# Biospecific Interaction Analysis System

BIAcore, an automated system for biospecific interaction analysis, is designed to decrease the time and cost of protein engineering and assay development. The biosensor-based device is particularly useful for characterizing monoclonal antibodies and other biologically active molecules. The system eliminates the need to purify and label interacting biomolecules and provides diverse information otherwise obtainable only by a series of time-consuming and expensive assay procedures. BIAcore can provide direct assessment of kinetic rate constants. specificity determination, and binding site mapping. BIAcore measures the specific interaction between immobilized molecules and their functional counterparts as they pass through a flow cell. The interaction can be viewed in real time on the computer screen. Pharmacia Biosensor. Circle 91.

# **DNA Cleavage and** Deprotection System

The DNA MATE Cleavage and Deprotection System automatically removes DNA from four DNA synthesis columns at once. The system consists of a timer and motor mounted on a stand with a syringe-column-syringe assembly for the removal, recovery, and deprotection of the DNA. One



syringe delivers ammonia through the column and another collects the DNA from the other end of the column. The flow rate of the ammonia can be varied, but typically 1.5 ml/hour is continuously fed through the column. The continuous delivery results in faster cleavage of the DNA. Barrskogen. Circle 92.

# **Hvbridization**

Oven The Turbo-Speed Hybridization

Oven circulates air throughout the chamber at high speed to provide rapid heating and cooling. The oven can go from ambient tem-



perature to 65°C and equilibrate in 5 min. It can cool from 65° to 45°C in 5 min without the need to open the door. Other features include a variable speed rotator (to optimize the speed of rotation for a particular probe), a large window, and a wide selection of hybridization bottles and other accessories. Bio/Can Scientific. Circle 93.

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# **Protective Filter**

Vacu-Guard is a protective filter device to enable laboratories to comply with new Occupational Safety and Health Administration regulations for eliminating or minimizing exposure to bloodborne pathogens from any vacuum, suction, and aspiration equipment used in handling contaminated body fluids. The new regulations require the use of engineering controls as the primary



means of preventing contamination of such systems by hepatitis B virus, human immunodeficiency virus, and other bloodborne pathogens. The Vacu-Guard's retention efficiency is rated at 99.99% for 0.1-mm particles or aqueous fluids up to 14 psi (0.9 bar), which is sufficient to prevent aerosols and fluids containing these agents from contaminating equipment and being exhausted into the room. Whatman. Circle 94.

# **Desktop Slide Maker**

The ColorFast is a compact digital color film recorder for making high-resolution 35-mm slides directly from both Macintosh and IBM-compatible computers. The ColorFast produces slides, instant prints, color overhead transparencies, and color transparencies for scientific, research, and business presentations. It can be used for presenting lab results, scanned images, graphics, educational materials, and lectures. GCC Technologies. Circle 95.

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# Isolation of DNA Binding Proteins

DynaBeads M-280 Streptavidin allows for the purification of lowabundance, unstable, sequencespecific DNA binding proteins in less than 30 min by eliminating multiple adsorption steps and time-consuming column chromatography. Highly purified proteins

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

are obtained in one adsorption step. A biotinylated DNA fragment specific for the protein of interest is immobilized onto the DynaBeads. The resulting magnetic DNA affinity beads bind the target protein, in the presence of competitor DNA, with kinetics similar to that of DNA in free solution. Magnetic separation and elution of sequence-specific DNA binding proteins can then be completed in minutes. Dynal. Circle 96.

# Literature

es<sup>2</sup>c Scientific Software Catalog 1992 offers a selection of more than 200 specialized software packages for IBM-compatible and Macintosh computers. Programs cover molecular biology, scientific word processing, drawing tools for chemists, presentation graphics, molecular modeling, mathematical modeling, statistics and data analysis, graphing and plotting, bibliography management, and translation. Europa Scientific Software Corp. Circle 97.

**Revolutionary** PRC-Related Products features ten products, component lists, and application information. Products include the mRNA Isolation System, PreTag Thermophilic Protease, Super-Script Preamplification System, 3' RACE System for Rapid Amplification of cDNA Ends, 10 bp DNA Ladder, GlassMax DNA Isolation Spin Cartridge, Clone-Amp System for Rapid Cloning of Amplification Products, dsDNA Cycle Sequencing System, and PTC-1 Programmable Temperature Controller. GIBCO BRL. Circle 98.

PL Caliber Powerful and Easy to Use Chromatography Workstations gives details of this system's innovative software modules, which include a comprehensive range of calibration methods, sample integration and analysis, user-designed report facilities, overlay comparison, export of data to word processor and spreadsheet packages, multi-tasking, and more. Polymer Laboratories. Circle 99.

# Science

# PERSONNEL PLACEMENT

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# **POSITIONS OPEN**

#### ANATOMY AND CELL BIOLOGY FACULTY POSITION

GROSS ANATOMIST: Applications are invited for one tenure track position, at ASSISTANT PROFES-SOR level. Salary will be commensurate with qualifications. Candidates should have a Ph.D., M.D. or equivalent degree, and have demonstrated ability to conduct independent research and attract extramural funding. Applicants studying neuronal development with the application of molecular biological approaches to these areas are particularly encouraged to apply. Teaching responsibilities include Gross Anatomy and participating in the graduate program. Applicants should submit curriculum vitae, a brief statement of research interests, representative reprints, and names of three references to: Dr. George D. Pappas, Search Committee, Department of Anatomy and Cell Biology, University of Illinois, College of Medicine at Chicago, P.O. Box 6998 (M/C 512), Chicago, IL 60080. The University of Illinois is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

ASSISTANT PROFESSOR OF MEDICINE/ RHEUMATOLOGY. The Section on Rheumatology, Bowman Gray School of Medicine, Wake Forest University, seeks a rheumatologist with a background in molecular immunology and research expertise in human T lymphocyte biology in health and autoimmune disorders. Applicants must hold M.D. or M.D./Ph.D. and be United States citizens or permanent residents. Please submit curriculum vitae, a letter summarizing background and research goals, and names/addresses of three references to: Gary M. Kammer, M.D., Section on Rheumatology, The Bowman Gray School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157–1058. Equal Opportunity/Affirmative Action Employer.

## ASSISTANT PROFESSOR

The Department of Ophthalmology and Visual Sciences at the University of Illinois at Chicago (UIC) is seeking candidates to fill two (2) tenured track Assistant Professorships in Molecular Biology research. Requires a minimum of a Ph.D. in Biochemistry, Biology, or related field and at least two years of postdoctoral research. Resuccessful publications and research record is strongly recommended. Salary commensurate with training and experience. Positions available September 1, 1992. Application deadline is August 1, 1992. Please send curriculum vitae to:

Ms. Jovita Banks (#001) UIC Eye Center, M/C 648 1855 West Taylor Chicago, IL 60612

The UIC is an Affirmative Action/Equal Opportunity Employer.

#### ASSISTANT PROFESSOR PHARMACOLOGY/TOXICOLOGY COLLEGE OF PHARMACY XAVIER UNIVERSITY OF LOUISIANA

We invite applicants for a non-tenure track position at the Assistant Professor level in Pharmacology/Toxicology available immediately. Postdoctoral experience is highly preferred. Both teaching and research required. Candidates must have a Ph.D. in Pharmacology/Toxicology. Send letter of application, curriculum vitae, and arrange to have three letters of recommendation mailed to:

Chairman Division of Basic Pharmaceutical Sciences Xavier University College of Pharmacy 7325 Palmetto Street New Orleans, LA 70125

SENIOR STAFF FELLOW (Assistant Professor Equivalent) available immediately at the National Institutes of Health, Bethesda, Maryland to study effects of anticancer drugs on cell cycle regulatory elements, including the cyclin-dependent kinase family and related phosphatases. Training and experience required in appropriate areas of molecular/cellular biology, protein chemistry and pharmacology of DNA-reactive anticancer drugs. Send résumé, bibliography and names of three references to: Dr. K. W. Kohn, Building 37, Room 5C25, Bethesda, MD 20892. An Equal Opportunity/ Affirmative Action Employer.

## **POSITIONS OPEN**

#### STANFORD UNIVERSITY SCHOOL OF MEDICINE DEPARTMENT OF GENETICS FACULTY POSITIONS

The Department of Genetics at the Stanford University School of Medicine is seeking qualified applicants for tenure-track positions. We seek to fill two openings in the current search, although additional appointments are planned for the next few years and could in principle be filled earlier. Candidates at the **ASSISTANT PROFES-SOR** level are preferred, although consideration will be given to applicants at higher ranks as appropriate.

SOR level are preferred, although consideration will be given to applicants at higher ranks as appropriate. The Department is moving into newly renovated laboratories and plans specifically to develop its program of research and teaching in areas relevant directly or indirectly to the genetics of humans and human diseases.

Candidates should have a strong record of research accomplishment in any field of eukaryotic genetics, although areas with more direct application to the human genome or genetic diseases will be preferred for these first positions. Candidates with mathematical or technological interests and accomplishments in genetic epidemiology, genomic mapping and/or sequencing studies will be considered. Candidates should expect to become involved in teaching human genetics as well as general genetics to medical students and graduate students. *Stanford University is committed to increasing representa*-

Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates. Candidates should send their curriculum vitae, bibli-

Candidates should send their curriculum vitae, bibliography, statement of research interests and the names of three references to: Dr. David Botstein, Chairman, Department of Genetics, School of Medicine, Stanford University, Stanford, CA 94305.

#### DEPARTMENT OF BIOCHEMISTRY COLLEGE OF AGRICULTURE AND LIFE SCIENCES NORTH CAROLINA STATE UNIVERSITY (NCSU)

ASSISTANT PROFESSOR in the general area of protein chemistry-structure/function including but not limited to membrane proteins (lipid-protein interaction, signal transduction) in animals or plants; tenure-track; research/teaching/advising; 12 month competitive salary. The Department has strong research programs in the biochemistry, molecular biology and biophysics of macromolecules, a substantial investment in new facilities and well developed academic programs leading to the B.S., M.S. and Ph.D. degrees. Strong intramural interactions occur with Chemistry and Physics, as well as the other biological science departments, and extramurally with other Research Triangle institutions. Start date after January 1, 1993. Applications from women and minorities are strongly encouraged; NCSU is an aggressive, Affirmative Action Employer. Send résumé and three letters of recommendation to: Dr. Paul F. Agris, Department Head, Department of Biochemistry, Box 7622, NCSU, Raleigh, NC 27695–7622. Deadline: September 15, 1992.



ASSISTANT/ASSOCIATE PROFESSOR PHYSIOLOGY AND BIOPHYSICS

Applications are invited for tenure leading faculty positions at the Assistant or Associate Professor levels in the Department of Physiology and Biophysics at the University of Nebraska Medical Center. The department is interested in recruiting individuals with a strong research program in microcirculatory or endothelial cell function and in membrane transport. At the Associate level, the candidate should show evidence of extramural funding. A competitive salary and setup funds are available.

The successful candidate will also participate in the teaching programs of the department which include medical, allied health and graduate students. Please send current curriculum vitae and the names of

three references by September 1, 1992 to: William G. Mayhan, Ph.D.

Chair, Physiology and Biophysics Search Committee Department of Physiology and Biophysics 600 South 42nd Street Omaha, NE 68198–4575

"An Equal Opportunity/Affirmative Action Employer." "Minorities and Women are Encouraged to Apply."

# Niagara University



# ASSISTANT PROFESSOR OF BIOLOGY

The Department of Biology of Niagara University invites applications for a nine month tenure track position in Developmental Biology available beginning August, 1992. Ph.D. and ability to teach courses in embryologydevelopmental biology, molecular/general genetics, and biochemistry. Postdoctoral experience is desirable.

The Department of Biology is committed to excellence in undergraduate education, and teaching at the introductory and advanced levels is expected. In addition, the candidate is expected to develop an individual research program involving undergraduate students. Opportunities are also available and are encouraged for the development of collaborations with local research and industry groups. Startup funds and Departmental laboratory and research resources are available for the successful candidate. Salary is competitive and negotiable and will be commensurate with the successful candidate's experience. Application should demonstrate exceptional abilities in teaching and research and should include curriculum vitae, three (3) letters of reference, and a summary of current and future research. Closing date for applications is July 31, 1992.

Send to: Dr. Carol R. Sweeney, Chairperson Department of Biology Niagara University Niagara University, NY 14109

# RECEPTOR MOLECULAR BIOLOGIST

NPS Pharmaceuticals, Inc. is a rapidly growing pharmaceutical company combining a novel focus on calciumrelated drug targets with a non-traditional program in discovery of natural product drug leads. NPS has developed a unique multidisciplinary program in the pathophysiology and pharmacology of calcium-dependent regulatory processes, especially as it applies to bone and mineral-related diseases and central nervous system disorders.

We are seeking an exceptionally talented, self-motivated scientist who enjoys working in a team environment. An extremely novel class of physiologically important receptors will be an initial subject of your research. A Ph.D. in molecular biology or equivalent experience is required including several years' experience in the cloning of receptors, associated signaling proteins, or ion channels. Candidates with demonstrated success in expression cloning using *Xenopus* oocytes are especially encouraged to apply.

NPS Pharmaceuticals, Inc. is located on the western slopes of the Rocky Mountains providing an unusually beautiful and livable environment in which to pursue innovative research. We offer competitive salaries, benefits and the opportunity for participation in employee stock option plans.

Please send curriculum vitae to: Director of Personnel, NPS Pharmaceuticals, Inc., 420 Chipeta Way, Suite 240, Salt Lake City, Utah 84108. We are an Equal Opportunity Employer.



NIH Research Fellow/Investigator Position

# MUSCLE TRANSCRIPTION FACTORS

A Research Position is available in the Laboratory of Cardiovascular Science, National Institute on Aging, National Institutes of Health, to work on the biochemistry and molecular biology of a unique class of transcription factors expressed in differentiated skeletal and cardiac muscle. Recent work in the laboratory has identified a number of factors that are either homologus to or interact with serum response factor (SRF) in skeletal muscle cell cultures and that bind to DNA elements in the 5' flanking region of ventricular/slow alkali MLC gene to control its transcription. We are interested in isolating and cloning these factors using novel screening procedures based on protein expression and in determining how these factors interact with SRF to achieve tissue-specific transactivation and whether the expression of these factors is altered by muscle activity and aging.

Applications are invited from individuals with Ph.D., M.D., or M.D./Ph.D. degrees. Applicants with experience in molecular and/or cellular biology are especially encouraged to apply. Salary is excellent and commensurate with experience.

Interested candidates should send their curriculum vitae and a letter specifying their research interests to:

Dr. Michael T. Crow, Laboratory of Cardiovascular Science, Gerontology Research Center, National Institute on Aging, 4940 Eastern Avenue, Baltimore, Maryland 21224; (410) 558-8202.

Inquiries by FAX will be accepted at 410-558-8150.

NIH is an Equal Opportunity Employe

# BIOCHEMISTS

DowElanco, a global research-based agricultural products company, is seeking two scientists to join the entomologists, biochemists and chemists of the Insect Management Group to participate in the discovery of novel insect control agents and technologies.

Responsibilities: Investigate the metabolism, mode of action, pharmacokinetics, biochemical structure activity relationships of insect management agents, and discover new modes of action for use in insect management.

Requirements: B.S./M.S. in biochemistry, entomology or related field. One position requires experience in HPLC, enzymology, or handling of radioisotopes. The other position requires experience in insect neurophysiology/electrophysiology. For both positions, a background in insect biochemistry or physiology is highly desirable, and strong analytical, computer and interpersonal skills are necessary.

DowElanco offers an excellent salary and benefits package, with outstanding opportunities for advancement in an exciting interactive research environment at our new state-of-the-art research facility in Indianapolis, IN. Send your resume and three references to: John Weseloh, R&D Recruitment, DowElanco, 9002 Purdue Road, Indianapolis, IN 46268-1189. Equal Opportunity Employer.



The Bristol-Myers Squibb Pharmaceutical Research Institute is the R&D Division of Bristol-Myers Squibb, a worldwide leader in the discovery and development of innovative pharmaceuticals. Currently, we have positions available at our Princeton, NJ and Wallingford, CT research facilities:

# PRINCETON, NEW JERSEY

# ANTICANCER AGENTS DISCOVERY & DEVELOPMENT

The Department of Experimental Therapeutics invites you to join a dedicated team of scientists focused on the discovery and development of novel anticancer agents.

# **Postdoctoral Fellows**

\* Study novel approaches to cancer therapy using antibody directed delivery systems. Candidates should possess a Ph.D. in Immunology or related field. Experience in tumor biology and utilizing antibody directed delivery of drugs or radionuclides is preferred.

# **Research Scientists**

Candidates should have a B.S. or M.S. in Biology, Biochemistry, or a related discipline and a minimum of two years of experience in one of the following areas:

- \* In vivo evaluation of novel antitumor agents. This will involve preparing materials for injection using analytical and aseptic methodology, administering materials to mice via ip, sc, po or iv routes, preparing tumor cells for implantation, measuring tumors and performing minor surgery. Familiarity with computer data entry is a plus.
- \* In vivo evaluation of immunoconjugates in human tumor xenograft models and in tissue cultures in vitro.
- \* In vitro bioassay of natural products for antitumor activity. This includes tissue culture, sample organization, performance of assay, data analysis and reporting. In-depth studies involving the elucidation of the mechanism of action of active agents will be carried out as necessary. Experience with mammalian tissue culture and radionuclides for biological studies is preferred. Knowledge of molecular biology techniques is a plus.
- \* Enzyme assays in the area of lipid biochemistry.
- \* Biochemical/molecular biology studies involving the analysis of functional domains of proteins and their interactions with drugs. Candidates should be familiar with protein extraction/purification, SDS-PAGE, Western blotting, cell culture and competitive ELIZA binding assays. Experience with molecular biological techniques is preferred.

For consideration, please forward your resume to: **Bristol-Myers Squibb Pharmaceutical Research Institute, Human Resources Dept.#337-BM**, P.O. Box 4000, Princeton, NJ 08543-4000.

# WALLINGFORD, CONNECTICUT

# **RESEARCH INVESTIGATOR NEUROBIOLOGIST**

We have an opening for a Research Investigator in our CNS Cell Biology, Drug Discovery Group. This is an excellent opportunity for a Neurobiologist to join our team working on neurodegenerative disorders. The successful candidate will develop a cell-based program that will compliment on-going research in amyloid precursor protein biochemistry, transgenic models of neurodegenerative diseases, and molecular neuropharmacology. Research projects of interest to our group include intracellular protein trafficking, neuralspecific gene expression, growth factor/cytokine effects on gene expression, and immortalization of neural cell lines.

Candidates should have a recent Ph.D. in Neuroscience or related discipline with training in cell and molecular neurobiology. Direct experience in tissue culture is required.

Please send resume with salary history to: **Bristol-Myers Squibb Pharmaceutical Research Institute, Dept 803LB-0465, P.O. Box 5101, Wallingford, CT 06492-7661.** Equal Opportunity Employer, M/F/D/V.



# **POSITIONS OPEN**

#### ASSISTANT PROFESSOR MOLECULAR REPRODUCTIVE BIOLOGY

Applications are invited for a tenure-track position at the Assistant Professor level beginning in the fall of 1992 with a primary appointment in the Department of Urologic Surgery and a joint appointment in the Department of Cell Biology and Neuroanatomy. Applicants must have a Ph.D. and/or M.D. with at least two years of postdoctoral experience. We are seeking candidates who will establish an extramurally funded research program using cellular and molecular approaches to male reproduction and are interested in interacting with other members of the departments who study the cell biology of the testis, epididymis, and sperm. In addition, the candidate will be expected to participate in teaching one of the basic medical courses offered by the Department of Cell Biology and Neuroanatomy and in the graduate program. Interested candidates should send their curriculum vitae, a statement of current and future research interests, and three letters of recommendation no later than 1 September 1992 to: **R.V. Menken, Department** of **Cell Biology and Neuroanatomy, University of Minnesota, 4-135 Jackson Hall, 321 Church Street SE, Minneapolis, MN 55455.** Start date of the position is 1 October 1992. *The University of Minnesota is an Equal Opportunity Educator and Employer.* 

The University of Michigan Medical School, Department of Pathology is seeking three individuals to fill openings in our Immunopathology Research Program at the **ASSISTANT PROFESSOR/ASSOCIATE PRO-FESSOR** level. Applicants should have a demonstrated research. Individuals with an M.D. or Ph.D. background are eligible. They should have demonstrated evidence of independence in research, research grant funding and experience in the use of techniques of molecular biology. *The University of Michigan is an Equal Opportunity Employer and welcomes applications from members of minority* groups. Inquiries should be directed to:

Peter A. Ward, M.D. Godfrey D. Stobbe Professor and Chairman Department of Pathology The University of Michigan Medical School M5240 Medical Science I Building, Box 0602 1301 Catherine Ann Arbor, MI 48109–0602

A Non-discriminatory/Affirmative Action Employer.

## MOLECULAR RETROVIROLOGY

Applications are invited for a tenure track position at the ASSISTANT OR ASSOCIATE PROFESSOR level in retrovirology at The Johns Hopkins University (JHU) School of Hygiene and Public Health. The Johns Hopkins Medical Institutions have a broad research program in the epidemiology, virology, immunology, pathogenesis, and treatment of HIV infection. The successful applicant will be a creative scientist who will be expected to establish an independent research program in the molecular aspects of HIV pathogenesis. New laboratories with funds for equipment, three years of support for an investigator and technician, and extensive opportunities for collaboration are available. Women and members of minority groups are encouraged to apply. Interested candidates should submit curriculum vitae, description of research goals, and names of three references to: Dr. Noel R. Rose, Department of Immunology and Infectious Diseases, JHU School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, MD 21205. JHU is an Affirmative Action/Equal Opportunity Employer.

PROFESSOR AND CHAIR, DEPARTMENT OF BIOLOGICAL CHEMISTRY. The University of California, Irvine (UCI), College of Medicine, seeks outstanding scientist in molecular biology or biochemistry, including, but not limited to, disciplines such as developmental biology, neurobiology, and human genetics. The candidate must be of great distinction, and lead an active research program. Send nominations or applications to: Professor Francisco J. Ayala, Chair of Search Committee, c/o Janet Nash, Room 246 Irvine Hall, College of Medicine, University of California, Irvine, CA 92717. Nominations and applications will be accepted through October 1992. UCI is an Affirmative Action/Equal Opportunity Employer. Nominations of and applications from women and minorities are encouraged.

#### SENIOR IMAGING INVESTIGATOR

The University of Iowa, College of Medicine, Department of Radiology is currently conducting a search for a Senior Imaging Investigator. This is a tenure track position at the rank of ASSOCIATE PROFESSOR TO PROFESSOR. Candidates should have a Ph.D. with extensive expertise in the field of physiologic, imaging based research. It is desirable that the specific area of research expertise be in the area of cardiac and pulmonary physiology relating to the use of dynamic CT, MRI and Ultrasound in these areas of research. The successful applicant will direct both the physiologic and imaging research activities and maintain and extend the research links between the Department of Radiology and other clinical and basic research departments. In addition to experience with basic research based physiologic im-aging, the successful applicant should have prior experience with the administration of a multidisciplinary research facility. A proven record of obtaining extramural search fachtly. A proven record of obtaining extramuta-funding is anticipated. Ability to serve as a mentor for more junior faculty is a necessary qualification. Women and members of minority groups are encouraged to apply. Interested applicants should send curriculum vitae to: E. A. Franken, Jr., M.D., Professor and Head, Depart-ment of Radiology, The University of Iowa College of Medicine, Iowa City, IA 52242. The University of Iowa is a Afgenetic Action Evend Omeetunity Employer Iowa is an Affirmative Action/Equal Opportunity Employer.

#### THE ERNA AND JAKOB MICHAEL VISITING PROFESSORSHIPS 1993/94 THE JOSEPH MEYERHOFF VISITING PROFESSORSHIPS 1993/94 THE ROSIE AND MAX VARON VISITING PROFESSORSHIPS 1993/94

The Weizmann Institute of Science, Rehovot, Israel offers a limited number of Visiting Professorships in the Natural and Exact Sciences.

The Visiting Professorships are intended for candidates already holding the rank of Full Professor or equivalent and will be for a duration of two months to one year.

Deadline for submittance of completed applications is: November 30, 1992.

For further information or application forms, please contact: The Academic Secretary, The Weizmann In-stitute of Science, Rehovot 76100, ISRAEL. (Telex: 972-8-381300, FAX: 972-8-471667, Bitnet: RS-MARJOR @ WEIZMANN).

Central Michigan University (CMU), an Affirmative Action/Equal Opportunity Institution, encourages diversity, and resolves to provide equal opportunity regardless of race, sex, handicap, sexual orientation, or other irrelet MANAGER OF GREENHOUSE, LABORATORIES AND HERBARIUM. or other irrelevant criteria BOTANY

CMU is seeking a Manager to maintain Greenhouse.

Botany Laboratories and Herbarium and supervise, coordi-nate and/or assist graduate teaching assistants in the performance of botany laboratories. Education equivalent to master's degree in biology, botany, horticulture or related field, knowledge of greenhouse operations and techniques, her-barium practice and training, experience with microcomputer systems, and at least one year of supervisory experience of a qualifying nature required. Salary: \$23,565 to \$30,070, commensurate with qualifications. Please submit curriculum vitae, transcripts and three reference letters by July 31, 1992, to: CMU, Personnel Services, 109 Rowe Hall, Mt. Pleasant, MI 48859.

MEDICAL COMMUNICATIONS ASSOCI-ATES. Glaxo Inc., one of the largest pharmaceutical firms in the United States, is seeking individuals with hrms in the United States, is seeking individuals with proven scientific writing skills to assist in developing and writing manuscripts, posters, and monographs. Individ-uals with proven skills in preparing educational materials will create new disease- or pharmaceutical-related educa-tional programs for health care professionals. Individuals with experience preparing NDAs will develop and write clinical study reports and integrated summaries. An advanced degree in a biomedical discipline is preferred. Experience in clinical research. the pharmaceutical indus-Experience in clinical research, the pharmaceutical indus-try, or the preparation of medical education materials is required, as are excellent communication skills. Desktop required, as are executed communication senses. Descent publishing experience is a plus. Send résumé and nonre-turnable writing samples to: Human Resources De-partment, Job #8330B006-SC, Glaxo Inc., P.O. Box 13398, Research Triangle Park, NC 27709. (No Phone Calls or Agency Referrals, Please.) Equal Oppor-tunity Employer, M/F/H/V.

# **Protein Chemistry Research at Pfizer**

The Department of Molecular Genetics and Protein Chemistry, a rapidly growing group which plays a vital role in Pfizer's drug discovery research, is seeking qualified candidates for the following research positions:

# Peptide Chemist—PhD

Responsibilities include synthesis and characterization of peptides and peptide analogs for a variety of uses, using manual and automated solid phase BOC and FMOC chemistries. The successful candidate will have a PhD in Chemistry or related field, and 2-3 years of postdoctoral experience. Experience in the use of peptide libraries, protein chemistry and protein-peptide interactions is preferred.

# Protein Biochemist—PhD

Join a multidisciplinary research team dedicated to the purification and biochemical characterization of novel proteins which represent therapeutic drug targets. Experience with modern chromatographic and electrophoretic methods of protein purification and analysis is essential. Familiarity with recovery and recombinant DNA-derived proteins and biophysical methods for protein structural analysis is highly desirable. Candidates should have a PhD in Biochemistry or related field, with at least 2 years experience in purifying proteins.

# Protein Chemists—BS/MS

We are seeking BS or MS level candidates with a degree in Biochemistry or a related field to assist in the application of new and emerging technologies in protein chemistry. The successful candidates should have 1+ years of experience with protein chemistry and purification. Familiarity with molecular biology techniques is desirable.

Through a range of innovative programs, our Protein Chemistry Group unites the disciplines of molecular biology, peptide chemistry, biochemistry, and biophysics to enhance the discovery and development of novel therapeutics for a variety of diseases. Our research team is comprised of highly creative and skilled individuals who thrive on challenge and the development of emerging technologies.

In addition to a stimulating scientific environment, we offer competitive salaries and a full range of benefits, including a generous relocation package. Our expanding state-of-the-art facilities, located on the Connecticut shore, provide a collegial, team-oriented work environment. Qualified applicants may send a resume, description of research experience, and names of three references to: Mr. Kym Goddu, Personnel Associate, **Employee Resources, Pfizer Central Research, Eastern Point** Road, Groton, CT 06340. An equal opportunity employer.



Central Research Bringing science to life

# ASSOCIATE DIRECTOR Bioanalytical Department

Wyeth-Ayerst Laboratories is a division of Fortune 100 American Home Products Corporation, a leading manufacturer and marketer of health care products with multi-billion dollar annual sales and an impressive record of growth for profitability. We currently are seeking an Associate Director for the Bioanalytical Department in our Drug Metabolism Division.

The incumbent will lead a group of scientists in the designing, conducting, evaluation and reporting of preclinical pharmacokinetic and toxicology studies. The Associate Director will also supervise the development of accurate, rapid and sensitive bioanalytical methods and the provision of analytical services to Drug Safety and Clinical Research.

Qualifications include a Ph.D. in Analytical Chemistry, Pharmacy or Pharmacology with a minimum of 7 years experience, especially in the analysis of drugs and metabolites in biological matrices. Expertise in chromatography, immunoassays and radiochemical procedures is necessary.

Wyeth-Ayerst offers an excellent compensation and benefits package in a highly professional environment. Our research laboratory is just minutes away from Princeton University and is convenient to many other cultural, educational and leisure activities. Please forward resume with salary requirements to: WYETH-AYERST RESEARCH, Personnel Manager, Position #444, CN 8000, Princeton, NJ 08543-8000. An equal opportunity employer, M/F/D/V responses encouraged. Principals only.



# Pharmaceutical/ Biotechnology: Careers In Industry

This special section, reprinted from the May 8 issue of **SCIENCE** takes an in-depth look at careers in the pharmaceutical and biotechnology industries.

# Highlighted topics include:

- •Challenges and incentives offered by a pharmaceutical or biotechnology firm
- •A sampling of salaries for scientists in industry
- •How industry salaries compare with university jobs
- •"Hot" new fields in industry

Also included are "career stories" from five scientists who made the decision to move to a position in industry.

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# **Research Opportunities**

SyStemix is an innovative Northern California biotechnology company utilizing revolutionary technology, our SCID-hu mouse model, for the study of human disease and its treatment. We are also pioneering the clinical use of cellular therapies, focusing on the human stem cell, its identification and characterization, its growth in response to novel factors, and its potential use in cancer treatment.

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Candidates should have a PhD, MS, or BS in a related scientific discipline and 2+ years' industry experience.

Please send your resume to SyStemix, Inc., Attn: Human Resources, 3400 W. Bayshore Road, Palo Alto, CA 94303. Or FAX it to Dept. SCI-7/17 at (415) 856-4919. EOE.



# DIRECTOR

General Clinical Research Centers Program National Center for Research Resources National Institutes of Health

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

The Director, GCRC Program, is responsible for planning, developing, managing and evaluating a multimillion dollar program of grants and contracts which supports high quality clinical research throughout the Nation. The GCRC Program currently supports 74 General Clinical Research Centers with a 600 research bed capacity and an annual budget of approximately \$118 million. Applicants for this Senior Executive Service position must have a Doctor of Medicine degree or equivalent. Send applications to:

#### Ms. Pathenia Wiggins NCRR Building 31, Room 3B50 9000 Rockville Pike Bethesda, MD 20892



For application forms and a copy of the requirements, contact Ms. Wiggins at NCRR on (301) 496-1524. *Deadline for applications is July 22, 1992.* 

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

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# PRE-DOCTORAL AND POST-DOCTORAL FELLOWSHIPS IN HUMAN CANCER BIOLOGY UNIVERSITY OF WISCONSIN-MADISON

The Department of Human Oncology and the UW Comprehensive Cancer Center invites applications from U.S. citizens, or permanent residents for several competitive NIH-funded **predoctoral and post-doctoral fellowships.** The next opening for post-doctoral positions will be in the Fall of 1992, but applications are accepted year round. The program is open to Ph.D.'s (or equivalent), with a strong background in biochemistry, cell biology, molecular biology, genetics, or related fields, who wish to apply their skills to cancer-related problems. For further information, highly qualified individuals should contact one of the faculty listed below at the given address. Applications for **graduate fellowships** for study leading to a Ph.D. in Human Cancer Biology, beginning September 1993 are due 15 March, but applicants are urged to apply earlier.

Faculty and research programs include: Chawnshang Chang, molecular endocrinology, steroid receptors; Steven S. Clark, oncogenes, retroviruses, developmental immunology; Kelly H. Clifton, radiation carcinogenesis, regulation of cancer progenitor cells; Michael N. Gould, oncogenes and suppressor genes, molecular carcinogenesis; V. Craig Jordan, molecular endocrinology, experimental therapeutics; Timothy J. Kinsella, modifiers of radiation damage; R. Timothy Mulcahy, drug resistance, experimental therapeutics; Catherine A. Reznikoff, molecular carcinogenesis, cancer genetics; Joan H. Schiller, growth factors and cytokines; David R. Spriggs, signal transduction, cytokines, cell differentiation; Paul M. Sondel, tumor immunology, gene therapy; Ajit K. Verma, signal transduction, molecular carcinogenesis; George Wilding, growth factors, oncogenes.

For information contact: **Program in Human Cancer Biology**, CSC K4/334, University of Wisconsin, 600 Highland Avenue, Madison, Wisconsin 53792.

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# Research Project Leaders

Clintec Technologies, Inc. is part of a joint venture between Baxter Healthcare Corporation and Nestle, S.A. Our new initiative in the clinical and pre-clinical development of glutathione stimulating drugs has created challenging opportunities for three persons with project leader/senior level research backgrounds who are ready to manage and lead our research & development efforts in the following speciality areas:

# **Reperfusion Injury**

Ph.D. in Physiology, Biochemistry or Pharmacology; expertise and experience in myocardial, pulmonary and/or cerebral reperfusion injury is required. Knowledge of mitochondrial function and metabolism, biophysics, and free radical

in the Development of Glutathione Stimulating Drugs.



biology is essential.

Immunology

autoimmune diseases is required. Knowledge of the intracellular effects of free radical/hydrogen peroxides on immune cell function and signal transduction is essential.

<u>Oncology</u>

Ph.D. in Cell Biology; expertise and experience in

oncology is required. Knowledge of chemotherapy induced toxicity and drug resistance relative to intracellular thiols and free radical generation is essential.

These are non-laboratory positions which are responsible for managing all aspects of scientific projects conducted through other leading researchers outside of **Clintec.** We therefore value persons who have demonstrated ability in team leadership and business communications. Our preferred candidates will also have 3 years post-doctoral training, and 3-5 years of pharmaceutical industry experience which includes independent research and direction of a multidiscipline team.

Take the initiative in *your* scientific career with a leader in glutathione development...**Clintec.** We offer a unique compensation and benefits package and an attractive office facility located in Deerfield, Illinois, a northern suburb of Chicago.

Call Sandra Gallegos at 708/317-2717, or forward resume, indicating your area of expertise, to: Clintec Technologies, Inc., Human Resources, Three Parkway North, Suite 500-Dept. RPL, Deerfield, Illinois 60015-0760. An Equal Opportunity Employer.



Clintec Technologies, Inc. Affiliated with Baxter Healthcare Corporation & Nestle, S.A.

#### COLORADO STATE UNIVERSITY COLLEGE OF NATURAL RESOURCES

Applications and nominations are invited for ASSO-CIATE DEAN FOR RESEARCH. Major responsibilities will be to promote, facilitate, and identify research opportunities for College faculty and to serve as DI-RECTOR OF NATURAL RESOURCE ECOLO-GY LABORATORY, an interdisciplinary research unit involved in ecosystem studies. In addition to administrative and management skills, applicants should have a Ph.D., an acknowledged national and international reputation in research, and qualifications sufficient for tenure at the rank of Professor in one of the departments of the College. Nominations and applications, including curriculum vitae and names of five references, should be submitted by September 15, 1992 to: Dr. Donald O. Dochring, Search Committee Chair, Department of Earth Resources, Colorado State University, Ft. Collins, CO 80523.

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

#### ECOLOGIST PROGRAM DIRECTOR

The National Research Initiative Competitive Grants Program of the U.S. Department of Agriculture (USDA) seeks a qualified scientist to serve as program director for grants administration in the area of water quality [encompassing soil chemistry and biophysics; rhizosphere biology (soil, plant and microbial interactions); plant/ water contaminant interactions; and wetland, riparian or forest ecology]. Candidates must have a B.S. or higher degree with major study in biology or a related field of science underlying ecological research. In addition the candidate must have a Ph.D. or equivalent experience in soil chemistry, soil physics, microbiology, ecology, plant physiology or a related discipline of biological, chemical, physical or earth science.

Closing date is August 17, 1992. For information on this position contact: Dr. Anne Datko, National Research Initiative Competitive Grants Program, CSRS/USDA, Room 323 Aerospace Building, Washington, DC 20250–2200. Telephone: 202-401-4871. For information on application procedures/forms, contact: Ms. Delicia Taylor, Personnel Office, telephone: 202-690-0089. USDA is an Equal Opportunity Employer.

#### SENIOR FACULTY POSITION BIOMOLECULAR X-RAY CRYSTALLOGRAPHY

WASHINGTON STATE UNIVERSITY (WSU)

The Department of Biochemistry and Biophysics seeks a well-established crystallographer with outstanding abilities in research and approximately five years or more of experience beyond the doctorate in the crystallography of proteins (or protein–nucleic acid complexes). Applications will be screened beginning September 21, 1992 until the position is filled. After interviewing selected applicants, the successful candidate will be appointed part-time *in absentia* and collaborate with WSU faculty in securing funds to develop the Laboratory of Biomolecular Crystallography. The individual will be appointed full-time as Associate or Full Professor when equipping and staffing of this Laboratory are assured; the target date is August 16, 1994. Send curriculum vitae, research plans, names, addresses, telephone and FAX numbers for four references to: Dr. B. A. McFadden, Search, Wash ington State University, Pullman, WA 99164–4660. Telephone: (509) 335-4937. WSU IS AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EDU-CATOR AND EMPLOYER. PROTECTED GROUP MEMBERS ARE ENCOURAGED TO APPLY.

**POSTDOCTORAL POSITION.** A position is available to join a multidisciplinary drug discovery group including industry and several universities. Research involves signal transduction mechanisms, protein kinases, purification of recombinant enzyme, and enzyme kinetics. Experience with enzymes and an interest in structure-function relationships required. Salary dependent upon experience. Excellent fringe benefits. Send curriculum vitae and references to: **Raymond J.A. Budde, Ph.D., Department of Neuro-Oncology, Box 100, University of Texas M.D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030. An Equal Opportunity/Affirmative Action Employer. Smoke-free environment.** 

#### **POSITIONS OPEN**

#### MOLECULAR BIOLOGY OF AGING

University of Texas Medical Branch (UTMB) at Galveston. GRADUATE, POSTDOCTORAL, and TECHNICAL positions are available at the B.S., M.S., and Ph.D. levels in the laboratories of Drs. John Papaconstantinou, Joan M. Lakoski, Regino Perez-Polo, and E. Aubrey Thompson from a new 5-year Program Project Grant, *Effects of Aging on Molecular Responses to Stress.* Research emphasis is on age-related changes in: regulation of the acute phase liver response (JP); serotonin and corticosteroid function in the hippocampus (JML); responsiveness to Nerve Growth Factor in CNS neurons and glia (RP-P); and transcriptional regulation of ribosomal components (EAT). Send curriculum vitae, letter stating career goals and lab of interest, and names/ addresses of three references to: Dr. David A. Konkel, Research Coordinator, Department of HBCG, UTMB, Galveston, TX 77555–0643; FAX: (409) 772-5159. UTMB is an Equal Opportunity/Affirmative Action Employer M/F/H/V. UTMB hires only individuals authorized to work in the United States. UTMB is a smoke free/drug free workplace.

**POSTDOCTORAL POSITION** is available to study the structure, regulation and expression of lipid transport proteins in normal and tumorigenic cell membranes. Current research efforts focus on functional and structural analysis of these proteins and the genes involved in their expression. Send curriculum vitae and the names of three references to: Alan J. Schroit, Ph.D., Department of Cell Biology, The University of Texas M.D. Anderson Cancer Center, Houston, TX 77030. An Affirmative Action/Equal Opportunity Employer. Smoke-free environment.

#### PEI FOOD TECHNOLOGY CENTRE POSTDOCTORAL RESEARCHER

The Prince Edward Island (PEI) Food Technology Centre provides technical support to the food industry. It has an annual budget of \$2.0 million and a staff of 30 people. The \$3.4 million facility has well-equipped pilot plant and laboratories and engages in both contract work for clients and Centre initiatives.

The Centre is seeking a Postdoctoral researcher for an 18 to 24 month project to identify and quantify genetic and environmental factors affecting quality of pork. The position will involve responsibility for the scientific content of the project, supervision of technical staff and participation in data collection. Successful candidates will possess a Ph.D. in Meat Science, Food Science or a closely related field. Initiative, creativity and excellent communication skills (oral and written) and computer competence are among the requirements for this challenging position. This opportunity offers salary and benefits commensurate with qualifications and experience. Please state specific salary expectations. If you are seeking a challenging position with a centre of excellence in food technology, please forward your curriculum vitae in confidence to: **PEI Food Technology Centre, P.O. Box 2000, Charlottetown, PEI, C1A 7N8.** Closing Date: July 31, 1992.

POSTDOCTORAL POSITION—CARDIAC ELECTROPHYSIOLOGY, UNIVERSITY OF VERMONT. Available now, to study calcium-activated chloride currents/channels in mammalian heart. Experience with patch clamp and cardiac myocyte isolation preferred. Please send curriculum vitae, statement of research interests and experience, and names and addresses of three references to: Dr. W. R. Gibbons, Department of Physiology and Biophysics, University of Vermont, 55A South Park Drive, Colchester, VT 05446. Equal Opportunity Employer.

IMMUNOBIOLOGIST. Postdoctoral position August 1, 1992 or longer. Extensive experience in molecular and cellular biology relevant to cytokines: isolation, purification and sequencing of IL-1 and IL-2 using invertebrate models. Send curriculum vitae and names of three referees to: Dr. Edwin L. Cooper, Laboratory of Comparative Immunology, Department of Anatomy and Cell Biology, School of Medicine, University of California, Los Angeles, CA 90024–1763. UCLA is an Equal Opportunity/Affirmative Action Employer.

#### **POSITIONS OPEN**

#### **G-PROTEINS AND DIFFERENTIATION**

POSTDOCTORAL POSITIONS, DEPARTMENT OF MOLECULAR PHARMACOLOGY, SUNY/ STONY BROOK are available immediately to study the cell and molecular biology of G-protein-mediated regulation of differentiation using on-going hybrid strategies including antisense RNA, mutagenesis, indirect immunofluorescence/confocal microscopy, and transgenic mouse technology. Experience in recombinant DNA or biochemical techniques required. Send or FAX (516-444-7696) résumé and two letters of reference to: Dr. Craig C. Malbon, Pharmacology, School of Medicine, Health Sciences Center, SUNY/Stony Brook, Long Island, NY 11794–8651.

POSTDOCTORAL POSITION, ENDOCRINE TOXICOLOGY/METABOLISM. Postdoctoral position is available to study stress-toxicity interactions and glutathione-dependent metabolism of organophosphorus insecticides. The position will also participate in pharmacokinetics and safety assessment studies. Please submit curriculum vitae and three references to: Dr. Barry S. Levine, Director, Toxicology Research Laboratory, Department of Pharmacology, University of Illinois at Chicago, P.O. Box 6998, Chicago, IL 60680. Equal Opportunity/Affirmative Action Employer.

TWO POSTDOCTORAL POSITIONS: (1) The study of the molecular aspects of radioresistance. Experience in a variety of molecular biology techniques, including gene cloning, is essential. (2) The study of signal transduction as it relates to the physiology of the radiation response. Experience in a variety of molecular biology/biochemistry techniques is essential. Send curriculum vitae and names of three references to: Dr. Ralph R. Weichselbaum, University of Chicago, Department of Radiation and Cellular Oncology, 5841 South Maryland Avenue, MC0085, Chicago, IL 60637. The University of Chicago is an Equal Opportunity Employer.



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# Make A Difference In The Quality of Life

Baxter Biotech Immunotherapy Division, a leader in the area of human plasma-derived protein therapeutics, is undertaking the development of its next generation of therapeutics with the aid of state-of-the-art biotechnology. We seek an energetic individual who can contribute effectively in a multi-disciplinary R&D environment:

# SCIENTIST IV Virology

The successful candidate will assist in a broad range of R&D activities, including feasibility research, drug development and evaluation, as well as PLA/IND support, assay development and applied viral research. A PhD is required in Virology, Microbiology, Biology, Biochemistry or a related field, plus 2-3 years post doctoral experience in Virology. Applicants must possess a strong background in general virology, as well as experience with DNA viruses, Hepatitis B, Papilloma viruses and viral oncogenesis.

The name Baxter Healthcare Corporation is synonymous with products, systems and services devoted to improving health care throughout the world. We are a Fortune 100 company providing a smoke-free environment, competitive compensation and benefits. Please send your resume in confidence to: **Baxter Biotech Immunotherapy Division, Human Resources Dept. LD/V-4, 1710 Flower Avenue, Duarte, CA 91010.** An Affirmative Action/Equal Opportunity Employer.

Immunotherapy Division



# NIH RESEARCH FELLOWSHIP POSITION

An NIH Intramural Fellowship (Intramural Research Training Award/Visiting Fellow) is immediately available for a vascular cell biologist with Ph.D., M.D., or M.D./Ph.D. degrees at the National Institute on Aging, National Institutes of Health. The scope of the research entails studies of vascular smooth muscle and endothelial cell differentiation, synthesis and remodelling of extracellular matrix proteins, and the elaboration of factors which govern growth and regulation of these constituents during aging and following mechanical injury to the blood vessel wall. Candidates with experience in basic cytochemical techniques, autoradiography, immunchistochemistry, in situ hibridization and electron microscopy will be given preference. Salary is commensurate with experience. The position affords a unique opportunity to interact with a team of scientists in various disciplines (including molecular and cellular biology, physiology, biochemistry, and biophysics) with a commitment to the investigation of vascular disorders and aging.

Applicants should submit an application letter specifying their research interests, curriculum vitae and three letters of recommendation to:

Dr. Edward Lakatta, Chief Laboratory of Cardiovascular Science Gerontology Research Center National Institute on Aging 4940 Eastern Avenue Baltimore, MD 21224



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# THE SWISS FEDERAL INSTITUTE OF TECHNOLOGY LAUSANNE L'ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE (EPFL)

announces the opening of a tenured position as

# PROFESSOR OF CERAMIC POWDER TECHNOLOGY

responsible for the direction of the Ceramic Powder Technology Laboratory of the Department of Materials Science and Engineering.

Women are particularly welcome.

Deadline for application: 31 August 1992

The successful candidate will enter into service: To mutual agreement.

For further information concerning the position, please write to:

Secrétariat général de l'Ecole Polytechnique Fédérale de Lausanne CE-Ecublens-1015 LAUSANNE, SUISSE

**POSTDOCTORAL POSITIONS** are available to study function, pharmacology and structure-function relationships in native and cloned **ION CHANNELS** in a collaborative, multimvestigator environment (Drs. P.B. Bennett, K.T. Murray, D.T. Snyders, M.M. Tamkun). Send curriculum vitae, summary of research interests, and names of three references to: Ms. P. James, Department of Pharmacology, Vanderbilt University School of Medicine, 532C MRB, Nashville, TN 37232–6602. An Equal Opportunity/Affirmative Action Employer.

#### POSTDOCTORAL POSITIONS

Postdoctoral positions are open to study the mechanism of latent herpesvirus infections and to develop herpes simplex virus as a gene transfer vector. A background in molecular biology/genetics/virology is preferred; experience with herpesviruses is desirable, but not required. Interested candidates should submit curriculum vitae and names of three references to: Jordan Spixack, Ph.D., The Wistar Institute, 3601 Spruce Street, Philadelphia, PA 19104. Equal Opportunity Employer.

HARVARD/POSTDOCTORAL POSITIONS are available to study molecular mechanisms of atherosclerosis and hypertension with special emphasis on growth and differentiation of vascular endothelial and smooth muscle cells. Experience with molecular cloning, gene regulation, cell biology, or transgenic models is desirable. Please send curriculum vitae and names of three references to: Dr. Edgar Haber, Cardiovascular Laboratory, Division of Biological Sciences, Harvard School of Public Health, 677 Huntington Avenue, Boston, MA 02115.

#### POSTDOCTORAL POSITIONS ORGANIC CHEMISTRY/ MOLECULAR BIOLOGY

Immediately available to study the *in vitro* selection of protein/nucleic acid interactions and novel ribozymes. [Nature, **346**/818 (1990)]. Experience in either synthetic organic chemistry or molecular biology is highly desirable. For **CHEMISTS**: projects involve the evolution/construction of macromolecular host-guest complexes, and will require experience in the use of biomolecules as synthetic intermediates. Training in molecular biology is available; this position is ideal for candidates wishing to straddle the interface between chemistry and biology. For **MOLECULAR BIOLOGISTS**: projects involve the selection of nucleic acid sequences that mimic binding sites for viral proteins, and will require experience in the *in vitro* manipulation and amplification of both RNA and DNA. Send résumé and references to: **Dr. Andrew Ellington**, **Department of Chemistry**, **Indiana University**, **Bloomington**, **IN 47405**. An *Equal Opportunity Employer*.

TWO POSTDOCTORAL POSITIONS. Available immediately to study signal transduction from FGFs and diacylglycerols through a new MAP Kinase. One position for a molecular biologist with expertise in cDNA cloning and DNA sequencing, the second for a biochemist. Salary competitive in New York City area. Send curriculum vitae and names/phone numbers of two references to: Dr. Eileen Friedman, Director, Laboratory of GI Tumor Biology, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, Box 244, New York, NY 10021. FAX: 212-717-3053.

## POSTDOCTORAL POSITION DROSOPHILA DEVELOPMENT

Postdoctoral position available August 1992 to study regulation of Drosophila sex determination genes by transcription and alternative splicing. Please send curriculum vitae and names of references to: Dr. Leslie R. Bell, Molecular Biology Program, SHS 172, University of Southern California, Los Angeles, CA 90089– 1340; FAX: 213-740-8631.

**POSTDOCTORAL FELLOWSHIP**. Available immediately for molecular biologist with recent Ph.D. or M.D. to work as part of an interdisciplinary team investigating receptors involved in intracellular signal transduction in vascular cells. Applicants should have experience in molecular cloning techniques; experience in biochemistry helpful. The appointment is for at least two years.

<sup>7</sup> Please send curriculum vitae including names and addresses of three references to: Lawrence Brass, M.D., Ph.D., Hematology-Oncology, 7 Silverstein Pavilion, Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104.

#### **POSITIONS OPEN**

#### POSTDOCTORAL POSITIONS VANDERBILT UNIVERSITY

Several positions available in August at Vanderbilt University School of Medicine. Research involves design of HIV vaccine and protein engineering. Training in immunology, lipid/liposome chemistry or peptide/protein chemistry is essential. Send curriculum vitae and names of three references to: Dr. James P. Tam, Department of Microbiology and Immunology, A5301 Medical Center North, Vanderbilt University, Nashville, TN 37232-2363. Vanderbilt University is an Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL FELLOW:** A position is available immediately to study the molecular biology of hormonally regulated Sertoli cell proteins closely related to Sertoli-germ cell interactions in the testis. Ph.D. in molecular biology and experience in molecular cloning required. Opportunity for independent research in a well-equipped and funded modern biochemistry laboratory. Please send curriculum vitae and the names and addresses of three references to: Dr. C. Yan Cheng, The **Population Council, Center for Biomedical Research, 1230 York Avenue, New York, NY 10021.** 

**POSTDOCTORAL FELLOWSHIPS** available in the general areas of physical mapping of human chromosome 21, research into the etiology of Down Syndrome and research into the etiology of human neurodegenerative diseases such as Alzheimer Disease and ALS. Methods include molecular biology, somatic cell genetics, and transgenic animal studies. Send curriculum vitae, statement of research interests and names of three references to: Dr. David Patterson, President, Eleanor Roosevelt Institute, 1899 Gaylord Street, Denver, CO 80206. Equal Opportunity/Affirmative Action Employer; Women and minorities encouraged to apply.

**POSTDOCTORAL POSITION** is available September 1992 to join a new research team investigating the molecular basis of familial Alzheimer's disease. Projects include genetic linkage strategies, use of YAC technology to develop in vitro models and gene targeting in embryonic stem cells to develop animal models. Experience in molecular genetics/biology, culture of embryonic stem cells or mouse embryology would be an advantage but not essential. Curriculum vitae and letters of references should be sent to: Dr. Alison Goate, c/o Theodore Reich, M.D., Department of Psychiatry, Jewish Hospital of St. Louis, 216 South Kingshighway, St. Louis, MO 63110.

POSTDOCTORAL POSITION available for studying the enzymology and molecular biology of uracil-DNA repair in mammalian cells. Recent Ph.D. in biochemistry, molecular biology, or related field required; background in recombinant DNA technology, protein purification, and/or tissue cell culture would be helpful. Send curriculum vitae and names of three references by August 15 to: Dr. Dale W. Mosbaugh, Environmental Health Sciences Center, Oregon State University (OSU), Corvallis, OR 97331-6504. OSU is an Affirmative Action/Equal Employment Opportunity Employer and is responsive to dual-career needs.

CLIMATE CHANGE/COASTAL SYSTEMS MODELER. The University of Virginia (UVa), Department of Environmental Sciences, seeks a POST-DOCTORAL RESEARCH ASSOCIATE to conduct research on the impacts of climate change on coastal systems. The position supports research activities sponsored by the National Park Service (NPS). A Ph.D. in climatology or regional-scale oceanography, strong numerical modeling skills, and an interest in interdisciplinary research pertaining to coastal systems are required. The incumbent will develop methods to integrate information derived from models of atmospheric circulation and forecasts of climate variability and sea level rise, with coastal process-response models, and conceive new research efforts in the broad areas of climate change and coastal processes. Funding is available for two years with possible continuation. Applications will be reviewed from 15 July 1992 until the position is filled. Applicants should submit curriculum vitae and names/addresses of three references to: Dr. Suzette M. Kimball, NPS Climate Change and Coastal Dynamics Program, Department of Environmental Sciences, University of Virginia, Charlottesville, VA 22903. UVa is an Equal Opportunity/Affirmative Action Employer.

## **POSITIONS OPEN**

**POSTDOCTORAL ASSOCIATE** in Soil Ecology to work as a member of an interdisciplinary team on an NSF-funded project investigating the role of earthworms, in nitrogen cycling processes and decomposer community structure, in agroecosystems supplied with nutrients from inorganic fertilizers or organic inputs. Qualifications include Ph.D. in Ecology, Microbiology, Agronomy or appropriate field. Background in soil ecology with experience in soil microbiology and nutrient cycling required. The successful candidate will work in both the field and laboratory. Appointment available autumn 1992 for an initial period of two years. Salary negotiable. Submit curriculum vitae, research interests, transcripts and names and addresses of three references, by August 14, to: Dr. C. A. Edwards, Department of Entomology, The Ohio State University, Columbus, OH 43210; telephone: (614) 292-8209.

#### POSTDOCTORAL RESEARCH ASSOCIATE

Position is available to study the role of polyamines in gene expression, at the transcriptional and posttranscriptional levels. Particular emphasis is on exploiting these roles for development of antineoplastic therapies. Background in molecular biological techniques is essential. Send curriculum vitae and three letters of reference to: **Dr. Robert A. Casero, Jr., The Johns Hopkins Oncology Center Research Laboratories, 424 North Bond Street, Baltimore, MD 21231.** An Equal Opportunity Employer.

POSTDOCTORAL OR RESEARCH ASSOCI-ATE POSITION available for candidates with strong background in molecular virology or pharmacology to study mechanisms of HIV replication in infected cells and molecular pharmacology of novel antiviral agents. Eligible candidates should have Ph.D. or M.D. degree and not have more than three years of postdoctoral research experience. Salary will depend on experience. Support includes travel to scientific meetings. Send curriculum vitae and names of three references to: Dr. Arnold Fridland, Department of Infectious Diseases, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105. St. Jude Hospital is an Affirmative Action/Equal Opportunity Employer.

#### POSTDOCTORAL RESEARCH ASSOCIATE

Position available to study regulation of gene expression as applied to macrophage differentiation and maturation. Research focuses on the role of cytokines and eicosanoids in macrophage activation and their regulation by ribozymes. Molecular or macrophage biology or immunology experience is desirable. Send curriculum vitae and statement of research interests to: Dr. Kent L. Erickson, Department of Cell Biology and Human Anatomy, University of California, School of Medicine, Davis, CA 95616–8643. An Equal Opportunity/ Affirmative Action Employer.

#### POSTDOCTORAL RESEARCH ASSOCIATE BROOKHAVEN NATIONAL LABORATORY

The Biology Department has a position available for a recent Ph.D. with a background in biophysics to conduct research to determine the structure of photosynthetic membrane proteins from cyanobacteria by reconstituting them in a lipid matrix. Knowledge of protein purification techniques and familiarity with X-ray or neutron scattering is desirable. Candidates can apply by sending curriculum vitae, publications list, and the names of three references to: Dr. A.M. Saxena, Biology Department, Building 463, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973. Equal Opportunity Employer M/F/D/V.

POSTDOCTORAL RESEARCH POSITIONS are available to study structure, expression and regulation of Beta polymerase. Expertise in molecular biology and recombinant DNA techniques is required. The University of Texas Medical Branch in Galveston is an Equal Opportunity/Affirmative Action Employer, M/F/H/V. The University of Texas Medical Branch hires only individuals authorized to work in the United States of America. Interested candidates should send their curriculum vitae and three references to: Dr. Thomas G. Wood, Director Recombinant DNA Laboratory, Center for Molecular Science, 1700 Strand Avenue, Room 3.112, J-82, University of Texas Medical Branch at Galveston, Galveston, TX 77555–1082. **University of Cincinnati** Medical Center

POSTDOCTORAL ASSOCIATE/ RESEARCH ASSISTANT PROFESSOR MOLECULAR AND CELL BIOLOGY OF THE HEART UNIVERSITY OF CINCINNATI

Post-doctoral and research assistant professor positions are available beginning September 1, 1992 to join a team studying control of gene expression in heart and vascular smooth musexpression in heart and vascular smooth mus-cle in the newly formed Molecular Cardiology section of the Cardiology Division. Specific ar-eas of research include: 1) Identification of genes involved in heart development, 2) Tran-scription control of cardiac sarcoplasmic reticu-lum Ca<sup>2+</sup> transport genes, 3) Characterization of a myosin heavy chain gene promoter ex-pressed in vascular smooth muscle. These studies will involve state-of-the-art molecular biology techniques and the use of transpreading studies will involve state-of-the-art molecular biology techniques and the use of transgenic mice technology. Individuals with expertise in Cell & Molecular Biology, Biochemistry and Developmental Biology are encouraged to ap-ply. The University of Cincinnati is a highly recognized center for cardiovascular research and provides significant opportunities for inter-actions with members of the program of excelactions with members of the program of excel-lence in molecular biology of the heart and lung. Please send curriculum vitae and 3 letters of reference to:

Dr. M. Periasamy Director of Molecular Cardiology Division of Cardiology The University of Cincinnati College of Medicine 231 Bethesda Avenue, M.L. 542 Cincinnati, Ohio 45267–0542

# **Opportunities in Molecular Modeling**

Palo Alto CA

Oxford Molecular is a rapidly expanding, international molecular modeling software company commercializing algorithms from the world's best academic laboratories. This approach has produced a number of innovative packages encompassing both large and small molecule applications. We now require

# Applications Scientists

to provide pre and post sales scientific support and advice to our customers, and to interact with our international academic authors and scientific staff. These key positions will involve travel in the US and occasionally to our offices in Oxford and Paris. Opportunities exist for both protein and small molecule scientists.

The ideal candidates will have:

- a Ph.D. with a background in molecular modeling and/or bioinformatics
- a strong desire to use their scientific expertise in a commercial environment
  - familiarity with UNIX workstations
- excellent communication and interpersonal skills



Candidates should telephone Dr. Stefan Unger at 415-494-6274 for an initial confidential discussion or send their resumé to:

OXFORD MOLECULAR

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East Coast

Oxford Molecular Inc., 744 San Antonio Road, Suite 27, Palo Alto, CA 94303.

Interneuron Pharmaceuticals, Inc. (IPI) is a Lexington-based neuroscience firm specializing in the development of treatments for neurologic and psychiatric disorders and conditions. We are looking for research scientists to work closely with our innovative drug discovery team.

# SENIOR RESEARCH **NEUROSCIENTIST**

Providing leadership in biochemical neuropharmacology, you will develop bioanalytical methods to support drug development and discovery, and be responsible for neurochemical studies of the central nervous system. Requires a Ph.D in Pharmacology, Biochemistry or a related discipline, with at least 2-4 years' research experience in neuroscience. Expertise with radiological binding studies, second messenger assays and HPLC techniques for CNS neurochemistry is desirable.

Please send your resume in confidence to: Dr. Kenneth W. Locke, Interneuron Pharmaceuticals, Inc., One Ledgemont Center, Suite 340, 99 Hayden Ave., Lexington, MA 02173. An Equal Opportunity Employer.



Applications are currently being accepted for the 1993 U.S. Public Health Service (PHS) Epidemiology Training Program. APPLICATIONS ARE DUE SEPTEMBER 14, 1992. Training begins approximately July 1, 1993.

Features: The first year, trainees attend a university to study epidemiology, biostatistics, and related subjects. The subsequent two years, they work with senior epidemiologists for one of the following agencies: National Institutes of Health, Food and Drug Administration, National Center for Health Statistics, or Alcohol, Drug Abuse, and Mental Health Administration. Individuals who have a year of training in epidemiology may be accepted for the final two years of the program. Compensation depends on the chosen personnel system. The two

most common are:

1. A limited appointment in the Commissioned Corps of the USPHS in which the usual rank for program entrants will be Lieutenant (0-3). The starting salary for an 0-3 physician with dependents is about \$42,300 depending on training and experience. For non-physicians of the same rank with dependents, the starting salary is about \$37,300. Approximately 37% of these salaries is exempt from federal, state, and

 2. Appointment as a staff fellow in the sponsoring agency with starting salaries of approximately \$42,500 for physicians and \$28,000 for non-physicians. An increase of up to \$2,000 per year will take effect in the second and third years.

**Eligibility:** M.D., D.O., Doctorate or Ph.D. in a health discipline, **and** one year of postdoctoral training/experience by July 1, 1993; U.S. citizenship by September 14, 1992; acceptability to a M.P.H. program, or more advanced public health degree for the first year.

To obtain an application, send your name and address to: NIH Training Center, Epidemiology Training Program, EPS/100, 9000 Rockville Pike, Bethesda, MD 20892, or call 301/402-3402.

The PHS Epidemiology Training Program is an equal opportunity employer.

# IMMUNOLOGISTS

Targeted Genetics Corporation, a Seattle-based independent company evolved as a spinout of Immunex Corporation, is currently recruiting immunologists at all levels of work. The company is focused on the development of genetic therapies for the treatment of inherited and acquired diseases, particularly infectious disease and cancer. Opportunities include:

# T Cell Biologists

- **Department Head:** The individual recruited to this seminal position will direct immunology research activities aimed at the development of gene-modified T cell therapeutics. The ability to lead a group of scientists and collaborate in a multidisciplinary environment are essential. The successful candidate will have at least four years experience in cell and molecular immunology and demonstrated productivity as reflected by publications in peer-reviewed journals.
- **Staff Scientists:** Positions are available requiring expertise in various areas of mouse and human T cell biology, including *in vivo* animal models for adoptive transfer of T cell clones and the introduction of regulated genes into T cells that modify cell function. Experience in growing, maintaining, and analyzing the function and specificity of T cell clones is desirable.

For consideration, please submit C.V., names of three references and a list of publications to: Targeted Genetics Corporation, Attn: S 7/3, 1201 Western Avenue, Seattle, WA 98101.

# Fax: (206) 587-0606 Targeted Genetics Corporation Equal Opportunity Employer

NeXagen, Inc., a new, Boulder-based biotechnology company, is seeking first-rate scientists and research associates dedicated to drug development through the implementation of proprietary, novel repertoire chemistry. NeXagen scientists are in pursuit of oligonucleotide and peptide ligands for use as pharmaceutical agents for the treatment of several major diseases. In addition to their own in-house research programs, NeXagen scientists are involved in an interactive research program with many scientists at the University of Colorado, Boulder campus.

# **Director of Production**

We seek a PhD to direct the production of oligonucleotide-based pharmaceuticals. The successful candidate will have a broad knowledge of synthetic chemistry and nucleoside chemistry, experience in large-scale, GMP preparation of reagents, and creative ideas about interfacing with a strong group of research chemists, molecular biologists, and medical doctors in order to facilitate drug development. Management experience, preferably with a pharmaceutical background, is essential.

# **Senior Scientists/Chemists**

The successful chemists will have PhDs and at least two years of postdoctoral experience. Expertise in either synthetic peptide chemistry, synthetic nucleoside chemistry, or in related fields is a must. Candidates should be driven to implement an independent and highly visible research program.

# **Research Associates/Chemists**

The selected applicants will have BS or MS degrees and extensive laboratory experience. Areas of expertise should include synthetic organic chemistry.

NeXagen offers competitive salaries and benefits, in addition to the opportunity to work in a dynamic, highly motivated, and interactive scientific environment. Boulder, Colorado is part of the package. For consideration, submit a *curriculum vitae* and three references to Personnel Director, Dept. CHEM, NeXagen, Inc., 2860 Wilderness Place, Suite 200, Boulder, Colorado 80301.



# **POSITIONS OPEN**

NEUROBIOLOGY POSTDOCTORAL ASSO-CIATE. Genes regulating mammalian nerve regeneration have just been identified. Immediately available position to study IGF gene expression, enhanced regeneration using evoked potentials, and recovery of function in paralysis research. Well-equipped and close to Rocky Mountains. Send résumé, names and telephone numbers of three references to: Professor Douglas N. Ishii, Department of Physiology, Colorado State University (CSU), Fort Collins, CO 80523. FAX: (303) 491-7569. CSU is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE/ASSISTANT PRO-FESSOR, MOLECULAR VIROLOGY OR BIOL-OGY. Candidates are sought for a research associate/ assistant professor-level position to help run a research program investigating the molecular pathogenesis of an animal viral model of multiple sclerosis, Theiler's virus infection of mice. The individual should expect to develop independent research projects within this program. Applicants must have a Ph.D., appropriate postdoctoral training and a publication record demonstrating productivity and expertise. Applicants should send their curriculum vitae, names of three references and a short statement of research interests to: Howard L. Lipton, M.D., Chairman, Department of Neurology, Box 1137, The Mount Sinai Medical Center, One Gustave L. Levy Place, New York, NY 10029–6574. An Equal Opportunity Employer.

#### RESEARCH ASSISTANT/ ASSOCIATE PROFESSOR TULANE UNIVERSITY

Position available immediately for research in neutrophil mediated mechanisms of myocardial injury following coronary reperfusion. A background in cardiovascular physiology, pharmacology or pathology and experience with animal models of ischemiareperfusion desirable. Opportunity to work in integrated cardiovascular laboratories with other NIH funded investigators in the Cardiology Section and other basic science departments in a developing and high priority cardiobiology program. Applications will be accepted until a qualified candidate is selected. Rank and salary commensurate with qualifications. Submit curriculum vitae and three letters of reference to: Andrew J. Buda, M.D., Chief, Cardiology Section, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, LA 70112. Affirmative Action/Equal Opportunity Employer.

**RESEARCH ASSOCIATE**—Research in Tumor Immunology using murine model systems with emphasis on immune regulation influenced by Vitamin A derivatives and antibodies. Accurate recording of results, writing and publishing results in appropriate scientific journals in collaboration with colleagues and senior scientists. M.D. or Ph.D. in Immunology required with two years of experience in Tumor Immunology. Hours: 8:00 a.m. to 5:00 p.m. Salary: \$31;787 per year. Contact: Sandra T. Starnes, Alabama State Employment Service, 3440 Third Avenue South, Birmingham, AL 35222. RE: Job Order #AL0626926.

SENIOR RESEARCH ASSOCIATE: Mechanical Engineering, State University in Northwest Ohio. Develop an efficient and robust numerical algorithm to simulate 2D and 3D, steady and unsteady, finite-rate chemically reacting viscous flows at a wide range of Mach numbers, from  $10^{-7}$  to supersonic using (1) the finite-difference discretization method with a coupled modified strongly implicit procedure (CMSIP) in body-fitted curvilinear coordinates; and (2) the time-preconditioning acceleration technique, as well as conducting numerical simulation of combustion flows in a gas turbine engine combuster. Ph.D. in Mechanical Engineering. Academic program must have included one graduate level course in each of the following subjects: (1) Computational fluid mechanics and heat transfer, (2) Radiation heat transfer, and (3) Turbulent boundary layer. Must have two years of experience as a research assistant and research must have involved algorithm development on computations of unsteady low Mach number (<0.05) compressible viscous flowing using a coupled modified strongly implicit procedure (CMSIP). Forty hours per week, 8 a.m. to 5 p.m., Monday to Friday, salary: \$42,000.00 per year. Must have proof of legal authority to work permanently in United States. Send résumé in duplicate (no calls) to: L. Ellison, JO#1200881, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.

#### RESEARCH ASSOCIATE OR POSTDOCTORAL RESEARCH FELLOW (PDF)

Research positions are available in the laboratories of the Atlantic Research Centre, (associated with the Departments of Pediatrics and Biochemistry, Dalhousie University, and the Izaak Walton Killam Hospital for Children), Halifax, Nova Scotia, Canada. The laboratories are part of the Dalhousie node of the Network Centres of Excellence in Neural Regeneration and Recovery. Laboratory-based research at the Centre is focused on lipid second-messenger and protein kinase C mediated systems and biochemical and genetic studies of membrane lipid and protein metabolism using normal, mutant and transformed cell lines in culture. Experience with protein purification, antibody generation and molecular probe technologies in these areas is an asset. Candidates should have a doctoral legree in biochemistry, chemistry or biology and relevant research experience at the post-graduate or postdoctoral level. Salary will be commensurate with the Medical Research Council of Canada salary scales for PDFs (\$23,000 to \$27,000) and \$28,000 to \$33,000 for a research associate. Teaching opportunities in biochemistry may be available depending on qualifications. Reply with curriculum vitae and names, addresses, and telephone numbers of three referces to: Dr. Harold W. Cook, Director, Atlantic Research Centre, Dalhousie University, S&19 University Avenue, Halifax, Nova Scotia, B3H 4H7, CANADA. Telephone: (902) 494-7066, FAX: (902) 494-1394.

#### COMPUTER SYSTEMS ENGINEER

Strong commitment to computer hardware and software support, training, and consulting in expanding program of computer operation, network communication, office automation, and application development of NeuroClinical Trials Center. Design and develop conventional data base or artificial intelligence data base. Participate in the development and implementation of an integrated computerized image network for stereotaxic neurosurgical procedures and robot aid in real time surgical operation. Competitive applicants should have a Bachelor's de-

Competitive applicants should have a Bachelor's degree or better in Electrical Engineering or Computer Graphics, Computer Vision, Geometric Modeling, knowledge base in EE, and Neural Networks. Must have background in Robotics, particularly Robot Complaint Motion. Must be familiar with VM/CMS UNIX, PRI-MOS, MS-DOS and Macintosh operating systems and the migration between any two different computers. Applicants should also have some experience performing research in robot stability analysis and experience in the area of Microcomputer Organization, Electrical Engineering Analysis or Design of Logic circuit. Salary range: \$32,910 to \$50,248 per year. Apply to: University of Virginia, Department of Human Resources, Carruthers Hall Box 9007, Charlottesville, VA 22906.

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

#### MOLECULAR VIROLOGIST

The Department of Virology and Immunology and the Center for AIDS Research at Southwest Foundation for Biomedical Research invites applications for an **AS SISTANT OR ASSOCIATE SCIENTIST** faculty level position. Candidates should have a Ph.D. or D.V.M. with several years of experience in DNA recombinant technologies associated with DNA or RNA viruses and will be expected to maintain an independent competitive research program. We are seeking individuals who will complement the existing AIDS programs focusing on both HIV and SIV nonhuman primate models. Opportunitics exist for collaborations with five other scientists involved in AIDS research. These areas focus on viral pathogenesis, immunology, vaccines, and therapeutics. Other programs in this department focus on hepatitis viruses, herpes B virus, and their associated nonhuman primate models. The Southwest Foundation for Biomedical Research is a nonprofit, private research institution that supports 45 scientists. The Foundation has extensive nonhuman primate resources which include baboons, chimpanzees, and macaques. Candidates should send curriculum vitae, brief summary of research goals, and the names and addresses of three references to: **Personnel Director (216)**, **Southwest Foundation for Bio T 78228–0147.** An Equal Opportunity Employer, M/F.

# **BONE METABOLISM** Pharmacologists

Wyeth-Ayerst Laboratories is a Division of Fortune 100 American Home Products Corporation, a leading manufacturer and marketer of health care products with multibillion dollar annual sales and an impressive record of growth and profitability. We currently have opportunities in the Bone Metabolism department of our pharmaceutical research facility in Princeton, New Jersey.

# HISTOMORPHOMETRIST

Responsible for processing and analyzing bone samples, computing data and preparing reports of final analysis including assisting in the development of new techniques and in in vivo experiments. Requirements include a B.S./M.S. degree in a biological discipline with 2-5 years experience which should include hard tissue histology. histomorphometry, plastic embedding procedures, histochemical techniques and microtome and microscope/image analysis systems. (Position #491)

## CELLULAR BIOLOGIST/BIOCHEMIST

Responsible for the characterization of growth factor signal transduction pathways in bone cells and the development of agents which stimulate bone formation. Requirements include a B.S./M.S. degree in a biological discipline with expertise in primary cell culture and basic protein biochemical methodologies. (Position #574)

## MOLECULAR BIOLOGIST

Responsible for the characterization of steroid hormone-responsive gene expression and isolated cell systems and the development of novel nonsteroidal agents and antiosteoporotic therapies. Requirements include a B.S./M.S. degree in a biological discipline with expertise in molecular biology and experience in steroid hormone receptor methodologies. (Position #489)

Wyeth-Ayerst offers an excellent compensation and benefits package in a highly professional environment. Our research laboratory is just minutes away from Princeton University and is convenient to many other cultural, educational and leisure activities.

Please forward your resume with salary requirements to: Employment Supervisor, Wyeth-Ayerst Research, CN 8000, Position #\_\_\_\_\_, Princeton, NJ 08543-8000. An Equal Opportunity Employer M/F/D/V.





# Senior Vice President for Academic Affairs and Provost

The Ohio State University invites nominations and applications for the position of Senior Vice President for Academic Affairs and Provost. As the chief academic officer of the university, the Provost reports directly to the President and has primary responsibility for instructional and faculty affairs.

Candidates must have a doctoral degree (or the equivalent) and a record in teaching, research and service that would qualify them for a tenured appointment at the rank of Professor in one of the academic units of the university. They also must have a demonstrated commitment to promoting excellence in teaching, research and service and to achieving ethnic, gender and cultural diversity.

The university seeks candidates who will provide effective leadership for a diverse faculty, staff and student body within the consultative traditions of academic governance. Experience as an academic administrator is preferred, although relevant non-academic administrative experience also may be considered.

Nominations and applications should be submitted to: Paul Allen Bock, Chair, Provost's Search Committee, 210 Bricker Hall, 190 North Oval Mall, OSU, Columbus, OH 43210.

Applications must include a letter of interest, a curriculum vitae and the names and addresses of at least three references. To ensure full consideration, applications and nominations must be received by September 1, 1992.

The Ohio State University is an Equal Opportunity, Affirmative Action Employer. Qualified women, minorities, Vietnam-era veterans, disabled veterans and individuals with disabilities are encouraged to apply.

# Join our Bone Research Team in Cincinnati

We are the pharmaceutical research division of Procter & Gamble, part of a dynamic organization making significant breakthroughs in the drug discovery area. Presently, we seek several well qualified PhD Scientists to be part of a multi-disciplinary research team, whose effort is directed toward identifying new leads for the treatment of osteoporosis.

# Cell Biologist-PhD

Candidates should possess a PhD in Cell Biology/Biochemistry, preferably with 1-2 years of postdoctoral experience. A strong background in cellular differentiation, culture and cloning of cells, particulary marrow-derived stem cells and cytokine biology, is necessary. **Position code: ADG1** 

# Receptor Biochemist-PhD

Responsibilities will involve examining the interaction of novel ligands with receptors on bone cells and elucidating the signal transduction mechanism involved. A PhD and 2 years of relevant experience plus a solid background in receptor/ligand interactions and signal transduction are required. **Position code: ADG2** 

# Molecular Biologist-PhD

Two years of relevant post-doctoral work and experience with commonly used molecular biology techniques, such as PCR, vector construction, construction of cDNA libraries and oligonucleotide synthesis are required. Familiarity with procaryotic and eucaryotic expression systems and vector construction is desirable. **Position code: ADG3** 

# Histomorphometrist-PhD

Experience in measuring static and dynamic parameters of bone turnover and in methods of calcified tissues preparation is required. Experience with histomorphometrical analysis of human bone is beneficial. **Position code: BEM1** 

# Pharmacologist-PhD or DVM

Responsibilities will include model development and the design and management of in vivo studies to test new therapeutic agents. DVM/PhD degree preferred. **Position code: BEM2** 

Bring us your capabilities, self-motivation and expertise. We'll provide the career advantages of a Fortune 50 organization. Please send resume and salary requirements, indicating position code, to: Dr. N. Gary Howell, Procter & Gamble Company, P.O. Box 398707, Cincinnati, OH 45239-8707. An equal opportunity employer.

# Procter & Gamble



# Clinical & Experimental Neuroendocrinology/ Endocrinology

Contribute to the next breakthrough in peptide drug discovery.

At Immunobiology Research Institute, our small team of scientists is dedicated to improving the quality of life through the discovery and development of peptide drugs. Here, you'll have all the advantages you'd hope to find with a small company while enjoying all the benefits and security you'd expect from a Johnson & Johnson Company.

Right now, we are seeking a Clinical Research Scientist to play a major role in the development of protocols for the evaluation of peptide drugs in animal model and clinical studies. This will include evaluating literature, contacting investigators, developing experimental plans, and communicating results and findings to upper management. You will help locate, evaluate, select, track and monitor external laboratories performing studies. 20-30% travel required to study sites.

To qualify, you must possess a PhD in Endocrinology or Neuroendocrinology and 2 years' post-doctoral or industry experience with animal models or human studies of endocrine and/or neuroendocrine systems, including evaluation of depression and/or anxiety disorders.

In return for your talent, you'll be rewarded with a competitive salary, extensive benefits, and the opportunity to work alongside the brightest minds in the pharmaceutical industry. For consideration, send your resume to: Senior Employment Administrator, Immunobiology Research Institute, Route 22 East, P.O. Box 999, Annandale, NJ 08801-0999. We are an equal opportunity employer.

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**CENTER FOR GENE THERAPY** CITY OF HOPE MEDICAL CENTER

# SCIENTISTS

The Center for Gene Therapy at the City of Hope invites applications for two scientists who will interact with existing programs in either molecular biology, immunology, neurosciences, virology, marrow transplantation, cancer biology, or genetics. Investigators will have academic appointments in existing departments in either the Beckman Research Institute of the City of Hope or the City of Hope Medical Center and will utilize resources available in the newly created CENTER FOR GENE THERAPY. Applications should include a letter of interest describing an area of proposed research, curriculum vitae and the names and addresses of a least three references. Send to: John A. Zaia, M.D., Chairman of Search Committee, Center for Gene Therapy, City of Hope, 1500 E. Duarte Rd., Duarte, CA 91010. The City of Hope is an affirmative action/equal opportunity emplover.

# **Research Scientist Contribute To A New Generation Of Therapeutics**

At the Medical Research Division of American Cyanamid Company, we're making important strides in developing a new generation of ther-apeutics based on molecular biology and cell-specific mechanisms. We have an immediate opening in the Oncology and Immunology Section of our Lederle Laboratories where you can contribute to developing strate-gies to circumvent or overcome drug resistance to anticancer agents. Current research efforts are focused on the development of agents which resensitize multidrug resistant tumor cells to chemotherapeutic drugs. This includes the development of agents that interfere with a drug-efflux pump, "P-glycoprotein", as well as defining the basis of P-glycoprotein-drug interaction at the molecular level.

The successful candidate will participate in this research and focus on The successful candidate will participate in this research and focus on new investigations into the basis of non-P-glycoprotein-mediated mul-tidrug resistance, which is induced by mitoxantrone. Prospective candi-dates should have a Ph.D. and 2-3 years of postdoctoral training; an M.S. and several years of experience will also be considered. Preference will be given to those candidates with experience in molecular biology with emphasis on screening CDNA libraries, cloning and expression ... or experience in biochemistry with emphasis on protein identification and purification. Written and oral communication of findings is expected and encouraged encouraged.



We are located in Rockland County, 25 miles north of New York City. For consideration, forward your curriculum vitae to: Professional Employment Rep-resentative, Dept. LG, Medical Research Division, Lederle Laboratories, Pearl River, NY 10965. An Equal Opportunity Employer.

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Join Sterling Winthrop and be part of a team dedicated to the enhancement of scientific discovery. Sterling Winthrop Pharmaceuticals Research Division is the worldwide pharmaceutical research and development organization of Sterling Winthrop Inc. We currently have the following opportunity available at our Great Valley, PA research facility:

# **MOLECULAR BIOLOGY**/ BIOCHEMISTRY

**Research Scientists/ Investigator Protein Biochemistry** 

We seek highly motivated individuals who are interested in purifying and characterizing proteins for use in drug discovery and biophysical programs. Positions are available at both the Ph.D. and the B.S./

M.S. levels. Candidates should have a Ph.D. with one or more years postdoctoral experience or a B.S./M.S. with 3-5 years industrial experience. A strong background in classical protein purification and characterization including FPLC, HPLC and scale-up processes is required. Experience in protease isolation and characterization highly desirable.

At Sterling Winthrop, you'll enjoy a highly competitive salary and benefits package. For confidential consideration, forward your resume and salary requirements to:



Human Resources GV-71-92 Sterling Winthrop PRD 9 Great Valley Parkway Malvern, PA 19355

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#### **RESEARCH CURATOR** UNGULATES

The National Zoological Park, Smithsonian Institution seeks an experienced researcher to conduct original research on ungulate management and conservation at the Conservation and Research Center in Front Royal, Virginia. Will also have responsibility for managing the Center's extensive ungulate collection. Duties will involve 25% curatorial and 75% independent and collaborative research. Successful applicant will have a Ph.D. or equiv-alent and demonstrated research productivity in mamma-lian biology, nutrition, behavior, ecology, etc. Experience with exotic or nondomesticated ungulates is highly desirable. This is a Federal Civil Service position grade 12/13 (salary: \$38,861 to \$60,070). For complete application package and requirements call 202-287-3102 (24-hour, touchtone activated, automated response system), dial 9 and request information on announcement #92-3071S. Applications must be received by August 14, 1992. The Smithsonian Institution is an Equal Opportunity Employer; applications from minority and female candidates are encouraged.

RESEARCH GENETICIST: Bronx (New York). Research on the role and regulation of myc-family onco-genes in development by making myc-family constructs, introducing these constructs into cultured cells and mouse germline, manipulating embryo stem cells and analyzing established cell lines and mouse lines. Re-quired: Ph.D. or candidate in Molecular Biology (five quired: Ph.D. or candidate in Molecular Biology (five years of post-graduate academic study in recombinant DNA technology, DNA mediated gene transfer, produc-tion of transgenic mice and gene targeting in embryonic stem cells). Will supervise two employees. Forty hours per week (9:00 a.m. to 5:00 p.m.), \$22,000 per year. Send résumé/letter in duplicate to: CDE 130, One Main Street, Brooklyn, NY 11201.

The Biological Sciences Curriculum Study (BSCS) has an immediate opening for a full-time STAFF ASSOCI-ATE to work on the development of precollege biology curricula. Initial work will be on a new, full-year course curricula. Initial work will be on a new, full-year course in human biology. Other programs include *Biological Science: A Molecular Approach* (BSCS Blue Version), *Biological Science: An Ecological Approach* (BSCS Green Version), a middle school program in human genetics, and a proposed program on the Human Genome Project.

Qualifications include a Ph.D. in the biological sciences, excellent writing skills, and experience managing people and projects. Experience in curriculum development and knowledge of precollege science education are desirable. Candidate must have experience writing proposals. The position provides competitive salary and excellent benefits.

Please send a letter of application, transcripts, three Please send a letter of application, transcripts, three letters of recommendation, and writing samples by 1 September 1992 to: Joseph D. McInerney, Director, BSCS, 830 North Tejon, Suite 405, Colorado Springs, CO 80903. No telephone inquiries, please. BSCS is an Equal Opportunity/Affirmative Action Em-ployer and encourages applications from women and minorities.

# SUGEN, Inc.

Sugen is a biopharmaceutical development company located in the San Francisco Bay Area. Sugen was formed around the research teams of Dr. Axel Ullrich at the Max-Planck-Institut in Munich and Dr. Joseph Schles-

Max-Planck-institut in Munich and Dr. Joseph Schles-singer at the Department of Pharmacology at New York University Medical Center. Sugen's drug development strategy is based on the identification of novel and proprietary targets for thera-peutic intervention with primary emphasis on the tyro-tics kines and phosphares exercises.

sine kinase and phosphatase receptor systems. We are looking for **PROTEIN CHEMISTS** interest-ed in the isolation of natural ligands to novel receptors. Applicants should hold a Ph.D. and at least four years

of postdoctoral experience and should provide a mini-mum of two references from recognized research labora-

If you have the energy and the commitment to excel-lence required to interact productively with our research teams, we invite you to write to:

Dr. Peter Hirth Sugen Inc. 515 Galveston Drive Redwood City, CA 94063-4720

#### DNA RESEARCH SPECIALIST

Immediate funded position to join a busy molecular laboratory involved in molecular analyses and gene map-ping for several inherited neurogenetic and growth-deficiency syndromes. Duties include routine laboratory maintenance, supervision of part-time employees, and experiments using molecular techniques. Requirements include a Bachelor's or Master's degree with at least one year of experience in molecular techniques. Please send curriculum vitae and three references to:

> Dr. Lisa Baumbach Division of Genetics Department of Pediatrics University of Miami School of Medicine 1601 N.W. 12th Avenue Miami, FL 33136 Telephone: (305) 547-3997

SEED PROCESS DEVELOPMENT SCIEN-TIST. Conduct research into the biology and technology of seed coating and microencapsulation including seed coating apparatus development and physiological and bacteriological assays of microencapsulated seeds; develop aqueous based coating formulas for petunias and begonias, develop coating application methods, train staff in coating methods, conduct germination and separation research, including greenhouse and field compo-nents; design and maintain technical equipment used in production; prepare research for publication in profes-sional scientific journals and present findings of research at national and international scientific conferences. The above duties are performed to promote seed viability and prevent disease. Equipment used in performing the above responsibilities include pH meter, tissue homogeabove responsibilities include pH meter, tissue homoge-nizer, differential scanning calorimeter, Spectrophotom-eter, seed coating and conditioning equipment, seed testing equipment, growth chamber, high performance liquid chromatography (HPLC) and gas chromatogra-phy (GC). Scientific techniques utilized in performing the above-referenced responsibilities include seed coating and interference and component technology. applications, seed germination enhancement technology, and seed testing and processing research such as seed treatment, drying, and separation. Ph.D. in Plant Phys-iology and two years of experience as Seed Process Development Scientist or two years of experience as Research Assistant and/or Postdoctoral Research Associate. Previous academic or employment experience must have included research into the biology and technology of seed coating and microencapsulation including seed coating apparatus development and physiological and bacteriological assays of microencapsulated seeds. Research must have included both field and greenhouse components. Applicants must have conducted research for publication in at least one professional scientific publication and for presentation at at least one scientific meeting or confer-ence. Forty hours per week, Monday to Friday, 8:00 a.m. to 5:00 p.m., salary: \$35,000 per year. Must have proof of legal authority to work permanently in the United States. Send two copies of résume to: ILLINOIS DEPARTMENT OF EMPLOYMENT SECURITY, 401 South State Street—3 South, Chicago, IL 60605, Attention: JACK SCHAFFER, Reference #V-IL-4574-J. Two Copies of your Résumé Required. NO CALLS. AN EMPLOYER PAID AD.

#### **COURSES AND TRAINING**

OPTICAL MICROSCOPY AND IMAGING IN THE BIOMEDICAL SCIENCES, September 23 to 30, 1992. For 22 research scientists, physicians, postdoctoral trainees, and advanced graduate students in biolog-ical and material sciences. This one-week course covers the fundamental theory and practical use of modern light microscopy. Special attention will be given to different optical techniques and the newest video and photographic methods. A combination of lectures, laboratory exercises, demonstrations, and discussions will enable the participant to obtain and interpret microscope images of high quality, to perform quantitative optical measurements, and to produce photographic and video records for documentation and analysis of the optical images. Directors: Nina Allen, Wake Forest University, and Colin Izzard, SUNY, Albany. Guest Lecturer: Shinya Inoué, MBL. Tuition: \$1690, includes room and board. Application deadline: August 7, 1992. For applica-tions, contact: Dori Chrysler, Admissions Coordina-tions, contact: Directory, contact, co tor, Marine Biological Laboratory, Woods Hole, MA 02543; telephone: 508-548-3705, ext. 216.

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