

### **Apparatus for Petri Dish Sample Processing**

ScreenFast reversibly creates 64 leak-proof wells on a standard 150-nm tissue culture dish, spacing the wells identically to those in a standard 96-well microtitration plate. Researchers can prepare and process in the resultant template petri dish numer-



ous samples in a microtitration plate format, then analyze those samples on a large, flat surface. ScreenFast permits close microscopic examination with no possibility of cross-contamination. It is suitable for use with fixed or living eukaryotic cells, virus-containing fluids, DNA precipitates, and bacterial or parasitic suspensions in many applications, including hybridoma and drug screening. Life Technologies. Circle 500.

### **Chromatography Workstation**

Spectra Station is a new generation chromatography workstation capable of collecting up to eight channels of data and controlling up to four Spectra-Physics liquid chromatography stations simultaneously. Based on the new IBM OS/2 Version 1.2 Standard Edition operating system, Spectra Station features state-of-the-art graphical user interface and advanced multi-tasking. Mouse-driven color graphics enable fast, simple setup of a complete liquid or gas chromatography system. Spectra-Physics. Circle 508.

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.

### **Cooled Low-Light Camera**

The Cryocam 80 is a cooled charge-coupled device (CCD) camera system for low-light applications. It is packaged with controlling software for 286- and 386-based systems. Dark current is virtually eliminated by cooling the CCD to  $-80^{\circ}\text{C}$ , which allows for exposures of several hours. Cooling is achieved without liquid nitrogen or other liquid coolants. The CCD offers high resolution (572 by 485 pixels) and high sensitivity. Data acquisition is fast and digitized for accurate photometric measurements. The menu-driven software provides histograms, contrast enhancements, digital filtering, and true or pseudo-color for added clarity and understanding. Micro Luminetics. Circle 516.

### **Spatial Data Software**

Spase is a spatial database manager for use in geology, geophysics, engineering, biology, and geography. This graphically based manager, for MS-DOS computers with 80286 and higher processors, has features that allow unlimited access to nearly any kind of data. For example, "hot links" between maps and text lists allow the user to click on a map point and instantly call up the data associated with that point. Spase runs under the Microsoft Windows graphical user interface. Geotech Computer Systems. Circle 543.

### **Gel Documentation System**

The GDS2000 Image Documentation System for photographing low-light fluorescent patterns of stained gels is designed for documenting ethidium bromide-stained DNA gels, protein gels, and thin-layer chromatography plates. The system combines a high-resolution camera with a 16-mm lens, a camera stand, a 9-inch black and white monitor, and a thermal printer to produce 3 by 5 inch or 4 by 5 inch images within seconds. It requires no special training to operate. The camera lens is equipped with infrared and ultraviolet filters to reduce background light and increase contrast so low-level fluorescence can be observed. UVP Inc. Circle 504.

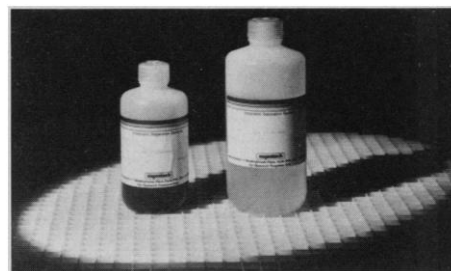
### **Computing Densitometers**

The 300S Computing Densitometer uses the powerful 16-MHz Intel 80386SX microprocessor to display and quantitate image data up to 60% faster than the first

instrument of its series. The 300E Computing Densitometer delivers advanced 80386 computer power for high-performance image analysis. Both models can scan electrophoresis gels, radiographic films, and blotting membranes as large as 36 by 42 cm in less than 3 min. Because these instruments scan entire samples rather than single lines, they are especially useful for quantitation of faint bands on one-dimensional and two-dimensional gels. Both models feature a helium-neon laser and efficient light collection cylinder. Molecular Dynamics. Circle 551.

### **Reversible Stain for Gels**

The Pro-Green Staining System was designed for researchers who want to stain their gel to check the pattern before going on to immunoblotting or electroelution.



Pro-Green generates a negative image in 5 min without a fixation step. Because the proteins are not treated with fixer, the gel can be completely destained in 5 min before the user performs immunoblotting or elution without loss of resolution. Integrated Separation Systems. Circle 497.

### **Literature**

*Molecular Microanalysis Mapping* as performed with the Spectra-Tech IR $\mu$ s System is described in a new brochure. The system combines research light microscopy and Fourier transform infrared spectroscopy with innovative computer software and a precision micropositioning stage. Spectra-Tech. Circle 573.

*Process Filtration Life Sciences* is a 72-page, comprehensive technical and product resources catalog covering six categories: filter technology, cross flow systems, integrity testing, standard and mini-cartridge filters, ready-to-connect filtration units, and cartridge housings. Sartorius Corp. Circle 436.

*Leading Edge FT-IR Sampling Accessories* is a 28-page handbook that provides information on Fourier transform infrared spectroscopy sampling techniques and how they are done, theories behind the methods, and equipment. Spectra-Tech. Circle 538.



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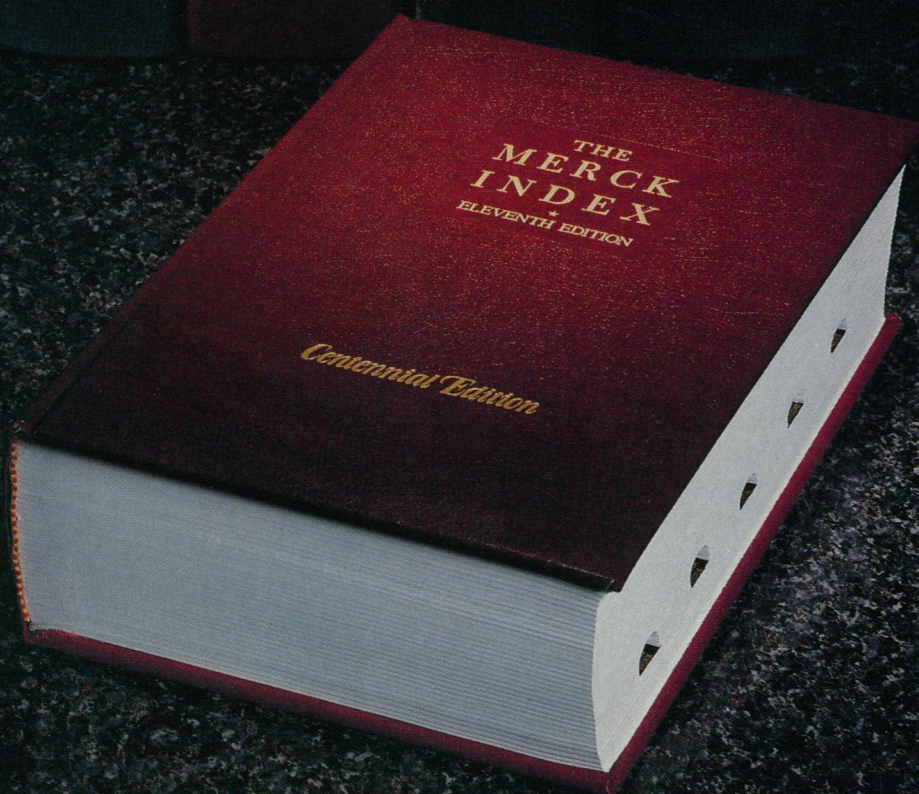
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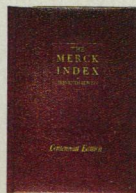


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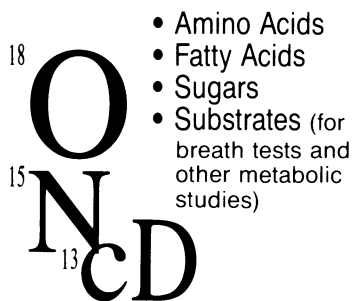


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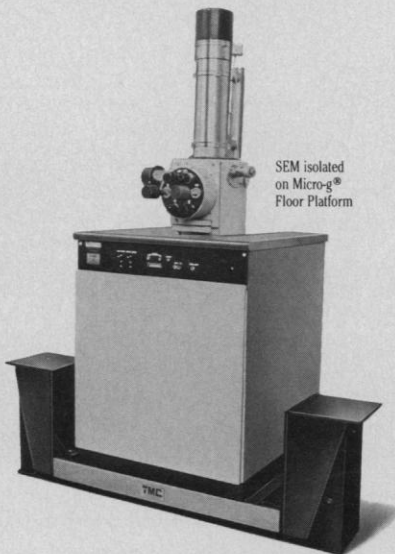
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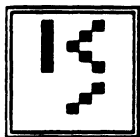
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ANNOUNCING



## PORTLAND PRESS

The publishing company of the Biochemical Society

On 2 January 1990, the Biochemical Society founded Portland Press, built on over 75 years of experience of biomedical publishing.

Portland Press will actively seek new publishing opportunities in all areas of biomedicine while continuing to serve the international scientific community with its expertise in journals, notably the *Biochemical Journal*. The resources of the Press's newly refurbished marketing and distribution centre at Colchester, now equipped with a Vista computer system, are available to other publishers.

The Biochemical Society continues to grow in membership and influence worldwide, and the establishment of Portland Press will provide the Society with the means to increase the range of its activities and membership services.

Portland Press, 59 Portland Place, London W1N 3AJ, U.K.  
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## Advance Announcement

# Visualization '90

October 23 - 26, 1990

Le Meridien Hotel • San Francisco, CA

The conference will explore how visualization is being used to extract knowledge from data. The conference is concerned with all aspects of visualization, with a focus on interdisciplinary techniques. The conference will allow a dialogue to occur between the developers of visualization methods and visualization users across the full spectrum of science, engineering and business.

**Keynote Speaker: Gordon Bell, Stardent Corporation**

### Paper Sessions:

Papers will be presented in the following areas:

3D Systems and 3D Modeling  
Volume Visualization Algorithms and Techniques  
Visualization of Higher Dimensions  
Scalar and Multivariate Data Visualization  
Data Handling and Visual Representation  
Human Computer Interface with Visualization  
Tools and Techniques for Scientific Visualization  
End-User Data Visualization Systems  
Visualization in Fluid Dynamics  
Applications of Visualization to Scientific, Engineering, Biomedical, and Business Problems

### Panels:

Graphics and Imaging: Trends Toward Unification?  
Matt Ward, Worcester Polytechnic Institute

Human Perception and Visualization  
Urie Reuter, Bellcore

Multispectral Visualization  
Ronald M. Pickett and Haim Levkowitz, Institute for Visualization and Perception Research, The University of Lowell

How Can Visualization Lead to Breakthroughs in Engineering and Science?  
Phil Neray, Alliant Computer Systems

Interaction Issues in Visualization: Requirements, Techniques and Tools  
Hikmet Senay, George Washington University

Making a Picture Fit the Eye: Human Engineering in Computer Graphics  
Lawrence Stark, University of California at Berkeley

Tools for Visual Data Analysis — User Experiences  
Terry Douglas, Precision Visuals

### Conference Co-Chairs:

Bruce Brown, Oracle  
Gary Laguna, Lawrence Livermore National Laboratory

### Program Committee Co-Chairs:

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### Case Studies:

Factors Inducing Periodic Breathing in Humans

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(Precision Visuals Inc.)

Interdisciplinary Visualization

(National Center for Supercomputer Applications)

The Future Video Telecomputer

(Pacifi Interface)

Interactive Investigation of Fluid

Mechanics Data Sets

(Intelligent Light)

### Tutorials:

Visual Programming Environments  
Ephraim Glinert, RPI

Knowledge Visualization

Aaron Marcus, AM Associates

Computer Vision

Azriel Rosenfeld, University of Maryland

Visualizing Multidimensional Data

William Cleveland, AT&T Bell Laboratories

Please Send More Information on Visualization '90.

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

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Mail to: Visualization '90, The IEEE Computer Society,  
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# Personnel Placement

**SCIENCE** publishes each Friday, except the last Friday of the year, and is mailed on issue date. Personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

## LINE CLASSIFIED ADVERTISEMENTS

**DEADLINE:** Thursday, 10 a.m., 2 weeks prior to issue date. Advertising is accepted only in writing.

**POLICIES:** All classified ads will be edited and typeset according to **SCIENCE** style guidelines. NO ABBREVIATIONS. Any deadline for applications stated in ad must be at least 2 weeks after date of issue in which ad appears.

**CLASSIFICATION:** **SCIENCE** publishes line classified ads under the following headings: **Positions Open, Employment Agencies, Fellowships, Situations Wanted, Courses and Training, Meetings, Announcements, and Marketplace.** Advertisers should specify classification desired; however, **SCIENCE** reserves the right to decline classification requests which it believes may be misleading to readers.

**RATE:** \$41 per line, \$410 minimum, per week. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces per line. No charge for use of blind box number. No agency commission for ads less than 40 lines. To ESTIMATE ad cost, structure ad copy on a 52-character line; include any desired heading on 32-character lines. Each line of heading, one line of white space between heading and body of ad, and all partial lines (including centered reply information, if desired) are counted as full lines. Multiply total number of lines x \$41 = approximate cost of ad, per week. (This is an approximate cost ONLY. Allow for variation between estimated lines and actual typeset lines and resulting final cost. Purchase orders must allow for some degree of 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 in U.S. dollars by checks drawn on U.S. banks is required for all foreign ads.

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**SITUATIONS WANTED ADS:** As a service to AAAS members in good standing, **SCIENCE** offers free placement of Situations Wanted ads for individuals seeking full-time or part-time employment. A blind box may be used. Ads must be submitted in writing with text of 20 words or less, not including address or box number, and are limited to two insertions per member in each calendar year. Please enclose **SCIENCE** mailing label including AAAS membership number when submitting ad.

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

Address ad copy or requests for information to:

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

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## RESPONSES TO EMPLOYMENT ADS

Applicants should read Positions Open ads carefully in order to submit all required material when responding, and should especially check for any stated deadline for receipt of applications. **SCIENCE** encourages applicants for positions to investigate employment laws, non-discrimination policies, visa requirements, and cultural differences in the country advertising for employees.

To reply to a blind box ad, address correspondence to:

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## POSITIONS OPEN

The Department of Pharmacology and Toxicology invites applications for a tenure-track appointment at the ASSISTANT PROFESSOR level. Candidates should have a Ph.D. or M.D. degree, postdoctoral experience, and strong commitment to research. The successful candidate will be expected to participate in teaching in graduate and professional school courses and to develop a vigorous research program capable of attracting extramural funding support. Send curriculum vitae and names of three references to: **William J. Waddell, M.D., Department of Pharmacology and Toxicology, School of Medicine, University of Louisville, Louisville, KY 40292** by 1 September 1990. *The University of Louisville is an Equal Opportunity/Affirmative Action Employer.*

## ASSISTANT PROFESSOR PLANT SYSTEMATICS

Applications are invited for a tenure-track position beginning in the fall semester 1991. Applicants must have an earned doctorate in monographic systematics, preferably followed by postdoctoral experience in macromolecular techniques. The successful candidate will be expected to teach courses in undergraduate and graduate plant systematics, and will be required to develop an innovative and productive research program that utilizes both classical and state-of-the-art molecular biology techniques. Applicants should submit a letter of research goals and teaching interests, a detailed résumé, and a list of five individuals with addresses who might transmit letters of recommendation upon request. Applications are to be addressed to: **Chairman, Selection Committee, Department of Botany, The University of Texas, Austin, TX 78713** so as to arrive before the closing date, 1 October 1990.

## BENTHIC BIOLOGICAL OCEANOGRAPHY SCRIPPS INSTITUTION OF OCEANOGRAPHY

Applications are invited for an ASSISTANT PROFESSOR (tenure track) position(s). Associate or full professorial applicants will be considered, however: rank, level, and salary commensurate with qualifications and experience, based on University of California pay scale. Candidates must hold the Ph.D. degree at the time of appointment. We are especially interested in interdisciplinary benthic ecologists working in the ocean. Preference will be given candidates whose research emphasizes the interactions between benthic communities and the overlying water column in the coastal zone. Research topics which emphasize multiple scale interactions in time and space are appropriate. Candidates will be expected to conduct an active research program supported by extramural funds and be involved in graduate teaching and training. Assistant level candidates will be expected to show evidence of their potential through a publication record commensurate with their experience and letters of recommendation; higher level candidates must show evidence of a strong research record. Send letter of application including description of research interests and teaching experience, curriculum vitae, and list of five references to: **Chairman, Benthic Ecology Search, Graduate Department A-008, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, CA 92093.** Closing date for applications is 15 October 1990. *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT/ASSOCIATE PROFESSORS OF PHARMACOLOGY.** The University of North Dakota (UND) School of Medicine invites applications for three tenure-track (12-month) positions at the rank of assistant or associate professor of pharmacology. The positions require a Ph.D. in pharmacology or related area or M.D. with a commitment to teaching excellence and to the development of a strong, extramurally funded research program. All areas of pharmacology/toxicology research will be considered. Applicants should submit a letter to include appropriate rank, research goals, and curriculum vitae. Three letters of recommendation should be arranged by the candidate. Review of completed applications will begin 1 September 1990 and will continue until the positions are filled. Submit applications to: **Dr. David W. Hein, Professor and Chairman, Department of Pharmacology, University of North Dakota School of Medicine, 501 North Columbia Road, Grand Forks, ND 58203.** *UND is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### FACULTY OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES DEPARTMENT OF PLANT SCIENCE MACDONALD COLLEGE OF MCGILL UNIVERSITY

The Plant Science Department invites applications for a tenure-track position, at the ASSISTANT PROFESSOR level, in sustainable crop production. Applicants must have expertise in an area of crop ecology. The preferred candidate should have a Ph.D. and postdoctoral experience in agricultural or related sciences with an interdisciplinary background. The successful candidate will be expected to teach at the undergraduate and graduate levels and develop a strong research program. Applicants should send curriculum vitae and have three letters of reference sent to: **Dr. Donald L. Smith, Plant Science Department, Macdonald College of McGill University, 21111 Lakeshore Road, Ste. Anne de Bellevue, Quebec, Canada, H9X 1C0,** before 15 November 1990.

### MCGILL UNIVERSITY ASSISTANT PROFESSOR HISTOLOGY/CELL BIOLOGY

Applications are invited for a tenure-track position starting 1 September 1991. Applicants must have a Ph.D. and/or M.D. degree and postdoctoral research experience. The successful candidate will be expected to establish an active independent research program in a topical area of cell and/or tissue biology, including supervision of research by graduate students to M.Sc. and Ph.D. levels.

The department has strong research groups working in problems of cell and molecular biology, extracellular matrix, immunobiology, reproductive systems, calcified tissues, neurobiology, developmental biology, and aging. The department offers extensive electron microscope facilities and a high-resolution radioautographic laboratory, used by members in conjunction with modern methods of cell and molecular biology and immunobiology.

The successful candidate will also be expected to become an enthusiastic participant in histology/cell biology teaching to medical and/or science students.

Application, curriculum vitae with representative reprints, and names, addresses, and telephone numbers of three referees should be sent to: **Dr. D. G. Osmond, Chairman, Department of Anatomy, McGill University, 3640 University Street, Montreal, Quebec, Canada H3A 2B2.**

*In accordance with Canadian immigration requirements, this advertisement is directed in the first instance to citizens and permanent residents of Canada.*

**ASSISTANT OR ASSOCIATE PROFESSOR.** In the research associate track for an individual with a strong background in molecular biology and an interest in cancer genetics, oncogenes, or related areas, to assume scientific responsibility for a program studying gastrointestinal malignancy. This individual will be expected to contribute to, and collaborate with, ongoing programs in tumor collection, immunohistologic analysis, and molecular genetics, and to develop new areas of research. Renewable term appointment with full fringe benefits. Salary commensurate with experience. Immediately available. Send curriculum vitae, statement of interests, and relevant reprints to: **Fabrizio Michelassi, M.D., University of Chicago Medical Center, Department of Surgery, 5841 South Maryland Avenue, Chicago, IL 60637.** Telephone: 312-702-6237.

### BIOCHEMIST/TOXICOLOGIST, GM-14 ANNOUNCEMENT #N-90-147JWS

NOAA's Ocean Assessments Division invites applicants for a position as project manager and in-house authority in areas of biochemistry and toxicology. Duties include developing and directing projects to identify and quantify the biological effects of marine environmental contaminants, interpreting the significance of contaminants in terms of their biological effects, and presenting program results. Substantial education and experience are required in these areas. Salary range: \$50,342 to \$55,381. *U.S. citizenship is required.* Candidates should send an Application for Federal Employment (SF-171) to: **NOAA/NOS Personnel Management, Room 3257, SSM1, 1335 East-West Highway, Silver Spring, MD 20910.** Attention: J. Steckman.

National Institutes of Health  
**MOLECULAR BIOLOGIST**

The Section on Genomic Structure and Function, Laboratory of Biochemical Pharmacology, National Institute of Diabetes and Digestive and Kidney Diseases seeks an outstanding candidate with Ph.D. or M.D. degree and at least three years of postdoctoral experience to participate in a study of the role of non-B DNA structures in the biology of a mobile family of genetic elements in mammals. The applicant should have research experience in a variety of techniques in microbial genetics and molecular biology. Extensive experience in the analysis of abnormal DNA structures, and in the field of transposable genetic elements in eukaryotes is essential. Candidate should have a substantial record of publication of original work in these or related areas. Starting salary range of \$35,000 - \$40,000 or negotiable commensurate with qualifications and experience. Interested candidates should submit curriculum vitae, relevant reprints, a summary of research interests and the names of three references to:

**Dr. A.V. Furano, Chief**  
**Genomic Structure and Function**  
**Laboratory of Biochemical**  
**Pharmacology**  
**National Institutes of Health**  
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## Reproductive Toxicology

Continued expansion at PARKE-DAVIS/Warner-Lambert has created the need for a senior scientist in our Reproductive Toxicology section.

The duties of this position will be to study the deleterious effects of new drugs on the reproductive processes. The successful candidate will assist in the design, execution and analysis of studies which focus on the mother, embryo/fetus, newborn and weanling. The position will also involve supervisory responsibilities and drug discovery team participation.

Requirements for this position include a Ph.D. in Reproduction Biology or closely allied field, one to three years' post-doc experience in reproductive toxicology, knowledge of GLPs and experience in embryo culture techniques.

This position is located at our research facilities in Ann Arbor, Michigan, adjacent to the University of Michigan campus. The successful candidate will participate in dynamic drug discovery and development teams, and enjoy an excellent salary, benefits, professional development and living and working environment.

Qualified candidates send response, salary requirements and reference list in confidence to **Ms. S. Hultquist, PARKE-DAVIS/Warner-Lambert, 2800 Plymouth Road, Ann Arbor, MI 48105. "Smoke-Free Work Environment"**

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### DIRECTOR, PROGRAM ON GLOBAL CHANGE

#### Directorate for International Programs

The AAAS Directorate for International Programs seeks a Director for its Program on Global Change (PGC). The Director will have primary staff responsibility for designing and implementing a coordinated set of activities focused on important science and science policy issues in the field of global change. Responsibilities will include organizing and convening scientific meetings, producing appropriate publications, facilitating contacts between U.S. and foreign colleagues in the field, monitoring global change issues and incorporating emerging trends into program activities, and securing external support for PGC activities.

Applicant should have a broad approach to global change, a distinguished record of accomplishment in a relevant discipline, and recent experience managing multidisciplinary international activities in the field. Experience in working with foundations, governmental agencies, and diverse scientific organizations is also desired. A Ph.D. or equivalent education and experience in an appropriate field of science/engineering is required.

Please send a letter expressing interest together with current resume and salary requirements to: **Debra Wright, Suite 854, Office of Human Resources, AAAS, 1333 H Street, NW, Washington, DC 20056. AAAS is an Equal Opportunity Employer.**

**Head, Department of Veterinary Pathobiology.** The College of Veterinary Medicine, Texas A&M University, is seeking applicants for the position of Head of the newly established Department of Veterinary Pathobiology, formed by the merger of the Department of Veterinary Pathology with the Department of Veterinary Microbiology and Parasitology. Qualifications include a PhD or equivalent degree in a biological discipline, a distinguished record of teaching and research, and outstanding administrative skills. A DVM or equivalent degree is highly desirable. The Department of Veterinary Pathobiology supports the instructional, research, patient care, and outreach programs of the College in the disciplines of genetics, immunology, microbiology, parasitology, and pathology. The department includes 40 tenure-track faculty members and more than 60 graduate students and residents. Courses are offered in the undergraduate, professional, and graduate degree programs of the College. The department has major diagnostic service programs in anatomic pathology, clinical pathology, immunology, microbiology, and parasitology in support of the College's patient care programs. The department is responsible for the Texas Pullorum-Typhoid Program, and the State Poultry Disease Diagnostic Laboratories at Gonzales and Center. Active research programs are conducted in bacteriology, cell biology, immunology, molecular genetics, parasitology, and virology, as applied to infectious and noninfectious diseases of avian, aquatic, wildlife, food animal, and companion animal species, and human beings. The Head of Department will be expected to provide leadership in the development of interdisciplinary programs that capitalize on the rich opportunities for collaboration between the many agricultural and biomedical components of Texas A&M University and other regional institutions. Important interactions are anticipated with the College of Agriculture and Life Sciences, the College of Medicine, the Texas Agricultural Experiment Station, the Texas Agricultural Extension Service, the Texas Veterinary Medical Diagnostic Laboratory, the national training center for the Food Safety Inspection Service, and the Institute of Biosciences and Technology. The successful candidate will be encouraged to continue a personal program of scholarly activity. Applicants should submit a letter of intent, a curriculum vitae, and the names of three references by September 14, 1990, to Dr. John R. August, Search Committee Chair, Department of Small Animal Medicine and Surgery, College of Veterinary Medicine, Texas A&M University, College Station, TX 77843-4474. Inquiries may be directed to Dr. August at (409) 845-9053 (phone), or (409) 845-6978 (fax). Texas A&M University is an Equal Opportunity/Affirmative Action Employer/Educator.

## POSITIONS OPEN

### PHYSIOLOGY AND BIOCHEMISTRY SCRIPPS INSTITUTION OF OCEANOGRAPHY

The Scripps Institution seeks to fill a tenure or tenure-track **FULL, ASSOCIATE, OR ASSISTANT PROFESSORIAL** position(s) in marine biology. Strong preference will be given to candidates with major demonstrated research interests in the study of the physiological and biochemical bases of the adaptations of marine organisms. The successful candidate(s) will have a commitment to teaching and the guidance of graduate students and will be expected to maintain a vigorous extramurally funded research program. Rank and salary (based on University of California pay scale) are dependent on experience and qualifications. Associate or full professorial candidates must demonstrate a strong research record. Assistant-level candidates will be expected to show evidence of their potential through an appropriate publication record. Applicants must hold the Ph.D. degree at time of appointment. Send letter of application with résumé and names of three to five references to: **Chair, Marine Biology Search, Scripps Institution of Oceanography (A-008), University of California, San Diego (UCSD), La Jolla, CA 92093-0208.** Closing date for applications is 15 October 1990. *UCSD is an Equal Opportunity/Affirmative Action Employer.*

### BIOCHEMIST/PHARMACOLOGIST

Large neuroscience research laboratory seeks biochemist with background/experience in isolation/characterization of novel neurotransmitters/receptors/proteins. To **ASSISTANT PROFESSOR** based on experience/background. Send curriculum vitae and bibliography to: **D. J. Reis/K. Koenig, Division of Neurobiology, Cornell University Medical College, 411 East 69th Street, KB410, New York, NY 10021.** *Equal Opportunity/Affirmative Action Employer, M/F/H/V.*

Fred Hutchinson Cancer Research Center is seeking an M.D. or Ph.D. to serve as **DIRECTOR** for the Clinical Cryopreservation Laboratory associated with our marrow transplant program. Primary responsibility will involve supervision of this facility. Additional independent research activities relevant to the marrow transplant program are encouraged. Salary and academic rank depend on experience and qualifications. Smoke-free environment. Inquiries and curriculum vitae should be sent to: **Dr. Frederick R. Appelbaum, Search Committee, 1124 Columbia Street, Seattle, WA 98104.** *Affirmative Action/Equal Opportunity, M/F/H, Employer.*

### SPACE STUDIES BOARD STAFF DIRECTOR

The National Research Council (NRC) is seeking a staff director for its Space Studies Board. Duties include directing, supervising, planning, coordinating, and directing work; managing board finances. Requires a Ph.D. or equivalent in a scientific/technical related field, at least 8 years of increasingly responsible experience related to space science and/or policy, broad knowledge of and familiarity with national space policy issues, ability to conceptualize and implement new initiatives, and experience managing technical or policy staff. We offer a salary commensurate with experience and an exceptional benefits package. Please send résumé and salary history in confidence to: **NRC/SSB-NAS285, 2101 Constitution Avenue, N.W., Washington, DC 20418.** *Equal Opportunity Employer.*

### CANCER GENETICS FACULTY POSITIONS

Faculty positions are available in genetic and/or molecular epidemiology, molecular oncology, and genetics of human cancer. The basic, clinical, population components of the Fox Chase Cancer Center are collaborating in the expansion of a program in cancer genetics, and invite applications from those with Ph.D. and/or M.D. degrees and appropriate postdoctoral experience. All positions are tenured or in tenure track. Please send curriculum vitae, three references, and a letter describing scientific interests to: **Dr. Alfred Knudson, Chairman, Molecular Oncology Search Committee, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** *Equal Opportunity Employer.*

20 JULY 1990

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## DEPARTMENT HEAD —

### Oncology Chemotherapy

Will coordinate the research and drug discovery efforts of Senior Scientists and staff, primarily in the area of therapy for solid tumors, but will possess the flexibility to capitalize on any therapeutic opportunities within the general area of Oncology.

Background must include a doctoral level degree with a minimum of 7 years drug discovery experience. We seek an energetic, enthusiastic individual who is committed to managing a creative, multidisciplinary team on the challenges of innovative research. **Please respond by Aug. 24, 1990. Refer to Job # 9120B032 on all resumes.**

## DEPARTMENT HEAD —

### Immunology & Inflammation Chemotherapy

Will coordinate the research and drug discovery activities of Senior Scientists and staff in the area of disease-modifying antirheumatic agents. Possess the flexibility to capitalize on any therapeutic opportunities within the general areas of Immunology and Inflammation.

Background must include a doctoral level degree with a minimum of 7 years drug discovery experience. We seek an energetic, enthusiastic individual who is committed to managing a creative multidisciplinary team on the challenges of innovative research. **Please respond by Aug. 24, 1990. Refer to Job # 9120B999 on all resumes.**

## ASSOCIATE DIRECTOR Cellular Cardiovascular Pharmacology

This senior scientist level position will lead an established team of scientists in the discovery of novel cardiovascular agents. Background should include a minimum of 10 years experience in biochemical pharmacology with significant relevant experience in application of expertise to congestive heart failure, hypertension, arrhythmogenic mechanisms and ischemic disease. Knowledge of molecular biology and possibly electrophysiology, as well as the ability to coordinate scientific efforts in quantitating receptor affinity, protein purification, enzyme kinetics and neutrophil functions is required. **Please respond to Job # 9110B904 on all resumes.**

## SENIOR SCIENTIST Cellular Cardiovascular Pharmacology

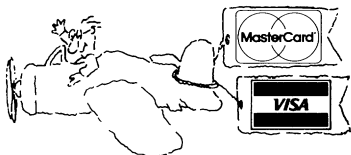
As a member of our comprehensive team of scientists focused on discovery of pharmacological treatments for cardiovascular diseases, candidate will conduct studies in the area of arrhythmia — induced sudden death. background must include 3-7 years relevant post-doctoral experience in evaluating arrhythmogenic mechanisms. Experience with programmed electrical stimulation is preferred. **Please respond to Job # 9110B910 on all resumes.**

Join us and enjoy excellent pay, flexible benefits, an on-site recreation and fitness center, a spirit of enthusiasm and teamwork and outstanding opportunities for career satisfaction. Send your resume, **INDICATING THE CORRESPONDING JOB #** and salary history, to: **Human Resources Department, Glaxo Inc., P.O. Box 13398, Research Triangle Park, N.C. 27709.** (No phone calls or agency referrals, please) An Equal Opportunity Employer M/F/H/V.

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### ECOLOGICAL GENETICIST COLORADO STATE UNIVERSITY

The Department of Biology invites applications for a 9-month, tenure-track position in ecological genetics at the assistant professor level, available January or August 1991. Primary emphasis is on the genetic structure and dynamics of natural populations of plants or animals in the context of ecological and evolutionary questions. Applicants must possess a Ph.D. in a biological science and provide evidence of excellence in teaching and research; postdoctoral experience is desirable. We seek an individual who is thoroughly conversant with modern theory in population genetics, ecology, and evolutionary biology and who is actively involved in testing such theory using molecular techniques. The successful candidate will be expected to develop a vigorous, externally funded research program and to interact with the large community of ecologists at the University. Teaching responsibilities will include an advanced course in ecological genetics of populations and a course in evolution, and participation in an introductory course in biology. Applicants should submit a curriculum vitae, selected reprints, and a letter summarizing background and describing research and teaching goals, and should arrange to have three letters of recommendation sent by September 1 1990 to Dr. John A. Wiens, Ecological Genetics Search Committee, Department of Biology, Colorado State University, Fort Collins, CO 80523. *CSU is an Affirmative Action/Equal Opportunity Employer. EO Office: 314 Student Services Building.*

### POSTDOCTORAL FELLOWSHIP

#### AGING RESEARCH

Marion Merrell Dow Inc. is seeking applications for a Postdoctoral Fellowship to be located at its Kansas City, MO location. The area of research will focus on the neuro-endocrinimmunological aspects of aging. The ideal candidate must possess a Ph.D. in Immunology with a strong emphasis in Cell Biology. Experience in Molecular Biology, Animal Models, Cytokines and Macrophage Biology is a plus. This 2 year fellowship is supported by a competitive salary and benefits package.

Qualified candidates should send a curriculum vitae, including a list of publications, names, addresses and telephone numbers of 3 references with a short statement of career goals to:

**Dept. CENP  
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Selected candidates will be responsible for developing and implementing research plans for the detailed characterization of complex food products and preparing written documents for regulatory and patent related projects. Responsibilities will also entail developing appropriate analytical methods and coordinating research projects with contract labs and consultants.

### RESEARCH SCIENTIST

A Ph.D in Biochemistry, Chemistry (or related discipline) with 1-3 years research laboratory experience and outstanding communication skills are required. This position will directly supervise one Chemist.

### RESEARCH CHEMIST

A M.S. in Biochemistry, Chemistry (or related discipline) with 2-4 years research or analytical laboratory experience including physicochemical characterization of macromolecules are required.

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### TOXICOLOGIST

Staff position available at the Inhalation Toxicology Research Institute for toxicologist with orientation towards multidisciplinary team approach to solving research problems. We seek an individual with doctoral level training in toxicology who has completed a rigorous postdoctoral fellowship or possesses equivalent experience, and has relevant open literature publications. American Board of Toxicology certification or eligibility desirable. A background in chemistry, biochemistry, cell or molecular biology, pathology, immunology, particle deposition/clearance, physiology, pharmacology, pharmacokinetics, metabolism or other related fields will be considered. Competitive salary and fringe benefit package. Submit resume to Human Resources Unit. Refer to Job #103.



**Inhalation Toxicology Research Institute  
P.O. Box 5890, Dept. M  
Albuquerque, NM 87185**

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Affirmative Action Employer*

**T**HROUGH THE STRENGTH OF ITS PEOPLE, Genetics Institute has advanced the science of biotechnology with significant breakthroughs. In EPO, we have developed a pure product for treating anemias. GM-CSF stimulates the growth of blood cells aiding the fight against infection, cancer and AIDS. Factor VIII holds the promise of a safer clotting product for the hemophiliac community. The development of these complex products, a high degree of innovation, and an international reputation for excellence have brought Genetics Institute to the forefront of biopharmaceutical research and development.

## Antibody Engineering/Protein Chemistry/Cell Biology

We are actively recruiting scientists to join a research group developing recombinant human derivatives of murine anti-cancer antibodies, one of which is currently in clinical trials. These individuals will interact with a team responsible for the cloning, construction, expression, and characterization of engineered antibodies, including preclinical evaluation.

The ideal candidate for the first position will have a Ph.D. and a minimum of four years experience in protein purification, protein characterization, and immunoassay development, including ELISA and affinity/avidity measurements. Tissue culture and recombinant DNA experience and a strong immunological background will also be beneficial. Highly experienced M.S. or B.S. candidates will be considered for this position.

The ideal candidate for the second position has a B.S. or M.S. and 2-4 years' experience in immunoassay development, including ELISA and cytotoxicity assays and mammalian cell expression. Experience with protein characterization, FACS analysis and recombinant DNA techniques will also be beneficial. Individuals with a Ph.D. and a strong immunology background will be considered for this position.

**Please send resumes to Sheri Rist, 87 CambridgePark Drive, Cambridge, MA 02140. An equal opportunity employer**

# Genetics Institute

### CHIEF OF PATHOLOGY/ RESEARCH PATHOLOGIST — Occupational Respiratory Diseases —

The National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control, U.S. Public Health Service, is seeking a pathologist interested in pulmonary research to serve as Chief of the Pathology Section or as staff pathologist in the Division of Respiratory Disease Studies based at the Appalachian Laboratory for Occupational Safety and Health (ALOSH) in Morgantown, West Virginia. Adjacent to the Laboratory is the West Virginia University (WVU) Medical Center Complex including a new 375-bed teaching hospital and Regional Cancer Research Center. Responsibilities will include: (1) the design, equipping, and staffing of a state-of-the-art research pathology facility; (2) analysis of the data and review of cases collected through the National Coal Workers' Autopsy Study; (3) clinical-radiological-pathological correlations in occupational diseases; (4) basic research in occupational respiratory diseases; (5) continued development of pathology standards for selected occupational lung diseases; (6) participation in teaching and collaborative research as adjunct faculty at WVU School of Medicine is possible. The ALOSH Laboratories are a uniquely equipped facility including high resolution radiography, x-ray fluorescence, scanning electron microscopy, microprobe analysis, transmission electron microscopy and computer aided image analysis. Candidate must be a medical doctor, well trained (preferably board-certified or board-eligible) in anatomic pathology, with demonstrated excellence as an investigator in at least some of the areas described above. Experience or demonstrated interest in occupational or environmental medicine and epidemiology are desired. This position is offered through both the U.S. Public Health Service Commissioned Corps and the Federal Civil Service. The Commissioned Corps is one of the seven uniformed services of the United States, with pay, retirement and privileges commensurate with branches of the Armed Services. Prior military service may be creditable for pay, retirement and grade determination. Salary range commensurate with qualifications, experience, and personnel system chosen. Liberal fringe benefits apply. Interested candidates should send inquiries, curriculum vitae and references. Applications must be submitted within 30 days of this announcement to: William S. Latham, Chief, NIOSH Personnel Office, MS C-6, 4676 Columbia Parkway, Cincinnati, OH 45226. NIOSH is an equal opportunity employer and maintains a smoke-free work environment.

### National Institutes of Health VIROLOGIST

The Genetics of Simple Eukaryotes Section, Laboratory of Biochemical Pharmacology, National Institute of Diabetes and Digestive and Kidney Diseases, seeks outstanding candidate with Ph.D. or M.D. with at least three years of postdoctoral experience and training to participate in a program on yeast virology. Experience in utilizing *in vitro* replication, transcription and packaging systems of RNA viruses is highly desirable. Familiarity with yeast genetics and molecular biological methods are also required and the successful candidate must have a substantial record of publication in these areas. Starting salary range of \$42,601 - \$55,381 or negotiable commensurate with qualifications and experience. Interested candidates should submit curriculum vitae, several reprints, summary of research interests and names of three references to:

**Reed B. Wickner, M.D.**  
National Institutes of Health  
Building 8, Room 207  
9000 Rockville Pike  
Bethesda, MD 20892



NIH is an Equal Opportunity Employer



National Institute of Neurological  
Disorders and Stroke  
National Institutes of Health  
Public Health Service

## MOLECULAR NEUROENDOCRINE RESPONSES TO STRESS

Applications are invited from scientists having a Ph.D. and M.D. degree and at least 10 years of postdoctoral experience to join an NIH intramural research effort studying the molecular basis of neuroendocrine response to stress in animal models and humans. The position requires that the incumbent have expertise and creativity in the planning and performance of complex research projects, requiring a multidisciplinary approach, and for training of section personnel. The incumbent must satisfy the following specific requirements.

Experience in research involving neuroanatomy particularly in regions of brain associated with neuroendocrine responses to stress, expertise in molecular genetics, track-tracing techniques immunohistochemistry, in situ hybridization methods, microdissection of brain, brain surgery in small animals particularly in endocrine responsive regions. Applicant should be familiar with both rodent and primate neuroanatomy and have experience in cloning, sequencing and manipulating DNA. A medical background is required to provide a wider perspective of basic research application to clinical issues.

The position is located in Bethesda, Maryland at the general schedule (tenured) level with a salary of \$42,601 to \$50,342 per annum depending on experience and qualifications. For further information, please contact Mr. Linwood Corbett at (301) 496-6334. Please send curriculum vitae, a detailed description of your past activities and future research plans and three letters of recommendation to:

**Mr. Linwood Corbett**  
National Institute of Neurological  
Disorders and Stroke  
National Institutes of Health  
Building 31, Room 8A23  
9000 Rockville Pike  
Bethesda, Maryland 20892 (U.S.A.)

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## POSITIONS OPEN

### CHAIR, DEPARTMENT OF ENVIRONMENTAL HEALTH UNIVERSITY OF WASHINGTON

The School of Public Health and Community Medicine at the University of Washington invites applications and nominations for the position of chair, Department of Environmental Health. This multifaceted department is comprised of research and training programs in toxicology, industrial hygiene and safety, radiological health, occupational medicine, and environmental technology.

The department has 35 faculty, offers B.S., M.S., M.P.H., and Ph.D. degrees, and maintains a vibrant research program. A NIOSH Educational Resource Center Grant and a NIEHS Environmental Pathology and Toxicology Training Grant provide graduate and postdoctoral fellowships for numerous students. The department has extensive ties with the Washington State Department of Labor and Industries which provide opportunities for graduate training, field research, and laboratory services in collaboration with business, labor, and state agencies. We seek an individual with an outstanding research record who is committed to academic excellence, and who can provide dynamic leadership for the department's diverse teaching, research, and service roles. Position requires an earned doctorate in an appropriate discipline.

Applicants should send a letter of interest, current curriculum vitae, and the names of four references by 30 September 1990 to: **Gerald van Belle, Ph.D., Chair, Search Committee, Department of Environmental Health, SC-34, University of Washington, Seattle, WA 98195.** The University of Washington is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are encouraged to apply.

### FACULTY MEMBER FOREST ECONOMICS/ FOREST MANAGEMENT

The School of Forestry, Wildlife, and Fisheries seeks applicants for a full-time, tenure-track faculty member (salary and rank negotiable) in forest economics/forest management. Responsibilities include the development of a strong research program and participation in undergraduate and graduate teaching. Qualifications include a Ph.D. in forest economics/forest management or related area. B.S. in forestry, experience with forestry industry, and interest in participating in an executive management program with the College of Business are preferred. Salary is competitive and excellent benefits are available.

Applicants should send a current résumé, academic transcripts, and three letters of reference to: **Stanley B. Carpenter, Director, School of Forestry, Wildlife, and Fisheries, Louisiana State University, Baton Rouge, LA 70803** before 3 August 1990. Telephone: 504-388-4131.

Louisiana State University and the Louisiana Agricultural Experiment Station are Equal Opportunity/Affirmative Action Employers.

### THREE JUNIOR FACULTY POSITIONS CELLULAR AND MOLECULAR PHYSIOLOGY

Applications are solicited for three (3) tenure-track positions at the rank of **ASSISTANT OR ASSOCIATE PROFESSOR** (term appointments) in the Department of Cellular and Molecular Physiology, Yale University School of Medicine. Candidates must hold an M.D., Ph.D., or equivalent degree and have experience and interest in physiology at the cellular and/or molecular levels. We are especially interested in candidates with experience in the areas of neuroscience, membrane biology, and signal transduction. Opportunities are available for both collaborative and independent research as well as for graduate and medical student teaching.

Qualified women and minority group members are encouraged to apply. Complete curriculum vitae, a statement of research interests and goals, and three (3) letters of reference should be sent by 15 September 1990 to:

**Walter F. Boron, M.D., Ph.D., Chairman**  
Department of Cellular and Molecular Physiology  
333 Cedar Street  
P.O. Box 3333  
New Haven, CT 06510

Yale University is an Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

### COOPERATIVE EXTENSION SPECIALIST IN GROUNDWATER QUALITY

The Department of Land, Air, and Water Resources, University of California, Davis, seeks qualified candidates for an academic career-track position, cooperative extension assistant/associate specialist in groundwater quality. This position is to develop and implement strategies for reducing and preventing groundwater contamination through extension teaching and applied research programs. Research emphasis is on contaminant transport and transformations in both vadose and saturated zone, sampling and monitoring, and mitigation of contamination problems. Research may consist of a combination of field experimentation/monitoring and computer modeling. The extension program is to provide educational and technical support to county farm advisers, state and federal regulatory agencies, policy-makers, and both urban and agricultural clientele. Geographical emphasis is on the San Joaquin Valley and the Central Coastal Valleys. Ph.D. in geology, engineering, hydrology, or a closely related field is required. Position will be housed at the Kearney Agricultural Center near Fresno, California. Background in water quality, contaminant transport, and remedial measures is desired. Applicants should submit a résumé, transcripts, copies of publications, and names and addresses of at least three references to: **Blaine Hanson, Search Committee Chair, Cooperative Extension Specialist Position in Groundwater Quality, Department of Land, Air, and Water Resources, University of California, Davis, CA 95616**, by 1 October 1990.

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

### GENETIC EPIDEMIOLOGIST OPEN RANK

The Fox Chase Cancer Center, a comprehensive cancer center including both clinical and basic research, is recruiting a faculty level genetic epidemiologist interested in developing an independent research program studying the genetics of cancer. The position will be in the Fox Chase Cancer Center, Division of Population Science. This division is a multidisciplinary group consisting of human genetics, epidemiology, biostatistics, cancer control, and laboratory science. Excellent study resource materials and computational facilities are available. Please send curriculum vitae, three references, and a letter describing scientific interests to: **Dr. Alfred Knudson, Chairman of Genetic Epidemiology Search Committee, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** Equal Opportunity Employer.

### FACULTY POSITION DEPARTMENT OF BIOCHEMISTRY STANFORD UNIVERSITY SCHOOL OF MEDICINE

Applications or nominations are invited for a faculty position in the Department of Biochemistry at the level of **FULL PROFESSOR**.

Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.

Applicants should have an established record of excellence in original research and in teaching. Candidates should submit curriculum vitae including a list of publications, a description of their research interests, and names, addresses, and telephone numbers of three references to: **Search Committee Chairman, Department of Biochemistry, Beckman Center B400, Stanford University School of Medicine, Stanford, CA 94305-5307.**

**NMR SPECTROSCOPIST.** To operate, maintain, and further develop a 600-MHz NMR Spectrometer Facility, including a Bruker AM 600 NMR spectrometer and data station, a silicon graphics computer with ethernet access to a VAX 8500 Computer. Opportunities for collaborative research with enzymes, proteins, and peptides. Experience in 2D NMR desirable. Interested individuals should contact: **Dr. Albert S. Mildvan, Department of Biological Chemistry, The Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore, MD 21205-2185.** Telephone: 301-955-2038. The Johns Hopkins University School of Medicine is an Equal Opportunity/Affirmative Action Employer.

## 1991 COMPETITION

# MERCK - AFCR FOUNDATION MD-PhD POSTDOCTORAL FELLOWSHIPS

### FIVE FELLOWSHIPS AVAILABLE

The Merck Sharp & Dohme Research Laboratories, through its Academic Development Program, and the American Federation for Clinical Research Foundation announce the first competition for the MERCK-AFCR Foundation MD-PhD Postdoctoral Fellowships to support the further training of MD-PhD scientists.

### FELLOWSHIP TERMS

- The candidate must have completed an MD-PhD educational program and be accepted into a postdoctoral training program.
- Fellowships are intended for independent research in the basic biomedical sciences, including the fields of biological chemistry, cellular, molecular, and structural biology, genetics, microbiology, immunology, pharmacology, physiology, and pathology.
- First-year support consists of a \$40,000 stipend and \$3,000 allowance for travel, journal subscriptions, and society memberships. In addition the university will receive a \$7,000 grant for supplies related to the funded research. Indirect costs will not be allowed.
- The Fellowship is renewable for an additional two years.
- The Fellow should devote 80% of his/her time to research. Each Fellow will spend up to three days in the Merck Research Laboratories during his/her tenure as award recipient and present research results. Travel support will also be provided for the Fellow's mentor. The Fellow will also be expected to attend a Regional or National AFCR meeting each year and submit an abstract.
- Applicants should be citizens of the U.S. or Canada or permanent residents of the United States.

### FELLOWSHIP APPLICATION TERMS

The applicant should submit originals and 8 copies of the following to the AFCR's address below:

- A curriculum vitae and a one-page abstract of the proposed research;
- A proposal of 8 to 10 pages, including background and references;
- A statement of the applicant's career goals;
- Two letters of recommendation;
- Two reprints of published papers representative of the applicant's research; and
- A letter from the mentor describing how the proposed research will contribute to the development of the applicant as a creative scientist. The letter should state the name of the institution, the department, and its chairperson.

### IMPORTANT DATES

The deadline for receipt of applications is October 1, 1990. Letters to Fellowship recipients will be mailed by January 1, 1991. The Fellowship will begin the following July 1st unless otherwise agreed.



#### SEND APPLICATIONS AND INQUIRIES TO:

MERCK-AFCR Foundation Postdoctoral Fellowships

Ms. Jean Haddock, Executive Director

6900 Grove Road

Thorofare, NJ 08086

Tele: (609) 848-7072; Fax: (609) 853-5991





## FACULTY POSITION

# THE OHIO STATE UNIVERSITY

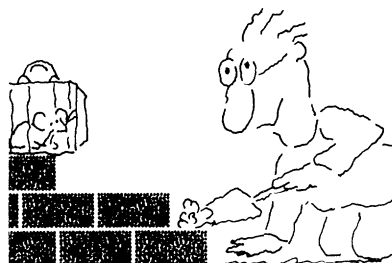
**PROTEIN CRYSTALLOGRAPHER.** The Department of Biochemistry and the Biotechnology Center at The Ohio State University, Columbus, invite applications for a joint tenure track faculty position in the area of macromolecular x-ray crystallography. The appointment is planned at the Assistant Professor level, but candidates with outstanding records will be considered for appointment at the Associate Professor level. All applicants are expected to have significant research experience and demonstrated excellence in their field. The successful candidate will be expected to develop a vigorous independent research program and participate in teaching undergraduate and graduate courses. Macromolecular structure is one of the areas chosen for development as part of a campus wide effort and OSU has made a major commitment to establish an outstanding program in macromolecular crystallography. The candidate will join the macromolecular structure group in the newly remodeled space in the Biotechnology Center. Highly competitive start-up funds and salary will be provided. Access to modern diffraction facilities and the Cray Y-MP supercomputer will be available.

Applicants should submit a curriculum vitae, list of publications, statement of research interests and plans, and names and addresses of three references to

**Dr. M. Sundaralingham, Chairperson,  
Macromolecular Crystallography Search  
Committee, Biotechnology Center, Rightmire  
Hall, 1060 Carmack Road, The Ohio State  
University, Columbus, OH 43210-1002.**  
Screening will start September 15, 1990. Ohio  
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## ASSOCIATE SCIENTIST PEPTIDE CHEMISTRY

**H**offmann-La Roche, one of the most prestigious and innovative firms involved in the development and manufacture of pharmaceuticals, diagnostics and vitamins and fine chemicals, offers scientific professionals the resources needed to make important contributions to the world of health care.

We are seeking an Associate Scientist to work in the area of peptide synthesis, purification and physicochemical characterization. To qualify, you should have a BS/MS in Organic Chemistry along with a thorough knowledge of biochemical techniques. Familiarity with chromatographic techniques, particularly HPLC is essential; 2-3 years of related experience is required. Knowledge of peptide chemistry is highly desirable.

We offer a competitive salary, a generous benefits package and a state-of-the-art environment that fosters professional growth. For confidential consideration, please send your resume, indicating present salary (those without this information will not be acknowledged), to: **Ms. Frances Newman, Staffing and Employee Services, Department EH, Hoffmann-La Roche Inc., Nutley, New Jersey 07110.** We are an equal opportunity employer.



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## BIostatistician

Mathematical Statistician - GS-1529-14 / \$50,342 - \$65,444

The Biometry Branch, Division of Cancer Prevention and Control, National Cancer Institute seeks a biostatistician at the Ph.D. or equivalent level to serve as a high-level statistical consultant and independent investigator responsible for conducting original research in biostatistical methods needed to meet continually arising problems in the Division. Duties are to plan and conduct collaborative studies with substantive experts, particularly randomized trials concerning cancer prevention and control; to conduct research in biostatistical and epidemiologic methodology using statistical methods; to review proposed projects and provide consultation for staff of the Division and other scientists in NCI and outside; to regularly attend and speak at meetings on cancer research prevention and statistical methodology; and, to maintain liaison with other leading biostatisticians concerned with cancer research both in the United States and abroad. Applicants must have extensive knowledge and experience in the design and conduct of clinical trials and epidemiologic studies in the field of cancer. Applicants should also possess demonstrated originality in the solution of important statistical problems in cancer research; substantial experience as a statistical consultant on a wide range of problems in the design and analysis of medical studies; excellent communication skills; and, a demonstrated ability to publish results in high quality scientific journals. Application for Federal Employment (SF-171) or requests for further information should be sent to:

**NCI Personnel; ATTN: DCP-1529-14; Executive Plaza South, Room T-43; 9000 Rockville Pike; Bethesda, MD 20892; Telephone (301) 496-8657**

Applications must be postmarked no later than August 20, 1990.

U.S. Citizenship Required • NIH is an Equal Opportunity Employer.

## POSITIONS OPEN

### FACULTY POSITION, DEPARTMENT OF PATHOBIOLOGICAL SCIENCES SCHOOL OF VETERINARY MEDICINE UNIVERSITY OF WISCONSIN-MADISON

**ANATOMICAL PATHOLOGIST.** Faculty position at rank of **ASSISTANT PROFESSOR OR ASSOCIATE PROFESSOR.** Responsibilities include necropsy/surgical pathology service for the Veterinary Medical Teaching Hospital, veterinary student teaching, and research. Excellent opportunities and resources available in department for infectious disease research. D.V.M. or D.V.M./Ph.D. degrees or equivalents. A.C.V.P. certification or an intention to achieve certification is desired.

Send curriculum vitae and names of at least three references to: **Dr. R. D. Schultz, Professor and Chairman, Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison, 2015 Linden Drive West, Madison, WI 53706. Telephone: 608-263-9888. An Equal Opportunity/Affirmative Action Employer.**

**TENURE-TRACK FACULTY POSITION.** Rensselaer Polytechnic Institute invites applications for a full-time, tenure-track position in analytical or physical chemistry starting as early as January 1991. Preference will be given to applicants at the **ASSISTANT PROFESSOR** level, but a more advanced appointment will be considered depending on qualifications. *We especially welcome applications from minorities and women.* The chemistry department is in the process of purchasing a 300-MHz solid-state NMR spectrometer, for which the successful candidates will be the major user and will have responsibility for overseeing its operation. Candidates are expected to have a strong commitment to excellence in research in an area utilizing solid-state NMR and in teaching analytical or physical chemistry at the undergraduate and graduate levels. Please send curriculum vitae with a description of research plans and names of three references to: **Professor Robert L. Strong, Department of Chemistry, Rensselaer Polytechnic Institute, Troy, NY 12180-3590. Rensselaer is an Equal Opportunity/Affirmative Action Employer.**

### MOLECULAR BIOLOGIST/IMMUNOLOGIST

Kansas State University College of Veterinary Medicine has available a tenure-track position as an **ASSISTANT OR ASSOCIATE PROFESSOR** of immunology. Duties: 70% to 80% research, 20% to 30% instruction. This faculty member will develop independent and collaborative research and participate in D.V.M. and graduate immunology instruction. Required qualifications include a Ph.D. with training and experience in modern immunology/molecular biology research. Preference will be given those with demonstrated research productivity and immunology experience in veterinary medicine. Submit curriculum vitae, a statement of career interests and goals, and names and addresses of three or more individuals who can attest to your professional capabilities to: **Dr. D. Scott McVey, Department of Laboratory Medicine, VMS 310 Building, Manhattan, KS 66506.**

*Kansas State University is an Equal Opportunity/Affirmative Action Employer. Minorities, women, and other protected group members are encouraged to apply.*

### GLAXO-UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL POSTDOCTORAL FELLOWSHIPS IN CANCER PHARMACOLOGY

Glaxo, Inc., and the Department of Pharmacology of the University of North Carolina at Chapel Hill (UNC-CH) announce the availability of competitive postdoctoral fellowships in basic cancer pharmacology research. Fellows will work with a mentor in the Department of Pharmacology at UNC-CH and a co-mentor at Glaxo, Inc., on a project of mutual interest. Research areas include: role of integrins in tumor cell biology, RNase H and antisense oligonucleotides, and other possible projects. Fellowships will usually be for 2 years; stipends are competitive with other academic fellowships. Applicants should forward curriculum vitae, statement of research interests, and two letters of reference to: **Cancer Pharmacology Fellowship, Department of Pharmacology, University of North Carolina at Chapel Hill, CB# 7365 1106 Faculty Laboratory Office Building, Chapel Hill, NC 27599-7365. Glaxo and UNC-Chapel Hill are Equal Opportunity/Affirmative Action Employers.**

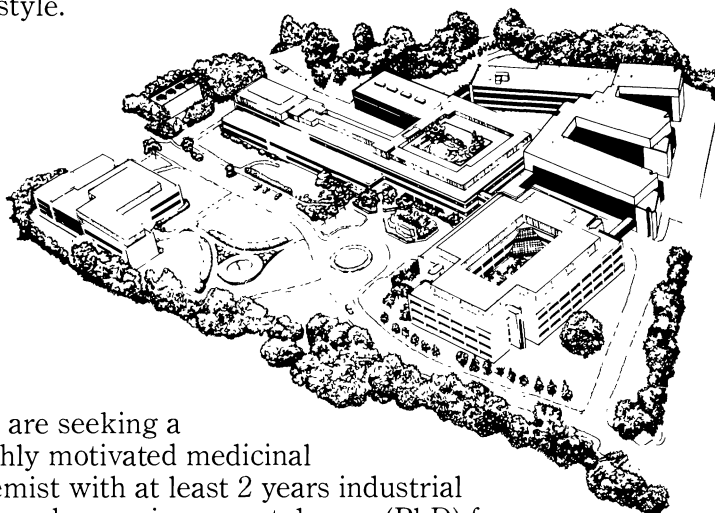
20 JULY 1990

# PhD Medicinal Chemist Cancer Therapy Discovery

The field of pharmaceuticals and healthcare is more rewarding than ever as new products create a healthier world population. As one of the leaders in this dynamic industry, Pfizer Inc, a Fortune 100 company, is committed to continuing its remarkable growth.

In bringing science to life, our international, research-based company uses advanced techniques to generate new products, new areas of revenue and career opportunities that self-directed, talented people will find stimulating and rewarding.

The primary R&D facility for Pfizer Inc is located in a southeastern Connecticut shore community, giving easy access to the well known academic and cultural centers of the Northeast, and offers the attractions of a New England lifestyle.



We are seeking a highly motivated medicinal chemist with at least 2 years industrial research experience post-degree (PhD) for a research position in our Cancer Therapy Discovery Group. The successful candidate will take part in the design, synthesis, and follow-up of small molecule biological effectors as a member of a multi-disciplinary project team pursuing novel mechanism-based approaches for the treatment of cancer.

We offer competitive salaries and a full range of benefits including medical and dental insurance, paid holidays and vacations, educational assistance, savings and investment plan, pension plan, relocation assistance and more.

To learn how you can be part of the future of Pfizer, send your resume to: Charles P. Norris, Personnel Supervisor, Pfizer Inc, Central Research Division, Eastern Point Road, Groton, CT 06340.



An equal opportunity employer



## POSITIONS OPEN

**PHYSIOLOGIST/PHARMACOLOGIST.** Needed to establish Division of Research in Department of Emergency Medicine. Require Ph.D. and research interest relevant to emergency medicine. Send curriculum vitae to: **Robert Schneider, M.D., Department of Emergency Medicine, Carolinas Medical Center, P.O. Box 32861, Charlotte, NC 28232.**

### PLANT/PATHOGEN MOLECULAR BIOLOGIST

The Department of Plant Pathology, University of California, Davis, invites applications for an 11-month (1-month vacation), tenure-track position, at the **ASSISTANT PROFESSOR** level. The starting date is 1 January 1991 or as soon thereafter as the successful candidate is available.

The successful applicant will be expected to develop a research program dealing with the mechanisms which regulate the interaction between plants and pathogens at the molecular level. The focus can be on either the plant or the pathogen and can include molecular biology, cell biology, biochemistry, biophysics, genetics. Participation in teaching of graduate and undergraduate courses and participation in seminar courses related to the applicant's expertise will be required. The applicant will be expected to supervise graduate students in plant pathology and related graduate groups, and may advise undergraduate students.

Applicants should have a Ph.D. in a discipline related to the study of molecular mechanisms regulating plant disease. Postdoctoral experience is highly desired but not required. Applicants should submit: (i) curriculum vitae, (ii) list of published work and reprints, (iii) a statement of teaching and research interests, (iv) names and addresses of three references, and (v) undergraduate and graduate transcripts, if Ph.D. degree completed within the last 5 years, to:

**Dr. David G. Gilchrist**  
Chairman, Search Committee  
Department of Plant Pathology  
University of California  
Davis, CA 95616  
Telephone: 916-752-6938/0300

Application deadline: 1 October 1990.

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

### POSTDOCTORAL POSITION IN CELL PHYSIOLOGY

Available immediately to study the role of ion channels in the thermogenic and mitogenic responses of brown fat cells. The project will employ patch clamp, fluorescent imaging, cell culture, and microcalorimetric techniques. Send curriculum vitae and names of three references to: **Dr. Pamela Pappone, Department of Animal Physiology, University of California, Davis, CA 95616.**

**POSTDOCTORAL POSITION.** Available for 2+ years starting 1 September 1990 for virological and cellular studies of HIV-1 infections in the central nervous system of children. Research experience in molecular biology, immunology, and/or tissue culture essential. Send résumé to: **Leon Epstein, M.D., Division of Pediatric Neurology, Box 631, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642. Telephone: 716-275-0613.**

**POSTDOCTORAL POSITION.** NIH training grant-supported position in molecular aspects of endocrine cell senescence available now. *U.S. citizen or permanent resident.* Prior experience in molecular biology and cell culture not required; training will be provided. Project involves investigation of changes in expression of steroid hydroxylase genes over the human life span (fetus, child, young adult, and aged adult). Candidates must have a strong interest in the cellular and molecular basis of human aging processes. For further details, please contact: **Dr. Peter J. Hornsby, Department of Cell and Molecular Biology, Medical College of Georgia, Augusta, GA 30912 or telephone: 404-721-3757. An Equal Opportunity/Affirmative Action Employer. Females and minorities are encouraged to apply.**

**SCIENCE** welcomes placement of line classified ads by FAX. Please include name and telephone number for our confirmation call when transmitting ad to:

FAX NUMBER: 202-682-0816

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** In environmental toxicology available immediately in the Graduate Center for Toxicology at the University of Kentucky. Research areas include environmental toxicology, immunotoxicology, and molecular mechanisms of toxicity. Supported by an NIEHS training grant. *Candidates must meet U.S. citizenship requirements.* Send curriculum vitae, statement of career goals, and addresses and telephone numbers of three references to: **Thomas Tobin, D.V.M., Ph.D., Director, Graduate Center for Toxicology, University of Kentucky, 204 Funkhouser Building, Lexington, KY 40502-00542. The University of Kentucky is an Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITIONS

Molecular and cellular biologists are invited to apply for postdoctoral positions in the laboratories of Drs. J. F. Gusella, X. O. Breakfield, and R. L. Martuza [Molecular Neurogenetics Unit, Massachusetts General Hospital (Harvard Medical School)]. Successful candidates will join ongoing research directed at: cloning the genes responsible for inherited neurologic and psychiatric diseases; characterization of the molecular mechanisms of neural tumor formation; and the development of gene transfer and grafting techniques in the mammalian nervous system.

Applicants should send curriculum vitae and two letters of recommendation to: **Dr. J. F. Gusella, Director, Molecular Neurogenetics Laboratory, Massachusetts General Hospital—East, Building 149, 13th Street, Charlestown, MA 02129.**

**POSTDOCTORAL POSITION.** In neurochemistry available September 1990. Research will include biochemical studies of brain mitochondrial involvement in animal models of neurodegeneration (e.g., MPTP toxicity) and in human disorders such as Parkinson's disease. Relevant biochemical or neurochemical experience preferred. Send curriculum vitae and names of three references to: **Dr. William J. Nicklas, Department of Neurology, University of Medicine and Dentistry of New Jersey (UMDNJ), Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854-5635. The UMDNJ is an Affirmative Action/Equal Employment Opportunity Employer, M/F/H/V, and a member of the University Health System of New Jersey.**



### POSTDOCTORAL FELLOW

Applications are invited for a postdoctoral position to study the effect of HIV on hematopoiesis and blood cell function. Send curriculum vitae and the names of three references to: **Dr. David W. Golde, Division of Hematology-Oncology, Department of Medicine (37-068 CHS), University of California, Los Angeles, School of Medicine, Los Angeles, CA 90024-1678. Applications will be accepted until the position is filled. The University of California is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITIONS.** Available immediately to study adrenergic receptors and related proteins involved in signal transduction, using protein chemistry and molecular biology techniques. Projects include protein isolation and characterization, structure-function studies using site-directed mutagenesis, and evaluation of tissue and developmental regulation of gene expression. A strong background in molecular biology and protein biochemistry is required. Send curriculum vitae to: **Dr. Robert M. Graham, Chairman, Department of Heart and Hypertension Research, The Cleveland Clinic Foundation, One Clinic Center, 9500 Euclid Avenue, Cleveland, OH 44195-5071.**

Applications are invited for **POSTDOCTORAL RESEARCH POSITIONS** to investigate the molecular basis for the anticancer activity of micronutrients. Areas of inquiry include oxidant stress in tumor promotion and programmed cell death in cancer prevention. Experience in molecular biology, experimental pathology, cell biology, and/or biochemistry preferred. Send curriculum vitae and letters of reference to: **Dr. Henry J. Thompson, Deputy Laboratory Director, AMC Cancer Research Center, Denver, CO 80214. AMC is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** In molecular or cellular neurobiology, available October 1990. Candidate with Ph.D. in biochemistry, molecular biology, cell biology, neuroscience, or related area sought to investigate the structure and function of recently discovered receptors for gangliosides in the brain. Techniques in neurochemistry, membrane biochemistry, cellular neurobiology, and/or molecular biology will be applied to probe these novel neural recognition proteins. Please send curriculum vitae and names of three references to: **Dr. Ronald L. Schnaar, Department of Pharmacology and Molecular Sciences, The Johns Hopkins School of Medicine, 725 North Wolfe Street, Baltimore, MD 21205.**

**POSTDOCTORAL RESEARCH ASSOCIATE POSITION.** Available immediately in the Center for Bioengineering and Pollution Control for the study of microbial consortia degrading substituted aromatic compounds. A Ph.D. in microbial physiology or related field is necessary. Experience in enzymology, molecular biology, and biodegradation desirable but not essential. Send curriculum vitae and names of three references to: **Dr. Charles Kulpa, Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556. Notre Dame is an Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH.** At the National Center for Toxicological Research (NCTR). Research efforts at NCTR, an FDA laboratory in central Arkansas, focus on testing the assumptions used in assessing risks posed by toxic chemicals emphasizing studies in biomarkers, modulators of toxicity, and extrapolation/risk assessment. Postdoctoral stipends begin at \$31,750 per year. *U.S. citizenship or PRA status required.* Contact: **Postgraduate Research Program at NCTR, Science/Engineering Education Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-3190.**

**A POSTDOCTORAL POSITION IN BACTERIAL PATHOGENESIS.** Available to investigate interactions of pathogenic *Neisseria* with human neutrophils and epithelial cells, including characterizing receptor-ligand interactions, mechanisms of adherence and invasion, and roles of bacterial physiology in modulating these interactions. Training in molecular genetics is preferable but not mandatory. Please send résumé and the names of three references to: **Richard Rest, Department of Microbiology and Immunology, Hahnemann University, Philadelphia, PA 19102-1192.**

*Equal Opportunity/Affirmative Action Employer.*

**RESEARCH ASSISTANT OR ASSOCIATE PROFESSOR** (nontenure-track) in the Department of Environmental Health. Applicant will develop operant testing laboratory for infant and adult nonhuman primates for 3-year NIH neurotoxicity study. Ph.D. in toxicology with emphasis in behavioral toxicology, experience in automated testing using STATE notation language and statistical programming using SAS are required. Send curriculum vitae and names of three references by 24 August 1990, to: **Dr. Lucio G. Costa, Chairman, Search Committee, Department of Environmental Health, SC-34, University of Washington, Seattle, WA 98195.**

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

### TOXICOLOGISTS

California Department of Food and Agriculture seeks staff toxicologists and associate toxicologists in its pesticide regulatory program. Incumbents will evaluate toxicology studies and/or conduct risk assessments. Positions exist for individuals with master's and/or doctorate degrees in toxicology, pharmacology, biochemistry, or a related field with suitable experience in animal toxicology. Salary range begins at \$4398 per month for staff toxicologists and \$3320 per month for associate toxicologists. Comprehensive benefits package. Continuous testing, oral exam required. Submit résumés to:

**Department of Food and Agriculture  
Examinations Unit  
1220 N Street, Room 154  
Sacramento, CA 95814**

## Oral Pathology, Biology and Diagnostic Sciences

The University of Medicine and Dentistry-New Jersey Dental School invites applications for full-time tenure-track position of Chair, Department of Oral Pathology, Biology and Diagnostic Sciences. Candidate should be qualified for a senior academic appointment and show evidence of clinical expertise, basic research activity, teaching and patient care. This academic leader should also demonstrate evidence of excellence in the areas of oral pathology, oral biology and/or diagnostic sciences. Substantial administrative and teaching experience in undergraduate and postgraduate dental education, as well as national and international recognition for outstanding contributions in these areas is desirable. The applicant would be encouraged to continue active research and contribute to existing projects. Salary is competitive and commensurate with previous experience.

The candidate must have a DDS/DMD from a dental school accredited by the American Dental Association. Board certification, an advanced degree in a related basic science and/or advanced training in a clinical discipline is strongly preferred. Qualified applicants should submit a C.V. to: **Dr. Patricia A. Murray, Chair, Search Committee for the Chair of Oral Pathology, Oral Biology and Diagnostic Science, Department of Periodontics, UMDNJ-New Jersey Dental School, 110 Bergen St., Newark, NJ 07103-2425.** Deadline for applications is October 1, 1990. The UMDNJ is an Affirmative Action/Equal Employment Opportunity Employer, m/f/h/v, and a member of the University Health System of New Jersey.



Schering

## Postdoctoral Fellow

*If spearheading developments in allergy  
and immunology is what you have in mind,  
come to Schering-Plough Research.*

Aggressive, goal-driven research gives Schering-Plough its competitive edge in the healthcare industry. But we need your progressive thinking to help effect significant breakthroughs in pharmaceutical research.

You will study the *in vivo* role of selected cytokines in immunologically-mediated disease. Exploring the mechanism of cytokine involvement involves employing molecular biological tools of PCR technology, *in situ* hybridization, and cellular immunology concurrent with the administration of anticytokine antibodies and cytokines by standard and novel means. Solid background in cellular immunology desirable. Additional skills in molecular biology would be a plus.

This position rewards talent with one of the highest stipends in the industry...unparalleled challenges...and the recognition for your ideas. For immediate response, please forward curriculum vitae to: Mr. G. Czuba, Schering-Plough Research, 60 Orange Street, Bloomfield, NJ 07003. We are an equal opportunity employer.

*What you have in mind, we put in action.*



Schering-Plough

## CLINICAL ASSOCIATE OR SENIOR STAFF FELLOW

The Laboratory of Clinical Studies, National Institute on Alcohol Abuse and Alcoholism, Public Health Service, invites applications for a position to study the psychobiology and molecular biology of alcoholism and its complications. Unique opportunity to become a member of a multidisciplinary team working in a 10-bed research ward and outpatient clinic at the National Institutes of Health Clinical Center, Bethesda, Maryland. State-of-the-art equipment and experienced technical support available. The salary range is \$40,000 to \$52,000 per annum commensurate with qualifications. Interested candidates must be board certified or eligible psychiatrists or neurologists who are U.S. citizens or permanent residents. Position information and qualification requirements may be obtained by contacting Dr. George. This position is available now. Submit Curriculum Vitae and names of three references to:

**Ted George, M.D.**  
National Institute on Alcohol  
Abuse and Alcoholism  
Laboratory of Clinical Studies  
Building 10, Room 3B-19  
9000 Rockville Pike  
Bethesda, Maryland 20892  
Phone: (301) 496-9705



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## POSTDOCTORAL SCIENTIST

### IN VIVO NMR/IMAGING

SmithKline Beecham Pharmaceuticals, a worldwide leader in pharmaceutical research, has a challenging opportunity in its Biological Nuclear Magnetic Resonance Research Group. This is a postdoctoral scientist position in NMR imaging and *in vivo* NMR spectroscopy. The successful candidate will be working in the area of development of *in vivo* NMR techniques and its application to pharmacological research.

The NMR group is equipped with two 500 MHz spectrometers and a 400 MHz spectrometer with micro-imaging and solids accessories. A Sun 4, a Sparcstation and a Microvax, connected to the spectrometers via standard networking, are used for off line data processing and image analysis. In addition we have access to a clinical 1.5 T instrument. Candidates should have a Ph.D. in physics, chemistry or biology with a strong background in NMR and an interest in *in vivo* NMR.

Our state-of-the-art research facilities are located in suburban Philadelphia, near Valley Forge, PA. We offer a competitive compensation/benefits package as well as the opportunity for growth in a scientifically intense environment structured on creativity, teamwork and commitment. Please send your C.V. to Nancy Hasson, Employment Administrator, #H0145, 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



## Gastrointestinal Diseases Research

The Procter & Gamble Company in Cincinnati, Ohio is seeking an entry-level Ph.D. physiologist/pharmacologist to study the pathogenesis of ulcer disease, gastritis, and non-ulcer dyspepsia. The individual will work in a multidisciplinary gastrointestinal research group interested in understanding the mechanisms of pathogenesis and identifying methods of therapeutic intervention. Good oral and written communication skills are required. Postdoctoral experience is desirable but not required.

Besides offering a stimulating environment for professional and personal growth, we offer a fringe benefit package (medical, dental, profit sharing) that ranks in the top 5% of U.S. corporations.

Candidates must be presently authorized to work in the U.S. on a full-time basis. Resumes, with a list of publications, should be sent to:

Dr. T. J. Logan  
GI Disease Research  
The Procter & Gamble Company  
Miami Valley Laboratories  
P.O. Box 398707  
Cincinnati, Ohio 45239-8707

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## Senior Scientist Immunoassay

***If diagnostic testing in drug  
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Research is the key to our \$3-billion success. In fact, everything we do depends upon rigorous research combined with today's most innovative technologies and the bold thinking of our scientists.

In this senior position, within the Department of Drug Metabolism, you will direct a small group of scientists in applied research leading to the development of immunological assays. Educational requirements include a Ph.D. in Biochemistry, Immunochimistry, Organic Chemistry or related fields. You must also have at least 1-3 years' postdoctoral/industry experience in Radioimmunoassay, ELISA and/or Solid Phase Immunoassay development. Working knowledge of HPLC, RIA optimization for low M.W. haptens and larger proteins, conjugate preparation, and antibody production is highly desirable.

You must be self-motivated and goal-oriented with strong oral and written communication skills. Previous industrial supervisory background is preferred.

As a dynamic leader in the healthcare industry, we offer a competitive salary, excellent benefits, and the recognition to stimulate your personal and professional growth. For consideration, please send your resume in confidence to: Mr. G. Czuba, Box DS-90-11, 60 Orange Street, Bloomfield, New Jersey 07003. We are an equal opportunity employer.

***What you have in mind, we put in action.***



# Schering-Plough

# HEI

## The Health Effects Institute Request for Applications for Research Funds

The Health Effects Institute announces its second set of Requests for Applications (RFAs) of 1990.

The Health Effects Institute is a nonprofit corporation that supports studies to evaluate the health effects of automotive emissions. It is funded jointly by the U.S. Environmental Protection Agency (EPA) and the automotive industry. Current research is investigating the health effects of a wide variety of pollutants, including methanol, carbon monoxide, ozone, and diesel emissions.

Applications are now being solicited for research in the following areas:

### **RFA 90-1: Health Effects of Chronic Ozone Inhalation: Collaborative National Toxicology Program-Health Effects Institute Studies**

#### **Part B: Structural, Biochemical and Other Alterations**

- Studies using rats chronically exposed to ozone for two years by the National Toxicology Program (NTP).

### **RFA 90-3: Ozone Interaction with Biological Macromolecules and Molecular Dosimetry**

### **RFA 90-4: Epidemiologic Studies of the Health Effects of Long-Term Ozone Exposure**

- Etiologic studies of preclinical disease, COPD, and lung cancer.
- Methods research in areas such as ozone exposure assessment for epidemiologic studies, and innovative study designs for the measurement of effects of long-term ozone exposure.

**Preliminary applications are also being solicited for other research designed to assess health effects of automotive emissions.**

Materials describing the Health Effects Institute, the preparations of applications, and more specific details of the research topics are available.

Requests and inquiries should be directed to:

**Dr. Jane Warren, Director of Research  
The Health Effects Institute  
141 Portland Street, Suite 7300  
Cambridge, MA 02139  
Telephone: (617) 621-0266**

Letters of intent for RFA 90-1 Part B and RFA 90-3 should be submitted no later than September 25, 1990; the deadline for letters of intent for RFA 90-4 is November 15, 1990; applications for RFA 90-1 Part B and RFA 90-3 will be accepted until October 29, 1990; applications for RFA 90-4 will be accepted until June 5, 1991. Preliminary applications will be accepted at any time.

## The Health Effects Institute

## RESEARCH OPPORTUNITIES AVAILABLE

**Greenwich Pharmaceuticals Incorporated** is a publicly held development stage pharmaceutical company in business to profit from the discovery, development and marketing of novel synthetic carbohydrate drugs to treat significant patient and market needs.

Greenwich is currently seeking self-motivated individuals who possess the vision to be innovative and the desire to participate in an intensive interdisciplinary effort to develop new drugs. Greenwich provides its employees with a comprehensive compensation and employee benefits program and an excellent opportunity for career advancement. The future is yours.

### **RESEARCH LIBRARIAN**

We are seeking a highly-motivated person to design and manage a state-of-the-art biomedical research library to support the efforts of scientists engaged in the discovery of novel carbohydrate drugs. The successful candidate will have an M.S. or Ph.D. in library science with a minimum of 6 years experience in performing sophisticated literature searches and in designing integrated chemical, biological and medical databases, using either micro or minicomputer based systems.

### **POSTDOCTORAL IMMUNOLOGIST**

The candidate we seek will have a Ph.D. in Immunology or related field and at least 3-5 years experience in cellular and/or molecular immunology, to include autoimmune inflammatory disease, eicosanoid regulation of the inflammatory response, analysis of cell surface receptors, cytokine biological and lymphocyte function assays, tissue immunohistochemical techniques, mammalian cell culture, especially with synovial and endothelial cells, PAGE and Western blotting. You will be given the opportunity to design the immunology research laboratory and manage the various research programs.

### **POSTDOCTORAL PHARMACOLOGIST**

This candidate will need a Ph.D. in Pharmacology and at least 3-5 years experience with both *in vitro* and *in vivo* models of inflammation, connective tissue and non-malignant, proliferative diseases. The ability to evaluate novel therapeutic agents interacting with these models to determine potential mechanisms of action and structure-activity relationships is highly desirable. The successful candidate will design this laboratory and manage its activities.

Interested candidates are encouraged to send their resumes and salary requirements to:

**Richard Kruger, Ph.D.  
Greenwich Pharmaceuticals Incorporated  
501 Office Center Drive  
Fort Washington, PA 19034**



**Greenwich Pharmaceuticals Incorporated is an Equal Opportunity Employer.**

## POSITIONS OPEN

### RESEARCH SCIENTIST CENTER FOR OSTEOPATHIC RESEARCH EDUCATION AND DEVELOPMENT

Seeking a dynamic individual who will provide leadership in osteopathic research. A Ph.D. or D.O. degree and familiarity with the neurophysiological foundations of osteopathic theory and practice are required for the position. The researcher will be expected to obtain extramural funding. Applicants should submit curriculum vitae to: **Kenneth A. Suarez, Ph.D., Associate Dean for Research, Chicago College of Osteopathic Medicine, 555 31st Street, Downers Grove, IL 60515. Telephone: 708-515-6394. Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSOCIATE IN NEUROCHEMISTRY.** The College of Staten Island/City University of New York (CUNY) invites applications for the staff position of research associate in its neuroscience program (operated in conjunction with the CSI/IBR Center for Developmental Neuroscience). Seeks candidates with 2 to 4 years of postdoctoral experience for studies on the role of protein phosphorylation in the regulation and adaptation of receptor function, utilizing neuronal cell lines and CNS neurons grown in culture. The position requires previous experience in protein purification methods. Starting date: immediately, or by 1 January 1991. Salary range: \$35,000 to \$49,000; excellent benefits. Send curriculum vitae, a letter of research interests, and names of three references by 10 September 1990 to: **Dr. Yigal H. Ehrlich, CSI/IBR Center for Developmental Neuroscience, The College of Staten Island/CUNY, 120 Stuyvesant Place, Staten Island, NY 10301. Equal Opportunity/Affirmative Action Employer.**

**RESEARCH STATISTICIAN.** DEKALB Plant Genetics, a major agribusiness company, has an immediate opening in the Statistical Services Group at the corporate office. Candidates should possess a Ph.D. in statistics or related field with some work experience in statistics, or an M.S. with substantial work experience. Experience in statistical theory and methods and statistical programming required. Experience with statistical applications in agriculture preferred.

Responsibilities include consulting with researchers and management to assess experimental design and data analysis needs; selection and application of statistical methodology for consulting projects; and providing statistical support for development of new information systems.

DEKALB offers a competitive salary and comprehensive benefit package. Interested candidates should submit résumé and salary requirements to: **Theresa Brown, Personnel Manager, DEKALB Genetics Corporation, 3100 Sycamore Road, DeKalb, IL 60115. Equal Opportunity Employer, M/F.**

**TOXICOLOGIST.** The Graduate Center for Toxicology at the University of Kentucky invites applications for a tenure-track faculty position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Qualifications include a Ph.D. in toxicology or a closely related discipline with relevant postdoctoral experience. While preference may be given to individuals complementing the center's current strengths in environmental and immunotoxicology and molecular mechanisms of toxicity, outstanding candidates with credentials in other aspects of toxicology are encouraged to apply. The successful applicant will be expected to establish an extramurally funded research program and to participate in the teaching of graduate toxicology courses. The candidate will be one of the core faculty of the center and will interact with multidisciplinary, well-funded scientists affiliated with the center through joint appointments. Ample start-up funds and laboratory space, with an opportunity for customized renovation, are available. Pre- and postdoctoral students in the center are supported by an NIEHS training grant. The university is located in Lexington, the heart of the beautiful bluegrass region of Kentucky, and is in close proximity to a variety of recreational and cultural activities. Candidates should submit curriculum vitae, a statement of research interests, and the names of three references no later than 1 September 1990 to: **Thomas Tobin, D.V.M., Ph.D., Director, Graduate Center for Toxicology, University of Kentucky, 204 Funkhouser Building, Lexington, KY 40502-00542. The University of Kentucky is an Equal Opportunity/Affirmative Action Employer. Qualified minorities, women, and handicapped individuals are encouraged to apply.**



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### UGC POSTDOCTORAL RESEARCH FELLOWSHIPS Characterisation of the Biological Roles of the Pregnancy-Specific $\beta_1$ Glycoproteins

A position is available in the Department of Microbiology & Genetics under the leadership of Dr. B Mansfield to examine the role of the pregnancy-specific  $\beta_1$  Glycoproteins in cell-cell and cell-extracellular matrix interactions. Experience in the transfection of mammalian cell lines and use of the Baculovirus cDNA system is desirable.

#### The Synthesis of Molecular Logic Devices (Organic Chemistry)

A position is available in the Department of Chemistry & Biochemistry to work with Dr. D Officer in organic chemistry on the development of molecular electronic devices. This work will involve the synthesis of novel norbornadiene derivatives and the photochemical study of these molecules to assess their potential as molecular logic devices. Some experience in photochemistry and/or porphyrin chemistry will be an advantage.

### MASSEY POSTDOCTORAL RESEARCH FELLOWSHIPS Role of earthworms in enhancing potassium availability in soil under minimum tillage

A position is available in the Department of Soil Science under the leadership of Dr. J Kirkman and Dr. A Macgregor. The successful candidate is expected to examine the contribution of biological factors, especially in earthworm casts, to potassium availability in the seed slot following direct drilling, and develop a model of potassium availability in this specific soil environment.

#### Non pesticide control of postharvest pathogens and quality loss in horticultural products

A position is available in the Department of Horticultural Science under the leadership of Professor E Hewett to investigate the potential effectiveness of a range of non-pesticide methods to control postharvest pathogens and reduce quality loss during storage of perishable fruits and vegetables. The successful candidate is expected to have postgraduate training in some or all of the following: postharvest physiology, plant physiology, biochemistry, plant pathology and horticultural science.

The annual emolument payable for Postdoctoral Research Fellowships is currently NZ\$36,000 per annum and the Fellowship is tenable for a maximum period of two years.

**Further details of the above positions together with Conditions of Appointment are obtainable from Mrs V B Bretherton, Personnel Section, to whom applications, including a full curriculum vitae and the names of three referees should be sent before 30 September 1990.**

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To apply for this position, write to

**Prof. Dr. Roland Gisler**  
**Basel Institute for Immunology**  
**Postfach, CH-4005 Basel, Switzerland**

National Institute of Neurological Disorders and Stroke  
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## POSTDOCTORAL FELLOWSHIP

The Laboratory of Molecular Biology, Division of Intramural Research, National Institute of Neurological Disorders and Stroke, National Institutes of Health (NIH), Public Health Service announces an opening for a Postdoctoral Fellowship. This fellowship is available to study the factors regulating gene expression in the central nervous system. The appointee will be expected to do research focusing on the *gfa* gene, which encodes an intermediate filament protein found primarily in astrocytes. Experience in one of the following areas is highly desirable: molecular biology, biochemistry, or cell culture.

Further position information and qualifications requirements may be obtained by calling Ms. Claudia Palumbo, Personnel Specialist on (301) 496-6334. The position is located in Bethesda, Maryland. Salary is \$24,000/year or more, depending on qualifications. Interested candidates should send a curriculum vitae, a statement of research interests and three (3) letters of reference to:

**Dr. Michael Brenner**  
**Laboratory of Molecular Biology**  
**DIR/NINDS**  
**National Institutes of Health**  
**Building 36, Room 3D02**  
**9000 Rockville Pike**  
**Bethesda, MD 20892**  
**Telephone: (301) 496-6300**



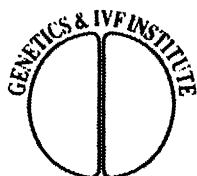
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## CYTOGENETICS LABORATORY DIRECTOR

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We offer a negotiable salary, excellent benefits, a prime location in suburban Washington, D.C., and a fine environment for professional and personal growth. Please forward your resume to: **Personnel Department, Genetics & IVF Institute, 3020 Javier Road, Fairfax, VA 22031.**



## Executive Director Louisiana Universities Marine Consortium

The Louisiana Universities Marine Consortium is a state-supported organization of Louisiana's four-year public universities and colleges for research and education in the marine sciences. The governing Council invites applications and nominations for the position of Executive Director. Duties include supervision and administration of all activities of the Louisiana Universities Marine Center and other Consortium facilities, including research and education programs, research vessel operations, and financial and physical plant operations. The Executive Director is also expected to coordinate inter-institutional programs and to represent the interests of the Consortium at local, State and Federal levels.

The main facility of the Consortium is the Louisiana Universities Marine Center, a modern research and teaching facility with a growing resident faculty of doctoral-level scientists (presently seven). Two research vessels, including a designated UNOLS vessel, are operated by the Consortium and based at the Marine Center.

Applicants and nominees must have strong marine-oriented research, education and administration credentials. The application package should include the letter of application, complete *curriculum vitae*, and names, addresses and phone numbers of at least five references. Selection of finalists will begin on September 30, 1990 and appointment to the position is anticipated by July 1, 1991. Application materials, which become public record, should be sent to:

**Dr. Darryl L. Felder, Chair,**  
**Executive Director Search Committee,**  
**c/o Louisiana Universities Marine Consortium,**  
**Chauvin, LA 70344.**

(Committee Chair (318)231-6753, Secretary (504)851-2800)  
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## POSITIONS OPEN

### WILDLIFE ECOLOGY

The School of Forestry, Wildlife, and Fisheries seeks applications for a full-time, **ASSISTANT PROFESSOR** tenure-track position in wildlife ecology. Responsibilities include the development of a strong research program that augments existing habitat-oriented programs and participation in undergraduate and graduate teaching and student advising. Qualifications include a Ph.D. (or near completion) in wildlife or related field. Salary is competitive and excellent benefits are available.

Applicants should submit a letter of application, curriculum vitae, official university transcripts, and three letters of reference to: **Dr. Stanley B. Carpenter, Director, School of Forestry, Wildlife, and Fisheries, Louisiana State University, Baton Rouge, LA 70803** (telephone: 504-388-4131) before 8 October 1990.

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**COMPUTATIONAL BIOLOGIST**, Ph.D. (1982). Senior-level exchange visitor scientist, extensive experimental and teaching experience. Seeking research position in biochemistry, biomedicine, biology. **Dietmar Tietz, Section on Macromolecular Analysis, Laboratory of Theoretical and Physical Biology, 10/6C-101, National Institutes of Health, Bethesda, MD 20892. Telephone: 301-496-4878.**

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Send letter of application, curriculum vitae, and contact information of three references to: **James Sommercorn, Ph.D., Clinical Diabetes and Nutrition Section, National Institutes of Health, 4212 N. 16th Street, Room 541, Phoenix, Arizona 85016.**

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## POSTDOCTORAL ASSOCIATE POSITIONS THE UNIVERSITY OF IOWA

Please contact the appropriate department to express your specific interest:

**ANATOMY**—J. D. Coulter, Ph.D., Professor and Head, Bowen Science Building.

**ANESTHESIA**—John H. Tinker, M.D., Professor and Head.

**BIOCHEMISTRY**—Alan G. Goodridge, Professor and Head, Bowen Science Building.

**DERMATOLOGY**—John S. Strauss, M.D., Professor and Head; or Kenzo Sato, M.D., Professor, 2 Boyd Tower, General Hospital. A postdoctoral research associate for the study of electrophysiology of cultured cells.

**INTERNAL MEDICINE**—Openings available in all disciplines in the Internal Medicine Department, College of Medicine, University of Iowa. Contact Francois M. Abboud, M.D., Professor and Head; or Darris Goerdt, Administrator. Phone 319/356-2850.

**MICROBIOLOGY**—Dr. Allen J. Markovetz, Professor and Acting Head, Bowen Science Building

**Neurology**—Postdoctoral associate positions are available in Cognitive Neuroscience, Neurophysiology, Neurobiology, Cerebrovascular Disease, Epilepsy, Sleep, and Neuromuscular Diseases. Antonio R. Damasio, M.D., Professor and Head, 2151 Roy Carver Pavilion

**OPHTHALMOLOGY/OCULAR PATHOLOGY**—Extensive training offered in diagnostic pathology, laboratory management. Experimental ocular pathology is emphasized and participating in research involving molecular pathology and ocular carcinogenesis is expected. Thomas A. Wengert, M.D., Ph.D., Professor and Head.

**PATHOLOGY**—Dr. Richard G. Lynch, Professor and Chairman, 144 Medical Laboratories. Research activity in all areas of Pathology

**PEDIATRICS**—Dr. Frank H. Morriss, M.D., Professor and Head.

**PHARMACOLOGY**—Dr. P. Michael Conn, Chairman and Head, Bowen Science Building. Openings available in all areas of pharmacology and toxicology

**PHYSIOLOGY & BIOPHYSICS**—Openings available in cellular and molecular endocrinology, neurophysiology and membrane biology. Contact Robert E. Fellows, M.D., Ph.D., Professor and Head, 5-660 Bowen Science Building

**UROLOGY**—Dr. Richard D. Williams, Professor and Chairman, Carver Pavilion. A postdoctoral position is available for physicians interested in the study of immune modulation of genitourinary cancer cells *in vitro* and in animal models.

A Ph.D. or equivalent is required. Desirable qualifications are based on Project Investigator's interest for research. Women and minorities are encouraged to apply. The University of Iowa, College of Medicine, Iowa City, Iowa, 52242, is an Equal Opportunity/Affirmative Action Employer.

## POSTDOCTORAL RESEARCH IN IMMUNOLOGY

Excellent Postdoctoral opportunities available in Department of Immunology, Mayo Clinic, in the following laboratories:

**Robert T. Abraham, Ph.D.:** Mechanisms of signal transduction from cell surface receptors expressed by lymphocytes; regulation of lymphoid cell activation and growth.

**Chella S. David, Ph.D.:** Immunogenetics of Major Histocompatibility Genes, T Cell Receptor Genes, Collagen Induced Arthritis and Bacteria Induced Spondyloarthropathies using transgenic mice.

**Gerald J. Gleich, M.D.:** Hypersensitivity; Structure and function of the eosinophilic leukocyte, role of eosinophil in disease and role of eosinophil major basic protein in pregnancy.

**Jorg J. Goronzy, M.D., Ph.D.:** T cell and B cell recognition of Borrelia burgdorferi antigens in patients with Lyme disease.

**Paul J. Leibson, M.D., Ph.D.:** Mechanisms of natural killer cell and T cell activation during anti-viral and anti-tumor immune responses.

**Vanda A. Lennon, M.D., Ph.D.:** Autoimmunity and cancer immunobiology. Voltage-gated calcium channels, Lambert-Eaton myasthenic syndrome and small cell carcinoma of lung; nicotinic acetylcholine receptors, thymic tumors and pathogenic autoantibodies in myasthenia gravis.

**David J. McKean, Ph.D.:** Molecular Immunology; T<sub>H</sub> lymphocyte lymphokine receptor initiated intracellular events; class II structure-function analysis; anti-tumor cell responses mediated by bispecific antibody targeted cytotoxic T lymphocytes.

**Larry R. Pease, Ph.D.:** Molecular mechanisms of gene conversion in the MHC and the structural basis of class I alloantigenicity and antigen presentation.

**Moses Rodriguez, M.D.:** Mechanisms of immune-mediated and viral induced demyelination; Role of MHC gene products in viral-induced immunopathology.

**Cornelia M. Weyand, M.D., Ph.D.:** T cell repertoire and HLA-DR genes in patients with seropositive rheumatoid arthritis.

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Send curriculum vitae and names of three references to: Dr. Chella S. David, Director, Immunology Training Grant, Mayo Clinic, 311C Guggenheim Building, Rochester, MN 55905. An equal opportunity/affirmative action employer.

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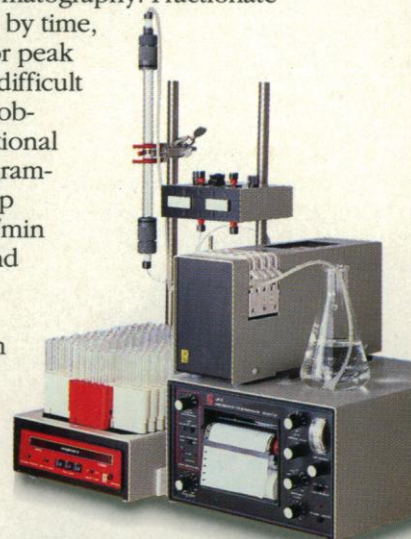


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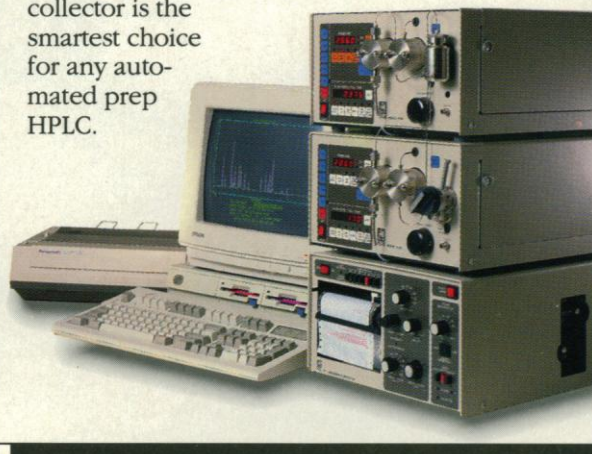


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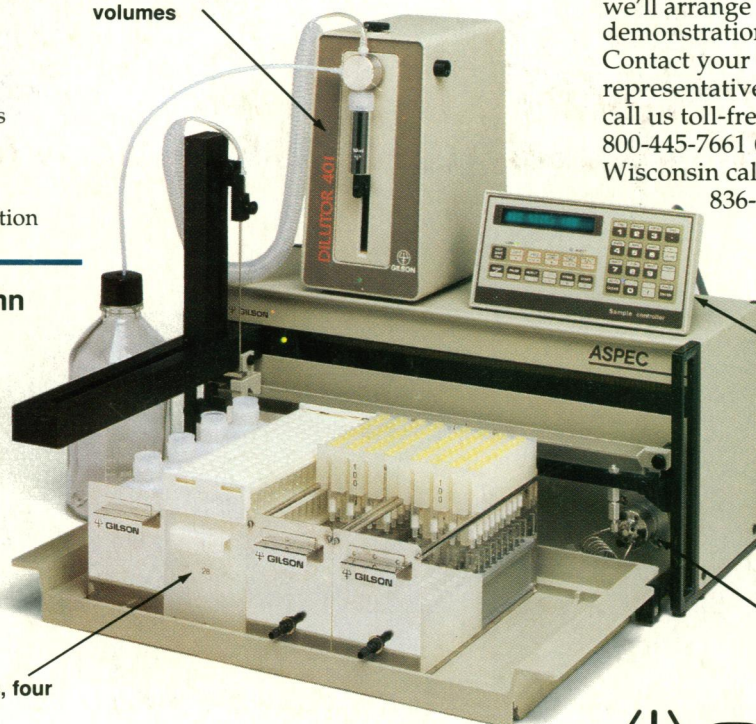
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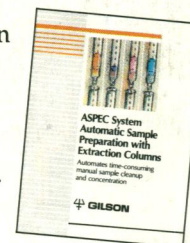
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