

### **Sonic Wind System**

Model SWS-211/3V is a sonic wind system developed for meteorological research and other applications. The system includes a probe and microcomputer-based electronics. It measures along three mutually orthogonal axes with 10-cm paths, and provides a three-dimensional wind velocity, along with a velocity-compensated sonic temperature. The instrument measures wind velocities and sonic temperature with excellent frequency response (0 to 10 Hz), ideal for applications requiring instantaneous evaluation. Data output is RS-232C-compatible for direct interfacing with a computer, data recording, cathode ray tube terminal, or other terminal port. Measurement range is up to 15 m/s for wind velocity and  $-20^{\circ}$  to  $50^{\circ}\text{C}$  for temperature. Applied Technologies. Circle 568.

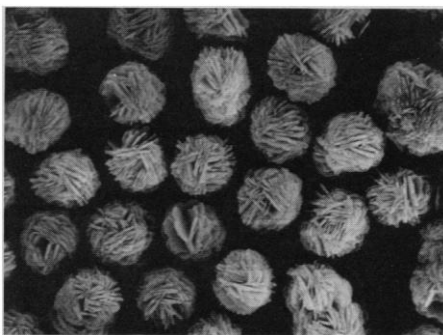
### **Automated Coordination Tester**

The CR-1 Rotamex System is a completely automated, personal computer-driven, rotating rod-based exerciser for testing lab animals' coordination. The system consists of up to eight four-lane motorized exercisers, each with a separate control unit. An interface card and software allow the control units to be connected to any IBM PC-, XT-, or AT-compatible computer. The procedure of testing the animals' coordination involves measuring the time the animal is able to maintain itself on the rotating rod at a given speed. Columbus Instruments. Circle 569.

### **Medium for Peptide and Protein Separations**

Unisphere-C18 is a medium for separating peptides and proteins. It is an alumina-based support consisting of fused porous plates coated with a thin layer of polymer for a typical C18-like surface chemistry. This coating provides surface chemistry selectivity with no nonspecific adsorption sites and

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.



features a pH stability range of 2 to 13. The unique shape of the Unisphere-C18 particle combines a macroporous platelet structure with a traditional microporous surface and provides good mechanical strength, flow properties, and loading capacities. A wide range of column sizes is available. Biotage. Circle 570.

### **Microbiological Decontamination Station**

The Biosafe MDS is a microbiological decontamination system based on the principle of formaldehyde fumigation. The system's cabinet design offers total fumigation without the release of toxic vapors. The system is programmable and mobile. Hi-Tech Scientific. Circle 571.

### **Cellulose Acetate Electrophoresis Membranes**

TITAN III cellulose acetate electrophoresis membranes offer ease of use, speed, adaptability, and cost-effectiveness in protein and enzyme studies of insects, fish, plants, protozoa, and animal genetics. Allozymes separate in a portion of the time required by starch gels. TITAN III cellulose acetate is available in three distinct formulations and ten sizes. It requires little membrane preparation: Simply soak in buffer, blot, and apply specimen using any of several microapplicators. Helena Laboratories. Circle 572.

### **New Version of ChiWriter**

Version 4.0 of ChiWriter, a scientific and multilingual word-processing program, has been released. The new version supports full multiple undo and redo capability. ChiWriter automatically keeps formulas and tables formatted. The "what-you-see-is-what-you-get" display shows formulas and tables on screen as they are printed. Editing formulas is simple to do by moving the cursor

into them and typing the changes. ChiWriter runs on IBM PC and compatible computers with at least 512K random access memory and a hard disk. It supports all popular graphics boards, dot-matrix printers, and laser printers. Horstmann Software. Circle 573.

### **Messenger RNA Purification Kit**

The mRNA purification kit is designed to quickly isolate high-purity yields of polyadenylated RNA from total RNA. The kit's "batch-loading" procedure saves time by eliminating tedious column equilibrium steps. To batch-load, the user mixes the dry oligo(dT)-cellulose with denatured RNA sample and adds the slurry to the column. With this process, purified mRNA can be obtained with two passes in approximately 90 min. Boehringer Mannheim Biochemicals. Circle 574.

### **Literature**

*Catalogue 1991*, from Janssen Biotech, features high-purity compounds for use in cell biology research and in drug pharmacokinetics. The novel products include a wide line of cyclodextrins for molecular stabilization and a ready-to-use peroxidase substrate. Research Diagnostics. Circle 575.

*Guaranteed Amino Acid Analysis* is a 12-page brochure that illustrates the chemistry and chromatography behind the Amino-Quant Series II amino acid analyzer. Aimed at the protein chemist studying amino acid composition, the brochure describes how modern, narrow-bore technology improves the technique's sensitivity. Hewlett-Packard. Circle 576.

*HPLC Instrumentation & Supplies 1991-1992* is a 368-page catalog with detailed descriptions and prices. Products include high-performance liquid chromatography columns for analytical, preparative, biochemical, and special applications; new affinity adsorbents; column heaters; pumps; detectors; autosamplers; and other accessories and equipment. Rainin Instrument Co. Circle 433.

*Molecular and Cell Biology Catalogue 1991/1992* is a 256-page publication with information on reagent kits, cell separation and culture, nucleic acid purification, complementary DNA synthesis and cloning, cloning and expression vectors, sequencing, hybridization and electrophoresis, restriction and modifying enzymes, nucleotides, and oligonucleotides. Pharmacia LKB Biotechnology. Circle 434.

# Personnel Placement

## LINE CLASSIFIED ADVERTISEMENTS

**DEADLINES:** Ads are due by Thursday, 10 a.m., 2 weeks prior to the issue date. *Science* publishes each Friday, except the last Friday of the year. Advertisements must be submitted in writing.

**HOW TO SUBMIT A CLASSIFIED AD:** Prepare double-spaced typewritten ad copy on a separate sheet. Do not include any abbreviations. *Science* will edit and typeset ads according to *Science* guidelines. Deadline for applications stated in ad must be at least 2 weeks after date of publication. Also include a cover sheet which gives name and phone number of contact person, desired date of publication, and billing information, including any special invoicing requests. Mail or FAX materials to:

**SCIENCE Classified Advertising**  
1333 H Street, N.W., Room 940  
Washington, DC 20005  
Telephone: 202-326-8555  
FAX: 202-682-0816

**CLASSIFICATIONS:** *Science* publishes line classified ads under the following headings: **Positions Open, Employment Agencies, Situations Wanted, Courses and Training, Meetings, Announcements, and Marketplace.** Advertisers should specify classification desired.

**HOW TO CALCULATE RATE FOR CLASSIFIED AD:** Ads are \$41 per line with a \$410 minimum. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces.

To ESTIMATE ad cost, count total number of 52 character lines and multiply by \$41 to find approximate cost of ad per week. Each line of centered heading counts as one line. Also count one line for white space between headline and first line of text; all partial lines are also counted as full lines (including all centered reply information).

Remember, this is a rough estimate only. Allow for variation between estimated typewritten lines and ads when actually typeset for magazine. Therefore, purchase orders must allow additional funds for flexibility and/or adjustment. *Science* cannot provide proofs of typeset ads.

**PREPAYMENT DISCOUNT:** A 3% cash discount is granted to all prepaid line ads. Prepayment made in U.S. dollars by checks drawn on U.S. banks is required on all foreign ads.

**CREDIT CARDS:** *Science* accepts MasterCard and VISA. Both personal and corporate cards may be used. Prepayment does not apply to credit cards.

**BOXES AND LOGOS:** Any line classified ad can be boxed and/or published with logo to increase its visibility on page. Since the box takes up additional space, one line now equals 48 characters and spaces; two additional lines will be added to allow for top and bottom rules. Logos are billed according to the number of lines needed to fit logo in space.

**CANCELLATIONS:** Deadline for cancellation is 10 a.m., Tuesday, 10 days prior to issue date.

## DISPLAY PERSONNEL ADVERTISEMENTS

For rates, deadlines, and information about fractional display ads (all ads 1/6 page and larger) and all Marketplace listings of available products and services, contact:

**Scherago Associates**  
1515 Broadway  
New York, NY 10036  
Telephone: 212-730-1050  
FAX: 212-382-3725

**CONDITIONS:** Personnel advertising is accepted only with the understanding that the advertisers do not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. *Science* reserves the right, at its discretion, to decline to publish advertisements submitted to it and to decline classifications which it considers misleading.

## POSITIONS OPEN

### ANATOMY AND PHYSIOLOGY KANSAS STATE UNIVERSITY COLLEGE OF VETERINARY MEDICINE

Applications are invited from veterinary anatomists at the ASSISTANT PROFESSOR level who can participate in a team-taught veterinary gross anatomy course. It is expected that the successful candidate will hold both the D.V.M. and Ph.D. degrees and will have an established research program in neurobiology, exercise physiology, or molecular biology. Preference will be given to individuals with experience using contemporary ultrastructural and quantitative morphometric research techniques.

Applications should include a cover letter, curriculum vitae, statement of research and teaching interests, three letters of recommendation, and reprints of three representative publications. The earliest starting date is 15 August 1991. However, applications will be received until the position is filled.

Send applications to:

**Dr. Jon D. Dunn, Ph.D.**  
Professor and Department Head  
Department of Anatomy and Physiology  
VMS 228  
College of Veterinary Medicine  
Kansas State University  
Manhattan, KS 66506

*Kansas State University is an Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR AND CELLULAR ASPECTS OF HORMONE ACTION AND SIGNAL TRANSDUCTION

The Banting and Best Department of Medical Research, University of Toronto, is seeking candidates for the position of ASSISTANT PROFESSOR, tenure stream. The position is available 1 July 1992 and will carry an initial appointment of 5 years at a competitive salary.

Candidates should have a strong research background and be prepared to develop a research program in molecular and cellular aspects of signal transduction (for example: mechanisms of signal transduction, surface and intracellular receptors, cell cycle regulation, regulation of gene expression, diabetes research). The successful candidate will be expected to obtain independent research grants, to spend at least 75% of her/his time in research, and to participate in graduate and undergraduate training. *The University of Toronto encourages both women and men to apply for positions.*

Applicants should forward curriculum vitae and an outline of research interests and arrange for three letters of reference to be sent directly to: **Dr. Cecil C. Yip, Professor and Chair, Banting and Best Department of Medical Research, University of Toronto, 112 College Street, Toronto, Ontario M5G 1L6, Canada.**

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

### ASSISTANT PROFESSORS IN BIOTECHNOLOGY, INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

Applications are invited from Indian nationals for assistant professor position in bioscience and engineering group. Qualifications are Ph.D. with minimum of 3 years of research experience in either microbiology, immunology, molecular biology, biophysics, or biochemical engineering. Biodata with three letters of recommendations may be sent to: **Registrar, Indian Institute of Technology, Powai, Bombay 400 076, India.**

**RESEARCH ASSISTANT PROFESSOR.** The Gynecologic Oncology Section of the Department of Obstetrics and Gynecology at the University of Oklahoma (OU) Health Sciences Center is seeking applicants for an assistant professor of research. Has potential for upgrade to tenure-track appointment. Requires Ph.D. in molecular biology. Postdoctoral research experience in molecular biology, tumor viruses, or oncogenes is desired. Technician and laboratory support available. Salary: \$30,000 to \$35,000, depending upon qualifications. Send curriculum vitae and three letters of reference to: **Joan L. Walker, M.D., Department of Obstetrics/Gynecology, OU Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190.** Goal is to hire by 1 September 1991, but curriculum vitae accepted until filled. *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### HEALTH SCIENTIST IN NEUROSCIENCE

Hines Veterans Administration/Loyola Medical Center (VAMC), Chicago. ASSISTANT PROFESSOR level position in VA/Loyola for clinical and basic research utilizing modern skills in molecular and cellular neurobiology and neuroimmunology to investigate neurocellular differentiation, aging, demyelination, and degeneration in neurologic disease. Ph.D. Send curriculum vitae to: **George J. Siegel, M.D., Neurology Service (127), VAMC, Hines, IL 60141.**

**RESEARCH ASSISTANT/ASSOCIATE PROFESSOR.** Tulane University/Cardiology. To work in the area of mechanisms of neutrophil-mediated myocardial injury. Background in cardiovascular physiology, pharmacology, or pathology desirable. Send curriculum vitae and three references to: **Dr. Andrew J. Buda, Chief, Cardiology Section, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, LA 70112.** Tulane is an Affirmative Action/Equal Opportunity Employer.

### NEUROBIOLOGIST

The Department of Anatomy, Wright State University School of Medicine, invites applications for a tenure-track faculty position at the ASSISTANT PROFESSOR level. The applicant should have Ph.D., M.D., or equivalent degree with postdoctoral experience. Preference will be given to individuals with research interests in neurobiology. The candidate will be expected to carry on an active research program and to attract extramural funding. Primary teaching responsibility will be in medical neuroscience. *Women and minorities are encouraged to apply.* Applicants should submit their curriculum vitae, research interests, three recent reprints, and the names of three references to:

**John C. Pearson, Ph.D.**  
Chair, Search Committee  
Department of Anatomy  
Wright State University  
School of Medicine  
Dayton, OH 45435

*Wright State University is an Equal Opportunity/Affirmative Action Employer.*

### PROFESSOR OF EPIDEMIOLOGY (INFECTIOUS DISEASES)

The Department of Epidemiology and Public Health, Yale University School of Medicine, announces a position at the full professor level for a leader in the field of infectious disease epidemiology. We are looking for a physician who has experience in microbiology, is versed in molecular technology, has an international orientation, and has done epidemiologic field research in the tropics. The successful candidate will be expected to assume a leadership role in teaching the epidemiology of infectious diseases to M.P.H., Ph.D., and M.D. students and to develop an externally funded research program. Preference will be given to persons with prior scientific management experience and whose research has a strong overseas component. Applicants should send full curriculum vitae, a statement of current and future research interests, and three letters of reference by 1 September 1991 to: **Dr. Robert B. Tesh, Yale Arbovirus Research Unit, Department of Epidemiology and Public Health, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.** Yale University is an Equal Opportunity/Affirmative Action Employer.

### THE ERNA AND JAKOB MICHAEL VISITING PROFESSORSHIPS 1992-93 THE JOSEPH MEYERHOFF VISITING PROFESSORSHIPS 1992-93 THE ROSIE AND MAX VARON VISITING PROFESSORSHIPS 1992-93

The Weizmann Institute of Science, Rehovot, Israel, offers a limited number of visiting professorships in the natural and exact sciences.

The visiting professorships are invited for candidates already holding the rank of full professor or equivalent and will be for a duration of 2 months to 1 year.

Deadline for submittance of completed applications is 30 November 1991.

For further information or application forms, please contact: **The Academic Secretary, The Weizmann Institute of Science, Rehovot 76100, Israel.** Telex: 972-8-381300. FAX: 972-8-471667. Bitnet: RSMARJOR@WEIZMANN.

## POSITIONS OPEN

The Department of Neurology, University of California, Irvine (UCI), has an opening for a Ph.D. in pharmacology, psychobiology or biology, or related field at the **ASSISTANT ADJUNCT PROFESSOR** level. Candidate would join the movement disorders group and should have experience in HPLC receptor binding and behavioral studies. Send curriculum vitae and names of three references to: **Dr. Stanley Van Den Noort, Chairman, 375A Med Surge II, UCI, Irvine, CA 92715. Refer to: Position #91-3. Affirmative Action/Equal Opportunity Employer.**

### ASSISTANT PROFESSOR POSITIONS IN VASCULAR CELL BIOLOGY

Two positions are available effective 1 September 1991: one requires experience in molecular and cell biology of angiogenesis; the other requires expertise in cell physiology of lymph vessels. Candidates must demonstrate the ability to conduct a vigorous research program. The tenure-track appointees will join a physiology faculty deeply involved in cardiovascular research and will participate in its medical and graduate training programs. Send curriculum vitae, summary of research interests, and names of three references to: **Dr. Harris J. Granger, Professor and Head, Department of Medical Physiology, College of Medicine, Texas A&M University Health Science Center, College Station, TX 77843. Texas A&M University is an Affirmative Action/Equal Opportunity Employer.**

### LECTURER MICROBIOLOGY, CELL AND MOLECULAR BIOLOGY LABORATORIES DEPARTMENT OF BIOLOGY THE UNIVERSITY OF MICHIGAN

The Department of Biology at the University of Michigan announces the availability of a non-tenure-track lecturer position. The term of appointment is for a period of 3 years and is subject to renewal based on satisfactory performance. The lecturer will serve as coordinator and supervisor of instruction in upper-level laboratory courses in microbiology and cellular and molecular biology. A relevant Ph.D. degree is required, along with experience in teaching undergraduate courses in areas similar to microbiology and cellular and molecular biology. In addition to general supervisory matters, duties will include working with faculty to update laboratory experiments and training of graduate student teaching assistants who serve in the laboratories. Appointments are on a 12-month basis and include a liberal benefits package. The position is available 1 September 1991 and the deadline for receipt of applications is 31 July 1991. Applicants should provide curriculum vitae and three letters of recommendation to:

**Chair, Lecturer Search Committee  
Department of Biology  
The University of Michigan  
Ann Arbor, MI 48109-1048**

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

### FACULTY POSITIONS DEPARTMENT OF SURGERY THE UNIVERSITY OF CHICAGO

The Department of Surgery at the University of Chicago wishes to invite applications and nominations for several tenure-track positions to be filled in the 1991 to 1992 academic year. Candidates should be Board-certified or Board-eligible in the specialty. In addition to general surgery, positions are available in cardiac surgery, neurosurgery, oral and maxillofacial surgery, orthopaedic surgery, otolaryngology/head and neck surgery, pediatric surgery, plastic and reconstructive surgery, thoracic surgery, transplantation surgery, vascular surgery, and urology. Responsibilities will include teaching, clinical and/or basic research, and patient care. Applications should include curriculum vitae, a list of publications, and the names of at least four individuals from whom letters of reference may be solicited. While we have no formal deadline, we would appreciate receiving applications by 15 October 1991. Please send applications or nominations to:

**George E. Block, M.D., Acting Chairman  
Department of Surgery  
The University of Chicago  
5841 South Maryland Avenue, Box 168  
Chicago, IL 60637**

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

## POSITIONS OPEN

**ASSISTANT PROFESSORS.** The Department of Anatomy and Cell Biology at Temple University School of Medicine is seeking applicants for two tenure-track positions at the rank of assistant professor. The successful candidates for this position will be expected to teach gross anatomy or histology to medical or dental students and to establish an extramurally funded research program. Although the specific research area is open, it is preferred that each candidate's research utilize contemporary cell and/or molecular biological approaches. The department has strength in developmental biology, reproductive biology, neurobiology, radiation biology, bone cell biology, neurobiology, radiation biology, bone cell biology, and cardiovascular and diagnostic imaging research.

Candidates must have a Ph.D. or M.D. degree, post-doctoral experience, and a proven record of research accomplishments. Also, previous exposure to the anatomical science is expected and teaching experience is preferred. We expect to fill these positions by July 1992. Qualified applicants are encouraged to send their curriculum vitae and three letters of reference by 15 October 1991 to: **Search Committee, Department of Anatomy and Cell Biology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140. Telephone: 215-221-3165. Temple University is an Affirmative Action/Equal Opportunity Employer.**

### THE UNIVERSITY OF THE WEST INDIES MONA CAMPUS, JAMAICA

**FULL PROFESSORS.** Applications for invited from suitably qualified persons for positions at the level of full professor in the Faculties of Medical Sciences and Natural Sciences. We are searching for candidates to provide leadership in the development of teaching and research programs in the following areas: hematology, microbiology, physiology, clinical surgery, organic chemistry, physical chemistry, computer science, and mathematics. Annual basic salary in the range of J\$227,853 to J\$274,881. Allowances and other benefits provided. Applicants should send their curriculum vitae, a summary of research interests, and names of three (3) referees to: **The University Registrar, Attention: Assistant Registrar (Centre), The University of the West Indies, Kingston 7, Jamaica, as soon as possible. Further particulars are available from the above source or from: The Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, England.**

### ECOLOGICAL MODELING/ ENVIRONMENTAL TOXICOLOGY

A tenure-track research/teaching appointment up to the level of **PROFESSOR** is available in Clemson University's Department of Environmental Toxicology and The Institute of Wildlife and Environmental Toxicology. Responsibilities will involve modeling biological movement and effects of contaminants in wildlife to include prediction of effects from multiple contaminants. Models will be based on toxicology research data from vertebrate and invertebrate species. Ability to integrate fate and effects models and population models is essential as is advanced computer skills. The integration of ecosystems modeling with GIS technology to develop modeling processes that involve geographic and landscape variables is essential. Requirements include Ph.D. in appropriate discipline and excellence in research as demonstrated by publication record and other achievements.

Send curriculum vitae, letter of application, and list of references by 19 July 1991 to: **Dr. Raymond Noblet, Department of Environmental Toxicology, P.O. Box 709, Pendleton, SC 29670.**

*Equal Opportunity/Affirmative Action Employer.*

### SUPERINTENDENT OF WEST CENTRAL EXPERIMENT STATION UNIVERSITY OF MINNESOTA, MORRIS

The Minnesota Agricultural Experiment Station, University of Minnesota, is requesting applications for a 12-month administrative position as superintendent of the West Central Experiment Station at Morris, Minnesota, with possible faculty rank and tenure in a relevant discipline. Qualifications include a Ph.D. in an agricultural or related science with a minimum of 8 years of experience in research. Application deadline is 15 August 1991. For further information and/or a complete job description, call **Philip O. Larsen at 612-625-8200. The University of Minnesota is an Equal Opportunity Educator and Employer.**

## POSITIONS OPEN

### RESEARCH ASSOCIATE OR RESEARCH ASSISTANT PROFESSOR

Position available for Ph.D. in molecular cell biology or related area for studies of membrane-bound transport proteins of muscle by cDNA expression and site directed-mutagenesis. Salary is dependent upon qualifications and experience, with excellent benefits. Faculty appointment possible for applicant with prior postdoctoral experience. Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Chairman of SR Search Committee, Department of Biological Chemistry, University of Maryland at Baltimore, 660 West Redwood Street, Baltimore, MD 21201. Affirmative Action/Equal Opportunity Employer.**

**DIRECTOR OF ENVIRONMENTAL HEALTH AND SAFETY.** Search renewed. Position reports to vice president of business and financial affairs. Will develop/administer university's environmental health and safety program. Responsible for hazardous materials management, campus laboratory safety, training, occupational health and safety, and oversight of chemical/biological waste disposal and asbestos program; supervision/management of small team of professionals. Baccalaureate degree in environmental health or science, chemistry, engineering, or related field required; master's degree or Ph.D. preferred. Minimum of 5 years of experience in safety, health, or industrial hygiene is required. Administrative experience in higher education, research laboratories, or environmental consultation is preferred. Comprehensive knowledge of relevant federal statutes and regulations governing environmental health and safety is necessary. Should be certified as industrial hygienist or certified safety professional. Salary range: mid-\$40,000's to mid-\$50,000's. Benefits highly competitive. Review of applications will commence 8 July 1991 and continue until position is filled. Preferred start date no later than 1 September 1991. Submit letter of application, résumé, and name/address/telephone number of present supervisor and at least two former supervisors/colleagues to: **Director of Human Resources, Old Main 361, Western Washington University, Bellingham, WA 98225-9021. For additional information, call: Florence Harlan, 206-676-3777. Western Washington University is committed to enhancing the diversity of its administration and is an Affirmative Action/Equal Opportunity Employer.**

### CLINICAL INVESTIGATOR

The Hebrew Rehabilitation Center for Aged Research and Training Institute is seeking an independent clinical investigator (M.D. or Ph.D.), interested in the study of clinical geriatric syndromes such as cardiovascular disorders, hypotension, falls, or dementia. The successful candidate will join a multidisciplinary team of medical and social scientists and will pursue independent research, participate in collaborative projects, and assist in the development and administration of the Research Institute. He or she will be able to devote at least 75% of their time to research and will be supported by a core research staff, computer facility, clinical research center, and extensive clinical databases. There are opportunities to join the Harvard Medical School Division on Aging, interact with geriatric faculty and fellows, and participate in medical teaching and patient care activities. Applicants must qualify for appointment at the assistant professor level or higher at Harvard Medical School, and be competitive for research grant funding. Send letter and curriculum vitae to: **Lewis Lipsitz, M.D., Hebrew Rehabilitation Center for Aged, 1200 Centre Street, Boston, MA 02131.**

**ENVIRONMENTAL PROFESSIONALS** sought, B.S., M.S., Ph.D., for environmental analysis and permitting. Prefer training and/or experience in eastern and/or southeastern United States. Expertise sought in: terrestrial and wetland biological sciences, aquatic ecology, environmental toxicology, environmental statistics, environmental risk assessments, and geographic information systems (GIS). Desire to interact with clients and regulatory agencies a must. Send résumé to: **Breedlove, Dennis and Associates, Inc., P.O. Box 720037, Orlando, FL 32872-0037. An Equal Opportunity Employer.**

### YOUR PERSONNEL PLACEMENT AD

in our line classified columns  
can be boxed for higher visibility.  
Call **SCIENCE** at 202-326-6555 for details.

## POSITIONS OPEN

### DEAN OF THE MEDICAL SCHOOL UNIVERSITY OF HEALTH SCIENCES THE CHICAGO MEDICAL SCHOOL

Applications are invited for the position of dean of the Medical School. The dean reports to the president of the university and is the chief academic officer of the Medical School with responsibility for the development, administration, and execution of the academic and professional programs. The Medical School, located in modern suburban facilities on the North Chicago campus, comprises approximately 300 faculty, 200 graduate students, 30 postdoctoral trainees, and 600 medical students. In addition to a medical degree the school offers the master's and doctoral degrees in the fields of applied physiology, biochemistry, cell biology and anatomy, medical physics, microbiology and immunology, neuroscience, pathology, pharmacology and molecular biology, nutrition, physiology and biophysics, and psychology.

The individual selected must be a dynamic leader with a strong commitment to excellence in teaching, research, and service and have a vision of the future that is compatible with Chicago Medical School's unique attributes. Additional requirements for this position are: a successful record of academic achievement and administrative leadership in medical education; a commitment to maintain and expand medical, graduate, and postgraduate instruction, research and public service; strong management skills, and experience with community and university hospitals.

The position is available 1 July 1991 and applicants will be considered until the position is filled. Applicants should submit their curriculum vitae, the names of referees, and other supporting materials to: **Richard Hawkins, Ph.D., Chair, Search Committee, University of Health Sciences/The Chicago Medical School, 3333 Green Bay Road, North Chicago, IL 60064. Telephone: 708-578-3280.**

*University of Health Sciences/The Chicago Medical School is an Equal Opportunity/Affirmative Action Employer.*

**CARDIOVASCULAR RESEARCH SCIENTISTS.** The newly established Center for Cardiovascular Research and Comparative Medicine now offers several positions for D.V.M., M.D., or Ph.D. in molecular biology and pathophysiology of cardiovascular systems, including **DIVISION HEAD OF MOLECULAR BIOLOGY** and **DIVISION HEAD OF PATHOBIOLOGY**. Each division head is leader of ten investigators of veterinarians, physicians, or scientists in the fields of pathology, cardiology, biophysics, and molecular biology. The successful candidates are expected to be on site no later than spring 1992. Salary is negotiable. Applicants' deadline is 30 August 1991, but the search may be extended. Curriculum vitae, two representative publications, and names, addresses, and telephone and FAX numbers of four individuals for references are required. A letter of application should also include current and long-term research interests. Send to: **Redman Chu, D.V.M., Ph.D., Director, Pig Research Institute, P.O. Box 23, Chunan, Miaoli, Taiwan, Republic of China. FAX: 01188637672356.**

### HARVARD MEDICAL SCHOOL DEPARTMENT OF DERMATOLOGY

The Harvard Medical School Department of Dermatology is recruiting **CLINICAL AND RESEARCH FACULTY** at all academic levels and for **POSTDOCTORAL FELLOWSHIPS**.

These opportunities are available at the Massachusetts General Hospital as well as its affiliated institutions: Beth Israel Hospital, Brigham and Women's Hospital, The Children's Hospital, and New England Deaconess Hospital, and includes the Wellman Laboratories of Photomedicine at the Massachusetts General Hospital and also the newly established Cutaneous Biology Research Center which occupies 45,000 square feet of fully equipped laboratory space in a new multidisciplinary research facility in Charlestown, Massachusetts.

A competitive salary/benefits package and an excellent academic environment are available to qualified candidates.

*The Harvard Medical School Department of Dermatology is a committed Equal Opportunity/Affirmative Action Employer. Minorities, women, handicapped, and veterans are encouraged to apply.*

Send inquiries with curriculum vitae to: **John A. Parrish, M.D., Chairman, Department of Dermatology, Massachusetts General Hospital, Wellman 2, 50 Blossom Street, Boston, MA 02114.**

**Bristol-Myers Squibb Pharmaceutical Research Institute is continuing to expand our extensive research efforts in the areas of cardiovascular, infectious, central nervous system, oncologic and metabolic diseases. Currently, we have the following positions available at our Wallingford, Connecticut and Seattle, Washington Research Centers:**

## BIOCHEMISTRY RESEARCH SCIENTISTS

### Wallingford, Connecticut

We have immediate and future openings for senior and intermediate level research scientists in our Microbiology Department. These positions will be part of a group, including microbial geneticists and cell biologists, devoted to the identification of antibiotic targets and discovery of novel inhibitors or therapeutic approaches.

Candidates should possess a Ph.D. in Biochemistry or Microbial Biochemistry with 3-5 years relevant work experience, or a BS/MS with a minimum of 2-4 years work experience that includes significant work in biochemistry. Successful candidates will be proficient in all aspects of protein purification, characterization and enzymology, preferably in microbial systems. Please send resume with salary requirements to: **Bristol-Myers Squibb Pharmaceutical Research Institute, Dept. 803-LB2, P.O. Box 5101, Wallingford, CT 06492-7661.**

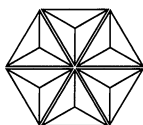
## RESEARCH INVESTIGATORS

### Exploratory/Drug Discovery

### Seattle, Washington

- \* This position will lead or serve as a member of a group working on mouse and human "T" cell responses to tumor antigens. This will involve generating "T" cell clones and using them in therapeutic applications. Requirements include a Ph.D. in a biological discipline with experience in tumor and cellular immunology and/or molecular biology. Please reply to position #91-027.
- \* This position will focus on the discovery of novel growth and/or differentiation modulating factors and their receptors and on the assessment of the biological roles and therapeutic potential of such factors. Applicants should have an M.D. or Ph.D. in Biochemistry, Molecular Biology, Cell Biology or a related field. A minimum of 4 years experience in the areas of growth and differentiation, carcinogenesis and/or signal-transduction is highly desirable. Please reply to position #91-016.

Please forward your resume (including position #) to: **Bristol-Myers Squibb Pharmaceutical Research Institute, Human Resources Department, 3005 First Avenue, Seattle, WA 98121. An Equal Opportunity Employer, M/F/H/V.**



**Bristol-Myers Squibb Company**

This important private medical research center in the Paris area, is part of one of the leading pharmaceutical companies in France. Opportunities are available in the Department of Cellular and Molecular Biology.

# Cell biology

## Ph.D or post-doctoral level

This is a senior position for a cell biologist with wide-ranging interests in cell differentiation processes. Candidates should have experience in receptor transduction mechanisms, surface proteins and intracellular signalling systems. Creativity and independence are also required. Please submit CV, réf. 20162, to Média-System, 6 impasse des Deux Cousins, 75489 Paris Cedex 17.

MEDIA-SYSTEM

## Cognitive Neuroscience Individual Grants-In-Aid

The McDonnell-Pew Program in Cognitive Neuroscience is accepting applications for individual grants-in-aid to support research projects and training projects in cognitive neuroscience that are not currently fundable through other channels and from investigators who are not at institutions already funded by an institutional grant from the program. Preference will be given to projects of exceptional merit that require collaboration or interaction between at least two subfields of cognitive neuroscience -- clinical and basic neuroscience, computer science, psychology, linguistics and philosophy. The goal is to encourage broad participation in the development of the field and to facilitate the participation of investigators outside the major centers of cognitive neuroscience. Submissions will be reviewed by a program advisory board chaired by Professor George Miller of Princeton University. **Applications must be postmarked on or before the deadline of August 1, 1991.** Research support is limited to a maximum of \$30,000 per year for up to two years. Indirect costs are to be included in the \$30,000 maximum and may not exceed 10% of total salaries and fringe benefits. Research grants are not renewable for a third year. Postdoctoral stipends will be awarded at prevailing rates of the host institution for up to three years. Training grants to support Ph.D. thesis research of graduate students will not be funded. For further information contact: **McDonnell-Pew Program in Cognitive Neuroscience, Princeton University, Green Hall 1-N-6, Princeton University, Princeton, New Jersey 08544-1010, 609-258-5014, cns@confidence.princeton.edu.**

## PROTEIN CHEMIST MOLECULAR BIOLOGIST

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We offer a competitive salary, a generous bonus and a comprehensive benefits program. For confidential consideration, please send your resume, indicating present salary (those without this information will not be acknowledged), to: **Mrs. Eleanor M. Malone, Staffing and Employee Services, Department EM201-VM, Hoffmann-La Roche Inc., Nutley, New Jersey 07110.** We are an equal opportunity employer.



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## FACULTY POSITIONS IN BIOMACROMOLECULAR STRUCTURE

McMaster University is seeking highly qualified scientists to enhance its developing strength in the study of the structure and function of biologically relevant macromolecules. Up to three individuals will be appointed to tenure stream positions in the areas of (i) Protein crystallography, (ii) Enzymology and (iii) Protein engineering and folding as members of a Development group supported by the Medical Research Council of Canada. The appointees are expected to develop outstanding, independent research programs and promote cooperative scientific interactions as well as to participate in undergraduate and graduate teaching. Appointments will be in the Department of Biochemistry, with cross appointments to other departments as appropriate. McMaster has currently in place, state of the art x-ray diffractometer, electron microscope, NMR and molecular modelling facilities and a number of scientists working in the area of biomacromolecular structure and function. In addition to structural biochemistry, other current strengths are in gene expression, protein targeting, molecular virology, development and oncogenesis and inflammation.

Interested individuals should submit their curriculum vitae, brief statement of current research and future plans and the names of three referees to: **Dr. H. P. Ghosh, Chair, Department of Biochemistry, McMaster University, 1200 Main Street West, Hamilton, Ontario L8N 3Z5.** In accordance with Canadian immigration policy, this advertisement is directed to Canadian citizens or landed immigrants. Appointments subject to MRC approval.

## DEAN OF THE SCHOOL OF PHARMACY UNIVERSITY OF WISCONSIN-MADISON

The University of Wisconsin-Madison continues its search for Dean of the School of Pharmacy and invites applications and nominations for the position. Candidates must have a successful record of academic achievement and leadership in pharmacy education; accomplishments that meet standards for a tenured appointment at the rank of full professor at UW-Madison; and a commitment to maintain and expand pharmacy graduate and postgraduate instruction research, public service and outreach activities. An undergraduate degree in pharmacy is desirable. The position is available January 1, 1992. All applications and nominations received by September 1, 1991, will be considered. Later applications and nominations may be considered. For information contact:

**Chair  
Search and Screen Committee  
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134 Bascom Hall, 500 Lincoln Drive  
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We are seeking a Ph.D. with a minimum of 5 years' experience in the immunodiagnostic field to lead a research staff in the development of novel immunologic assays that will aid in the design of viral and bacterial pediatric vaccines.

The position requires a broad background in serological techniques. Specific exposure to enzyme immunoassay technology is essential. Our team approach to research requires the ability to communicate effectively with other researchers; familiarity with computerized data analysis systems and automated assay systems is preferred.

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We seek a Biologist to be a part of a multi-disciplinary approach to drug discovery, participating in ongoing drug discovery programs focused on the treatment of cancer. The candidate should have a BS or MS Degree in Biochemistry or Cell Biology and have demonstrated skills in experimental biochemistry including enzymology, chromatography, cell culture and biochemical assays. Good communications skills and the ability to work in team environment are essential.

Our location, near Wilmington, DE offers an attractive lifestyle with easy access to all the cultural, academic and recreational activities of the Eastern Seaboard.

Qualified applicants should send a letter/resume with salary history/requirements, in confidence to: Cancer Research, E400/2352, The

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## POSITIONS OPEN

### NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

The Office of Oceanic and Atmospheric Research is seeking a **DIRECTOR** for the Environmental Research Laboratories (ERL), the primary research component of NOAA. The director's office is in the Washington, D.C., area. ERL has approximately 1000 employees, a budget of over \$100 million, 11 laboratories, and seven joint research institutes with universities. ERL conducts an integrated program of geophysical and environmental research, fundamental technology development, and selected services in the solar-terrestrial environment, the upper and lower atmosphere, and the oceans, coastal areas, and Great Lakes.

The position requires demonstrated ability and experience in conceiving, designing, directing, and evaluating research programs. The incumbent will possess a broad background in research and development and an understanding of oceanographic, meteorological, environmental, physical, and engineering sciences as they relate to research on the solar-terrestrial environment, upper and lower atmosphere, oceans, coastal areas, and Great Lakes. The director will have an established research reputation and a proven ability to formulate, execute, manage, and publish research within the oceanographic, meteorological, environmental, or physical sciences.

Applications must be received by 16 August 1991. Submit an Application for Federal Employment (SF-171) and supplemental qualifications information to: **NOAA Personnel Division, OAD, Room 3102, 1335 East West Highway, Silver Spring, MD 20910.** Call Ms. Debbie Scholl or Tito Santiago at 301-427-2531 for further instructions and information.

*The National Oceanic and Atmospheric Administration is an Equal Opportunity/Affirmative Action Employer.*

### THE INTERNATIONAL

#### ATOMIC ENERGY AGENCY (IAEA)

Seeks **DEPUTY DIRECTOR** of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture.

Applicants should hold a Ph.D. or equivalent degree in one of the agricultural sciences with thorough knowledge and experience with isotope and radiation applications in agricultural research. A minimum of 15 years of experience in scientific administration at the national level; experience in international administration desirable.

Tax-free emoluments of approximately U.S.\$67,500 per annum. Additional allowances for dependents. Initial contract for 3 years. Six weeks annual leave. Travel and removal expenses paid. Applicants should send their curriculum vitae quoting **Vacancy Notice No. 91/029** to: **The Division of Personnel, International Atomic Energy Agency, P.O. Box 100, Wagramstrasse 5, A-1400 Vienna, Austria,** before 21 September 1991.

### INSTITUTE OF BIOSCIENCES AND TECHNOLOGY

#### TEXAS A&M UNIVERSITY

Texas A&M University is establishing the Institute of Biosciences and Technology (IBT) in the Texas Medical Center in Houston. The function of the IBT is to merge the strengths of the Colleges of Agriculture and Life Sciences, Veterinary Medicine, and Engineering with the scientific and clinical strengths with the Texas Medical Center. All **FACULTY** in the Houston IBT will have positions in academic departments in College Station. Academic rank is dependent upon experience and qualifications. Outstanding individuals having research interests dealing with a broad range of biomedical investigations are sought. The 11-story IBT building is scheduled for completion in September.

Applicants should send curriculum vitae, list of publications, and a brief description of current and future research interests and have three letters of reference sent to: **Dr. Robert D. Wells, Director, Institute of Biosciences and Technology, Texas A&M University, College Station, TX 77843-2128.**

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## POSITIONS OPEN

### MOLECULAR NEUROBIOLOGY FACULTY POSITION

The Sanders-Brown Center on Aging at the University of Kentucky invites applications for a tenure-track faculty appointment at the **ASSISTANT PROFESSOR** level from molecular neurobiologists with prime research interest in Alzheimer's disease. The successful candidate will have a faculty appointment in the appropriate academic department of the College of Medicine. The appointee will be expected to develop his/her own research program and be willing to participate in multidisciplinary research. An excellent start-up package is available. The Sanders-Brown Center is one of the NIA-funded Alzheimer's Disease Research Centers and has a separate 40,000-square-foot building with excellent laboratory facilities. A letter of interest, recent curriculum vitae, and names of three references should be submitted to: **William R. Markesbery, M.D., Sanders-Brown Center on Aging, University of Kentucky, Lexington, KY 40536.** Telephone: 606-233-6040. *The University of Kentucky is an Equal Opportunity Employer.*

**FACULTY POSITION, CLINICAL CHEMISTRY.** The Department of Chemistry at Cleveland State University (CSU) invites applications for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level in clinical chemistry. A Ph.D. degree in clinical chemistry, chemistry, or biochemistry is required. Eligibility for certification by the American Board of Clinical Chemists is desired. Responsibilities will include teaching and establishment of a competitive research program at the undergraduate, M.S., and Ph.D. levels. The Clinical Chemistry Program at Cleveland State University is affiliated with the MetroHealth Medical Center and the Cleveland Clinic Foundation and is COMACC-accredited at the Ph.D. level. The position is available fall 1992. Deadline for applications is 1 November 1991. Send curriculum vitae, three letters of recommendation, and a description of research plans to: **Dr. David Anderson, Chair, Clinical Chemistry Search Committee, Department of Chemistry, Cleveland State University, East 24th and Euclid Avenue, Cleveland, OH 44115.** CSU is an Equal Opportunity/Affirmative Action Employer and welcomes applications from underrepresented groups.

### THE UNIVERSITY OF MICHIGAN SCHOOL OF DENTISTRY

Full-time **TENURE-TRACK POSITION** available in Department of Oral Medicine, Pathology, and Surgery at The University of Michigan. Candidate should possess a Ph.D. in a basic science. A dental degree in the area of wound healing in hard and/or soft tissue with expertise in cell and molecular biology would be highly desirable. Demonstrated experience in securing of outside funding and evidence of an independent research program required. Individual will be expected to establish collaborative research efforts and encouraged to obtain cross-appointment in the medical center. Rank and salary commensurate with qualifications and experience. *The University of Michigan is a nondiscriminatory, Affirmative Action Employer.* Submit curriculum vitae, a statement of research interests and goals, and three references by 31 July 1991.

**Dr. Stephen E. Feinberg**  
Chair

University of Michigan School of Dentistry  
Department of Oral Medicine/Pathology/Surgery  
Ann Arbor, MI 48109-1078

### BIOCHEMICAL GENETICIST REQUIRED DEPARTMENT OF MEDICAL GENETICS OREGON HEALTH SCIENCES UNIVERSITY

A new **FACULTY POSITION** is available for a biochemical geneticist with Ph.D. or equivalent and Board certification or eligibility in clinical biochemical genetics. The Metabolic Laboratory has a well-established multistate referral base, offering a wide range of service and research opportunities and supporting a strong state-wide genetics program. The position will provide opportunities for teaching in the M.D. and Ph.D. training programs and allow development of independent and collaborative research. Letters of inquiry should describe past experience and professional goals, and include curriculum vitae with names of three referees. Send to: **Nancy G. Kennaway, D.Phil., Department of Medical Genetics/L473, Oregon Health Sciences University, Portland, OR 97201-3098.** Telephone: 503-494-8392. FAX: 503-494-7645. *Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### TENURE/TENURE-TRACK FACULTY POSITION

#### DIVISION OF CLINICAL PHARMACOLOGY DEPARTMENT OF PHARMACOLOGY THE UNIVERSITY OF MINNESOTA

The Department of Pharmacology is currently searching for candidates for a position in the Division of Clinical Pharmacology at the **ASSISTANT** (tenure track), **ASSOCIATE** (tenured), or **FULL PROFESSOR** (tenured) level. The successful candidate should have Board certification in a clinical specialty and an active basic research program. Although the current emphasis of the department is in the areas of molecular biology and neurochemistry, any investigator with a high quality research program will receive serious consideration.

Appointment as assistant professor requires demonstrated involvement in quality research, associate professor (tenured) requires professional distinction in research, and professor (tenured) requires a national reputation in research and evidence of leadership in candidate's professional field.

Interested applicants should send curriculum vitae, significant reprints, a statement of research plans, and three names for reference purposes to: **Jordan Holtzman, M.D., Ph.D., Professor and Co-Director, Division of Clinical Pharmacology, Department of Pharmacology, University of Minnesota, 3-249 Millard Hall, 435 Delaware Street S.E., Minneapolis, MN 55455.** Telephone: 612-725-2000, ext. 3616. Deadline for receipt of applications is 31 July 1991. Tentative start date is 1 September 1991.

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**BIOLOGIST.** One semester replacement in Biology Department of Whitman College starting January 1992. Ph.D. desired. Teach marine biology (with 1-week field trip), another elective, and assist in student research. Whitman is a liberal arts college of 1200 students committed to undergraduate teaching and research. Review of applications begins 1 August 1991. Send curriculum vitae, three letters of recommendation, transcripts, and statement of teaching and research interests to: **Dr. P. H. Yancey, Biology Department, Whitman College, Walla Walla, WA 99362.** Telephone: 509-527-5498. *Affirmative Action/Equal Opportunity Employer.*

**CARDIOVASCULAR RESEARCH.** Applications are invited for tenure-track research **FACULTY POSITIONS** in the Division of Cardiology/Department of Medicine at the University of Arkansas for Medical Sciences (UAMS). Minimal qualifications include an M.D. or Ph.D. degree and at least 2 years of postdoctoral experience. Outstanding candidates in all areas of cardiovascular research will be considered. Applicants must be capable of establishing an independent research program and collaborative ties with existing faculty at UAMS. Graduate student training programs are available via joint appointment in the basic science departments of the college. Renovated laboratory space and reasonable start-up funds are available. Inquiries should include curriculum vitae, list of publications, statement of research goals, and names of four evaluators. They should be addressed to: **Dr. Jon P. Lindemann, Division of Cardiology, Slot 532, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, AR 72205.** *The University of Arkansas for Medical Sciences is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.*

### TUMOR BIOLOGY

#### CAREER SCIENTIST POSITION DEPARTMENT OF LABORATORY MEDICINE AND PATHOLOGY MAYO FOUNDATION

Applications are invited for a full-time career scientist staff position in tumor biology. Preference given to candidates with interest in growth factor/receptors and regulation of cell growth. Excellent facilities, support and research environment available for an established or highly promising research investigator. Level of appointment commensurate with qualifications. Send curriculum vitae, brief statement of research interest, and names of three references to: **Tumor Biology Search Committee, 920 Hilton Building, Mayo Foundation, Rochester, MN 55905.** *Mayo Foundation is an Affirmative Action/Equal Opportunity Employer.*



The Faculty of Medicine of the Georg-August-University Göttingen and the Deutsches Primatenzentrum (DPZ) invite applications for a joint appointment as University Professor (C4) and Scientific Director, DPZ.

The position includes the full rights and obligations of a professorship according to § 55 of the Niedersächsisches Hochschulgesetz as well as the rights and obligations of the Scientific Director of the DPZ. The position requires a highly qualified scientist with prior experience in primatological research. He/she is also expected to develop and lead a successful programme of research as a head of division at DPZ. The area of research should complement the existing scientific programme of DPZ: fields of behavioural biology, evolutionary biology, population biology, developmental biology and molecular genetics are particularly appropriate.

The position requires extensive experience in scientific management. He/she is responsible, in cooperation with the administrative director for the management and organization of DPZ and coordination of its research programme.

The DPZ performs scientific and medical research on and with nonhuman primates. Other functions include the keeping and breeding of primates for other research institutes. The research programme is currently organized into four Divisions—Reproductive-Biology, Neurobiology, Virology, Immunology and Pathology/Veterinary services.

The appointment as Professor is permanent, while that as Scientific Director of the DPZ is offered for five years, initially, repeated appointments being possible. The conditions of employment follow § 56 Niedersächsisches Hochschulgesetz and the agreement between the Federal State of Lower Saxony, the Georg-August-University Göttingen and the DPZ of 01.08.1990. Details can be explained on request. The applications will also be reviewed by the Board of Supervisors (Aufsichtsrat) of the DPZ, representatives of the DPZ will participate in the negotiations prior to appointment.

Applications with curriculum vitae, a short summary of academic accomplishments including teaching experience, bibliography and a selection of significant publications are requested within six weeks from the publication of this advertisement. They should be addressed to:

**Dekan des Fachbereichs Medizin der  
Georg-August-Universität Göttingen  
Robert-Koch-Str. 40 W-3400 Göttingen  
Germany**

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ISIS offers a competitive salary, excellent benefits and equity participation. Submit cover letter, CV and references to: Human Resources, ISIS Pharmaceuticals, 2280 Faraday Avenue, Carlsbad, CA 92008. Equal Opportunity Employer.

UMDNJ  
New Jersey Medical School

### PROFESSOR AND CHAIRPERSON DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY

The University of Medicine and Dentistry of New Jersey-New Jersey Medical School invites nominations and applications for the position of Professor and Chairperson of the Department of Pharmacology and Toxicology. The successful candidate will have a nationally recognized record of achievement in research and a strong interest in the development of effective teaching programs. The new chairperson also is expected to develop a program in clinical pharmacology at the New Jersey Medical School and University Hospital. For further information or to apply, please send your curriculum vitae to:

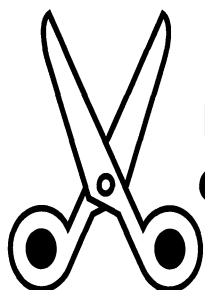
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For more information send C.V. to and/or call:

**Dr. Jack Killen**  
**Deputy Director, Division of AIDS**  
**National Institute of Allergy and**  
**Infectious Diseases**  
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The post offers many exciting opportunities to extend neurobiological research activities and will be well supported with excellent facilities and resources. The successful candidate will be expected to extend the Unit's programme, develop his/her own neurobiological research programme and encourage the development of further links with research groups in the UK and overseas.

The post is graded at Unified Grade 6. Initial appointment is on a scale from £24,997 to £32,551, but with possible subsequent performance payments to a maximum of £38,610. A higher starting salary may be available for the candidate with special qualifications or experience. The salary scale is under review.

Assistance with removal expenses may be available.

Candidates are encouraged to discuss the post with the Director, Professor John Bourne, and Head of Division of Molecular Biology, Dr Christopher Bostock. Application forms are available from Personnel Officer, AFRC Institute for Animal Health, Compton, Berks RG16 0NN, U.K. (tel: 0635 578411), quoting reference no. UG6/NPU.



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## GENE EXPRESSION SCIENCES

SmithKline Beecham Pharmaceuticals, a world leader in pharmaceutical research, is expanding the high eucaryotic section of its Gene Expression Sciences Department.

The research efforts of this section focus on maximizing heterologous gene expression in mammalian and insect cell systems by gaining an understanding of transcriptional, translational and post-translational regulatory elements. In addition, the role of cellular physiology in optimizing gene expression and product quality is also studied. The technologies developed are then applied to the production of therapeutic proteins, as well as to molecular targets, in an effort which is highly integrated with all areas of R&D.

We are looking for candidates for the following positions:

### ASSOCIATE/ASSISTANT DIRECTOR

Qualified candidates must have a Ph.D. in Molecular Genetics, Cell Biology, Biochemistry or a related field and at least six years of post graduate work experience. Candidates must also have a proven record of research in the field of gene expression in eucaryotic systems as exemplified by publications and/or patents.

### SENIOR EUCARYOTIC SYSTEMS MOLECULAR BIOLOGIST

Successful candidate will have a Ph.D. in one of the aforementioned disciplines, with a minimum of two years of post graduate experience. Candidates must have expertise in the area of gene expression in eucaryotic systems. Ability to conduct basic research directed at improving existing and developing new expression systems is also required.

### EUCARYOTIC GENE EXPRESSION RESEARCH SCIENTIST

Selected candidates will have a B.S. and/or M.S. in one of the aforementioned disciplines, with a minimum of one to two years of experience in tissue culture and recombinant DNA technology.

Our state-of-the-art research facilities are located in suburban Philadelphia, near Valley Forge, PA. We offer a competitive compensation/benefits/relocation package, as well as a stimulating work environment in which to grow and excel. For confidential consideration, please submit your C.V. and the names of three references to: N. Hasson, Employment Administrator, #H0174, SmithKline Beecham-Pharmaceuticals, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.



**SmithKline Beecham**  
Pharmaceuticals

*This important private medical research center in the Paris area is part of one of the leading pharmaceutical companies in France. Opportunities are available in the Department of the Cellular and Molecular Biology.*

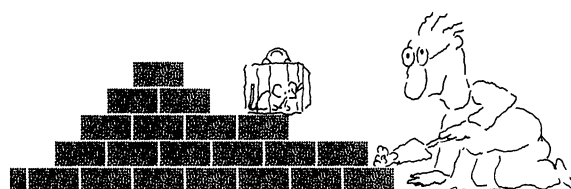
## SENIOR RESEARCHERS IN BIOLOGY/ BIOCHEMISTRY

*Ph.D or post-doctoral  
level*

*The successful candidates have a good experience in receptor cloning and be creative and self-motivated.*

*Please submit CV, réf. 20220, to Média-System,  
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# Metabolism Chemist

Ricerca, Inc. is currently seeking a Metabolism Chemist in its expanding Toxicology/Metabolism Department. The qualified individual will have a Ph.D. in Biochemistry, Biochemical Toxicology or related discipline with experience in conducting mammalian metabolism studies for the safety evaluations of chemicals. The successful candidate will supervise, conduct and report studies to determine absorption, distribution, excretions and metabolisms of xenobiotics.

Qualified applicants are encouraged to submit resume to: **Human Resources Department, Ricerca, Inc., P.O. Box 1000, Painesville, OH 44077.** Equal opportunity employer, m/f/h/v.

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## Ricerca, Inc.

## VETERINARY EXPERIMENTAL PATHOLOGIST

The Inhalation Toxicology Research Institute in Albuquerque, New Mexico seeks a Veterinary Experimental Pathologist to conduct studies on the mechanisms of respiratory tract neoplasia using techniques of molecular biology, D.V.M. and Ph.D. degrees in experimental pathology, or the equivalent, plus two or more years of laboratory experience in the field of molecular biology required. Experience with studies of the molecular basis for carcinogenesis must be demonstrated by peer-reviewed publications (focus on respiratory tract preferred). Certification or eligibility for certification by the American College of Veterinary Pathology necessary. Good written and verbal communication skills and ability to work as part of a multidisciplinary team required. U.S. citizenship or Permanent Residency necessary. Please submit curriculum vitae to: **Human Resources Unit, Job No. 111, Inhalation Toxicology Research Institute, P.O. Box 5890, Albuquerque, NM 87185. (505) 844-9431.** An Equal Opportunity/Affirmative Action Employer.

## Leadership Excellence Innovation



The Solar Energy Research Institute (SERI), located in Golden, Colorado, west of Denver, is the nation's primary federal laboratory for the study of renewable energy technologies and solar energy. Currently, we have the following opportunities:

### Associate Biochemical Engineer/Scientist

Responsible for performing experimental research on fermentation technologies and gathering accurate experimental data on process performance.

Qualifications include a BS or MS in Chemical Engineering, Biochemical Engineering, Microbiology, Biochemistry, or related biological engineering or science field. Experience with shake flask and bench scale fermentation process and associated biochemical assay techniques are also required. Familiarity with fermenter instrumentation and with PC's and PC-based data acquisition techniques preferred. **Ref. # E2320-796**

### Senior Biochemical Engineer

Supervise and perform fermentation research to define configurations and improve processes for production of enzymes, fuels, chemicals, and other valuable products from biomass. Will also design bench and laboratory experiments, oversee the execution, and supervise the analysis of data and other information. Other responsibilities will include modeling operations studied on fundamental level to develop insight into operation and aid in optimization, and making recommendations for improvements in process steps through knowledge gained from such studies.

Requires a MS degree in Chemical or Biochemical Engineering, significant experience in providing technical leadership in bioprocessing and fermentation in addition to experience and training in modeling fermentations. Experience in enzyme production and PhD plus 7 years experience would be preferred. **Ref. # E2320-804**

### Senior Molecular Biologist

Supervise cloning and molecular genetics research activities to improve organisms and enzymes for conversion of biomass to fuels, chemicals and materials. This individual will also design laboratory experiments, oversee their execution and supervise analysis of data and other information. This position will be responsible for maintaining a state-of-the-art cloning laboratory and establishing an interactive role with the research community.

Qualifications include demonstrated knowledge and "hands-on" experience with modern techniques in recombinant technology, including a specialty in the expression of recombinant enzymes from rapidly growing bacteria, such as *E. coli* and *Bacillus* sp. Candidates must also train scientists in the application of state-of-the-art technology in this field. A PhD in Molecular Biology, Biochemistry, or Microbiology plus a strong research publication record is required. **Ref. # E2320-775**

### Process Engineer

Perform engineering analyses of processes for the production of fuels, chemicals, and materials from renewable resources. Construct material and energy balances for promising options and estimate capital and operating costs. Perform sensitivity analyses to identify opportunities for research to make process economical and recommend research directions and programs. Provide technical advice to researchers and decision makers.

Requirements include a BS or MS in Chemical or Biochemical Engineering and 2+ years industrial experience in process evaluations and cost estimating or more than 5 years experience in biochemical engineering. Excellent presentation and writing skills are highly desirable. **Ref. # E2320-813**

### Senior Project Coordinator

Provide leadership in planning, implementing, and carrying out research projects for the production of ethanol from biomass. Activities include negotiating and planning R&D direction with clients, defining R&D tasks with in-house researchers and subcontractors, and insuring successful and timely completion of R&D activities. Opportunity to direct and carry out own research project as well.

Requires a MS or PhD in Biochemistry or Molecular Biology plus knowledge of chemistry or an MS or PhD in Biochemical or Chemical Engineering. Excellent written communication and presentation skills are essential. Five-ten years of experience in performance of biotechnology R&D is also desired; experience in technical project management is preferred but not required. **Ref. # E2320-812**

### Staff Chemical Engineer

Supervise and perform research to improve knowledge and technology, define configurations, and evaluate feedstocks for pretreatment of biomass to facilitate production of enzymes, fuels, chemicals, and other valuable products. Design bench and laboratory experiments, oversee the execution, and supervise the analysis of data and other information. Make recommendations for improvements and model operations studied.

Qualifications include a MS degree in Chemical or Biochemical Engineering, and experience in providing technical leadership in bioprocessing and the pretreatment of cellulosic biomass or related technologies. Knowledge and training in modeling fermentations is also important. A PhD plus 5-7 years experience in pretreatment research and modeling are preferred. **Ref. # E2320-797**

We offer an excellent compensation and benefit program. For immediate consideration, please send your resume, indicating appropriate reference number, to: **Human Resources Office, Solar Energy Research Institute, 1617 Cole Blvd., Golden, CO 80401.**

Women and minorities are encouraged to apply. We are an equal opportunity employer.



**Solar Energy Research Institute**

## POSITIONS OPEN

### BIOCHEMISTRY/ MOLECULAR BIOLOGY TEXAS A&M UNIVERSITY

The Department of Biochemistry and Biophysics is seeking applications for **FACULTY POSITIONS**. These are 12-month, tenure-track positions to be filled by September 1991. Academic rank is open and dependent upon experience and qualifications. Outstanding individuals having research interests dealing with the molecular aspects of regulation, structure, mechanism, or function in microbial, animal, or plant systems are sought. In addition to research, participation in the department's undergraduate and graduate teaching programs will be required. A Ph.D. in either biochemistry or a related field, plus appropriate postdoctoral experience, is required.

Applicants should send curriculum vitae, list of publications, a brief description of current and future research directions, and have three letters of reference sent to: **Dr. Robert D. Wells, Department of Biochemistry and Biophysics, Texas A&M University, College Station, TX 77843-2128.**

*The Texas A&M University System is an Affirmative Action/Equal Opportunity Employer.*

### TENURED CELL/MOLECULAR NEUROBIOLOGY POSITION

The Department of Anatomy and Cell Biology at the University of California, Los Angeles (UCLA), invites applications for a tenured faculty position available immediately. Candidates must have an established research program in cellular/molecular neurobiology. Send curriculum vitae, a description of research interests, and the names of three references by 1 September 1991 to: **Erik Schweitzer, Department of Anatomy and Cell Biology, 63-323 CHS, 10833 LeConte Avenue, Los Angeles, CA 90024-1763. UCLA is an Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION.** Available September to study the reflex control of the circulation in humans; particular emphasis is placed on the neurogenic active vasodilator system in the cutaneous circulation. Qualifications: Ph.D. in physiology or pharmacology, M.D. or equivalent. Please submit curriculum vitae with names and addresses of three references to: **John M. Johnson, Ph.D., Department of Physiology, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7756. Telephone: 512-567-4334. University of Texas Health Science Center is an Affirmative Action/Equal Opportunity Employer.**

### CIRCADIAN RHYTHMS AND PINEAL

**POSTDOCTORAL POSITION.** Available to study the mechanisms of regulation, generation, and expression of circadian rhythms. Recent emphasis has been on the melatonin rhythm in primary cultures of chick pineal cells using pharmacologic and biochemical approaches. Stipend ranges from \$25,000 to \$57,000, depending on training and experience. Full federal benefits package is usually available, depending on appointment mechanism. Send curriculum vitae, a brief description of research background and interests, and a list of three references to: **Dr. Martin Zatz, SBP, LCB, National Institute of Mental Health (NIMH), 9000 Rockville Pike, Building 36, Room 2A-17, Bethesda, MD 20892. NIMH is an Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE.** The research includes isolation of complex carbohydrates of glycoproteins and bacterial polysaccharides combined with determination of their structure and three-dimensional conformation. Methods will emphasize NMR spectroscopy, especially heteronuclear multidimensional techniques combined with computer molecular modeling, molecular dynamics simulation, and circular dichroism spectroscopy along with high-pressure liquid chromatography for isolation and characterization of oligosaccharides. Candidates should send curriculum vitae and three letters of recommendation to: **C. Allen Bush, Department of Chemistry and Biochemistry, University of Maryland Baltimore County (UMBC), Baltimore, MD 21228. UMBC is an Equal Opportunity/Affirmative Action Employer, and applications from qualified women, minorities, and disabled candidates are especially encouraged.** Applications will be received until a suitable candidate is found.

## POSITIONS OPEN

### TWO POSTDOCTORAL POSITIONS FRED HUTCHINSON CANCER RESEARCH CENTER (FHCRC)

One position will investigate the expression, structure, and function of nonclassical HLA class I molecules. Studies will combine molecular biology with biochemical and cellular methodologies to explore a number of fundamental questions. The second position is for a person interested in molecular genetics. We have recently completed the isolation and characterization of YAC clones spanning the HLA class I region. Studies will emphasize the identification of linked genes including specific disease-associated loci as well as the cloning and mapping of adjacent chromosomal regions. The Hutchinson Center provides an outstanding scientific environment. Funding is available for up to 3 years. Applicants should have a Ph.D. and relevant experience. Please send curriculum vitae, a summary of your research experience, and the names of three references to: **Daniel E. Geraghty Ph.D., FHCRC, 1124 Columbia Street, Seattle, WA 98104. Equal Opportunity Employer.**

### POSTDOCTORAL AND TECHNICAL POSITIONS IN MOLECULAR ENDOCRINOLOGY

A postdoctoral position is available to study the molecular regulation of gene expression, emphasizing the effects of specific hormones in the expression of proteins. A technician position is also available for applicants with undergraduate or graduate research experience in molecular biology. Applicants should send their curriculum vitae, description of past experience, and names of three references to: **Dr. Grace Jones, Molecular and Cellular Biology Group, School of Biological Sciences, University of Kentucky, Lexington, KY 40506. An Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION

Immediately available for recent (within past 36 months) doctoral degree recipient to investigate cellular and molecular mechanisms of respiratory epithelial cell proliferation, differentiation, carcinogenesis, and oncogenesis using *in vitro*, and *in vivo* approaches. First year stipend of \$23,000 per annum plus health insurance, relocation allowance, and leave benefits. *U.S. citizenship or permanent residence required.* Contact: **Dr. David E. Bice, Education Coordinator, Inhalation Toxicology Research Institute, P.O. Box 5890, Albuquerque, NM 87185 or call 505-846-7387 for application materials. We are an Equal Opportunity Employer.**

### POSTDOCTORAL ASSOCIATE

The Department of Radiology at the University of Minnesota Medical School is seeking a postdoctoral associate for clinical MR spectroscopy. Candidate will participate in projects involving *in vivo* MR spectroscopy of humans. Candidates must have a background in NMR spectroscopy and the ability to operate Siemens whole-body 1.5T and 4T scanners as well as a 7T small-bore animal system. Computational resources include a Sun SparcStation 370, Kontron Image workstation, and a Cray supercomputer. Salary is negotiable and competitive, and is dependent upon past scholarly productivity and postdoctoral experience. Applications will be accepted through 15 August 1991, with appointment beginning 1 September 1991. Please address inquiries to: **Arthur E. Stillman, M.D., Ph.D., Director of MRI, Department of Radiology, University of Minnesota, Box 292 UMHC, 420 Delaware Street, S.E., Minneapolis, MN 55455. The University of Minnesota is an Equal Opportunity Educator and Employer.**

### POSTDOCTORAL POSITION PLANT ECOLOGY

Postdoctoral position to study demographic changes in tree populations during forest succession. Primary responsibility will be analysis of tree seedling data from permanent plot studies. Candidates should have well-developed skills in statistical analysis and data management. Send letter of application, curriculum vitae, short summary of research experience, and names of three references by 22 July 1991 to: **Dr. Robert K. Peet, Department of Biology, CB#3280, University of North Carolina, Chapel Hill, NC 27599-3280. The University of North Carolina is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Position available immediately to participate in a collaborative study of glycolipid organization in bilayers and biological membranes. Biophysical, biochemical, and electron microscopic techniques are used. Send curriculum vitae and names of three references to: **Dr. Thomas W. Tillack, Department of Pathology (Box 214) or Dr. Thomas E. Thompson, Department of Biochemistry (Box 440), University of Virginia Health Sciences Center, Charlottesville, VA 22908. The University of Virginia is an Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITION

Individual with a background in biochemistry and molecular biology to study biochemical and molecular basis of baculovirus pathogenesis. Experience in protein/peptide biochemistry is preferred. Research involves characterization of virulence gene products and their interaction with the insect midgut epithelium. Position available after 1 August 1991. Send curriculum vitae and three letters of reference to: **Dr. Robert R. Granados, Boyce Thompson Institute, Cornell University, Ithaca, NY 14853. FAX: 607-254-1242. Equal Opportunity Employer.**

**POSTDOCTORAL POSITION.** Research involves insect behavioral response to toxins and its genetic correlation with physiological susceptibility. Expertise in quantitative genetics is required; expertise in mathematical modeling and behavioral studies is desirable. Applications for this 2-year position will be accepted immediately and until the position is filled. Submit curriculum vitae and names and addresses of three references to: **Dr. Casey W. Hoy, Department of Entomology, Ohio Agricultural Research and Development Center, Wooster, OH 44691.**

**POSTDOCTORAL POSITION.** Available immediately in an established and productive research program to investigate intracellular cholesterol metabolism and protein expression in macrophages using cell biological, biochemical, and molecular biological approaches. *Must be U.S. citizen or resident.* Send curriculum vitae to:

**Dr. Ira Tabas  
Department of Medicine  
Columbia University  
630 West 168th Street  
New York, NY 10032**

### POSTDOCTORAL POSITION

Available immediately for Ph.D. or M.D. in molecular immunology. Research will involve studies on cellular and molecular mechanisms of human B cell differentiation. This area includes (i) biochemical purification and molecular cloning of various factors and (ii) regulation of lymphokine gene expression. Experience in molecular genetics is preferred; immunology training is not essential. Salary is negotiable. The interested candidate is encouraged to send curriculum vitae to:

**Dr. Y. S. Choi  
Director, Laboratory of Cellular Immunology  
Alton Ochsner Medical Foundation  
1520 Jefferson Highway  
New Orleans, LA 70121  
*An Equal Opportunity Employer.***

**POSTDOCTORAL RESEARCH ASSOCIATE.** Position available 1 August 1991 at Tropical Research and Education Center (TREC), University of Florida, Homestead, in USDA-funded project investigating role of dsRNA on whitefly-mediated disorders [*Plant Pathology* 39, 530 (1990)]. Initial research will involve cloning dsRNA associated with disorders. Ph.D. with training and experience in recombinant DNA methodology required. Contact: **Dr. Yan Narayanan, TREC, 18905 S.W. 280 Street, Homestead, FL 33031. Telephone: 305-246-6340. FAX: 305-246-7003.**

**POSTDOCTORAL FELLOWSHIP POSITION IN CARDIAC CELLULAR ELECTROPHYSIOLOGY.** Available immediately in Mayo Foundation. M.D. or Ph.D. degree required. Experience of the patch clamp technique is preferred. For further information, please contact: **Yoshihisa Kurachi, M.D., Ph.D., Division of Cardiovascular Diseases, Mayo Clinic, Rochester, MN 55905. Telephone: 507-284-1834. FAX: 507-284-9111. Mayo Foundation is an Affirmative Action and Equal Opportunity Educator and Employer.**



# CENTRE DE RECHERCHE PIERRE FABRE



We are in the process of expanding our pharmaceutical Research Center located in the South of France (Castres). The Research Center is aimed at the discovery of clinically efficacious drugs for the treatment of CARDIOVASCULAR DISEASE, CANCER, and CENTRAL NERVOUS SYSTEM disorders. We are seeking highly qualified staff for creating and managing three new Research Divisions.

## TWO DIRECTORS MEDICINAL CHEMISTRY DIVISIONS

Applicants should have a training in organic chemistry at the Ph. D level and at least 5 years of post-doctoral experience, including drug discovery work in the pharmaceutical industry.

## ONE DIRECTOR CARDIOVASCULAR DISEASE DIVISION

Applicants should have a training in a relevant biological discipline at the Ph. D level and at least 5 years of post-doctoral experience in cardiovascular pharmacology, including drug discovery work in the pharmaceutical industry.

Furthermore a large number of staff research positions are available in the following areas :

**MEDICINAL CHEMISTRY,  
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BIOCHEMICAL CANCER RESEARCH,  
BEHAVIORIAL PHARMACOLOGY,**

**NEUROBIOCHEMISTRY,  
NEUROANATOMY  
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Company (5 000 staff  
annual turnover  
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Please send your CV and list of publications under ref. CR/N to PIERRE FABRE SA Direction des Ressources Humaines - 11, rue Theron Perie - 81106 CASTRES CEDEX - FRANCE.

MEDIA PA

## AIR FORCE OFFICE OF SCIENTIFIC RESEARCH EXCITING OPPORTUNITIES IN RESEARCH MANAGEMENT

The Directorate of Life Sciences, Air Force Office of Scientific Research is seeking experimental biologists and psychologists for 1-2 year positions as program advisors under the Intergovernmental Personnel Act to assist in developing and managing basic research programs in the life sciences. The Directorate of Life Sciences currently manages ongoing basic research programs in neuroscience, chronobiology, sensory and perceptual systems, cognitive science, toxicology and environmental science. In addition to these programs, we are interested in exploring new program areas within the life sciences, as well as, multidisciplinary programs forging links with other areas such as chemistry, physics, mathematics, and electronics.

Candidates for these positions must have a Ph.D. in an appropriate area of biological or psychological science, have experience in conducting independent research and experience or at least a strong interest in research management and shaping broad national basic research programs to address Air Force research needs. Individuals would be appointed under the Intergovernmental Personnel Act, and thus must currently be employed by an academic institution, another government agency, or certain nonprofit organizations. Location of assignment is Bolling Air Force Base, Washington, DC.

The Air Force Office of Scientific Research (AFOSR) is the Air Force's single manager for basic research. An extramural program of grants or contracts, primarily to academic institutions, comprises 70% of the research effort with another 30% going to support basic research programs in Air Force laboratories.

Please send curriculum vitae to:

Dr. William O. Berry  
Director of Life Sciences  
AFOSR/NL  
Bolling AFB, DC 20332-6448  
Tel: (202) 767-5021

**CLINICAL TRIALS BRANCH CHIEF  
NATIONAL INSTITUTE ON DRUG ABUSE**

The Medications Development Division, National Institute on Drug Abuse, Alcohol, Drug Abuse and Mental Health Administration, Rockville, Maryland, is recruiting for a Clinical Trials Branch Chief. Responsibility includes leading and directing a comprehensive program of Clinical Pharmacology and Phase II and III clinical development of promising treatment agents for opiate and cocaine dependence. GM-15 salary range is \$61,643-\$80,138 (\$84,248 for physicians). Physicians may be eligible for Physicians Comparability Allowance of up to \$20,000. Relocation expenses may be paid. Full benefit package offered includes retirement, health and life insurance, thrift plan, and annual and sick leave.

Requirements: M.D. or D.O. (specialties in neurology, psychiatry, or internal medicine-infectious diseases are preferred) or a Ph.D. or equivalent training/experience. Experience in new drug development or the FDA drug approval process desired. U.S. citizenship required.

Submit an SF-171 and/or CV referencing ADM 91-65B (SM) to Morgan DuBrow, NIDA, 5600 Fishers Lane, Room 10-21, Rockville, MD 20857. Must be postmarked by July 16, 1991.

Additional openings for:

Medical Officer/Clinical Monitor  
Senior Regulatory Affairs Specialist  
Technical Info Specialist/Writer  
Clinical Research Associates  
Biostatisticians

For more information, contact Ms. Segal, (301) 443-6270

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**Ph.D./M.S. Scientist  
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Environmental Safety**

The Animal and Exploratory Drug Metabolism Department at Merck Sharp & Dohme Research Laboratories has an opening for a highly motivated Ph.D. (with 0-2 years experience) or M.S. (with 3-4 years of research experience) environmental scientist chemist biochemist interested in pursuing a career in environmental fate and safety studies.

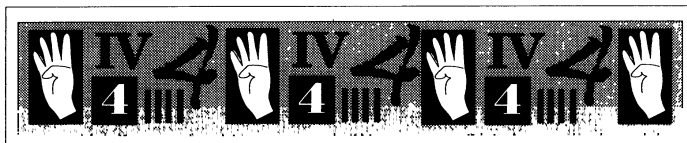
The successful candidate will be involved in application of modern chemical, biochemical, analytical and mathematical tools in environmental fate and effects studies on animal health drugs. Previous experience with FDA EPA environmental tests and good laboratory practices are highly desirable. Working knowledge of HPLC instrumentation, computers and radioisotopes and excellent writing skills are required.

Merck Sharp and Dohme Research Laboratories is located in Rahway, New Jersey approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. For consideration, send your resume with the names of three references to **Human Resources Manager, Merck & Co., Inc., P.O. Box 2000, Ad #85, Rahway, New Jersey 07065, R80-A3.**

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**SCIENCE, 1515 Broadway, NY, NY 10036**

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PANLABS is expanding its U.S. laboratory staff. We have a position available for a scientist with a demonstrated record of scientific innovation and independence.

Opportunity for a highly motivated biochemist with a broad background to lead a team working to improve fermentation processes for important pharmaceuticals. Candidates must have extensive experience in the biochemistry of secondary metabolism, including expertise with isotopic tracer analyses, enzyme purification and characterization, and isolation and structure determination of small molecules. The position involves work at the bench, supervision of other scientists and collaboration with molecular biologists and chemists.

**Requirements:** Ph.D. postdoctoral experience preferred, documented experimental, communication and supervisory skills.

PANLABS is a growing U.S. based international company that has provided R & D services to pharmaceutical companies and the fermentation industry worldwide for 20 years. Located in the high tech corridor north of Seattle, PANLABS offers competitive salaries and benefits. Submit CV with names and phone numbers of three references to:

**PANLABS, INC.**

**Attn: Human Resources Manager**

**Ph.D. Scientist (Position #30)**

**11804 North Creek Parkway South**

**Bothell, WA 98011-8805**

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## MOLECULAR BIOLOGY

**QIAGEN INC.** is a fast growing Los Angeles area company, committed to excellence in the development and marketing of unique and innovative products for molecular biology. We are seeking highly motivated and talented individuals to join our expanding sales team.

### Eastern Regional Sales Manager

Applicants should have a BS/MS degree in molecular biology or related fields and 2+ years of lab experience in molecular biology. 3-5 years sales experience is required (in molecular biology consumables preferred). Will be responsible for six sales reps in the Eastern region.

### Technical Sales Representatives

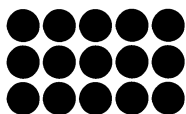
Applicants should have a BS/MS degree in molecular biology. Prior sales experience is beneficial, but not required. Sales territories are available in the Northeast, Southwest, Midwest and Northwest.

We offer competitive salaries, benefits including relocation assistance and a challenging, high growth environment. For immediate consideration, please send a resume, salary history and reference names to:

**QIAGEN, INC., Human Resources,**

9259 Eton Avenue, Chatsworth, CA 91311

(Phone: 800-426-8157, Fax 818-718-2056).



**QIAGEN**

# RESEARCH ASSOCIATES BIOTECHNOLOGY

**Amgen** is a leader in the applications of molecular and cellular biology to the development of human therapeutics. Our successes in the development of Epogen® (recombinant human erythropoietin) and Neupogen® (recombinant human granulocyte colony stimulating factor) have placed us firmly at the forefront of the biotechnology industry. As a result of these successes and our continuing commitment to research, we are actively seeking several Research Associates.

## MOLECULAR BIOLOGY Cellular Growth Programs Dept. #583

The persons selected will contribute to new and ongoing programs leading the cloning and expression of novel cellular growth factors. Applicants must have a BS or MS in Molecular Biology or a related discipline and a minimum of two years of extensive molecular biology experience including gene cloning, PCR, library construction and screening. Experience in mammalian cell culture required for some positions, but not all. Familiarity with basic protein analysis techniques, including SDS PAGE and Western Blotting, is also desirable.

## PROTEIN CHEMISTRY Dept. #4405R

This position requires a Master's degree in Chemistry, Biochemistry, or a related field. Experience in electrophoresis, Radio Immune Assays, HPLC or FPLC chromatography separation methods, protein modification, and radio labeling of proteins is essential. Good computer and communication skills are needed.

**Amgen** offers a stimulating and challenging environment on the leading edge of biotechnology as well as an attractive location among the Santa Monica coastal mountains. Our compensation and relocation packages reflect Amgen's commitment to attract and retain the best scientific talent possible. If you have the necessary skills and would like to be a part of a company that places its highest priority on its human resources, please send a resume or CV, in confidence, to:

**AMGEN, INC.**

**Recruitment, Dept. # (please specify)**

**Amgen Center  
Thousand Oaks  
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**AMGEN**

## POSITIONS OPEN

**POSTDOCTORAL FELLOW.** Immediate opening available to study the genetic effects of UV light irradiation in tumor cells. Experience in molecular biology is required. For consideration, send curriculum vitae and letters of recommendation to: **Dr. Eli Gorelik, Pittsburgh Cancer Institute, BMST, W954, O'Hara and DeSoto Streets, Pittsburgh, PA 15213. FAX: 412-624-7736. An Equal Opportunity Employer.**

### POSITIONS IN FRESHWATER BIOLOGY

Expanding research programs in freshwater biology and related areas at The University of Mississippi have created educational and employment opportunities for **GRADUATE FELLOWS, TEACHING ASSISTANTS, POSTDOCTORAL FELLOWS, RESEARCH ASSOCIATES, AND BIOLOGICAL TECHNICIANS.** Minority and female applicants are especially encouraged to apply, and supplementary fellowships are available for minority students. Specific current and anticipated positions include the following: **Freshwater Biology**—broad range of studies in lake, stream, pond, and wetland systems ranging from microbial to landscape studies; **Environmental Microbiology**—microbial coal desulfurization and biodegradation of environmental pollutants (graduate research assistants, research associates, postdoctoral associates); **Benthic Ecology**—benthic community studies in streams, ponds, and wetlands on the continental shelf, funding by EPA EMAP (graduate research assistants, biological technicians, student summer field assistants); **Aquatic Toxicology**—fate and effects of environmental chemicals (graduate assistants, laboratory technicians, senior research technician, research associates, postdoctoral associates); **Population Biology and Community Ecology**—including population genetics of threatened and endangered fish species, ecology of larval fishes, and fish reproductive biology (research assistants, research associates, including non-temporary position for a 3-year study of fish reproductive toxicology). Positions open until filled. Contact: **James A. Kushlan, Chair, Department of Biology, University of Mississippi, University, MS 38677. Telephone: 601-232-7203.**

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

### POSTDOCTORAL FELLOW

A postdoctoral fellowship is available in the Radiation Effects Branch of the Naval Research Laboratory. The position is in a new basic research program to study ionizing radiation interactions in macromolecules, including DNA. Applications are invited from candidates with a Ph.D. in biology, biochemistry, biophysics, or radiation biology. The successful candidate will be familiar with gel electrophoresis, other separation techniques, and preparation of DNA samples. The appointment, administered through the National Research Council, is for 2 years with an option for a third year. The stipend is a minimum of \$36,000 per year. Position is available immediately. For further information, contact: **Dr. Michael A. Xapos, Code 4615, Naval Research Laboratory, Washington, DC 20375-5000. Telephone: 202-767-3938.**

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### POSTDOCTORAL FELLOWSHIP HARVARD MEDICAL SCHOOL NEW ENGLAND REGIONAL PRIMATE RESEARCH CENTER DEPARTMENT OF PATHOLOGY

Position available to study the pathogenesis of infections with AIDS viruses. Our aims are to understand the effect of lentiviral infection of tissue macrophages. Our approaches include the study of (i) functional parameters of infected alveolar macrophages and (ii) the mechanisms responsible for the control of SIV replication within rhesus alveolar macrophages. Familiarity with mammalian cell culture, protein chemistry, and immunocell biology is desirable. This position is located 25 miles west of Boston/Cambridge in Southborough, Massachusetts. Successful applicant will have appointment within the Department of Pathology, Harvard Medical School.

To apply, send curriculum vitae, list of three references, and research interests or experience to:

**Dr. Douglas J. Ringer  
Harvard Medical School  
New England Regional Primate Research Center  
One Pine Hill Drive, P.O. Box 9102  
Southborough, MA 01772-91102**

## POSITIONS OPEN

Applications are invited for **POSTDOCTORAL RESEARCH FELLOWSHIPS** from highly motivated individuals (Ph.D., M.D. or both). Training will be in molecular and cellular biology, targeted to pivotal problems in atherosclerosis. A major focus of the research is gene regulation relating to inflammatory mediators, cell attachment molecular, and membrane receptors. Postdoctoral trainees will have access to the comprehensive resources, equipment, and methodologies of the Institute of Biotechnology, and will work under the immediate direction of **Dr. Z. David Sharp, Deputy Director, Institute of Biotechnology, The University of Texas Health Science Center at San Antonio (UTHSCSA),** and **Dr. Anthony J. Valente, Department of Pathology, UTHSCSA.** These fellowships provide a unique opportunity to work in a center of excellence, and benefit from the delightful ambience of the city of San Antonio. Detailed applications to: **Dr. Colin J. Schwartz, Program Director, Department of Pathology, The University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7750. FAX: 512-567-3105. UTHSCSA is an Equal Opportunity Employer and minority graduates are encouraged to apply.**

### POSTDOCTORAL FELLOW: MOLECULAR AND DEVELOPMENTAL NEUROBIOLOGY NEUROSCIENCE/ NEURAL TRANSPLANTATION

The Molecular and Developmental Neurobiology Program of the Boyer Center for Molecular Medicine and the multidisciplinary Neural Transplant Program at Yale University School of Medicine announce a joint fellowship for an M.D., Ph.D., or M.D./Ph.D. beginning as early as September 1991.

We wish to identify creative scientists with broad interests who are seeking to foster links between clinical and basic research. We are particularly interested in the study and molecular manipulation of neuronal cell culture systems, especially evaluating their potential in cell replacement or augmentation of the CNS.

Salary and benefits are competitive, depending upon level of prior training and experience. The appointment is for 2 years.

Applicants should send curriculum vitae, names and addresses of three references, and a letter of research interests to: **Spyridon Artavanis-Tsakonas, Ph.D., Program Director of Molecular and Developmental Neurobiology, Boyer Center for Molecular Medicine, 295 Congress Avenue, New Haven, CT 06510, or Dr. Eugene Redmond, Jr., M.D., Neurobehavior Laboratory, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.**

*Yale University is an Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL AND GRADUATE STUDENT FELLOWSHIPS

The University of Cincinnati College of Medicine offers a modern interdepartmental training program in environmental molecular and cellular carcinogenesis and mutagenesis. Cincinnati is a leading academic and industrial center for environmental studies providing numerous employment opportunities. Experimental approaches within the program include the role of growth factors and oncogenes in cellular transformation, the use of transgenic cells and animals, and molecular toxicology. Participating faculty are: **Dr. Roy Albert** (carcinogenic mechanisms and risk assessment); **Dr. Stuart Baxter** (tumor promotion); **Dr. Kathleen Dixon** (molecular mechanisms of mutagenesis); **Dr. Michael Lieberman** (growth factors and differentiation); **Dr. John Loper** (P450 systems in yeast); **Dr. Daniel Nebert** (molecular biology of drug metabolism); **Dr. Daniel Peterson** (genetic detoxification systems); **Dr. Steven Potter** (insertional mutagenesis in transgenic mice); **Dr. Howard Shertzer** (chemoprevention of carcinogenesis); **Dr. Peter Stambrook** (mutagenesis in transgenic cells and mice); **Dr. Edward Stavnezer** (oncogenes and cell transformation); **Dr. James Stringer** (recombination and gene targeting in ES cells); and **Dr. David Warshawsky** (mechanisms of chemical carcinogenesis).

Positions are immediately available and are funded through a national research training program. Applicants must have U.S. citizenship or permanent residency and have completed a Ph.D. degree or equivalent. Candidates should send curriculum vitae and three letters of recommendation to: **Dr. Peter J. Stambrook, Department of Anatomy and Cell Biology, University of Cincinnati College of Medicine, Cincinnati, OH 45267. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE

Position available to study immunochemical and cellular aspects of mucosal immunity. Experience in cellular immunology preferred. Background in modern molecular biology is also desirable. Send curriculum vitae and names of three references to: **Dr. Paul C. Montgomery, Professor and Chair, Department of Immunology and Microbiology, Wayne State University Medical School, 540 East Canfield Avenue, Detroit, MI 48201.**

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AMVAX, Inc., a human pediatric vaccine research, development, and manufacturing company, has position openings.

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We seek both Ph.D. and B.S./M.S. level protein/carbohydrate chemists with degrees in biochemistry/chemistry. The individuals will be involved in protein/polysaccharide purification, chemical modifications, and conjugate reactions leading to new vaccine development. Several years of experience in basic protein/carbohydrate chemistry is essential.

### IMMUNOLOGY

This position requires a Ph.D. in immunology or related field with a minimum of 2 years of postdoctoral experience. The selected candidate will design and establish a research program to study the immune response of protein/polysaccharide vaccines. A strong background in basic immunochemical techniques and microbiology is essential. *Equal Opportunity Employer.* We offer highly competitive salaries and benefits. Send curriculum vitae/résumé to:

**AMVAX, Inc.  
Research and Development  
12040 Indian Creek Court  
Beltsville, MD 20705  
Telephone: 301-470-6100  
FAX: 301-470-6198**

**RESEARCH SCIENTIST.** Ph.D. in immunology. Requiring expertise in DNA sequencing, PCR, dot blot hybridization, Northern hybridization blot, RNA, DNA isolation and purification, experience with integrins and targeting of monoclonal antibody conjugates. Salary: \$25,000 to \$30,000. Send résumé in duplicate (with job order number) to: **Ms. P. Oldenburg, New York State Job Service, 68 West Huron Street, Buffalo, NY 14202. Job Order #NY 0700527.**

### RESEARCH ASSOCIATE

The Pediatric Endocrine Unit at the Shriners Burns Institute, Massachusetts General Hospital, and the Harvard Medical School, is seeking applicants for a research associate to conduct studies of intermediary metabolism in isolated hepatocytes and adipocytes. Knowledge of tissue culture, cell isolation techniques required. Previous experience with studies of lipogenesis, isotopic tracer techniques preferred. Ph.D. degree required. Send curriculum vitae and references to: **Lynne L. Levitsky, M.D., Shriners Burns Institute, 51 Blossom Street, Boston, MA 02114. Women and minorities are encouraged to apply.**

### HOWARD UNIVERSITY RESEARCH ASSOCIATE

Research associate position available for the area of immunoparasitology. Candidate must have a Ph.D. in zoology with specialization in parasitology. Candidate should have demonstrable capability and research interest in immunobiology of flagellated protozoan and helminth infections. At least 3 years of postdoctoral experience in cellular and molecular immunoparasitology is required. Major responsibilities will include supervision of an active research program in trypanosomiasis. The candidate will be expected to conduct a research program involving graduate students and the teaching of immunoparasitology to graduate students. Applicants should submit a copy of their curriculum vitae and the names of two references to: **Dr. Clarence M. Lee, Acting Dean, College of Liberal Arts and Sciences, Howard University, Washington, DC 20059. Equal Opportunity Employer.**

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## THE KEYSTONE SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY

The Executive Committee of the Keystone Symposia on Molecular and Cellular Biology has announced it will undertake an executive search for a new director to succeed Dr. C. Frederick Fox, founder and Director of the internationally renowned organization. Dr. Fox, after twenty illustrious years in establishing and making these symposia a cornerstone of the American Biomedical Enterprise, has decided to expend his energies in other directions and has agreed to help the new director in the transition.

The Symposia has presented cutting-edge scientist exchange across the spectrum of molecular and cellular biology ranging from biomedical to agricultural research in some thirty meetings a year, involving upwards of 7,000 participants from academia, industry and federal research facilities. Approximately 20% of attendance is from Europe and Asia.

The Executive Committee believes that the Symposia, whose headquarters will be moved from Los Angeles to Keystone, Colorado in June 1991, will be served best by a Director who would probably be based at the Colorado premises, and who can devote a significant portion of his or her energies to the internationally recognized series of scientific exchanges. The organization has now matured to the level of excellence and recognition, with systems and management structures in place, that the Director's position can be turned over to a successor with qualifications matching the distinction of the enterprise.

Recommendations of candidates and applications for the Director's position should be sent to Robert W. Craig, President, The Keystone Center, P.O. Box 606, Keystone, Colorado 80435.

The search for the Symposium Director will be chaired by Dr. Russell Ross, Professor and Chairman, Department of Pathology, University of Washington School of Medicine. He will be joined by the Executive Committee of the Symposia and other distinguished members of the community in biological research.

The Executive Committee:

Ralph A. Bradshaw, Ph.D.  
Ronald E. Cape, Ph.D.  
Ralph E. Christoffersen, Ph.D.  
Robert W. Craig

Pedro Cuatrecasas, M.D.  
C. Fred Fox, Ph.D.  
Curtis Harris, M.D.  
Joan D. Manley  
Mark L. Pearson, Ph.D.

Search Committee Members:

Robert W. Craig  
Dennis D. Cunningham, Ph.D.  
C. Fred Fox, Ph.D.

Dale L. Oxender, Ph.D.  
Russell Ross, Ph.D. (Chairman)  
Donald F. Steiner, M.D.

Joan D. Manley (ex-officio, Executive Committee)

The Keystone Symposia/Keystone Center is a not for profit 501(c) (3) organization and an Equal Opportunity Affirmative Action Employer.

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## POSITIONS OPEN

**RESEARCH ASSOCIATE.** For university in central Ohio. Participates in the general research activities in clinical pharmacology; collects and analyzes blood and other biological samples; monitors drug studies for protocol adherence; organizes, calculates, analyzes, and evaluates data using computer analysis; performs physical exams and evaluates side effects of subjects with the supervision of a medical doctor; participates in collecting and interpreting the data for submission to sponsors; screens and arranges supplies and equipment. No experience required in the duties described but applicants will qualify with the following: M.D. or M.S. in anatomy, physiology, biochemistry, pharmacology, pathology or microbiology, and at least 1 year of clinical or research experience monitoring drug metabolism in biological fluids of human subjects; performing venipunctures; operating and analyzing electrocardiograms; performing physical exams with the supervision of a medical doctor. Experience can be gained concurrent with the degree. Monday to Friday, 8 a.m. to 5 p.m. Salary: \$20,800 per year. *Must have proof of legal authority to work permanently in the United States.* Send résumés in duplicate (no calls) to: **S. Holton, JO# 1260277, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

Full-time position available for **RESEARCH ASSOCIATE.** Duties: Responsible for research and development in collaboration with others for projects. Make detailed observations, analyze data, and interpret results. Exercise technical discretion in the design, execution, and interpretation of experiments that contribute to project strategies. Prepare technical reports, summaries, protocols, and quantitative analyses. Maintain familiarity with current scientific literature. Contribute to project process within scientific discipline through innovative research. Requirements: B.S. and M.S. in cell and molecular biology; 3 years of experience in position offered or as a research assistant. Must have ability to conduct biological research and specifically electrotransformation of prokaryotes. Thorough knowledge in the operation of the following equipment: Wiley Mill, Bio-Rad Gene Pulser Device, protein- and DNA-specific equipment, Beckman ultracentrifuge, Eppendorf microfuge, electrophoretic equipment and power supply, and bioassays of insecticidal proteins. Hours and salary: Monday to Friday, 7:00 a.m. to 4:00 p.m.; \$31,400 per year. Please send two copies of résumé to: **J. O. #1556, Commonwealth of Massachusetts, Department of Employment and Training, Special Programs, Second Floor, 19 Staniford Street, Boston, MA 02114.**

**RESEARCH ASSISTANT.** Full time, to develop and manage monoclonal antibody production facility. Experience in animal tissue culture, production of hybridomas, and antibody selection techniques mandatory. Ability to develop ELISA assays required. Management skills are critical. Interest in developing collaborative interaction with faculty important. Send letter of interest, curriculum vitae, transcript of all academic records, and three letters of reference to: **Dr. Russel Meints, Center for Gene Research and Biotechnology, 3096 Cordley Hall, Oregon State University (OSU), Corvallis, OR 97331-2906.** Application deadline is 31 July 1991. *OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973. OSU has a policy of being responsive to the needs of dual-career couples.*

**ENVIRONMENTAL CHEMIST, GS-11/12 (\$31,116 to \$37,294),** at the U.S. Department of Commerce/NOAA Great Lakes Environmental Research Laboratory (GLERL) in Ann Arbor, Michigan. Successful applicant will conduct independent field and laboratory investigations as part of GLERL's Pollutant Effects Program to elucidate the fate, transport, and effects of toxic organic contaminants in aquatic systems. Ph.D. or equivalent experience in environmental or analytical chemistry, or environmental toxicology with a strong analytical background, and experience with aquatic research required. *U.S. citizenship required.* Application information: **Mr. Andrew Hicks, 816-426-7468,** Monday to Friday, 8 a.m. to 4 p.m. CDT. Technical information: **Dr. Peter Landrum, 313-668-2035,** Monday to Friday, 8 a.m. to 5 p.m. EDT. *An Equal Opportunity Employer.*

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## POSITIONS OPEN

### MOLECULAR BIOLOGIST

Neurex, a biotechnology company, is involved in cloning ion channels and receptors. We are seeking a highly motivated, dynamic molecular biologist to join our team. Requires a Ph.D. in molecular biology with 1 to 2 years of experience. Experience in cDNA library construction, screening, and expression will be of advantage. We offer high-quality competitive salaries and comprehensive benefits including stock option. Send résumé and reference names to: **Neurex Corporation, MP-1, 3760 Haven Avenue, Menlo Park, CA 94025.**

**SENIOR SCIENTIST.** Biotechnology firm with research facilities on medical center campus has position available beginning 1 August 1991. Duties include integration and direction of basic research objectives between medical center staff and company's product development department, technical support for cell culture products, new product development, and writing of articles, grants, and proposals. Experience in endothelial cell culture highly desirable. In depth knowledge of, or experience with, growth factors, molecular biology techniques, and biochemistry required. The position offers the advantages of a small company with the active research environment of a large medical center campus. Ph.D.'s in microbiology, immunology, cell biology, or related fields should submit curriculum vitae and three references to: **Employee Search, 5140 West 79th Street, Indianapolis, IN 46268.**

### SCIENTIST

Pharmaceutical research and development company has opening for a scientist to be responsible for designing and implementing a research program in transcription regulation utilizing an array of advanced protein engineering, biochemical, and computational technologies in an integrated program to identify and synthesize small organic compounds to treat immunological disorders. Must have Ph.D. in biochemistry plus 2 years of postdoctoral research experience with protein purification and characterization using advanced chromatographic instruments. Other specific requirements include: expertise with gene expression and regulation utilizing in vivo DNA transfection and in vitro transcription approaches; expertise with DNA cloning, sequencing, and mutagenesis; demonstrated ability with organic synthesis; strong background in pharmacokinetics and pharmacology; and expertise in enzymology. Salary is \$32,000 to \$52,000 for a 40+ hour work week. Send résumé only to: **Catherine Beechinor, Research Administrator and Executive Assistant to the President, Vertex Pharmaceuticals, Inc., 40 Allston Street, Cambridge, MA 02139-4211.** *Equal Opportunity Employer.*

### SCIENTIST, PROTEIN CHEMISTRY

We are seeking a scientist with a Ph.D. in cell biology, biochemistry, or immunology with several years of postdoctoral experience in coagulation/fibrinolysis or endothelial cell biology. You will work in a small team on studies related to modulation of fibrinolytic/coagulation components of endothelial cells as a function of herpes viruses and growth factors. The demonstrated ability to develop a competitive research program is essential as is the ability to supervise a research team.

This position is located in Ottawa and the society offers a comprehensive compensation package which includes relocation assistance where required.

Please submit your résumé, in confidence, no later than 12 July 1991 to: **Director, Human Resources, The Canadian Red Cross Society, 1800 Alta Vista Drive, Ottawa, Ontario, Canada K1G 4J5.**

## MEETINGS

### THE GEORGE B. KOELLE SYMPOSIUM ON THE CHOLINERGIC SYNAPSE

To be held 11 October 1991 at the University of Pennsylvania School of Medicine (specific lecture hall to be announced with confirmed registration), Philadelphia, Pennsylvania, beginning at 8:30 a.m.

An international group of speakers will address developmental aspects, electrophysiology, pharmacology, biochemistry, and molecular genetics of the cholinergic synapse.

For further information, write or call: **Symposium Registration Office, 3930 Chestnut Street, Philadelphia, PA 19104.** Telephone: 215-590-9537.

## POSITIONS OPEN

**ASSOCIATE SCIENTIST.** "Beam-line physicist" for an assigned area. Duties include design, installation, commissioning, maintenance, and upgrade of equipment required to provide high-energy proton beam to an experimental area as required by experiment specification. Conduct own research in high-energy physics as collaborator on an experiment.

Salary: \$47,300 per year. Hours: 8:30 a.m. to 5:00 p.m. (40 hours per week).

Applicants must hold a Ph.D. in high energy or nuclear physics and have 3 years of experience in this position or 3 years of postdoctoral research experience in high-energy physics experimentation which includes design, construction, commissioning, and operation of experimental equipment, data acquisition, and analysis. *Applicants must have proof of legal authority to work permanently in the United States.*

Applications should be directed to: **Illinois Department of Employment Security, 401 South State Street—3 South, Chicago, IL 60605, Attention: Joan Sykstus, Ref. # V-IL 2487-S.** No calls. *An employer-paid ad.*

**PRINCIPAL MICROBIOLOGIST.** Salary: \$4653 to \$5779 per month. Requires related degree with 5 to 7 years of experience in design and statistical analysis of limnological data using computers. M.S. in limnology or aquatic sciences preferred. Will do limnological data analysis; design and evaluate taste and odor control strategies; evaluate water quality; oversee coliform compliance monitoring program; evaluate coliform/microbiological regulations and perform design studies. For consideration résumé must include **Job Code 91-43 RAG (JOS)** and be submitted to: **The Metropolitan Water District of Southern California, Personnel Department 91-43 RAG (JOS), P.O. Box 54153, Los Angeles, CA 90054.** *Equal Opportunity Employer, Male/female/veteran/handicapped.*

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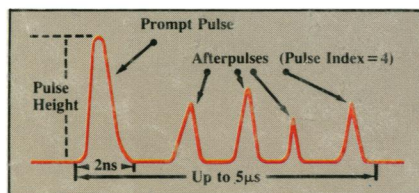
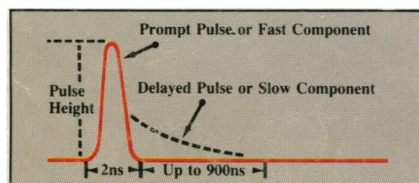
In the past, liquid scintillation counting used traditional technology to overcome background noise. Now, there's a new, more sensitive technology – TR-LSC or Time-Resolved Liquid Scintillation Counting – that reduces background noise by an additional 30%-40%, and more. This new patented technology is available only in Packard's Tri-Carb® liquid scintillation analyzers.

Originally developed for extremely low level counting, TR-LSC technology has now been applied to a broad range of applications. While these don't always require high sensitivity, additional benefits have been realized. By increasing sensitivity, TR-LSC reduces sample and cocktail consumption while shortening the time required for accurate counts. The benefits? Lower cocktail costs, lower disposal costs, and increased throughput.

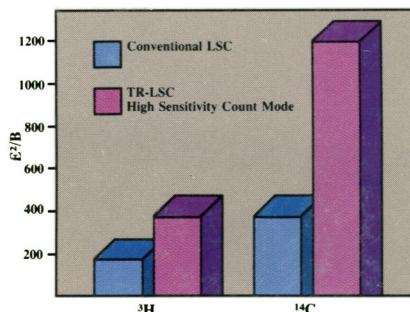
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Traditional counters are based on two-dimensional pulse analysis: pulse height and pulse counts. They provide a level of sensitivity that's merely adequate for most applications.

Patented TR-LSC adds a third dimension to pulse analysis: a pulse index that measures over time the afterpulses associated with background. In doing so, TR-LSC clearly distinguishes between beta pulses and background pulses. By identifying, and reducing, background noise, TR-LSC provides a great level of sensitivity (see chart comparing  $E^2/B$  values) and more accurate counts.



The typical beta scintillation pulse (top) is very fast and may be followed by a delayed component. The typical background pulse is followed by a series of afterpulses. Patented TR-LSC distinguishes between the two.



Typical  $E^2/B$  values for  $^3H$  and  $^{14}C$  using traditional and TR-LSC counting.

## Achieve accurate counts on samples as small as 25 µL

Traditional technology limits sensitivity. The improved sensitivity of TR-LSC, however, allows you to achieve accurate DPM results for single and dual label samples in volumes as small as 25 µL. That can add up to substantial savings in sample and cocktail costs.

## Slash radioactive waste disposal costs

Counting smaller samples will also reduce radioactive liquid disposal costs, which can be \$500 per drum, or higher. While you may not pay this cost directly, your operating budget could be affected. With TR-LSC you can cut operating costs while reducing environmental hazards.

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## Free Investigator's Guide provides a complete explanation of the benefits of TR-LSC

More information on TR-LSC, and other exclusive Packard features, is available in a new publication, the Investigator's Guide to TR-LSC Technology and Tri-Carb Liquid Scintillation Analyzers. For your free copy, mark the reader service number below or call us today.



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