eugene Rannels, Ph.D., Program Director, Department of Physiology, The Milton S. Hershey Medical Center, Penn State University, P.O. Box 850, Hershey, PA 17033. Affirmative Action/Equal Opportunity Employer. Women and minorities encouraged to apply.

FELLOWSHIPS

INTERNATIONAL GEOSPHERE–BIOSPHERE PROGRAM
POSTDOCTORAL FELLOWSHIPS

Applications are invited for postdoctoral fellowships for work within the International Geosphere-Biosphere Program (IGBP). The fellow will work at the institution of the chairperson of the various IGBP subcommittees, in order to help to develop research and implementation plans for the newly initiated international projects to study "Global Change". The following areas will be emphasized in association with the different subcommittees of the IGBP:

- Terrestrial Biosphere-Atmospheric Chemistry
- Marine Biosphere-Atmospheric Interactions
- Biogeochemical Cycles

Effects of Climate Change on Terrestrial Ecosystems
Global Analysis, Interpretation and Modeling
Data and Information Systems
Geosphere-Biosphere Observatories

Applicants should have a recent Ph.D. in a topic of relevance to one of the areas of interest. Three letters of reference should be received before 30 June 1989 and should be submitted to: Professor Thomas Rosswall, Executive Director--IGBP, Royal Swedish Academy of Sciences, Box 50005, S-104 05 Stockholm, Sweden.

FELLOWSHIPS

PRIZE POSTDOCTORAL FELLOWSHIP

The Center for Photochemistry and Photobiology at the University of Wisconsin invites applications for the James Franck Postdoctoral Fellowship for 1989. The James Franck Fellow will work on an interdisciplinary project dealing with photochemical reaction centers from bacteria, cyanobacteria, green algae or plants using a combination of techniques of molecular genetics, biochemistry, absorption and magnetic resonance spectroscopy, x-ray crystallography, and ultrafast spectroscopy. Faculty supervisors include Professors G. Closs, G. Fleming, M. Garavito, R. Haselkorn, G. Lampsa, L. Mets and J. Norris. The fellowship carries a 12-month stipend of $32,000. There are no restrictions on age, citizenship, or length of time since the Ph.D. was earned. Please address inquiries to: R. Haselkorn, Director of the Center, 920 East 58th Street, Chicago, IL 60637.

HARVARD SCHOOL OF PUBLIC HEALTH
INTERDISCIPLINARY PROGRAMS IN HEALTH
POSTDOCTORAL FELLOWSHIPS

The Program in Environmental Health and Public Policy invites applications from promising graduates of advanced degree programs in the natural or social sciences. The Program is supported by National Institutes of Health grants and other extramural resources. The Program offers fellowship opportunities for postdoctoral researchers to pursue independent research projects of mutual interest. Recent group projects have included investigations of environmental pollutants, strategies for environmental monitoring and implications of distributions of susceptibility. Fellows will be appointed for a term of 1 year starting September 1989. Award may be renewed. Applications deadline: 10 March 1989. Decisions announced in April.

FELLOWSHIPS

MINORITY MEDICAL RESEARCH FELLOWSHIPS

The Minority Medical Faculty Development Program, sponsored by The Robert Wood Johnson Foundation, has up to eight new positions available beginning in 1989. The Program offers 4-year postdoctoral research fellowships to physicians from underrepresented minority groups (blacks, Mexican Americans, native Americans, and mainland Puerto Ricans) who have demonstrated superior academic and clinical skills and who are committed to careers in academic medicine and biomedical research. Each Fellow selected will receive an annual stipend of up to $50,000 and a $25,000 annual grant toward support of research activities.

In addition to the above eligibility requirements, applicants must be U.S. citizens and have completed their formal clinical training by the time of entry into the program. Applications for appointment in 1990 must be submitted by 3 April 1989. Interviews with selected applicants will be carried out in July 1989; and successful candidates will be notified in December 1989.

For further information and application materials, contact: Harold A. Amos, Ph.D., Director, Department of Microbiology and Molecular Genetics, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115. Telephone: 617-732-1947.

POSTDOCTORAL RESEARCH IN INTERDISCIPLINARY RESEARCH IN GENETIC AND BEHAVIORAL SCIENCES: A training program has been funded to promote interdisciplinary research in mental retardation and developmental neurobiology. Fellows collaborate with research scientists in behavioral and molecular research in neuroanatomy, neurochemistry, neuroendocrinology, psychopharmacology, neurology, genetics, and behavioral psychology. Available 1 September 1989 for 1 to 2 years. Ph.D. or M.D. plus evidence of interdisciplinary research potential required. Send curriculum vitae, representative papers, and three references to: J. S. Kiser, M.D., CBP 7250, 241 Biological Sciences Research Center, University of North Carolina, Chapel Hill, NC 27599. Deadline: 15 April 1989. Affirmative Action/Equal Opportunity Employer. Available only to citizens and permanent residents of the United States.

MARKETPLACE

DIRECT MAIL FUNDRAISING

We are specialists in raising funds for medical research projects and public health education in the USA.

Call C. Hughry 703-549-8977

ARMENIAN HAMSTERS

for Hamster - Mouse HYBRIDOMAS

Cytogen Research and Development, Inc.
89 Bellevue Hill Road
West Roxbury, MA 02132
(617) 325-7774

1-20% OXYGEN CONTROLLER FOR CO2 INCUBATORS

Economical technology integrated into an O2/CO2 incubator with oxygen control from 1-20%. Fits all makes and models. Will not affect CO2 or humidity. Works in laboratories and other chambers too. Proven reliable since 1963 worldwide.

17 Old State Rd. • Redfield NY 13437 USA
800-441-3414 • 315-387-3414

Circle No. 177 on Readers' Service Card

MARKETPLACE

Custom DNA Purified and Delivered in 48 hours.

$10.00 a base for the first 15 bases; $7.00 for each additional base. No additional charges.

Research Genetics

Buy 1 Get 1 Free

Circle No. 188 on Readers' Service Card
Foxy matches fractions to your chromatogram.

Not to the clock.

Program your collection by absorbance peaks, retention times, timed intervals, counted drops, or pumped volumes. You can even enter fraction size directly in ml if you have a Wiz peristaltic pump. Foxy rejects void volumes, locates and saves desired peaks in separate tubes, controls valves and pumps to make gradients or automate your system, and changes racks and volumes according to peaks or time. For HPLC, collect successive injections without resetting, and overlay repeated injections of the same sample to collect identical peaks in the same tubes. The sloped keyboard, 12-digit display, and logical programming make it all easy to do.

Foxy takes practically any size test tube, plus 28 mm scintillation vials and even 500 ml bottles. It holds up to four columns and 288 tubes on just a narrow slice of your bench.

To learn more, call toll-free (800)228-4250 U.S.A. except AK, NE. Or write Isco, Inc., P.O. Box 5347, Lincoln, NE 68505.
"A researcher needed better recovery of Fab fragments from her digested IgG. I recommended our ImmunoPure™ Fab Preparation Kit."

The call came from a researcher trying to digest IgG for the first time. She had a problem recovering Fab fragments from her digested IgG preparation. The ImmunoPure™ Fab Preparation Kit was the solution. It's an easy-to-use kit that includes everything needed to recover 80-90% of Fab fragments.

The secret's in the immobilized enzyme we include with every ImmunoPure™ Fab Kit. It eliminates the separation step, saving valuable research time. And better yet, it lets you generate Fab and Fc fragments from IgG—avoiding contamination of final preparations with enzyme.

Whether you're new to research or a seasoned investigator, we think you'll appreciate the special accessory kit that simplifies the manipulation of the immobilized enzyme. And the prepacked columns of immobilized Protein A, along with specially prepared buffers that separate Fab fragments and undigested IgG.

One convenient kit combines ease-of-use and high performance. Call today for information on the complete line of ImmunoPure™ products. Ask about our 97% in-stock policy and guaranteed two-day shipping (at no expense to you—or your institution).

800-8-PIERCE
(1-800-874-3723)

PO. Box 117 / Rockford, IL 61105 USA / Telex: 910-631-3419
Telefax: 815-968-7316 / In Europe call +31-1860-19277
Circle No. 134 on Readers' Service Card

Krishna Mallia
Dr. Mallia is the Associate Director of Research at Pierce.