

## Monoclonal Antibodies

Anti-ICAM-1 (intercellular adhesion molecule 1, CD54) monoclonal antibody (MAb) is supplied pure or conjugated. The MAb has applications in the study of B cell, T cell, and monocyte adhesion and in the study of rhinovirus infectivity. Exalpha Corp. Circle 89.

New IgG<sub>1</sub> MAbs can be used to investigate the role that the adhesion molecules ICAM and ELAM play in various inflammatory conditions. The antibodies, suitable for blotting applications and immunocytochemistry on frozen sections, are biotin-conjugated. British Bio-technology Products. Circle 90.

An MAb designated MK12 is specific for MAP2 kinase (ERK-1) and is suitable for protein immunoblotting and other immunochemical applications. AFFINITI Research Products Ltd. Circle 91.

## DNA Synthesizers

Gene Assembler Special and Gene Assembler 4 Primers are new models of DNA synthesizers. Gene Assembler Special is designed to synthesize high-quality oligonucleotides labeled with biotin or fluorescein, phosphorylated, or with 3'-modified nucleotides. Gene Assembler 4 Primers is now equipped with four columns to ensure sufficient primer production capacity to support automated sequencing and polymerase chain reaction. Pharmacia LKB Biotechnology. Circle 92.

## Semi-Dry Blotter

The Semi-Dry Blotter is for use in the transfer of pre-separated materials to a solid support for subsequent analysis. The electrophoretic device can be applied in DNA, RNA, and protein research. The cathode plate cover and anode plate base, both made of chemically inert, superior-grade graphite, are smooth and flat, creating a uniform electrical field for complete, even transfers. The graphite plates are housed in



red and black chemical-resistant molded plastic. Because the buffer volume required is small and the interelectrode distance is short, gels are processed quickly. There is no heat build-up, so the system does not require cooling. Any heat build-up is dissipated by the graphite plates, which serve as heat sinks. The blotter's capacity is six gels at one time. Labconco Corp. Circle 93.

## Chemistry Software Upgrade

Version 2.1 of ChemIntosh and ChemWindow can open files created by other chemistry drawing programs, such as ChemDraw (from CSC Inc.) and ChemText and ISIS/Draw (both from Molecular Design Ltd.). ChemIntosh 2.1 (for the Macintosh) features an EPS export for improved performance with Aldus PageMaker and Quark XPress as well as a Molfile export for use with MDL databases, MACCS, and REACS. ChemWindow 2.1 (for Windows) features improved WordPerfect Graphic files and continued support for EPS export. It will also import and export Molfiles. A new file format supports both chemical structure data and graphic information. SoftShell International. Circle 94.

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.

## Physiological Data Recording on the Mac

AcqKnowledge 2.0 waveform acquisition and analysis software for the Macintosh computer works in conjunction with BIOPAC's MP100WS data acquisition hardware. The MP100WS replaces traditional strip chart recorders, polygraphs, and tape-based data loggers. The MP100WS connects to any Macintosh from the Classic to the Quadra. A line of signal conditioning amplifiers designed for physiological monitoring includes modules for brain activity, heart activity, muscle activity, eye movement, skin conductivity, photo plethysmography, respiration, and skin temperature. BIOPAC Systems. Circle 95.

## Gel Drying System

The Gel Dryer dries electrophoresis gels for preservation or subsequent processing such as by autoradiography or densitometry. It dries gels up to 33.6 by 42.3 cm or any combination of small gels. Its 800-W element provides even heating, continuously variable from 40° to 80°C. A vacuum port is provided for connection to a vacuum pump. Two 4-hour timers are included, one for the heating element and one for the external vacuum source. Both a Mylar sheet and a porous polyethylene sheet are provided as covers. The polyethylene sheet is designed to reduce cracking in high percent gels. Labconco Corp. Circle 96.

## Plastic Tube Fittings

Softube fittings provide instant, leakproof connections for NALGENE flexible plastic tubing without tools. The patented fittings eliminate the need for metal or plastic clamps and can

be used with liquid or gas lines. The two-step connecting procedure forms a tight seal. The user slips the tubing over the fitting and a durable acetal sleeve locks the tubing in place. Applying pressure tightens the connection. For applications in which tubing is frequently removed, two-part valved quick-disconnect fittings are available. Softube fittings are reusable and autoclavable and come in six styles and a number of sizes. Nalge. Circle 97.

## Cryogenic Spray

Nicer 'N Ice is a rapidly penetrating and freezing cryogenic spray for use at the microtome or cryostat. Formulated with Freon 22,



the aerosol gives the user the benefits of a cryogenic spray and avoids crystalline artifacts. Shandon. Circle 98.

## Literature

Cannon Automatic Viscometer details an instrument with a new fast-run viscosity tube that can deliver results in 3 min or fewer. Cannon Instrument Co. Circle 99.

*High Performance Centrifugal Partition Chromatograph (HPCPC)* is an applications brochure that describes use of the HPCPC column module to separate amino acids, phospholipids, peptides, fatty acids, steroidal saponins, and glucosides. The module can be connected to a high-performance liquid chromatography system to add a new dimension to its capabilities. Sanki Laboratories. Circle 100.

# SCIENCE

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## POSITIONS OPEN

**Cell Biologist/Immunologist.** The Department of Cell Biology, Neurobiology and Anatomy at Loyola University Chicago is seeking a **Cell Biologist** to fill a tenure-track position at the **ASSISTANT PROFESSOR** level. Applicants should have completed postdoctoral training and be capable of establishing an independent research program supported by extramural funding, although sufficient seed money will be available for establishing a laboratory. Individuals utilizing molecular approaches in the fields of general cell biology, immunobiology or neuroimmunology are encouraged to apply. Teaching responsibilities include medical histology and graduate cell biology. Applicants should submit a letter indicating qualifications and research goals, curriculum vitae and the names of three references by December 1, 1992 to: **John Clancy, Jr., Department of Cell Biology, Neurobiology and Anatomy, Loyola University Chicago, 2160 South First Avenue, Maywood, IL 60153.** *Loyola University is an Equal Opportunity Employer.*

### FACULTY POSITION Department of Biochemistry

A tenure-track faculty position, preferably at the **ASSISTANT PROFESSOR** level, is available in the Department of Biochemistry at Baylor College of Medicine. The Department covers a wide range of research interests in molecular genetics, developmental biology, cell biology and protein structure and function. We are seeking outstanding candidates in any of these disciplines. Interested individuals should send a complete application including curriculum vitae, reprints of significant recent work, a statement of present and future research activities, and arrange to have three letters of recommendation sent by November 30, 1992 to:

**Search Committee  
Department of Biochemistry  
Baylor College of Medicine  
One Baylor Plaza  
Houston, TX 77030**

*Baylor College of Medicine is an Affirmative Action/Equal Opportunity Employer.*

**BIOLOGICAL CHEMISTRY ASSISTANT PROFESSOR—UNIVERSITY OF FLORIDA.** The Department of Chemistry invites applications for a tenure-track position at the Assistant Professor rank starting in the 1993-94 academic year. Evidence of ability to establish and conduct an innovative and vigorous research program and to teach in our biochemistry curriculum at the undergraduate and graduate levels is required. This position represents a continued expansion as part of a new initiative in the area of biological chemistry, in conjunction with UF's Interdisciplinary Center for Biotechnology Research (ICBR). Applicants should send curriculum vitae, research plans, and teaching interests, and arrange to have three letters of reference forwarded to: **Professor Richard A. Yost, Search Committee Chairman, Department of Chemistry, University of Florida, Gainesville, FL 32611.** Deadline for application is October 21, 1992. *The University of Florida is an Affirmative Action, Equal Opportunity Employer.*

The University of New Mexico (UNM) Cancer Center wishes to recruit a Ph.D. or M.D. faculty member (**ASSISTANT** or **ASSOCIATE PROFESSOR**) studying molecular aspects of hematopoiesis, especially involving stem-cell and/or cytokine biology. This investigator will interact with other researchers studying the control of cytokine and protein kinase gene expression, activation of receptor-mediated signaling pathways and the regulation of adhesive interactions in hematopoietic cells. Interactions with the Cancer Center's clinical research programs, especially ongoing trials of high-dose chemotherapy with cytokine support, will be encouraged. Resources at UNM include a regional leukemia cell repository, a regional blood bank and outstanding facilities for molecular biology, protein chemistry and flow cytometry. Send letters of interest, curriculum vitae and the names of three references to: **Robert G. Strickland, M.D., Chairman, Department of Medicine, University of New Mexico School of Medicine, 2211 Lomas NE, ACC 5th floor, Albuquerque, NM 87131.** *Affirmative Action/Equal Opportunity Position. Women and minorities encouraged to apply.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR IN BACTERIAL GENETICS or BACTERIAL PATHOGENESIS

The Department of Microbiology and Immunology at the Oregon Health Sciences University has an opening for a scientist or physician scientist at the Assistant Professor level (tenure track). Candidates should hold the degree of Ph.D. and/or M.D., and should have a strong research background and record of publication in bacterial genetics or pathogenesis. Letters of application should include curriculum vitae, bibliography, a brief statement (less than 500 words) indicating research activities, names, addresses and phone numbers of three referees. Send information by November 1, 1992 to: **Fred Heffron, Ph.D., Professor, Department of Microbiology and Immunology L220, 3181 SW Sam Jackson Park Road, Portland, OR 97201-3098.** *Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR MOLECULAR GENETICS

To work on cloning and characterizing the ataxia-telangiectasia gene, a gene that predisposes to breast and other human cancers. Outstanding experience in molecular genetics required. Opportunity for independent research in a growing and diverse research group. Position available now. Send résumé and references to: **Michael Swift, M.D., Department of Pediatrics, New York Medical College, Valhalla, NY 10595.** Telephone: 914-993-4280 or FAX: 914-996-4142 to ATTN of Ms. Pat Brophy.

### PLANT COMMUNITY ECOLOGIST

The Department of Botany, University of Georgia, invites applications and nominations for a tenure-track position beginning as early as September 1993; the appointment will be made at the **ASSISTANT PROFESSOR** level. Candidates are expected to conduct independent research in plant community ecology and to teach appropriate graduate and undergraduate courses in ecology. Please submit curriculum vitae, statements of research and teaching interests, reprints, and arrange for four letters of reference to be sent directly to: **Dr. Russell L. Malmberg, Department of Botany, University of Georgia, Athens, GA 30602.** Closing date is November 2, 1992. *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR, DIVISION OF REPRODUCTIVE BIOLOGY, JOHNS HOPKINS UNIVERSITY.** Applications are invited for a tenure-track position. We are interested in investigators who use modern biochemical and molecular techniques to study basic reproductive processes. Faculty members maintain independent, well-funded research programs, and advise and teach graduate and postgraduate students. Application deadline: October 1, 1992. Starting date: negotiable. Send curriculum vitae, description of proposed research, and names of four references to: **Dr. William W. Wright, Division of Reproductive Biology, Department of Population Dynamics, Johns Hopkins School of Hygiene and Public Health, Baltimore, MD 21205.**

*The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer. Applications are encouraged from women and minority groups.*

**ASSISTANT PROFESSOR OF PATHOLOGY** to be associated with **Preuss Laboratory for Brain Tumor Research and NIH Brain Tumor Center at Duke University Medical Center.** M.D. or Ph.D. and minimum of two years' postdoctoral experience in molecular biology required. Experience in DNA recombinant techniques, especially genomic cloning, PCR amplification, expression of genes in mammalian cells, and site-directed mutagenesis desired, particularly experience with human/mouse monoclonal antibody chimerization. Projects may also include suppressor gene and oncogene work with human brain tumors. Salary negotiable, dependent upon experience. Position available immediately. Send curriculum vitae and three letters of recommendation to: **Darell D. Bigner, M.D., Ph.D., Department of Pathology, Duke University Medical Center, Box 3156, Durham, NC 27710, FAX (919) 684-5321.** *An Equal Opportunity/Affirmative Action Employer.*

# Training and Research Opportunities.

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

## **Allergic Disease Pathogenesis** **Michael A. Kaliner, MD**

The events which are initiated by the interaction of antigen with mast cell bound IgE are being examined in order to define the biochemical events within mast cells which lead to mediator release. Other studies seek to identify the mediators of allergy and their roles in allergic diseases, understand the role of cytokines in the allergic response and understand the events leading to airway hyper-responsiveness. A strong background in molecular biology is preferred. Laboratory of Clinical Investigation (OE-18), NIAID, Building 10, Room 11C205.

## **Immunoglobulin Biology** **Seth H. Pincus, MD**

**Senior Staff Fellow (assistant professor equivalent)** or Staff Fellow position is available to study: therapeutic applications of antibodies, effects of antibodies on microbial variation, production of chimeric antibodies to study Ig structure and function, and the molecular genetics of antibody production. Previous postdoctoral experience is preferred. Laboratory of Microbial Structure and Function (OE-18), NIAID, Rocky Mountain Laboratories, 903 South Fourth Street, Hamilton, MT 59840.

## **Immunology** **Abner Notkins, MD**

**Senior Staff Fellow** and Postdoctoral Fellow positions are available to study polyreactive antibodies and the biology of CD5+ and CD5- B cells. Studies also focus on the production of human monoclonal antibodies against clinically-relevant antigens and antigen processing/presentation. Experience in molecular biology is desirable. Opportunity exists for senior staff fellows to have technical and/or postdoctoral support. Intramural Research Program (OE-18), NIDR, Building 30, Room 131.

## **Molecular Neurobiology/Neuroendocrinology** **William C. Wetsel, PhD/Andres Negro-Vilar, MD, PhD**

Investigations in reproductive endocrinology include regulation of gene expression, RNA splicing, protein processing and trafficking, peptide secretion, and intracellular signaling. Particular emphasis is placed on the molecular and cellular mechanisms which underlie these events. Candidates should have experience in molecular and cell biology and biochemistry and less than three years of postdoctoral experience. Laboratory of Molecular

and Integrative Neurosciences (OE-18), NIEHS, P.O. Box 12233, Building 101, Room C4-07, Research Triangle Park, NC 27709.

## **Neurobiology/Neurophysiology** **Chris McBain, PhD**

The role of voltage and ligand gated ion channels in the regulation of neuronal excitability is being studied. Techniques used include whole cell patch clamp recordings from CA3 pyramidal neurons and interneurons in the hippocampal slice and identified acutely dissociated neurons. In addition, the properties of voltage gated potassium channels will be studied in transfected cell lines. Background in neurophysiology with knowledge of electrophysiological techniques is required. Laboratory of Cellular and Molecular Neurophysiology (OE-18), NICHD, Building 36, Room 2A21.

## **NMR Spectroscopy** **Robert E. London, PhD**

Multi-dimensional NMR methods are being used in the analysis of protein structure/dynamics and peptide-protein interactions. High resolution NMR instrumentation includes 360 MHz and 500 MHz NMR spectrometers. Experience in the application of NMR to the study of biologically important macromolecules and enzyme isolation and purification is required. Laboratory of Molecular Biophysics (OE-18), NIEHS, P.O. Box 12233, Building 17, Room 1704, Research Triangle Park, NC 27709.

## **Additional Postdoctoral Fellowship Opportunities**

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

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

## **To Apply**

If you hold a PhD, MD, or equivalent degree and would like to be considered for one of these positions, please send a cover letter, *curriculum vitae*, bibliography, and statement of research interests to the address listed with each position. In addition, please arrange to have letters of recommendation sent from three scientists who can provide an evaluation of your qualifications.



# National Institutes Of Health

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## FORMULATION STAFF SCIENTIST PROCESS DEVELOPMENT

### Delivering on the Promise of Biotechnology...

Immunex Corporation, a Seattle biopharmaceutical company focused on the research, development, manufacture and marketing of products to treat cancer and autoimmune disease, is seeking a qualified Formulation Scientist to join our Process Development group. ■ The successful candidate will be responsible for designing stability studies to test the functional and chemical integrity of the protein and assist biologists and clinicians in assessing the efficacy of drug delivery. Projects will include liquid formulation development and pulmonary delivery (powder or aerosol) for a variety of recombinant proteins. ■ Scientists with a Ph.D. in a relevant scientific discipline and industrial experience in recombinant protein formulation and drug delivery are encouraged to apply. Experience with sustained release formulations, spray drying and lyophilization is desirable. Excellent communication skills and the ability to work in a collaborative environment are essential. ■ Immunex Corporation offers a fast paced, stimulating environment, competitive salaries and an excellent benefits package. For consideration, please submit C.V., names of three references, and a list of publications to: **IMMUNEX CORPORATION, Attn.: Human Resources Dept., 51 University St., Seattle, WA 98101. Fax: (206) 623-4572.** Equal Opportunity Employer.

# IMMUNEX

COLORADO

## Executive Director of Research

Somatogen, a biopharmaceutical company currently engaged in the development and manufacture of recombinant human hemoglobin, has a challenging opportunity for an MD or Ph.D., with seven plus years of experience beyond the post-doctoral level, to lead a growing research group with active programs in the areas of protein engineering, drug delivery, eukaryotic and prokaryotic molecular biology. The successful candidate will have the opportunity to establish or to continue their own research program and group at Somatogen.

We are seeking a scientist who is comfortable managing and expanding a research team in an aggressive, team oriented atmosphere which emphasizes quality science and communication with the international academic and industrial scientific community.

The rich academic and cultural environment of Boulder, Colorado is an added benefit along with the competitive salary and benefits package which complement this offer. Interested candidates may send a curriculum vitae, three references and a list of publications by September 15, 1992, indicating "Executive Director of Research" to:

**Nancy Borne, Manager of Professional Development.  
SOMATOGEN 5797 Central Ave., Boulder, CO 80301**

# SOMATOGEN

EOE

## POSITIONS OPEN

Ph.D., microbiology, with interest in molecular pathogenesis to work as a **RESEARCH ASSISTANT PROFESSOR**, Department of Medicine, Harborview Medical Center focusing on bacterial pathogenesis of sexually transmitted pathogens, especially *H. ducreyi*. Please respond to: **Walter E. Stamm, M.D., Department of Medicine, Infectious Diseases Division, Harborview Medical Center, ZA-89, 325 9th Avenue, Seattle, WA 98104, telephone (206) 223-8493.**

## TENURE TRACK POSITIONS IN PHYSIOLOGY

The School of Biological Sciences invites applications for up to two tenure track **ASSISTANT** or **ASSOCIATE PROFESSORS** for molecular/cellular physiologists in any area of research compatible with the interests of the School program. The emphasis is placed on molecular recognition as applied to mechanisms of cellular regulation and control of proliferation. Research areas of eukaryotic signal transduction, sensory perception, stress mechanisms, endocrinology, cellular/molecular assembly, mechanisms of cardiac and renal cell injury, and cell surface phenomena and transport are preferred, but not all-inclusive. We are seeking individuals with demonstrated potential to establish independent extramurally-funded research programs in any of the above research areas. Communication and organizational skills are required. Willingness to organize/direct a health sciences (Medicine/Dentistry) physiology course and to participate in undergraduate and graduate (Ph.D. and M.S.) level courses is essential. Competitive salaries, newly renovated research space, start-up funds, and excellent research core facilities available. Review of applicants will begin October 15, 1992. Applications should refer to position **SBS-I**. Submit curriculum vitae, statement of research goals and teaching interests, and three letters of reference to: **SBS-I Search Committee, University of Missouri-Kansas City, School of Biological Sciences, 5100 Rockhill Road, Kansas City, MO 64110-2499.**

## NEUROSCIENTIST POSITION THE OHIO STATE UNIVERSITY

Applications are invited for a tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. We seek someone for a primary appointment in a clinical department with the potential for a joint appointment in a basic science department. The successful candidate should have evidence of research and teaching excellence in molecular, cellular or systems neuroscience; the M.D. degree; and board certification or eligibility in a clinical neuroscience specialty. Our neuroscience program currently includes 80 faculty members with a variety of interests including developmental neuroscience, regeneration and plasticity, biochemical neuropathology, central nervous system transplant technology, gastrointestinal neurophysiology, nervous control over homeostasis, neuropharmacology, psychobiology, psychoneuroimmunology, brain imaging, neuromuscular diseases, movement disorders, neurooncology, Alzheimer's disease, and neurobiology of schizophrenia and affective disorders. Applications including curriculum vitae and three to five references should be mailed to: **Dr. George F. Martin, Department of Cell Biology, Neurobiology and Anatomy, 4066 Graves Hall, 333 West 10th Avenue, The Ohio State University, Columbus, OH 43210** by October 16, 1992 or until the position is filled. *The Ohio State University is an Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT/ASSOCIATE PROFESSOR.** The University of Nebraska Medical Center's Department of Ophthalmology is looking for a researcher with an interest in diabetic retinopathy or other proliferative retina diseases. Cell culture techniques, growth factors and intracellular single processing are the areas of primary focus. Ph.D. in biochemistry or pharmacology is required. Salary/rank are dependent on qualifications; tenure-leading appointment contract with potential for renewal. Excellent opportunity for interaction with basic science departments. Send curriculum vitae to: **David M. Chacko, M.D., Ph.D., Assistant Professor and Director of Retina Service, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-5540.** *Equal Opportunity/Affirmative Action Employer. Minorities and Women Are Encouraged to Apply.*

## POSITIONS OPEN

### CANCER RESEARCH CENTER OF HAWAII RESEARCH MEDICAL ONCOLOGIST

A tenure-track position is available for a research medical oncologist with clinical trials and/or laboratory interest. Protected time to develop and conduct research projects is guaranteed. Excellent well-equipped laboratory space is available. Requirements include: a record of accomplishment in research and qualifications permitting the practice of medicine in Hawaii. Desirable qualifications include active clinical and laboratory interests in chemoprevention studies and biomarkers of cancer risks and outcome. Appointment will be considered at the **PROFESSOR, ASSOCIATE PROFESSOR, or ASSISTANT PROFESSOR** level depending on qualifications and experience. Interested applicants should send curriculum vitae to: **Chair, Medical Oncologist Search Committee, 1236 Lauhala Street, Honolulu, HI 96813, telephone (808) 586-3012.** *The University of Hawaii is an Equal Employment Opportunity/Affirmative Action Employer.*

### FACULTY POSITION IN PHARMACOLOGY

The Department of Pharmacology is seeking applications (M.D. and/or Ph.D.) for a position at either the **ASSISTANT, ASSOCIATE, or FULL PROFESSOR** level. Applicants are sought with research programs in any aspect of neuropharmacology or related disciplines and should have a demonstrated record of successful publication and extramural funding. In addition to maintaining a vigorous research program, particular attention will be given to the candidacy of individuals who have interest and enthusiasm for teaching medical and graduate pharmacology. Salary and position will be based upon individual qualifications and experience. Candidates should send curriculum vitae, a brief statement of research interests and accomplishments, a record of grant funds, and a list of at least three references. Applications should be sent to: **Professor Lynn C. Yeoman, Search Committee Chair, Department of Pharmacology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030-3498.** *Baylor College of Medicine is an Equal Opportunity/Affirmative Action Employer.*

Yale University: The Department of Chemistry invites applications for an anticipated position at the level of **PROFESSOR** of physical chemistry with an emphasis on the liquid phase. An outstanding, teacher-scholar is sought whose research interests will complement the current faculty. The position is expected to be filled in the 1993-1994 academic year.

Applicants should submit curriculum vitae and a list of publications to: **Professor R. James Cross, Physical Chemistry Search Chair, Department of Chemistry, Yale University, 225 Prospect Street, P.O. Box 6666, New Haven, CT 06511-8118** by September 30, 1992. *Yale University is an Equal Opportunity/Affirmative Action Employer.*

### CHAIRPERSON DEPARTMENT OF ANATOMY

The University of Maryland School of Medicine seeks outstanding scholar to provide leadership and new direction for the Department of Anatomy. The candidate must be a distinguished scientist with active research in a biomedical discipline relevant to anatomy in its broadest sense, preferably in the area of molecular and cell biology. The department has active research in neurosciences, reproductive biology and developmental biology. The new leadership of the School of Medicine is committed to provide the resources necessary to develop an outstanding research program.

Please send nominations or applications including curriculum vitae, research program description, bibliography and names of three references to:

**Dr. Jan Cerny**  
Chairman

**Department of Microbiology and Immunology  
School of Medicine  
655 West Baltimore Street  
Baltimore, MD 21201**

*An Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

## THE ROBERT A. WELCH FOUNDATION CONFERENCE ON CHEMICAL RESEARCH XXXVI REGULATION OF PROTEINS BY LIGANDS

October 26-27, 1992  
THE WESTIN OAKS HOTEL, HOUSTON, TEXAS

### MONDAY, OCTOBER 26

**RICHARD J.V. JOHNSON**, President, Welcoming of Guests  
**WILLIAM N. LIPSCOMB**, Introductory Remarks

#### SESSION I

**WILLIAM N. LIPSCOMB**, Presiding Chair

SPECIES ADAPTION OF THE ALLOSTERIC REGULATION OF HAEMOGLOBIN  
**MAX F. PERUTZ**

ACTIVITY AND ALLOSTERIC REGULATION IN GLYCOGEN PHOSPHORYLASE  
**LOUISE N. JOHNSON**

#### SESSION II

**MAX F. PERUTZ**, Presiding Chair

ACTIVITY AND ALLOSTERIC REGULATION IN BACTERIAL PHOSPHOFRUCTOKINASE  
**PHILIP R. EVANS**

ACTIVITY AND ALLOSTERIC REGULATION IN FRUCTOSE-1, 6-BISPHOSPHATASE  
**JIIN-YUN LIANG**

### TUESDAY, OCTOBER 27

#### SESSION III

**ROBERT HUBER**, Presiding Chair

ACTIVITY AND ALLOSTERIC REGULATION IN ASPARTATE TRANSAMYLASE  
**WILLIAM N. LIPSCOMB**

ALLOSTERIC EFFECTS IN THE ASPARTATE RECEPTOR  
**DANIEL E. KOSHLAND, JR.**

LUNCHEON, 1992 WELCH AWARDEE

CLUSTERS, CHEMISTRY AND NANO TECHNOLOGY  
**RICHARD E. SMALLEY**

#### SESSION IV

**DANIEL E. KOSHLAND, JR.**, Presiding Chair

ALLOSTERIC EFFECTS IN RecA PROTEIN  
**THOMAS A. STEITZ**

ALLOSTERIC EFFECTS IN PROTEIN SUBUNITS AND AT PROTEIN MEMBRANE INTERFACES  
**ROBERT HUBER**

### ADVANCE REGISTRATION FORM

☐ I will attend the conference.  
☐ I will attend the complimentary luncheon on Tuesday, October 27, 1992.

(PLEASE PRINT OR TYPE)

Dr. Mrs.  
Mr. Ms. \_\_\_\_\_  
(Last) (First) (Middle)  
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Organization \_\_\_\_\_  
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The conference is open to all and there is no registration fee regardless of what state or country the registrant is from. Advance registration will be acknowledged and accepted in order of receipt, to within the capacity of the available space.

Make your hotel reservations directly with The Westin Oaks Hotel, Telephone No. 1-800-228-3000 or 713-960-8100, prior to October 9, 1992.

Please return by October 9 to:

**Kimberly Nelson**  
**The Robert A. Welch Foundation**  
**4605 Post Oak Place, Suite 200**  
**Houston, Texas 77027**

**A**lcon Laboratories, with sales over \$1 billion and a 5 year R&D budget over \$500 million, has the distinction of possessing the world's most sophisticated ophthalmic research laboratories.

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We are seeking an experienced NMR Spectroscopist to operate and maintain NMR laboratory, develop and implement newly emerging NMR techniques and methodology, conduct ophthalmic NMR research and provide consultation in NMR applications and advanced NMR data analyses. Selection criteria include Ph.D. NMR Spectroscopist with experience in structural analysis of small organic and macromolecules using multi-dimensional NMR. Experience in biological NMR desirable, but not required.

Located in Ft. Worth, Texas, Alcon offers you both personal and career rewards, including competitive salary/benefits, relocation assistance and recreational, cultural and economic advantages indigenous to the Sunbelt. Please send C.V. to: Alcon Laboratories, Inc., Placement and Development, T1-3 (NMR), P.O. Box 6600, Ft. Worth, TX 76115.

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## FACULTY POSITIONS IN BIOCHEMISTRY

### St. Jude Children's Research Hospital

St. Jude's Children's Research Hospital, a private research institute, is engaged in a major expansion of its facilities and scientific activities. A new research building which opened in August, 1991, provides 240,000 square feet of new laboratory space to house the institute's basic science programs. As part of the expansion, new faculty positions are now available in the Department of Biochemistry. Although preference will be given to applicants who have recently completed postdoctoral training and are seeking positions at the level of Assistant Member, investigators with appropriate research interests and qualifications will be considered for positions of higher faculty rank. Candidates with programs focusing on the regulation of cell growth, differentiation and transformation, the biochemistry and molecular biology of signal transduction, and mechanisms of gene regulation are particularly encouraged to apply. Opportunities exist for collaborative interactions with basic research programs in Virology and Molecular Biology, Immunology, Tumor Cell Biology and Pharmacology, as well as with clinical investigators in Hematology/Oncology and Infectious Diseases. In addition to new facilities and excellent start-up funds, salaries are nationally competitive and include a generous benefits package. A strong institutional commitment to its faculty ensures stability in program development and continuity of research activities.

Applicants should submit a curriculum vitae, a letter summarizing their research accomplishments and goals, and the names of three references to:

Dr. James N. Ihle, Chairman  
Department of Biochemistry  
St. Jude Children's Research Hospital  
332 North Lauderdale  
Memphis, TN 38105 USA

**SJCRH IS AN AFFIRMATIVE ACTION/  
EQUAL OPPORTUNITY EMPLOYER**

## POSITIONS OPEN

**BIOLOGY CHAIR**—Colorado State University (CSU) invites nominations and applications for the Chair of the Department of Biology. A candidate must have demonstrated leadership ability and a record of excellence in teaching and research. The position which may begin July 1, 1993 is a 12-month appointment; salary commensurate with qualifications. The department has 26 faculty, 80 graduate students and 800 undergraduates with strengths in animal and plant biology including ecology and organismic, cell and molecular biology. Please send a résumé, copies of three recent publications and the names and addresses of five references by October 15, 1992 to: **Biology Chair Search Committee, College of Natural Sciences, Colorado State University, Ft. Collins, CO 80523.** CSU is an Equal Employment Opportunity/Affirmative Action Employer. Equal Opportunity office: 21 Spruce Hall.

## IMMUNOCHEMIST/ IMMUNOTOXICOLOGIST/IMMUNOLOGIST

The National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control, is seeking a CHIEF for the Immunochimistry Research Section, Applied Biology Branch, Division of Biomedical and Behavioral Science, in Cincinnati, Ohio. The successful candidate will manage a broad-based applied laboratory research program in immunochimistry, immunotoxicology, and immunology with special emphasis on developing immunochemical biological monitoring methods for assessing occupational exposures to workplace hazards. Candidates should have research expertise and publications in one or more of these areas as well as experience in research program development and management. The position may be filled as a Commissioned Officer in the U.S. Public Health Service or in the Career Civil Service (GM-13 or GM-14, salary range \$46,210 to \$70,987 depending on qualifications). Interested candidates should send an application (U.S. Standard Form 171) and curriculum vitae to: **Dr. Lloyd E. Stettler, NIOSH, MS C-26, 4676 Columbia Parkway, Cincinnati, OH 45226. Telephone: (513) 533-8433.** NIOSH IS AN EQUAL OPPORTUNITY EMPLOYER AND OFFERS A SMOKE-FREE ENVIRONMENT.

The University of California at Berkeley (UCB) seeks to fill the position of **MANAGER** for the R. B. Gump South Pacific Biological Research Station on Moorea, French Polynesia.

Duties comprise 25% research in marine or terrestrial biology, biogeography or geology, and 75% management of the Station and its Programs. The Manager will be resident at the Station and supervise a staff of three to four persons. Administrative, organizational and mechanical skills are important prerequisites. Prior experience in managing field stations is preferable. The applicant should hold a Ph.D. or Master's degree in the Natural Sciences, and is or will be certified as a scuba diver by the UCB diving board. Basic knowledge in French is desirable. The salary range is \$29,172 to \$49,716 and commensurate to experience. The position is renewable each year and runs for a period of three to four years.

Applicants should send curriculum vitae and the names of three references to: **Dr. Werner J. Lohrer, Department of Entomology, Wellman Hall, University of California, Berkeley, CA 94720,** by November 1, 1992. Applications submitted after the deadline will not be considered.

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

The Division of Biology, California Institute of Technology, seeks **TWO FACULTY MEMBERS** in the areas of Cell Biology and Immunology. Appointments will be for tenure track positions. Successful applicants are expected to generate creative and productive research programs. Candidates should forward their curriculum vitae, list of publications, a brief statement of research interests and plans, and arrange for letters of recommendation from three referees to be sent to: **Ms. Joyce Kato, Immunology and Cell Biology Search Committee, Division of Biology 147-75, California Institute of Technology, Pasadena, CA 91125.** The California Institute of Technology is an Equal Opportunity/Affirmative Action Employer and encourages the applications of qualified women and minorities.

## POSITIONS OPEN

### MOLECULAR VIROLOGISTS/ONCOLOGISTS

Three tenure-track **FACULTY POSITIONS.** The Department of Microbiology and Immunology, Louisiana State University Medical Center (LSUMC), invites applications and nominations for three tenure-track faculty positions at the levels of Professor, Associate Professor, and Assistant Professor. We seek outstanding candidates with postdoctoral experience and demonstrated ability to direct an independent research program in the areas of molecular virology, viral genetics, and/or molecular investigations of HIV, oncogenes, tumor suppressor genes, or cancer. Candidates for senior positions must have a record of distinction in published research and obtaining extramural research funding. Responsibilities include training doctoral and postdoctoral students and teaching in courses for graduate and medical students. Faculty are provided generous seed funds and participation in a research incentive plan. LSUMC and this Department are in a phase of expansion with the construction of a ten story Biomedical Research Institute, development of Centers for Cancer and Arthritis Research, and growth of its doctoral program. Applicants should send curriculum vitae, a statement of research plans and funding, and three letters of reference to: **Dr. Dennis J. O'Callaghan, Professor and Head, Department of Microbiology and Immunology, Louisiana State University Medical Center, 1501 Kings Highway, Shreveport, LA 71130-3032.**

## UNIVERSITY OF St. Thomas

### FACULTY POSITION BIOCHEMISTRY

The Departments of Chemistry and Biology of the University of St. Thomas jointly invite applications for a full-time tenure-track position in biochemistry. The rank of the position is open and salary will be commensurate with the successful candidate's experience. The position begins on September 1, 1993. Teaching responsibilities will include courses and labs in biochemistry, labs in organic chemistry and, if needed, involvement at some point in the general chemistry program. The successful candidate must demonstrate a strong background in organic chemistry, sufficient for teaching the organic lecture should the occasion demand it in the future. The development and implementation of a biochemistry lab course as well as the establishment of a vigorous research program involving undergraduate students are expected. Postdoctoral research experience will be considered advantageous to the establishment of a research program. A Ph.D. in biochemistry, or a closely related discipline, is required as well as a strong commitment to teaching at the undergraduate level in a liberal arts context. St. Thomas is a co-educational, Catholic liberal arts college committed to the total development of the individual student. Send letter of application, curriculum vitae, brief statements of teaching philosophy and research plans, graduate and undergraduate transcripts, and arrange to have three letters of reference sent directly to: **Ms. Carol Felton, Office Coordinator, Mail #4050, University of St. Thomas, 2115 Summit Avenue, St. Paul, MN 55105-1096.** All materials, including letters of reference, must be received by October 20, 1992. Late/incomplete applications will not be considered. *The University of St. Thomas is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITIONS** in carcinogenesis are available beginning December 1992. Projects include: (1) Analysis of gene regulation in epidermis of tumor promotion-sensitive and -resistant mice. Experience in gene expression or DNA-protein interactions is desirable. (2) Study of the temporal and spatial distribution of UV photoproducts in mammalian chromatin. Experience in molecular biology and/or immunoassay techniques is preferred. Send curriculum vitae and names of three references to: **Dr. Andrew P. Butler** (project 1) or **Dr. David L. Mitchell** (project 2), University of Texas M. D. Anderson Cancer Center, Science Park—Research Division, Smithville, TX 78957. M.D. Anderson is an Equal Opportunity/Affirmative Action Employer and a smoke-free workplace.





**Public Announcement  
Regarding a  
New Research and Development Project on  
Environmentally Friendly Technology for Advanced Catalysts**

Announced by the New Energy and Industrial Technology  
Development Organization on August 27, 1992

In order to promote the research of global environmental technology and industrial technologies, the New Energy and Industrial Technology Development Organization (NEDO) would like to inform all interested companies and research organizations regarding the research and development project described below. This new project is being undertaken as part of the Research and Developmental Program on Industrial Technology for Protection of the Global Environment and The National Research and Development Program of the Ministry of International Trade and Industry of Japan.

**Theme of the Research Project:**

“Research and Development of Environmentally Friendly Technology for Advanced Catalysts”

**Outline of the Research Work to be Entrusted**

In order to keep the environment safe, the research and development work to be entrusted will be directed towards developing new advanced catalysts which can create and utilize clean energy and decrease polluting substances, such as carbon dioxide and the like, which are harmful to the environment.

**Procedures for Application**

*(1) Qualification Criteria*

All companies or research organizations who meet the following qualification criteria may submit an application to participate in the above project:

1. The applicant must have previous research and development experience in the field covered by or related to the project and possess the organizational structure, human resources and research facilities required to carry out the project work.
2. The applicant must be in sound financial condition and have the ability to manage its finances and facilities as necessary to smoothly carry out the project work.
3. The applicant must be able to comply with NEDO's instructions, if such are necessary, to fully carry out the project work.
4. The applicant must have attended the explanatory meeting held by NEDO as set forth below or been represented at the meeting by a responsible agent or representative who is capable of accurately conveying the contents of the meeting in detail.

*(2) Explanatory Meeting*

An explanatory meeting will be held on the date shown below in order for NEDO to fully explain the details of the project's research and development work to be entrusted and the application documents to be submitted. All companies or research organizations who are interested in submitting an application to participate in the project are required to attend this meeting or to send an agent or representative to attend on their behalf. Japanese will be the only language used during the meeting.

**Date:** Friday, September 11, 1992  
**Time:** 14:00 to 15:00  
**Place:** NEDO's Head Office  
Sunshine 60 Building, 30th Floor, Room 30-01  
1-1, Higashi-Ikebukuro 3-Chome  
Toshima-ku, Tokyo 170

*(3) Further Information*

For further information regarding the research and development work to be entrusted under the above project, please contact NEDO by telefax as follows:

New Energy and Industrial Technology  
Development Organization  
Contract Division, Accounting Department  
Sunshine 60 Building, 28th Floor  
1-1, Higashi-Ikebukuro 3-Chome  
Toshima-ku, Tokyo 170 Japan  
Telefax: 03-5992-1184

## POSITIONS OPEN

**POSTDOCTORAL POSITION:** Available immediately to study murine models of autoimmunity. The project will focus on the use of MHC-derived peptides and monoclonal antibodies to these peptides in the modulation of autoimmune disease, and will combine biochemical and cellular immunological techniques. Send curriculum vitae and three letters of reference to: **Dr. Penelope A. Morel, Department of Medicine, University of Pittsburgh, Biomedical Science Tower, 9th Floor, DeSoto at O'Hara Streets, Pittsburgh, PA 15213.** *The University of Pittsburgh is an Equal Opportunity Employer.*

**POSTDOCTORAL POSITION IN VASCULAR BIOLOGY.** Available immediately for study of signal transduction and gene regulation in human vascular cells, interacting with a large interdisciplinary program. Experience in molecular biology and cell culture required. *United States citizenship or permanent residence required.* Submit curriculum vitae and the name of three references to: **Dr. Douglas V. Faller, Director, Cancer Center, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118.** *Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL POSITIONS IN IMMUNOLOGY

Available immediately to study the molecular and cellular regulation of T cell activation. Projects include the function of the IL-2 receptor and T accessory proteins in cytokine production and responsiveness. Candidates should possess an M.D. or Ph.D. with experience in molecular biology preferred. Send curriculum vitae, selected publications, and names of three references to: **Dr. Thomas Malek, Department of Microbiology/Immunology, University of Miami School of Medicine, Miami, FL 33101.**

**POSTDOCTORAL POSITIONS.** Positions are immediately available for fellows to work on immunobiology of HIV or T-cell/NK cell recognition of bacterial antigens. Send curriculum vitae and references to: **Dr. Gary R. Klimpel, Department of Microbiology J-19, University of Texas Medical Branch (UTMB), Galveston, TX 77555-1019.** *UTMB is an Equal Opportunity M/F/H/V Affirmative Action Employer. UTMB hires only individuals authorized to work in the United States.*

### POSTDOCTORAL POSITION DUKE UNIVERSITY

Postdoctoral position available at Duke University Medical Center, Department of Medicine. The position is for a young scientist interested in a career in investigating cellular senescence. Research involves molecular biology of cellular senescence and role of protein kinase C and lipid second messengers in cellular aging. Successful candidate should be trained in molecular biology/biochemistry. *U.S. citizenship/permanent residence is required.* Send curriculum vitae and three letters of reference to: **Drs. Lina M. Obeid and Yusuf A. Hannun, Duke University Medical Center, Box 3345, Durham, NC 27710.**

**POSTDOCTORAL POSITION:** A Postdoctoral Associate position at the Center for Magnetic Resonance Research and Cardiovascular Surgery Departments of the University of Minnesota. This position involves undertaking research using in vivo 31P NMR spectroscopy to investigate myocardial bioenergetics using animal models and humans. Candidates must have a Ph.D. degree in chemistry, biochemistry, physics or a related field and at least one year of postdoctoral training in the in vivo NMR field and/or the Ph.D. thesis research should be in the field of in vivo NMR spectroscopy. Experience with 31P NMR spectroscopy applications to myocardial metabolism, NMR magnetization transfer techniques for rate measurements in vivo, NMR spectroscopic localization techniques, and computer programming in Fortran and/or C languages are desirable. Please send curriculum vitae by September 30, 1992 to:

**Dr. John E. Foker  
Professor, Department of Surgery  
University of Minnesota  
Box 495 UMHC  
Minneapolis, MN 55455**

*THE UNIVERSITY OF MINNESOTA IS AN  
EQUAL OPPORTUNITY EDUCATOR AND EMPLOYER.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately for studies of immunologic suppressor mechanisms in experimental murine candidiasis. The successful candidate should have a Ph.D. with a strong background in immunology and experience in cell culture techniques. Research offers a unique opportunity for application of basic immunology to solution of a medically-important problem. Minimum two-year commitment required; salary competitive. Submit curriculum vitae and names and addresses of three references to: **Dr. Judith Damer, Department of Microbiology and Immunology, Tulane Medical School, 1430 Tulane Avenue, New Orleans, LA 70112-2699.** *Tulane University is an Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITION:** Available at Saint Francis Hospital and Medical Center (a teaching hospital with University of Connecticut School of Medicine), starting November 1992, to study regulation of an actin binding protein gene in primary and transformed bone cells. Applications are invited from candidates with background in biochemistry and molecular biology, and interest in gene promoter analysis. Send curriculum vitae, selected papers and names of three references to: **Samuel Varghese, Ph.D., Department of Research, Saint Francis Hospital and Medical Center, 114 Woodland Street, Hartford, CT 06105.** Pre-employment drug testing required. *Equal Opportunity Employer/Affirmative Action/M/F/D/V.* The Science of Medicine—The Art of Caring.

**POSTDOCTORAL POSITION** supported by an NIH grant, beginning in December 1992, to study electrophysiology of the mammalian spinal cord. The laboratory is part of an active neuroscience research program. Applications will be accepted until October 15, 1992. Please send curriculum vitae, statement of research interests, and three letters of reference to: **Dr. Tim Cope, Department of Physiology, Mail Stop 409, Hahnemann University, Broad and Vine, Philadelphia, PA 19102.** Telephone: 215-762-4374, FAX: 215-762-1982.

### POSTDOCTORAL POSITION YALE UNIVERSITY SCHOOL OF MEDICINE

Available immediately to study mutagenesis and DNA repair *in vivo* in transgenic mice. Candidates should have experience in molecular biology. Reply with curriculum vitae and three references to: **Dr. Peter Glazer, Department of Therapeutic Radiology, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.** *An Equal Opportunity/Affirmative Action Employer.* Telephone: (203) 785-2957, FAX: (203) 737-2602.

**POSTDOCTORAL POSITION** in Plant Virology available immediately for the study of viral genome determinants and mechanisms involved in the pathogenicity of potyviruses. Applicants should have experience in molecular virology/biology and should send curriculum vitae and three letters of reference to: **Dr. John G. Shaw, Department of Plant Pathology, University of Kentucky, Lexington, KY 40546.** *Equal Opportunity University.*

**THREE POSTDOCTORAL POSITIONS** available immediately to study basic aspects of entomopathogenic nematodes. Applicants sought with research backgrounds in the following disciplines: (1) biochemistry/physiology, (2) molecular biology, and (3) physiological ecology. Mail or FAX (908/932-7229) cover letter, curriculum vitae, names and telephone numbers of three references to: **Dr. Randy Gaugler, Department of Entomology, Rutgers University, New Brunswick, NJ 08903-0231.**

**POSTDOCTORAL POSITION IN VASCULAR BIOLOGY.** Positions are available immediately to study the basic molecular and cell biology of protease receptors and signal transduction in vascular cells. A strong background in either protein chemistry, cell biology or molecular biology is required. Send curriculum vitae and names of three references to: **Dr. Eugene L. Levin or Dr. Lindsey A. Miles, Committee on Vascular Biology, The Scripps Research Institute, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Available immediately to study the structure of the serum amyloid A gene family and the effects of sex and age on synthesis and processing of SAA proteins. Strong background in cell biology, molecular cloning or gene expression desired. Send curriculum vitae and names and telephone numbers of three references to: **Dr. Jean D. Sipe, Department of Biochemistry, Boston University School of Medicine, Boston, MA 02118.** *Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITIONS** available immediately to study activation of protein kinase C and its role in signal transduction to nuclei. Projects employ membrane biophysics, nuclear magnetic resonance, and molecular biology methodology. Send curriculum vitae and at least three letters of reference to: **Dr. Julianne Sando, Department of Pharmacology, Box 448, University of Virginia School of Medicine, Charlottesville, VA 22908.**

### POSTDOCTORAL POSITIONS

Gladstone Institute of Cardiovascular Disease, University of California, San Francisco. In the laboratories of: **Israel F. Charo, M.D., Ph.D.:** Research on the molecular biology of monocyte-endothelial cell interactions. Project will involve cloning and mutagenesis of novel receptors. Background in vascular biology is desirable.

**Robert E. Pitas, Ph.D.:** Study regulation of expression of the acetyl LDL (scavenger) receptor in smooth muscle cells and macrophages *in vivo* and *in vitro*. A major focus will be the isolation and identification of platelet secretory products that regulate scavenger receptor expression.

**Beatriz Levy-Wilson, Ph.D.:** Transcriptional control of eukaryotic genes; chromatin structure.

Candidates should possess a Ph.D. in molecular biology or biochemistry. Competitive salary and benefits. Send curriculum vitae and names of three references to: **Postdoctoral Recruitment/Human Resources, The Gladstone Institute of Cardiovascular Disease, University of California, San Francisco; P.O. Box 419100; San Francisco, CA 94141-9100.** *Equal Opportunity Employer.*

### INSECT MOLECULAR VIROLOGY

Two NIH-funded **POSTDOCTORAL POSITIONS** are available immediately to study the molecular biology of polydnaviruses. The mechanisms through which polydnaviruses replicate asymptotically in a vector insect and alter growth, development and immunity in a target insect will be investigated. Experience in molecular biology and/or protein biochemistry desirable. Send curriculum vitae and names of three references to: **Dr. Bruce Webb, Department of Entomology, Rutgers University, New Brunswick, NJ 08903-0231.** FAX: (908) 932-7229.

**POSTDOCTORAL POSITION** available for Research Scientist with recent Ph.D. in biochemistry, molecular biology, or cell biology to study the alpha<sub>2</sub>-macroglobulin receptor. The overall goal of the laboratory is to establish the function of this receptor system, to elucidate the function of each polypeptide associated with this receptor complex, and to investigate factors that regulate the expression of this receptor. Send curriculum vitae and three references to: **Dr. Dudley K. Strickland, Biochemistry Laboratory, American Red Cross, 15601 Crabbs Branch Way, Rockville, MD 20855.** *Equal Opportunity Employer/M/F/V/H.*

**POSTDOCTORAL POSITION—Homologous Recombination in Mammalian Cells.** A postdoctoral position is available to study the basic mechanisms of homologous recombination in mammalian cells through molecular genetic as well as biochemical approaches. A strong background in modern molecular biology or biochemistry is preferred. Projects include but are not limited to: (i) investigating the regulatory pathways of intrachromosomal and extrachromosomal recombination, (ii) purification and study of an enzyme that resolves recombination intermediates, (iii) developing strategies to improve gene targeting efficiency. Please send curriculum vitae and at least two letters of reference to: **Dr. Alan S. Waldman, Department of Biological Sciences, Coker Life Sciences Building, University of South Carolina, Columbia, SC 29208; FAX: (803) 777-4002.**



# POSTDOCTORAL FELLOWS

## Seattle, Washington

The Bristol-Myers Squibb Pharmaceutical Research Institute in Seattle (formerly ONCOGEN), performs research dedicated to pursuing novel approaches to the development of therapeutic products in the areas of immunology, infectious diseases and cancer.

**We are currently seeking postdoctoral fellows in the following areas:**

### Cellular Immunology Department

To study the role of CD28/B7 pathway *in vitro* and *in vivo* models of T cell activation. Requires Ph.D. in immunology and/or molecular biology.

**Reference AD #92-0632.**

To study regulatory mechanisms that control activation and differentiation of antigen presenting cells and macrophages/monocytes. The research will involve using biological, molecular and immunological approaches toward the characterization of cell surface molecules, their association with other proteins and the mechanisms of signal transduction. Requires Ph.D. in biochemistry, immunology, or molecular biology. Experience in the following areas is desirable: Characterization of membrane receptors; signal transduction pathways; cloning and expression of proteins/receptors; site directed mutagenesis. **Reference Ad #92-PK.**

To study the regulation of calcium mobilization in human T cells by receptor linked protein kinases and phosphatases. The candidate should have a strong background in basic cellular immunology and biochemistry. Experience in protein biochemistry and signal transduction pathways is essential. **Reference Ad #92-BM1.**

To study molecular immunology of human T cell activation pathways. The candidate should possess a strong background in mammalian gene expression systems, analysis of cell surface molecules expressed in transfected cells, purification of expressed proteins and/or fusion proteins of immunological interest, and a fundamental understanding of cellular immunology. **Reference Ad #92-BM2.**

### Growth Regulators Department

Postdoctoral fellow to focus on the new and ongoing programs leading to the discovery of novel growth and/or differentiation modulating factors, their receptors and their mechanism of action, and on the assessment of the biological roles and therapeutic potential of such factors. Ph.D. in biochemistry, molecular biology, cell biology or a related field. **Reference Ad #92-MS.**

We offer a creative work environment, competitive salaries, an excellent benefit package and relocation assistance. Our facility offers open and well-equipped laboratories and views of the Puget Sound and Olympic Mountains. Please forward your resume to: **BRISTOL-MYERS SQUIBB PHARMACEUTICAL RESEARCH INSTITUTE, Human Resources Department, 3005 1st Avenue, Seattle, WA 98121.** An Equal Opportunity Employer, M/F/D/V.



**Bristol-Myers Squibb Company**



## NATIONAL UNIVERSITY OF SINGAPORE FACULTY OF SCIENCE

Applications are invited for **Faculty positions/appointments** in one of the following disciplines from candidates who must possess a relevant PhD degree. Preference will be given to those who are able to teach in more than one of the areas listed under the discipline they are applying to and with proven ability in research.

### CHEMISTRY

Analytical Chemistry  
Inorganic Chemistry (main group elements)  
Organic Chemistry  
Materials Science

### INFORMATION SYSTEMS AND COMPUTER SCIENCE

Software Engineering                      EDP Auditing  
Man Machine Interfaces                  Financial Modeling  
MIS    Operations Research

### PHYSICS

Materials Science                      —metals and alloys, electrical and magnetic materials, electronic materials  
Surface Science                      —conducting polymers, applied catalysis, ionic conducting glasses, ESCA, AES, SIMS  
Applied Nuclear Physics—PIXE, XRF, RBS, ion channeling, radiation physics  
Experimental Solid State Physics  
Computational Physics

### COMPUTATIONAL SCIENCE PROGRAMME

Geometric Modelling and Scientific Visualization  
Computer Architecture  
Parallel Processing  
Statistical Computing

Besides appointments on normal 3-year contracts, **visiting appointments** for one or two years will also be considered.

Gross annual emoluments range as follows:

Lecturer	S\$50,390–64,200
Senior Lecturer	S\$58,680–100,310
Associate Professor	S\$88,650–122,870
(US\$1.00 = S\$1.60 approximately)	

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered.

Leave and medical benefits will be provided. Depending on the type of contract offered, other benefits may include: provident fund benefits or an end-of-contract gratuity, a settling-in allowance of S\$1,000 or S\$2,000, subsidized housing at nominal rentals ranging from S\$100 to S\$216 p.m., education allowance for up to three children subject to a maximum of S\$16,425 per annum per child, passage assistance and baggage allowance for the transportation of personal effects to Singapore. Staff members may undertake consultation work, subject to the approval of the University, and retain consultation fees up to a maximum of 60% of their gross annual emoluments in a calendar year.

There are eight faculties in the National University of Singapore with a current student enrollment of some 18,000. All departments are well-equipped with a wide range of facilities for teaching and research.

All academic staff have access to the following computer and telecommunication resources: an individual microcomputer (an IBM AT-compatible or Apple Macintosh); an IBM mainframe computer with 16 MIPS of computing power; an NEC SX supercomputer with 650 MFLOPS of computing power; departmental laser printers; a wide spectrum of mainframe and microcomputer software; voice-mail. A campus-wide network, which is based on the high speed optical fibre based FDDI technology, links up all the academic staff and student microcomputers, UNIX workstations and provides access to the mainframe computer, the supercomputer, UNIX hosts, the on-line library catalogue, Internet and BITNET.

Application forms and further information on terms and conditions of service may be obtained from:

**The Director  
Personnel Department  
National University of Singapore  
10 Kent Ridge Crescent  
Singapore 0511**

Enquiries may also be sent through BITNET to: **PERPL@NUS3090**, or through Telefax: **(65) 7783948**

## LABORATORY OPPORTUNITIES

### Molecular Genetics

New York Medical College, a private university located in Westchester county, has several newly created positions for bright and highly creative individuals. We are looking for talented professionals to take charge in the following positions: Research Associates, Research Assistants and Senior/Junior Laboratory Technicians.

As a member of New York Medical College's professional staff, you will be involved in exciting new areas of medical research including cloning and characterizing a human cancer gene.

All positions require a Bachelor's or Advanced degree in Chemistry/ Biology including related experience in molecular genetics or cell culture in a laboratory environment. We offer excellent salaries and strong comprehensive benefits. Please submit your resume with salary history/requirements to:



### NEW YORK MEDICAL COLLEGE

Michael Palicz,  
Manager of Employment  
Human Resources Dept.  
Sunshine Cottage  
Valhalla, NY 10595

Equal opportunity employer M/F/H/V

## "MINORITIES IN SCIENCE...A SEARCH FOR SOLUTIONS"

### 13 November Issue Cover Story in SCIENCE

In a first-time cover story, the 13 November issue of Science explores the complex problems and obstacles facing minorities as they work and compete in the scientific community.

#### HIGHLIGHTS INCLUDE:

AFFIRMATIVE ACTION PROGRAMS, CAREER PROFILES, BARRIERS FACING MINORITIES, THE SEARCH FOR SOLUTIONS

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REPRINTS DISTRIBUTED TO: Minority Access to Research Centers • Minority Biomedical Research Support Program • National Hispanic Leadership Conference • National Network of Minority Women in Science • National Organization for the Advancement of Black Chemists and Chemical Engineers • National Puerto Rican Coalition • National Technical Association. In addition to these organizations, many more will receive this section for use through mailings and at meetings.

Don't miss this first time advertising opportunity!  
Contact Janis Crowley at (212) 496-7704.

Space Reservation Deadline: Tuesday, October 27

### DIRECTOR OF THE DIVISION OF RADIATION BIOLOGY DEPARTMENT OF RADIATION ONCOLOGY MEDICAL COLLEGE OF VIRGINIA VIRGINIA COMMONWEALTH UNIVERSITY

The Department of Radiation Oncology at the Medical College of Virginia/Virginia Commonwealth University has initiated a search for director of its Radiation Biology Division. This is a tenure track position at the Associate Professor/Professor level with dedicated research space, resources and personnel, and the opportunity for a joint appointment in a basic science department. The Radiation Biology Division is a component of the Massey Cancer Center and is supported by Center core laboratory facilities and participates in interdisciplinary Center programs. The faculty currently consists of five radiation/molecular biologists with interests in cancer biology, in general and molecular radiobiology and radiation effects on cellular growth regulation, in particular. Candidates should have a Ph.D. and/or M.D. and a track record of peer-reviewed funding in the fields of radiation biology/tumor biology with emphasis on research at the molecular level. Candidates should have demonstrated administrative abilities with the potential for directing a sizeable research program including the integration of radiobiological research into a complex cancer research program with the capacity to translate basic research findings into pre-clinical and clinical applications.

Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and persons with disabilities are encouraged to apply.

Please send cover letter and curriculum vitae to:

Rupert Schmidt-Ullrich, M.D.  
Professor and Chairman  
MCV/VCU Department of Radiation Oncology  
Box 58  
Richmond VA 23298-0058

## MAMMALIAN MOLECULAR GENETICS

The Department of Molecular and Cellular Biology of Roswell Park Cancer Institute seeks to recruit a staff scientist who is interested in using targeted recombination into embryonic stem cells to address issues of mammalian gene regulation of cell differentiation and development. Our prime goal is to identify a new faculty member who will complement the existing programs of gene regulation and genetics within the department. There is a strong theme of classical and molecular genetics within the department that is shared with several staff members of the Department of Human Genetics located in the same building. Roswell Park Cancer Institute is a comprehensive cancer institute with a large clinical research and care program. It has extensive basic science programs that encompass immunology, experimental therapeutics and biophysics and it has a wide array of core services that are available to the staff. Send resumes to:



Mr. Joseph Garland  
Roswell Park Cancer Institute  
Employment Office  
Elm and Carlton Streets  
Buffalo, New York 14263

Roswell Park is an M/F/H/V Affirmative Action Employer

## Staff Scientist/ Group Leader Innovative Microscopes

The Lawrence Berkeley Laboratory is expanding its program in structural biology at the level of subcellular structure in conjunction with new facilities and new research opportunities that will be available at the Advanced Light Source (ALS), which is scheduled to begin operations in 1993. Positions will be available on an ongoing basis with the possibility of up to two years of initial support, after which the incumbents will be expected to obtain independent support from the U.S. Department of Energy or other funding agencies. The expanded program will encompass a broad range of modern technologies in cell biology and microscopy, with the use of x-ray microscopy at the ALS as a major component. Appointments can range from entry-level Staff Scientists to more senior positions such as Group Leaders.

Applicants need to include the following in their application materials; a cover letter that describes how opportunities in soft x-ray microscopy will be incorporated into their research interests, C.V., publication list, and the names of three references. Application materials should be sent to: Lawrence Berkeley Laboratory, Staffing Office, Job# F/7710, One Cyclotron Rd., Bldg. 90/1042, Berkeley, CA 94720. An Equal Opportunity Employer.



LAWRENCE BERKELEY LABORATORY  
UNIVERSITY OF CALIFORNIA  
U.S. Department of Energy

**CSB**  
**Center for Structural Biochemistry**  
**Centrum för Strukturbiochemi**  
**Karolinska Institutet**



**Position open/Doctoral Student**

Within the recently established Unit for Protein Crystallography at the Karolinska Institute, Center for Structural Biochemistry, Huddinge/Stockholm a position for a Doctoral Student is immediately available.

The candidate should have a training in biochemistry, molecular biology or biophysics and should be able and interested to learn and apply crystallographic, biophysical and computer graphics methods for the determination and analysis of three-dimensional structures by X-ray crystallography. A candidate with knowledge in protein crystallization, protein purification, cloning of bacteria and expression of proteins would be preferred.

Current as well as future planned research work in the unit includes purification, crystallization studies and structure determinations on hormone receptors, chaperones, heat shock proteins and selected enzymes.

The unit is equipped with an X-ray area detector, efficient computer and molecular graphics systems, modern biochemical tools, as well as fermentation facilities for the growth of microorganisms which may serve as protein source. Applications including curriculum vitae, a statement of research interests, copies of university certificates and the names of two referees should be sent to: Prof. Rudolf Ladenstein, Karolinska Institute, Center of Structural Biochemistry, S-14157 Huddinge, Sweden.

## Program Officer

The National Research Council is seeking an individual to work 50% time on each of two projects: the Program in Biology Education and the National Science Education Standards Project. Will organize/establish an information network of life science educators; assist in planning a program in biology education; organize/coordinate expanded activities in education at the NRC Commission on Life Sciences; maintain liaison with professional organizations and individuals in the science education professional community; write background reports; and edit, and synthesize materials and drafts by committee members. Requires an MA/MS or equivalent in the biological sciences; at least 4-6 years experience related to science policy for the federal government; superior understanding of science education reform movements; proven research abilities; demonstrated proficiency in project management; established relations to disciplinary professional societies; effective written and oral communication skills; and ability to simultaneously handle numerous complex matters. Practical high school science teaching experience and direct experience in dealing with science policy for the federal government preferred. Please send resume in confidence to: NRCEO/CCE, HA 450, Position #185.018, 2101 Constitution Avenue, N.W., Washington, DC 20418. EOE.

**NATIONAL  
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## HELPING THE BODY TO HEAL ITSELF:

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We cannot invent a better — or safer — system to fight disease than our own immune response system. At Immunobiology Research Institute, we are moving beyond the indiscriminate chemical weaponry that attacks diseased and healthy tissues alike. Instead, we are learning to harness the body's own natural ability to heal itself through powerful, non-toxic peptide drugs. Led by world-renowned immunologist Dr. Gideon Goldstein and fully supported by the resources of Johnson & Johnson, IRI's scientists are conducting some of today's most far-reaching and exciting work in immunobiology.

At the forefront of our work is our newly established Molecular Immunology Department which will investigate peptide drugs derived from a hormone of the thymus and other peptide hormones that regulate the body's immune system. As we staff up in this highly critical and rewarding area, we are seeking creative, highly-motivated molecular and biochemical scientists at both Senior and Junior levels. Senior level positions require a Ph.D. or M.D. with related postdoctoral experience; Junior level candidates require B.S. or M.S. degrees. On all levels, you must have experience in hormone receptor characterization and/or receptor-mediated cellular signal transduction.

Our first-class laboratory, on our quiet university-like New Jersey campus, provides a superb research atmosphere which fosters the exploration of new ideas and the exciting interchange of knowledge. We offer, as well, an excellent salary, comprehensive Johnson & Johnson benefits, and the opportunity to work side-by-side with some of the brightest figures in the pharmaceutical industry.

If you would like to join IRI's advanced immunobiology team, please send your resume to:

Director, Human

Resources Dept. S,

Immunobiology Research Institute,

Route 22 East, P.O. Box 999, Annandale,

NJ 08801-0999. We are an equal

opportunity employer.



**Research Institute**

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## POSITIONS OPEN

**POSTDOCTORAL POSITIONS** currently available to study the molecular biology of mutagenesis in bakers' yeast and *E. coli*. Opportunities are available for work with cloned yeast genes and gene products that are involved in mutagenesis, with *in vitro* replication systems, and with vectors or templates that carry a single, specifically located UV photoproduct. Send curriculum vitae and three letters of reference to: **Dr. Christopher W. Lawrence, Department of Biophysics, University of Rochester Medical Center, Rochester, NY 14642.** Write to this address, call (716) 275-2948 or FAX (716) 275-6007 for further information. *The University of Rochester is an Equal Opportunity/Affirmative Action Employer.*

### IMMUNOTOXIN RESEARCH

Positions available for postdoctoral scientists interested in developing novel modes of cell-targeted therapy. Strong background in biochemistry and cell or molecular biology required, as work encompasses diverse areas, including development of monoclonal antibodies, mechanisms of toxin action, therapeutic studies in athymic mice and production of mutant toxins. Academic appointment available. Boston offers unique learning; cultural, sports and recreational opportunities. *We are an Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae and references to:

**Dr. Vic Raso**  
Boston Biomedical Research Institute  
20 Staniford Street, Boston, MA 02114



### POSTDOCTORAL POSITION

A postdoctoral position is available immediately to join a virus discovery program to study hepatitis-associated aplastic anemia. Candidates should have a Ph.D. and be skilled in the areas of molecular biology and virology. Specific responsibilities include construction and screening of cDNA and DNA libraries to isolate and characterize virus specific sequences. Interested applicants should forward curriculum vitae and names of three references to: **Genelabs Technologies, Inc., 505 Penobscot Drive, Redwood City, CA 94063. Attn: Shellie Williams.** *We are an Equal Opportunity Employer.*

**POSTDOCTORAL POSITION:** Available immediately, to study the structural-function relationship of lipolytic enzymes. Work will utilize site-directed mutagenesis and eukaryotic expression of proteins as well as physical biochemical techniques including high resolution NMR and surface monolayer studies. Previous experience in molecular biology, protein or lipid biochemistry is desirable. Send curriculum vitae with references to: **Dr. John S. Parks, Department of Comparative Medicine, Bowman Gray School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27104-1040. Telephone: (919) 716-2145; FAX: (919) 716-6279.** *Bowman Gray School of Medicine is an Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITIONS** available immediately to study the role of protein kinases in yeast growth control. Projects include biochemical and molecular/genetic analysis of the protein kinase C/MAP kinase pathway of *S. cerevisiae*. Experience in the techniques of contemporary molecular biology and biochemistry preferred. Send curriculum vitae and names of references to: **Dr. David E. Levin, Department of Biochemistry, Johns Hopkins University (JHU), 615 North Wolfe Street, Baltimore, MD 21205.**

*JHU is an Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL ASSOCIATE

A position is available to study gene expression in early mouse embryos. The goal of this work is to understand how the expression of certain genes is regulated in embryos and how their expression is related to the determination and differentiation of particular embryonic structures. Please forward curriculum vitae and names, addresses and telephone numbers of at least three references to: **Dr. William R. Crain, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.** *An Affirmative Action/Equal Opportunity Employer M/F/H.*

## POSITIONS OPEN

**POSTDOCTORAL POSITIONS** available immediately to study mammalian gene expression/DNA repair induced by DNA damage. Applicants should have a Ph.D. and experience in molecular biology, protein biochemistry, and/or mammalian tissue culture. Send curriculum vitae and the names and phone numbers of three references to: **Dr. Kristoffer Valerie, Department of Radiation Oncology, Medical College of Virginia, Virginia Commonwealth University, Box 58, Richmond, VA 23298-0058.** *An Affirmative Action/Equal Opportunity Employer.*

**FELLOWSHIPS IN CLINICAL PHARMACOLOGY.** The Oklahoma Medical Research Foundation is sponsoring a fellowship training program in clinical pharmacology. Fellowships will provide expertise in Phase I-IV clinical trials. Research clinical and didactic training in clinical pharmacology, clinical toxicology, pharmacokinetics, clinical trial methodology, pharmacoepidemiology, grantsmanship, and drug regulatory practices is offered during the fellowship. This program is open to individuals who possess an M.D. or equivalent degree and have a minimum of three years of postgraduate medical experience and/or are board eligible/certified in a medical discipline. Applicants should send their curriculum vitae to: **Clinton N. Corder, Ph.D., M.D., Head, Clinical Pharmacology, Oklahoma Medical Research Foundation, 825 N.E. 13th Street, Oklahoma City, OK 73104.** *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH FELLOWSHIP.** This person will begin a postdoctoral research fellowship in the Laboratory of Medical Genetics. Duties will be conducting studies in chromosome microdissection, gene cloning, and gene mapping. He (she) will participate in research conferences and work with graduate students. Ph.D. in Medical Genetics with dissertation in the field of molecular cloning of disease related genes. 8:00 a.m. to 5:00 p.m., 40 hours per week. Salary \$18,640 per calendar year. Contact: **Sandra T. Starnes, Alabama State Employment Service, 3440 Third Avenue South, Birmingham, AL 35222. RE: Job Order #AL0228750.**

Two **POSTDOCTORAL RESEARCH ASSOCIATE** positions available immediately. Unique opportunity for a recent Ph.D. trained in cell and molecular biology to: (1) examine the mechanisms of PDGF signal transduction at the single cell level using digital video microscopy, caged compounds and molecular biology techniques; and (2) clone and express a novel pH-dependent inhibitor of ischemic injury. Send curriculum vitae and names of three references to: **Dr. Brian Herman; Department of Cell Biology and Anatomy; CB# 7090, 232 Taylor Hall; University of North Carolina; Chapel Hill, NC 27599.** *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

A **POSTDOCTORAL RESEARCH ASSOCIATE** position is available for a recent Ph.D. graduate to study molecular mechanisms of differentiation arrest in neoplastic myogenic cells. Applicants should have a strong background in molecular biology techniques including cloning, directed mutagenesis, and use of retroviral vectors. Send curriculum vitae with names of three references to: **Dr. Peter J. Houghton, Chairman, Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.** *An Equal Opportunity/Affirmative Action Employer.*

**RESEARCH ASSISTANT** to research into characterization and quantification of Cholecystokinin (CCK) and Gastrin Receptors in Pancreatic Carcinoma. Requires Ph.D. or M.D. in Surgical Oncology or Pathology. Eighteen months of experience as an Oncology Researcher. Experience must include human epithelial cells transformation with SV-40 DNA microinjection and characterization of these cell lines. Normal human epithelial cell transformation with several oncogenes microinjection. Mitogenic effects study of insulin-like growth factor (IGF-1) in human cancer cell lines. Experience may be gained before, during or after degree. Forty hours per week, 9:00 a.m. to 5:00 p.m., \$26,000 per year. Send résumés (no calls) in duplicate to: **J. Davies, JO# 1230855, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.** *Must have proof of legal authority to work permanently in the United States.*

## POSITIONS OPEN

### RESEARCH ASSOCIATE (POSTDOCTORAL CANDIDATE)

The cellular and molecular status of maternal-progeny immune cells will be studied after exposure to carcinogens during fetal life. Cell isolation, flow cytometry, and various immunoassays will be used. Send curriculum vitae to: **Dr. Paul Urso, Department of Micro/Immunology, Morehouse School of Medicine, 720 Westview Drive, S.W., Atlanta, GA 30310-1495. Telephone: (404) 752-1585.**

### RESEARCH ASSOCIATE VOLTAGE-DEPENDENT CHANNELS OF VERTEBRATE NEURONS

Applications are invited for a **POSTDOCTORAL POSITION** as an Associate to study synaptic transmission, membrane properties and calcium dynamics in relation to neuronal geometry in bullfrog sympathetic ganglion cells, PC 12 cells, rat hippocampus and cat lateral geniculate. Techniques include single electrode voltage clamp, patch clamping, confocal microscopy, 3D reconstruction and high speed calcium imaging.

Please forward your curriculum vitae and three letters of reference to: **Dr. Paul R. Adams, Department of Neurobiology & Behavior, SUNY at Stony Brook, Stony Brook, NY 11794-5230.** *An Equal Opportunity Employer.*

**RESEARCH ASSOCIATE/POSTDOCTORAL** position available for a Ph.D. in Biochemistry/Molecular Biology to investigate the molecular/genetics basis of DNA repair and mutation in mammalian cells using various repair deficient mutants. Experience in gene cloning and DNA sequencing is preferred. We are located in the picturesque suburbs outside of Philadelphia. Send curriculum vitae and names of three (3) references to: **Thomas D. Stamato, Ph.D., THE LANKENAU MEDICAL RESEARCH CENTER, 100 Lancaster Avenue West of City Line, Wynnewood, PA 19096 or call (215) 645-3475.** A member of the Main Line Health family of hospitals. *Equal Opportunity Employer.*

**RESEARCH ASSOCIATE** available immediately to work on a project involving the development of monoclonal antibodies to lymphocyte differentiation antigens. The candidate should have experience and knowledge of murine or human monoclonal antibody technology. Research skills of particular interest include cDNA cloning and expression, and protein biochemistry. Send résumé, outline of research experience, and availability to: **Dr. Nicole Suci-Foca, Professor of Pathology, Director of Immunogenetics, College of Physicians and Surgeons of Columbia University, 630 West 168th Street, New York, NY 10032.** *Columbia University is an Affirmative Action/Equal Opportunity Employer.*

**RESEARCH ASSOCIATE.** Study molecular structure of muscle using x-ray diffraction techniques. Ph.D. in Biophysics or equivalent and minimum of three years of experience in x-ray diffraction, synchrotron radiation essential. Knowledge of muscle structure, muscle physiology, and muscle biochemistry required. Forty hours per week. 9:00 a.m. to 5:00 p.m. Monday to Friday; \$40,707 per year. Send résumés with ad to: **DEED, 1100 North Eutaw Street, #212, Baltimore, MD 21201. JO 9150006, Job in Bethesda, Maryland.**

**Higuchi Biosciences Center and the department of Pharmacology and Toxicology at the University of Kansas** seek a **RESEARCH ASSOCIATE** to participate in research focused on the role of growth factors, cytokines and excitatory amino acids in neuronal viability. The project is funded by the Marion-Merrell-Dow Education Partnership, in the Biology of Aging. *Required:* Ph.D. in cell biology, molecular neurobiology or related discipline and experience in these disciplines. Annual salary: \$24,000 plus benefits. Send letter; resume; and names, addresses and telephone numbers of three references to: **Dr. E.K. Michaelis, c/o Anette Lundsgaarde, Higuchi Biosciences Center, 2099 Constant Avenue, Lawrence, KS 66047-2535 by September 11, 1992. Telephone: 913-864-5183.** *The University of Kansas is an Equal Opportunity, Affirmative Action Employer.*

# MOLECULAR BIOLOGIST

## *(Chemical Carcinogenesis)*

The Chemical Industry Institute of Toxicology (CIIT) is seeking a scientist to join the research staff in the Carcinogenesis Program. Qualified individuals need to have a Ph.D. in a research area that had a concentration on molecular biology, and should have at least three years postdoctoral experience. It is also advantageous to have research interests in the general area of mechanisms of chemical carcinogenesis.

# MOLECULAR/CELLULAR PATHOBIOLOGIST

## *(Respiratory Tract Carcinogenesis)*

CIIT is seeking a scientist to join its research staff in the Respiratory Toxicology Program. Qualified individuals need to have a Ph.D. in a research area that had a concentration on molecular or cell biology, and should have at least three years postdoctoral experience. It is also advantageous to have research interests and experiences in the general area of pulmonary toxicology, biology and the pathobiology of fiber and particle-induced respiratory tract tumors.

The research areas of CIIT include carcinogenesis, respiratory toxicology, neuro- and developmental toxicology, with an emphasis on mechanistic studies and interdisciplinary collaborative research directed toward a better understanding of human health risks of exposure to chemicals. CIIT has a strong postdoctoral program and there are excellent opportunities for interaction with nearby outstanding Universities.

CIIT is an independent, not-for-profit research institute. The Institute is located in Research Triangle Park, NC, which offers many cultural and recreational activities. We offer competitive salary and benefits and a stimulating work environment. Interested applicants should submit a curriculum vitae with the names of three professional references, representative reprints and summary of research interests to: **Human Resources Manager, CIIT, P.O. Box 12137, Research Triangle Park, NC 27709.**



An Equal Opportunity Employer (M/F, H/V)

## CANCER GENETICS MOLECULAR GENETICS IMMUNOLOGY

The Genetics & IVF Institute is a medical, laboratory, and biotechnology company focusing on human genetics and reproduction. Join a dynamic, successful organization with approximately 200 employees, where we have the following opportunities.

### **Director, Laboratory of Cancer Diagnosis**

This senior level position requires substantial experience in the cytogenetic and/or molecular aspects of cancer, and strong leadership ability. The successful candidate will have responsibility for directing diagnostic and research laboratory programs in human cancer genetics.

### **Molecular Genetics, Identification, Immunology**

We seek qualified individuals with service and research interests as **Assistant Directors** for two laboratories:

- **Hereditary disease diagnosis**

- **Identification and paternity testing**

We also seek research scientists in the areas of:

- Gene amplification/detection
- Cell separation technology

- In situ hybridization
- Antibody production/analysis

We offer competitive salaries and excellent employment conditions in a creative work environment located in suburban Virginia near Washington, D.C. Please send full c.v. to: **Ann Burdell, Personnel Department, Genetics & IVF Institute, 3020 Javier Road, Fairfax, VA 22031.** Fax (703) 698-3963.

## GENETICS & IVF INSTITUTE





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Exploring and testing your analytical and intuitive abilities is what a scientific career is all about. And Burroughs Wellcome Co. can give you those opportunities. We are at the forefront of important new pharmaceutical developments, with a long record of successes. That means you can have the resources and support to do your best work, and make a meaningful difference. Discover your capabilities at Burroughs Wellcome Co.

### Post Doctoral Fellows

We are seeking qualified candidates for Post Doctoral Fellow positions in Pharmacology and Experimental Therapy. Burroughs Wellcome Fellows are initially appointed for up to one year with a renewal for a second year upon the mutual agreement of the employee and Burroughs Wellcome Co.

**Pharmacology (Pos. #63978-20)**—The Cellular and Molecular Pharmacology Section of the Division of Pharmacology is seeking a Post Doctoral Fellow to study the mechanisms of amyloidogenesis in relation to Alzheimer's Disease. The research will examine the enzyme(s) involved in the aberrant pathway for senile plaque formation and amyloid neurotoxicity. The position requires a Ph.D. or M.D. with strong training and/or experience in molecular biology and biochemistry. Relevance of experience to current research program will be an important consideration.

**Experimental Therapy (Pos. #63979-20)**—The successful candidate will join a multi-disciplinary group developing therapeutics based upon an understanding of the biological roles of nitric oxide. Research activities will include isolation and characterization of the cDNAs for human cytokine-induced nitric oxide synthases. The position requires a Ph.D. in molecular biology, biochemistry or related discipline and experience with cDNA libraries, eukaryotic expression systems and related techniques. Additional expertise in gene regulation, cell biology of cytokines, protein purification and enzymology is desired.

Burroughs Wellcome Co. offers competitive salaries and comprehensive benefits. We also offer the advantage of working in North Carolina's celebrated Research Triangle Park, one of the country's leading areas for scientific research, with the cultural and recreational opportunities of the Raleigh/Durham/Research Triangle area nearby. To apply, please send your resume, indicating position number in your cover letter, by **September 30, 1992**, to: **Burroughs Wellcome Co., Recruiting and Staffing, 3030 Cornwallis Road, Research Triangle Park, NC 27709.**

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



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An Equal Opportunity Employer

University of  
**Maine**

### ASSISTANT/ASSOCIATE PROFESSORS IN MARINE MOLECULAR BIOLOGY



The University of Maine announces two tenure-track positions contributing to a cooperative effort between the University, the Mount Desert Island Biological Laboratory, and the Bigelow Laboratory for Ocean Sciences, to establish a research cluster in marine molecular biology. Salary and start-up are being supported initially by an EPSCoR grant from the National Science Foundation. During the first 3 years, the successful applicant will establish a vigorous research program, instruct students and investigators within the cluster in the use and development of molecular techniques, and teach intensive, hands-on short courses in these techniques. Subsequently, he/she will actively continue research and assume an increased role in teaching, including an advanced course in his/her specialty. A doctorate is required and postdoctoral experience is preferred. Applications will be screened from 1 October 1992 until the positions are filled.

#### Molecular Biology of Marine Animals

The Department of Zoology seeks a biologist applying recombinant DNA methods to address organismal or evolutionary problems in marine metazoans; the research area is open. Preference may be given to applicants who can interact productively with cluster biologists working in genetics, development, or physiology. The applicant should submit curriculum vitae, statement of research interests, and names and addresses of three references to: Dr. John Ringo, Chair, EPSCoR Search Committee, Department of Zoology, Murray Hall, University of Maine, Orono, ME 04469.

#### Molecular Biology of Marine Prokaryotes

The Department of Biochemistry, Microbiology, and Molecular Biology seeks a molecular biologist working with marine prokaryotes. Research areas of particular interest are novel marine bacteria or viruses, marine microbial physiology, ecology, nutrient cycling, pathogenesis, and biogeochemistry. The applicant should submit curriculum vitae, statement of research interests, and names and addresses of three references to: Dr. Bruce Nicholson, Chair, EPSCoR Search Committee, Department of BMBB, Hitchner Hall, University of Maine, Orono, ME 04469.

*Women and minorities are strongly encouraged to apply. The University of Maine is an Equal Opportunity/Affirmative Action Employer.*

### Department of Human Genetics

#### Memorial Sloan-Kettering Cancer Center

The newly established Department of Human Genetics at Memorial Sloan-Kettering Cancer Center is inviting applications for faculty positions. Both senior and junior level appointments will be made in the areas of molecular genetics, genetic epidemiology and genome analysis. A focus of the recruitment will be in the area of the genetics of cancer, although qualified applicants with research interests in other human genetic diseases and relevant animal models are encouraged to apply. The Department will occupy new research laboratories on a campus which includes outstanding established basic research and clinical departments.

Interested applicants should forward their curriculum vitae, bibliography and the names of three references to:

Jeffrey V. Ravetch, M.D., Ph.D.  
Chairman,  
Human Genetics Search Committee  
Memorial Sloan-Kettering Cancer Center  
1275 York Avenue  
New York, New York 10021



*An Equal Opportunity/Affirmative Action Employer*



## COLGATE-PALMOLIVE POST-DOCTORAL FELLOWSHIP IN *IN VITRO* TOXICOLOGY

Consistent with its long-standing commitment to advance the development of non-animal methods for product safety assurance, the Colgate-Palmolive Company is sponsoring a post-doctoral fellowship in *in vitro* toxicology that will be administered by the Society of Toxicology. Applications are invited from individuals conducting research in any aspect of *in vitro* toxicology. Although the award is not restricted to these areas, the Colgate-Palmolive Company has particular interest in alternatives to animal studies for assessment of dermal and ocular toxicity and in technology that could be applicable to this goal.

The award is made for two years, with funding for the second year contingent upon satisfactory research progress. The award amount is \$33,500 annually. The awardee receives \$22,000 for salary from this source of funding. The remaining monies may be used for fringe benefits, supplies, equipment or travel that is related to the proposed research. Total administrative costs to the awardee's institution may not exceed 8 percent annually.

The award is available to post-doctoral trainees in their early years of study beyond the Ph.D., M.D., or D.V.M. degree who are employed by academic institutions or research institutes worldwide. Doctoral students who anticipate completion of their degree prior to September 1, 1993 may also apply, although the doctoral degree

must have been conferred before this fellowship is awarded. The application consists of a three-page description of the proposed research, the applicant's CV, graduate transcripts, reprints and letters of recommendation. A letter from the current or proposed post-doctoral advisor, who is a member of the SOT, must be submitted that describes the nature and extent of commitment of research or other institutional resources to the applicant.

Finalists will be interviewed at the 1993 Annual Meeting of the SOT, March 14-18, in New Orleans, Louisiana; travel expenses will be paid by Colgate-Palmolive.

Announcement and official presentation of the award will take place at the Awards Banquet on March 17. Funding may commence at that time, or no later than September 1, 1993.

Completed applications must be received at the SOT Headquarters no later than October 23, 1992. For further information and an application package, contact:

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**Colgate-Palmolive Post-Doctoral Award**  
**c/o Education Committee**  
**Society of Toxicology**  
**1101 14th Street, N.W., Suite 1100**  
**Washington, DC 20005-5601**  
**Fax: (202)371-1090**

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## Study Director RADIATION BIOLOGY

The Commission on Life Sciences of the National Research Council seeks a study director to plan and execute studies of the somatic and genetic effects induced in humans exposed to ionizing or nonionizing radiation, and serve as the primary staff officer for various committees of volunteers for a 2-3 year program. Requires a Ph.D. or equivalent in radiation biology, radiation physics, or a related field; at least 4-5 years conducting and managing sponsored research programs; ability to understand physical and chemical properties of radiation interaction with biological tissues and its effects on living organisms including humans, and to integrate radiation-induced effects in assessment of risks to human populations; demonstrated ability to plan, organize, and conduct a complex research program involving multi-disciplinary and controversial issues closely linked to risk-management decisions; ability to direct and motivate work by both volunteer committee members and support staff; and ability to communicate with sponsors and the general public in both written and oral presentations. Please send curriculum vitae or professional biography and letter of interest to: **NRC/RRF, NAS 342 (CE), 2101 Constitution Avenue, NW, Washington, DC 20418. EOE.**

**NATIONAL  
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### DIRECTOR OF RESEARCH

Space Biospheres is seeking candidates for a newly created position which will essentially serve as the focus for research efforts affiliated with the enterprise, including human health, marine and terrestrial ecosystem dynamics, sustainable agriculture, human nutrition, genetic drift in long-term closed systems and biogeochemical total systems modeling. The role involves a broad range of scientific, managerial and supervisory activities encompassing internal affairs and inter-organization relationships, coordinating existing and new research projects, new research efforts and developing strong finding programs.

The ideal background includes a Ph.D. in Earth Science, Environmental Science or Systems Ecology; strong computer and mathematical background; experience in academic, governmental and contract/business arenas; and a successful record supervising a group of at least 20 scientists/technicians pursuing state-of-the-art research in both laboratory and field. This individuals' peer reviewed scientific papers will have been widely cited in the international scientific literature. He/she will also be experienced in securing national level grants for geochemical, oceanographic or tropical biome research.

Further information may be obtained in confidence from:

**J. Stuart Fishler, Jr.**  
Executive Director  
Russell Reynolds Associates, Inc.  
333 South Grand Avenue, Suite 4200  
Los Angeles, California 90071  
(213)489-1520

## POSITIONS OPEN

**RESEARCH ASSOCIATE.** Large university is seeking a full-time research associate to conduct research and development with Missouri School Improvement Program (MSIP). Responsibilities: managing, interrelating, analyzing and reporting hundreds of MSIP data sets; using extensive MSIP questionnaire data for designing and assessing additive scales of school quality indicators; interrelating questionnaires data with other social economic and educational performance indicators from large state databases; ensuring data analysis and statistical interpretation of impeccable quality. Candidates must have at least a masters degree in statistics, sociology, education or a related field and at least 2 years of professional experience in educational research. Other requirements include: extensive experience using advanced multi-variate statistical techniques (multiple regression, loglinear, ANOVA, MANOVA, FACTOR, CLUSTER and LISREL) and extensive knowledge about: IBM mainframe MVS (TSO), PC (LAN) environments and communication protocols; large-scale data management and statistical analysis systems, especially SAS; social science methodology (quantitative and qualitative); and current social and educational research development in research design, educational performance measures, effective school research and school organization and innovation which have influenced development of MSIP. In particular, knowledge of MSIP standards, indicators, and review process is essential. 8:30 a.m. to 5:00 p.m. Forty hours per week. Salary: \$24,000. Résumés to: **John F. Scott, ES Supervisor, Division of Employment Security, P.O. Box 59, Jefferson City, MO 65104. RE: Job Order #587851.**

**RESEARCH ASSISTANT I**—Duties include assisting with basic biomedical research focused on regulation of the immune response. This position will require the Research Assistant to process human blood, tissues, and manage stocks of birds and mice (these responsibilities entail frequent exposure to potentially noxious substances, e.g., human blood, animal excrement, fumes, dust and other research waste by-products). B.S. or greater in Science or Medicine to include knowledge of relevant experimental protocols and the performance of immunological assays. 8:30 a.m. to 4:30 p.m., 40 hours per week. Salary \$20,000 per calendar year. Contact: **Sandra T. Starnes, Alabama State Employment Service, 3440 Third Avenue South, Birmingham, AL 35222. RE: Job Order #AL04049290.**

### RESEARCH ASSOCIATE

M.D./Ph.D. with at least three years of experience to study the effects of various treatments of endophthalmitis in a rabbit model. Excellent skills performing vitrectomies, lensectomies, and phacofragmentation in rabbits required. Experience in management of infectious materials, postoperative evaluation of animals, data gathering and statistical analysis required. Send résumé and names of three references by October 1, 1992, to: **Virginia Withers, Bethesda Eye Institute, 3655 Vista, St. Louis, MO 63144. Affirmative Action/Equal Opportunity Employer.**

**RESEARCH ASSOCIATE** for medical center in northeast Ohio. Research on endocrinology and immunology. Three important research projects are involved: (1) Chemotherapy-induced ovarian failure; its prevention; (2) The role of Luteinizing Hormone Releasing Hormone (LHRH) agonists on immune system functions; and (3) The role of the insulin family peptides in early mammalian development. Must have Ph.D. in Biochemistry. Academic program must have included one graduate level course each in the following areas: Molecular Biology of the Gene, and Advanced Biochemical Techniques. Must be conversant with the following experimental techniques, as evidenced by academic letters of reference, employer testimonials, and/or publications: compound and electron microscopy; one and two dimensional gel electrophoresis; immunoprecipitation Western blotting; pituitary cell culture; in vitro gonadotropin bioassays; early embryo manipulations, including handling of oocytes and sperms; and in vitro assisted reproductive technologies. Must have two years of experience as research assistant or biochemist or reproductive biologist and experience must have been in endocrinology and immunology. Forty hours per week, 8:00 a.m. to 5:00 p.m., \$42,370 per year. *Must have proof of legal authority to work permanently in United States.* Send résumé and course transcript in duplicate to: **J. Davies, JO #1200905, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

## POSITIONS OPEN

### RESEARCH OPPORTUNITIES Medical Genetics

The Molecular Genetics Laboratory at Cedars-Sinai Medical Center is seeking:

**CYTOGENETICS GENE MAPPING SUPERVISOR.** Responsible for expertise using fluorescence in situ hybridization and for staff training. Requires 2 years experience in a Cytogenetics lab.

**RESEARCH ASSOCIATE POSTDOCTORAL.** Involves integrating novel technologies including image analysis, investigating genome organization and gene mapping using fluorescence in situ hybridization.

**MOLECULAR BIOLOGIST.** Requires a Ph.D., M.D. for identifying genes responsible for Down Syndrome.

Please send curriculum vitae with names/addresses of three references to: **Julie R. Korenberg, Ph.D., M.D., CEDARS-SINAI MEDICAL CENTER, Medical Genetics, SSB-3, 8700 Beverly Boulevard, Los Angeles, CA 90048. Telephone: (310) 855-6451. FAX: (310) 967-0112. Affirmative Action/Equal Opportunity Employer.**

**CRYSTALLOGRAPHER,** Associate. Research in crystallization and structure solution of proteins related to gene expression and development of cancers. Minimum B.Sc. or equivalent in physical chemistry plus five years of experience including protein crystallization and heavy atom substitution, X-ray data collection from protein crystals, MIR and molecular replacement methods of structure solution and molecular modeling. Job site La Jolla, California. Salary \$27,100 per year. Send this ad and your résumé to **Job #RT-28192, P.O. Box 9560, Sacramento, CA 95823-0560, not later than September 7, 1992.**

**DATA ACQUISITION PHYSICIST** to work in Newport News, Virginia; forty hours per week (8:00 a.m. to 5:00 p.m. schedule); salary: \$50,000 to \$56,000 per year. Incumbent will be responsible for the design, development, and maintenance of software and hardware to provide data acquisition support for experiments at CEBAF. (Data acquisition hardware is based on distributed 680x0 series microprocessor systems using the VxWorks operating system. Furthermore, hardware is supported on a wide range of platforms including FASTBUS, VME, and CAMAC.) Also, develops and implements a run control system on Ultrix DEC stations. Data acquisition software is written in C and assembly languages with interfaces to FORTRAN and other programming languages.

Requires Ph.D. in Physics plus four years of postdoctoral work experience applying data acquisition techniques to experiments in an accelerator physics laboratory. Experience should include commissioning a data acquisition system for physics experiments having approximately 10,000 events per second and transferring data at 30mbytes per second. Five years of experience independently developing and applying large-scale, multi-crate FASTBUS, virtual machine environmental (VME), and CAMAC systems. Two years of software development experience in C, FORTRAN, and 68000 assembly language, and practical experience utilizing real time operating systems. Must be familiar with code development in an ULTRIX environment using native and cross-development software tools.

To apply, mail résumé with copy of this ad attached by September 30, 1992 to: **Virginia Employment Commission, 5145 East Virginia Beach Boulevard, Norfolk, VA 23502. Indicate on envelope: JO# VA2074614.**

*An Equal Opportunity/Affirmative Action Employer.*

**ELECTRON MICROSCOPY TECHNICIAN**—Full-time to supervise the operation of the Electron Microscopy Lab. Qualifications: On-the-job experience on electron microscopes and in preparation of equipment and EM procedures; EM Certificate, or equivalent, in either biological or material sciences. AA Degree, or higher, in either the biological or material sciences, or equivalent desired. Starting salary: \$2,310 per month. Application deadline: September 18, 1992. Submit proof of certificate or degree with application form to: **San Joaquin Delta College, Office of Human Resources, Administration Building 202, 5151 Pacific Avenue, Stockton, CA 95207. Affirmative Action/Equal Opportunity Employer. Telephone: (209) 474-JOBS.**

Leading \$200MM producers of BRL GIBCO scientific and industrial life science products worldwide seeks candidates for the following positions:

**Sr. Scientist-Bioseparations**-Optimize purification procedures used to manufacture BRL products. **REQUIRES:** Ph.D. in Biochemistry or related or MS in Chemical Engineering with 3-5 years experience. Knowledge and experience with all types of chromatographic separations including ionic exchange, hydrophobic, affinity, and HPLC. Ideal candidate will have experience in evaluating different chromatographic medium for use in protein and nucleic acid separations, the chemistry of matrix mfg. and derivatization, synthesis of affinity absorbents, protein chemistry and large scale protein purification. **Code #819.**

**Sr. Scientist-Corporate Development**-Develop embryonic stem cell reagents for targeted gene mutations in eukaryotic cells. **REQUIRES:** Ph.D. with 4-6 years post doctoral experience; expert in methods of molecular biology and cell culture. Experienced in cell biology, gene targeting, recombination in higher cells. **Code # 111.**

**Sr. Scientist-Molecular Biology R&D**-Responsible for development of new non-radioactive methods for labeling and detection of nucleic acids-specifically enzyme labeled probes; fluorescent labeling systems for *in situ* hybridization. **REQUIRES:** Ph.D. with 5 years post doctoral experience in development of non-radioactive probe systems. Knowledge of nucleic acid or organic chemistry. **Code # 377.**

**Staff Scientist-Molecular Biology R&D**-Perform scientific R&D leading to establishment of technology and development of products for genome analysis. Conduct feasibility studies relating to new analytical systems for genome characterization. **REQUIRES:** Ph.D. with 1-3 years experience with a broad range of molecular biology lab techniques. Proficiency in one or more cosmid cloning, somatic cell genetics, YAC analysis, pulsed field gel electrophoresis, polymorphism analysis, gene mapping, human genetics. **Code #387.**

Candidates should submit resume with position reference # to: **LIFE TECHNOLOGIES, INC., P.O. Box 6009, Gaithersburg, MD 20877. FAX: 301- 670-1394.** An equal opportunity employer. LTI is a drug-free workplace. We hire and promote equally.

**LIFE TECHNOLOGIES, INC.**

## Vice President/R&D Scientist

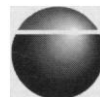
RiboGene is a growing biotechnology company developing instruments and reagents to automate its proprietary technology for cell-free protein synthesis. We wish to fill the following positions:

**VP, R&D:** Requires a PhD and post-doctoral experience in molecular biology – preferably in the field of translation – and a successful track-record managing sizeable groups of scientists, ideally in an industrial setting. Experience in developing instruments and reagents is highly desirable.

**R&D Scientist:** Requires a PhD and post-doctoral experience in the field of translation. Experience working in industry would be an advantage.

RiboGene is pleasantly located in the East Bay area close to San Francisco. We offer competitive salaries and excellent benefits, including an attractive stock option plan.

For consideration please send your resume to:  
**Becky Levin, Levin, Storm & Co., 3000 Sand Hill Road, Building 1, Suite 140, Menlo Park, California 94025.** Equal opportunity employer.



**RIBOGENE, INC.**

At Johnson & Johnson Medical Inc., we've made it our business to provide the highest quality products to the health care industry. Our continued growth presents a challenging opportunity for a creative individual to play a leading role in the identification of new product opportunities in hemostasis.

## SR. RESEARCH ASSOCIATE

### Hemostasis Product Development

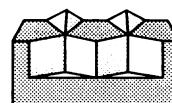
As a Product Development Scientist, the selected candidate will participate in technology assessment, design and conduct appropriate *in vitro* and *in vivo* studies, and develop formulations geared towards novel hemostasis products for use in medical and surgical procedures.

Qualified applicants should possess a Ph.D. in Biochemistry or related discipline and have a minimum of three years experience. Extensive knowledge of the molecular basis of blood coagulation is essential, as are excellent communication skills and the desire to work and succeed in a multi-disciplinary team environment. Experience in product development or drug discovery with supervisory responsibility is highly desirable.

We offer an excellent benefits package, competitive salary, as well as a professionally challenging environment. Candidates interested in this opening in the Dallas / Fort Worth area should forward resume with salary history, in complete confidence to: Johnson & Johnson Medical Inc., Attn: Human Resources, 2500 Arbrook Blvd., Arlington, TX 76014.

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**Johnson & Johnson**  
**MEDICAL INC.**



The Mount Sinai Medical Center of New York

## CHAIRPERSON Department of Human Genetics

The Mount Sinai School of Medicine of the City University of New York is inviting applications for the position of Chairperson of its newly created Department of Human Genetics.

The Chairperson will be responsible for directing a department with major research responsibilities as well as clinical services. The department will serve as an institutional focus for work in human genetics, including basic research and clinical applications.

Candidates must have eminent research credentials and proven leadership skills. It is expected that new faculty will be recruited in the areas of gene therapy, molecular diagnostics, mouse genetics and related fields.

Please forward applications to: **Dr. Peter Palese, Chairman, Human Genetics Search Committee, The Mount Sinai School of Medicine, Box 1124, One Gustave L. Levy Place, New York, NY 10029-6574.**

*Mount Sinai is an affirmative action/equal opportunity employer and strongly encourages applications from women and minority candidates.*

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A French Pharmaceutical  
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## PHARMACOLOGIST (PH. D)

- with a strong skill in **comportemental studies** acquired during a post-doc position.
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Please submit a C.V., a photo and a vritten lettre to  
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The ICI Pharmaceuticals Group is dedicated to the challenge of discovering and developing important new therapeutic agents for the treatment of asthma and other pulmonary diseases. Expansion of our research programs has resulted in the creation of a new opportunity in our Pulmonary Pharmacology Group at our Wilmington, DE research center.

Here, you will explore the role of the eosinophil and eosinophil proteins in the pathophysiology of asthma. The successful candidate will have an M.D., Ph.D. or M.D./Ph.D. with 2-3 years postdoctoral experience with adhesion molecules, cytokines and inflammatory cells. Good communication and interpersonal skills necessary for effective work in an interdisciplinary environment are essential. A strong biochemical pharmacologic background is a plus.

We offer an excellent salary and benefits program, including relocation assistance, and the opportunity to build a career with one of the world's leading pharmaceutical research organizations.

Please send C.V., in confidence to: **Ron Martin, ICI PHARMACEUTICAL GROUP, Wilmington, DE 19897.** Equal Opportunity Employer, M/F.



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### 18 September 1992

The second annual Careers issue is custom-designed for recruitment. This special cover story is the ideal environment for your message and will include:

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Full-page ads will be accepted for placement within this editorial section located in the main body of the magazine (ROP), and will be included in the Harvey Research Study on reader reaction. All other size ads will be placed in the traditional back-of-the-book section.

#### Bonus Distribution:

The reprint will be distributed at:

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**Recruitment Advertising Manager,**  
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**Reservation Deadline:**  
**Tuesday, 1 September 1992**

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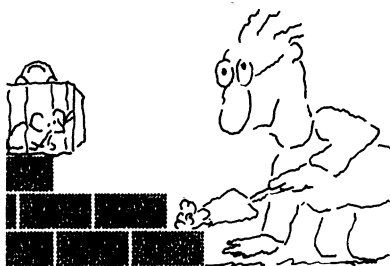
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# Postdoctoral Research Fellowships

The PARKE-DAVIS Pharmaceutical Research Division, Warner-Lambert Company, offers four postdoctoral opportunities within its Pharmacokinetics and Drug Metabolism Department at the growing Ann Arbor facility.

## Excitatory Amino Acid Antagonists (PD 64)

The Fellow will work as part of an interdisciplinary team to assess the pharmacokinetic and pharmacodynamic characteristics of exploratory, neuroprotective, and excitatory amino acid antagonists. Emphasis for this research will be on the measurement of compounds in rat brain interstitial fluid by microdialysis and HPLC. Applicants should have a Ph.D. in Biological Chemistry, Physiology, Pharmaceutics, Pharmacology or a related discipline. Experience with microdialysis, small animal surgery and a strong analytical background are desirable. Publication of results is expected.

## Biological Transport (PD 65)

The Postdoctoral Fellow will evaluate biological barriers to the successful delivery of therapeutic entities which are peptide analogs. The Fellow will concentrate on the Caco-2 human colon adenocarcinoma cell line to study drug biotransformation and transport in vitro as a model for the mammalian small intestine. Results with reference compounds and drug candidates will be compared to in situ (rat intestinal perfusion) and in vivo (bile duct-cannulated rat) models. The stability of drug candidates to degradation by proteolytic enzymes will be determined using specific chromatography methods. Characterization of transport by passive or carrier-mediated mechanisms will be conducted. The goal of this project is to develop and apply a reliable in vitro model for intestinal absorption that will be both predictive of relative absorption in vivo and capable of yielding mechanistic information with regard to transport processes. Knowledge of enzyme kinetics and membrane transport processes, experience with animal and cell culture techniques and an analytical background are desirable. Applicants should have a Ph.D. in Biological Chemistry, Physiology, Pharmaceutics or a related discipline.

## Cytochrome P450 Regulation (PD 66)

This position requires a scientist with a Ph.D. in Molecular Biology or related area to study Cytochrome P450 regulation in animal and human liver tissue. The qualified individual should have practical experience in the areas of RNA isolation and quantitation. Experience with protein electrophoresis would be advantageous.

## Mass Spectrometry (PD 67)

A postdoctoral opportunity is available for a scientist with formal training and research experience in organic mass spectrometry. The successful candidate will conduct research on applications of continuous flow FAB, electrospray, and APCI sample introduction technologies to a variety of drug metabolism projects. Experience with HPLC and micro-bore HPLC would be advantageous.

Postdoctoral fellowships are extended for one year, renewable for a second year, and include a competitive salary and benefits package as well as relocation assistance. Interested persons should forward their resume and list of references to **PARKE-DAVIS Pharmaceutical Research, Box JDM, Human Resources, 2800 Plymouth Road, Ann Arbor, MI 48105**. Please specify the fellowship being applied for. "Smoke-Free Work Environment"



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## POSITIONS OPEN

### MOLECULAR BIOLOGIST

Position available for a postdoctoral research scientist with Ph.D. in molecular biology or related field to join a group involved with the isolation and characterization of genes encoding for certain potential target enzymes for chemotherapy. Projects involve cloning, sequencing and expression of genes and their mutant forms in *E. coli* and/or baculovirus and mammalian expression systems, and purification and characterization of recombinant proteins. Experience in library screening (genomic and cDNA), Southern/Northern blots, and DNA sequencing are required. To apply, send résumé to: Mr. Tracy Higgins, PHR, Human Resources, Department 648, Southern Research Institute, P.O. Box 55305, Birmingham, AL 35255-5305. Equal Opportunity Employer.

### PRODUCT DEVELOPMENT CHEMIST

We're Pierce Chemical, a growing international supplier of Products for Life Science Research. We have an immediate opening for a Senior Product Development Chemist. This position is responsible for the transition of laboratory projects into the manufacturing stage through the development of production methods, process scale up, purification and testing.

The successful candidate should possess an undergraduate degree in chemistry, biochemistry or related field with three to five years lab experience in protein chemistry. Industrial experience preferred. Familiarity with affinity chromatography, HPLC, spectrophotometry, lyophilization, ELISA, blotting and other types of immunoassays is required.

Pierce offers a competitive salary, company paid medical, dental and life insurance and an opportunity to grow with a successful and dynamic company. If this sounds like a challenge you'd like to take on, send your résumé, salary requirements, and three reference letters to:

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Attention: Human Resource Manager

Equal Opportunity Employer.



**RESEARCH MOLECULAR BIOLOGIST-ENTOMOLOGIST.** Insect and Weed Control Research Unit, West Lafayette, Indiana. Permanent, full-time position. Responsible for establishing and directing a basic research program to identify genes and factors conveying resistance and to characterize the nature and basic mechanisms of insect resistance in small grain crops. The wheat-Hessian fly interaction represents a priority area for investigation. Incumbent uses molecular techniques to identify and characterize resistant genes in both plant host and insect. Serves as a member of a diversified research team leading to the protection of small grains from insects. A degree in entomology, biological sciences, or a related discipline; and knowledge of genetics, biochemistry, host insect resistant characteristics, and skill in molecular biology techniques are required. A Ph.D. is desirable. Salary range \$38,861 to \$54,607 per annum based on qualifications and experience. For position information contact: M. M. Schreiber, 317-494-4656. For vacancy announcement and application procedures contact: Beverly Webert, 301-344-1921. Applications must be marked 2N051 and postmarked by September 21, 1992. Incomplete applications will not be considered. ARS is an Equal Opportunity Employer.

### RESEARCH SCIENTIST

Saint Francis Hospital and Medical Center, located in Hartford, Connecticut, is seeking a candidate to join our Department of Research and Heart Institute to establish a new program in Vascular Biology. Candidates should have completed a doctoral (M.D. or Ph.D.) degree and a postdoctoral fellowship, and have prior experience in molecular aspects of vascular cells. Candidates will be eligible for an appointment at the University of Connecticut School of Medicine. Interested candidates should send a résumé and references to: Dr. Ernesto Canalis, Saint Francis Hospital and Medical Center, 114 Woodland Street, Hartford, CT 06105-1299. FAX: (203) 548-5415. Equal Opportunity Employer/Affirmative Action/M/F/D/V. Pre-employment drug testing. The Science of Medicine—The Art of Caring.

## POSITIONS OPEN

**PROTEIN BIOCHEMIST.** To join our ongoing study of a novel activator of phospholipase A2. Experience in protein purification essential; experience in molecular biology techniques preferred. Stipend up to \$33,000 plus fringe benefits, commensurate with experience. Submit curriculum vitae including names of three references to: Dr. Allen S. Goldman, The Craniofacial Center, University of Illinois at Chicago, M/C 588, P.O. Box 6998, Chicago, IL 60618.

**RESEARCH SCIENTIST/DRUG SAFETY DIVISION** to oversee and direct laboratory within Biochemical Toxicology laboratory. Design, conduct and report drug safety studies in support of IND, evaluate preclinical safety and act as compound monitor of new drug candidates with special emphasis on the function and regulation of cytochrome P-450 isozymes in extrahepatic tissues (nasal epithelium, lung and brain) utilizing a battery of specific, epitope distinct and inhibitory monoclonal antibodies against the cytochromes P-450 detected in these tissues. Perform and oversee research to define substrate specificity of extrahepatic cytochrome P-450 isozymes using a battery of substrates (testosterone, progesterone, nitrosamines and resorufin derivatives) utilizing HPLC, immunoassays, (ELISA, Western Blot), gel electrophoresis and cell culture. Master's in Pharmacology plus two years of experience as a research Scientist/Biochemical Pharmacology required. Previous experience must include two years of hands-on experience performing research to clarify the function and regulation of cytochrome P-450 isozymes in extrahepatic tissues (nasal epithelium, lung and brain) using a battery of specific, epitope distinct and inhibitory monoclonal antibodies against the cytochromes P-450 detected in these tissues. Previous experience must also include two years of hands-on experience defining substrate specificity of extrahepatic cytochrome P-450 isozymes using a battery of substrates (testosterone, progesterone, nitrosamines and resorufin derivatives) utilizing HPLC, immunoassays, (ELISA, Western Blot), gel electrophoresis and cell culture. Forty hours per week, 8:30 a.m. to 4:30 p.m. Monday to Friday, \$55,000.00 per year. Send résumés to: Human Resources, RHONE-POULENC RORER CENTRAL RESEARCH, Job JAO/JZ, 500 Arcola Road, Collegeville, PA 19426. Equal Opportunity Employer.

### VASCULAR BIOLOGY RESEARCH PROGRAM

The Gladstone Institute of Cardiovascular Disease and the University of California, San Francisco are recruiting a **SENIOR SCIENTIST** at the Associate or Professor In Residence level in the area of vascular biology to interact with lipoprotein group and lead research group to study the cellular and molecular biology of atherosclerosis. Vascular biology broadly defined.

M.D. and/or Ph.D. with appropriate years of research experience. Send curriculum vitae plus names of three references to: Vascular Biology Position Search Committee, c/o Human Resources, Gladstone Institute of Cardiovascular Disease, P.O. Box 419100, San Francisco, CA 94141-9100.

The University of California, San Francisco is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

**TECHNICAL APPLICATIONS SPECIALIST.** Boston area research products company seeks organized individual with excellent interpersonal skills. Responsibilities include telephone assistance to customers with technical questions; generate/revise protocols, organize product information for Marketing. Must have B.S. in a life science and three years of laboratory experience using electrophoresis equipment. Send résumé, salary history and requirements to: Owl Scientific, Personnel Department, P.O. Box 566, Cambridge, MA 02139.

## ANNOUNCEMENTS

**BRAIN TUMOR RESEARCH GRANT FUNDING.** The Brain Tumor Society announces the availability of grant funding for basic scientific research related to brain tumors. Grants will be awarded annually for up to a two year period, at a maximum of \$50,000 per year. Grants will be limited to the New England region. Application deadline is December 15, 1992. For information and application forms, please write or call: The Brain Tumor Society, 258 Harvard Street, Suite 308, Brookline, MA 02146, telephone: (617) 433-7033.

## COURSES AND TRAINING

### ADVANCED AUTOMATED/DIAGNOSTIC DNA SEQUENCING

**Workshop:** Baylor College of Medicine, Houston, Texas, October 29 to 31, 1992. For six experienced scientists interested in state-of-the-art automated DNA sequencing techniques. The workshop will provide exposure to a core facility utilizing fluorescent DNA sequencing instruments for large-scale and diagnostic DNA sequencing. Topics include PCR sequencing for mutation detection and human immunodeficiency virus characterization, semi-automated template preparation, robotic DNA sequencing (Beckman Biomeck and ABI Catalyst systems), data flow and analysis, and overall core lab organization. Workshop precedes the 3rd Annual W. M. Keck Symposium on Computational Biology (November 1 to 3, 1992). Directors: Dr. Richard A. Gibbs and Donna M. Muzny, Baylor College of Medicine. Tuition: \$750 (Accommodations not included). Application deadline: October 1, 1992. For further information, contact: Lori Lawler-Lopez, Institute for Molecular Genetics, Baylor College of Medicine, Houston, TX 77030. Telephone: 713-798-5393 or FAX: 713-798-6521.

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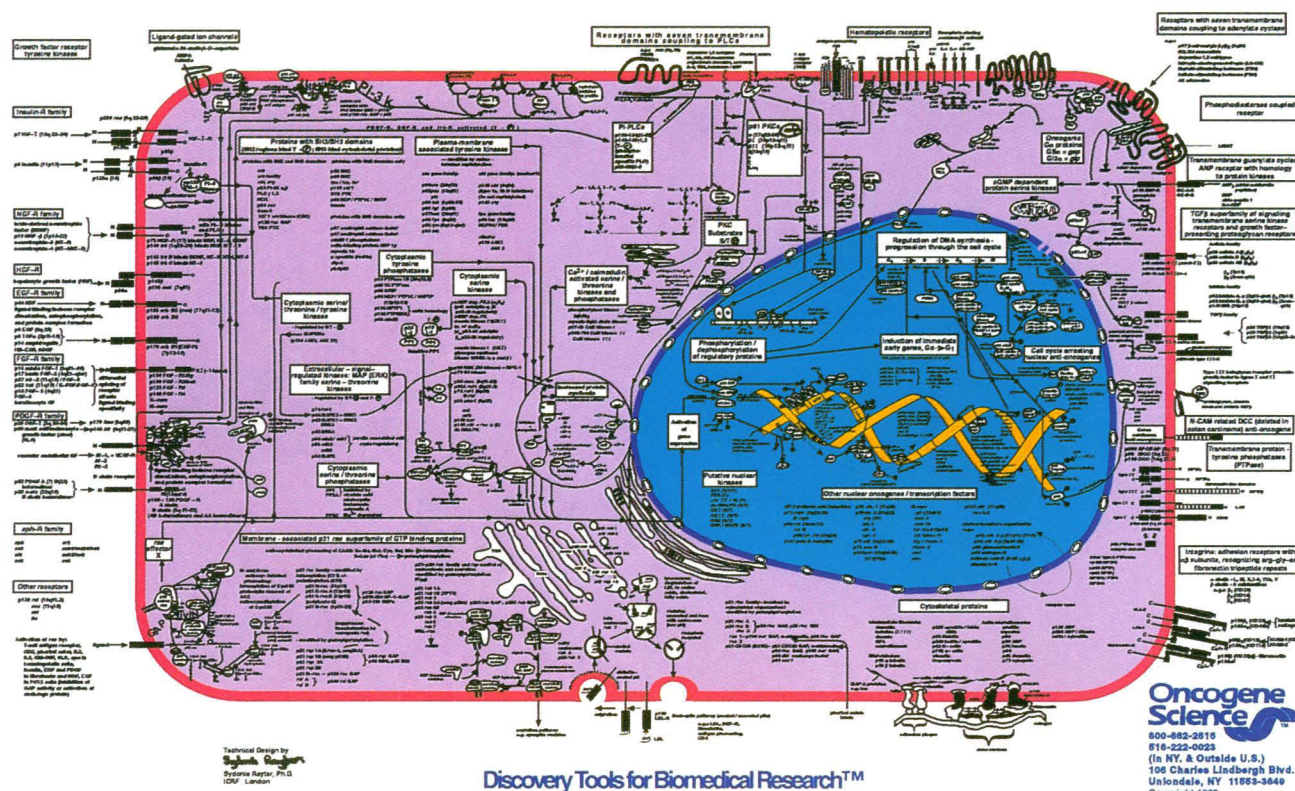
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# ADVANCES IN CELLULAR RESEARCH

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### New p53 Antibody and ELISA's for TGF- $\alpha$ , pan p53, and EGF-R

A new antibody with improved staining performance for frozen and paraffin-embedded human tissue sections with low levels of mutant or wild-type p53 will be available in mid-September. The DO-1 clone also offers enhanced performance for western blotting and immunoprecipitations. Call for a data sheet on OP43 and we will send it to you as soon as it is ready.

A new 96 well ELISA assay for TGF- $\alpha$  is now available and assays for pan p53 and EGF-receptor are expected in October. Data sheets outlining the performance characteristics of these kits can be obtained (when ready) by calling **800-662-2616 or 516-222-0023**. For research use only. Not for use in diagnostic or therapeutic procedures.

### 4th International Conference on Gene Transcription as a Novel Target for Drug Discovery

**October 22—24, 1992**

This conference, held at Cold Spring Harbor Laboratory, NY, covers therapeutic research in areas including cancer, CNS, immunosuppression, viruses, and metabolism. The extremely distinguished group of speakers include M. Rosenfeld, P. Sharp, S. McKnight, M. Parker, and R. Eisenmann.

Call 1-800-662-2616 (516-222-0023 in NY and outside the US) for more information and to register.

### New Wall Chart

The latest version of the Oncogene Science Wall Chart is now available for \$7.95. This colorful new chart measures 38" by 26" and has over 3 times as much information as its predecessor. Slide sets are available at \$10.00 per set. Teachers who wish to use the upcoming free 28 page product guide booklet on the chart as course material are encouraged to contact our Marketing Department.

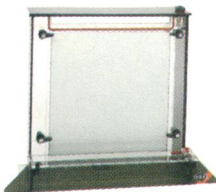
The chart or the slides may be purchased by mailing a check to:

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# While everyone else was imitating our STS-45, our work took a different slant.



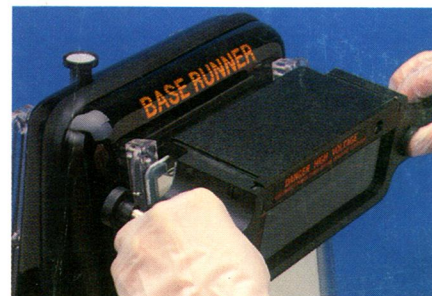
STS-45 IB80000

Until recently, if you wanted a full-size thermoplate sequencer, you had two choices: Buy an STS-45 from IBI. Or choose one of the dozen or so STS-45 clones made by other suppliers. But now

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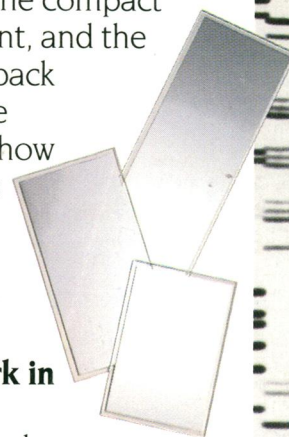


Spring-loaded buffer tanks simplify set-up and disassembly.

**Discover other unique convenience and performance advantages** such as the compact 30 cm x 30 cm footprint, and the space-saving back-to-back

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