

### Reagents for DNA Sequencing

New reagents for DNA sequencing decrease the time and labor involved in performing sequencing reactions. The compounds, called Dye-Deoxy Terminators, are nucleotides derived from fluorescent dyes. The reagents can be used in conjunction with the Applied Biosystems Model 373A second-generation DNA sequencer to perform all currently popular sequencing strategies. Applied Biosystems. Circle 498.

### Low-Pressure Chromatography System

The Econo-System is an integrated low-pressure chromatography system that offers programmable binary gradients, peak collection, and 254- to 280-nm ultraviolet (UV) protection in a protein friendly format that takes up less than 0.1 m<sup>2</sup> of bench space. The Econo-System components include the Econo-Pump, which has a range of 0.1 to 2.0 ml/min; the Econo-UV Detector; the Econo-System Module, which integrates the pump and detector to give gradient and peak collection capability; the Model 2110 Fraction Collector; and the Econo-Recorder. Bio-Rad Laboratories. Circle 502.

### HPLC System for PCR Analysis

GeneAmp Polymerase Chain Reaction (PCR) products obtained with the Perkin-Elmer Cetus DNA Thermal Cycler can now be separated, purified, and quantitated in under 15 min with the new high-performance liquid chromatography (HPLC) system for PCR analysis. Because of its speed, simplicity, and high sensitivity, the new system is also ideal for PCR optimization and preparation of DNA for sequencing. After the final cycle on the DNA

Thermal Cycler, the GeneAmp PCR product is immediately injected into the HPLC system with no preparation steps involved. After HPLC is completed, the unit automatically prints a chromatogram with sample concentrations indicated for each peak. A complete quantitation report is also printed. Perkin-Elmer Cetus Instruments. Circle 517.

### Ultraviolet Cross-Linking Device

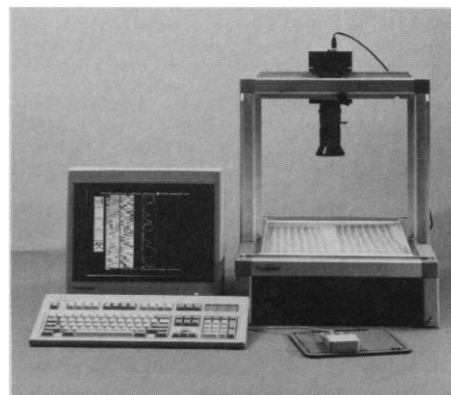
The Spectrolinker XL-1000 is an ultraviolet cross-linking device for identifying and analyzing even trace amounts of genetic material. The Spectrolinker covalently binds DNA and RNA to nitrocellulose or nylon-type membranes using a precise dosage of



shortwave (254 nm) ultraviolet light so that the sample can be stringently processed and evaluated without damage. The Spectrolinker offers several advantages over conventional methods. It increases hybridization signal sensitivity tenfold, permits the analysis of much smaller samples, processes samples in less than 30 s, and contains a fully programmable microprocessor with built-in help messages. Spectronics Corp. Circle 514.

### DNA Sequence Film Readers

SpeedReader is a semiautomatic DNA sequence film reading and analysis device. The system, composed of an MS-DOS-based computer and charge-coupled device video camera, was designed to help scientists produce longer sequences quickly and accurately. After SpeedReader acquires the image, it adjusts a template's lanes electronically to compensate for image sharpness, contrast, and electrophoresis anomalies. The pattern of bands is then interpreted to produce the corresponding sequence, which can be edited and saved in a variety of computer file formats for further analysis. The pro-



gram places flags on the image, so misaligned bands or gaps are easily located and corrected by manual editing. SpeedReader can process 2 kb of edited sequence information per hour. IntelliGenetics. Circle 505.

### Literature

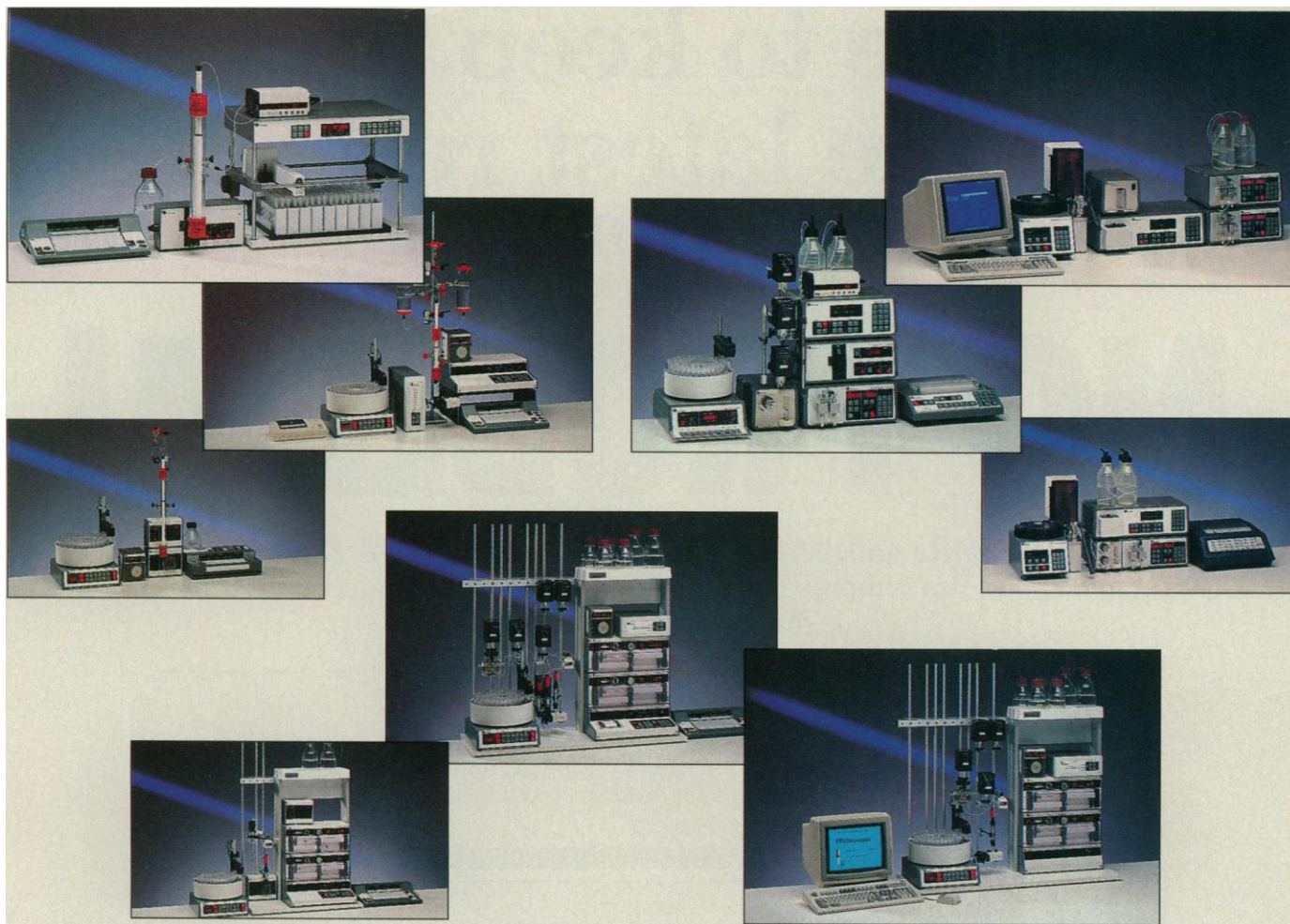
*Oxford Glycosystem* offers a four-color catalog with a line of biochemicals including a broad range of N- and O-linked oligosaccharides; N-linked oligosaccharides labeled with tritium, biotin, fluorescein, and dansyl; glyco-amino acids; partially methylated alditol acetates; and a range of highly defined glycosidases tested for specificity and contaminants against natural oligosaccharide substrate. The section on the company's confidential analytical services details the three different analyses for glycosylation studies: composition, profile, and structure analysis. Oxford GlycoSystems. Circle 536.

*Breakthrough Pricing* is a 96-page catalog describing hundreds of lab products, including balances, baths, incubators, hot plates, plasticware, pH equipment, meters, pipetting aids, and a wide assortment of standard and hard-to-find items. J. & H. Berge. Circle 537.

*Midwest Scientific's* 32-page catalog for electrophoresis supplies and equipment, filtration, disposable plastics, refrigerators, freezers, and more provides one-stop shopping for equipment from such manufacturers as Schleicher & Schuell, FMC Products, National Diagnostics, Hermle, Minnesota Valley Engineering, and BIO 101. Midwest Scientific. Circle 539.

*Shandon Sequenza Immunostaining Center* is a color brochure that describes a new unit for organizing and improving the reliability of staining methods. The unit was developed to accommodate batch runs of immunoperoxidase staining. The literature shows how Sequenza organizes up to ten slides per method and accommodates up to five different primaries per run. Shandon Inc. Circle 540.

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.



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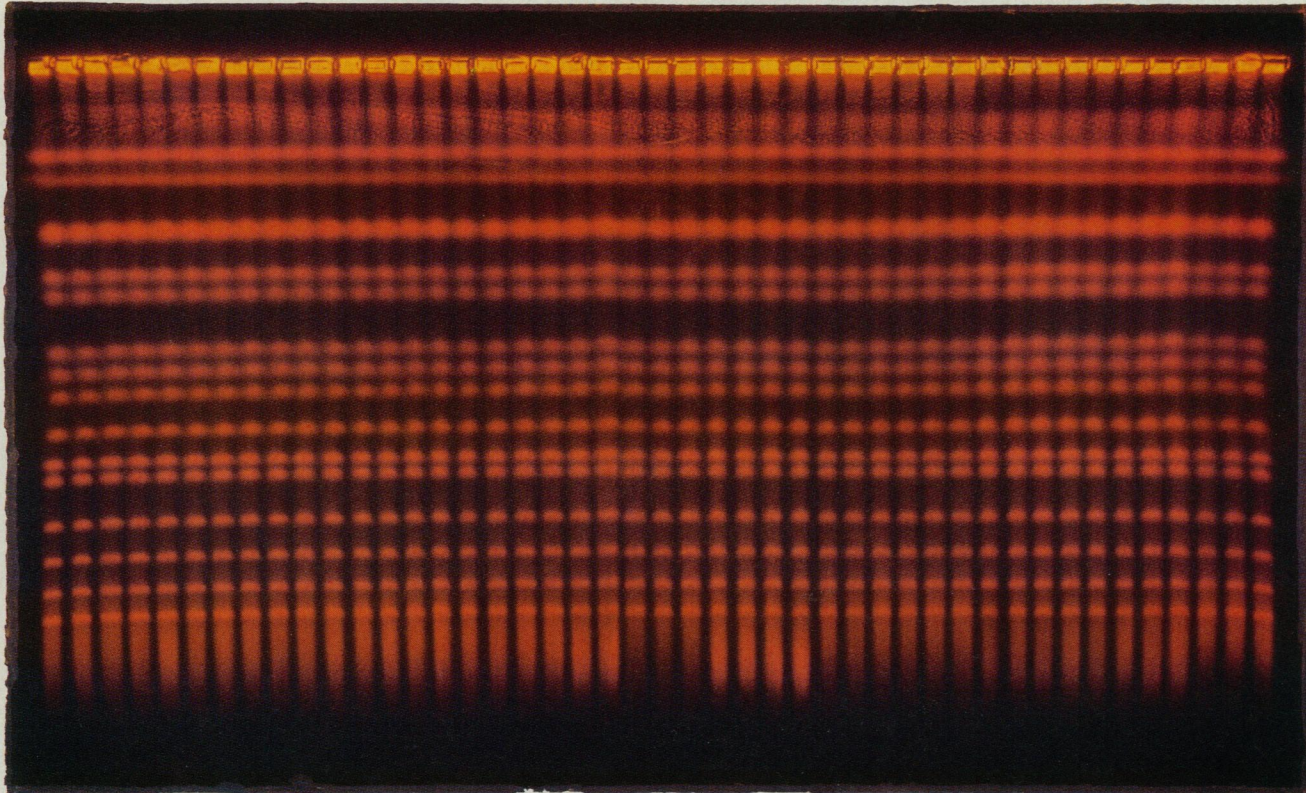
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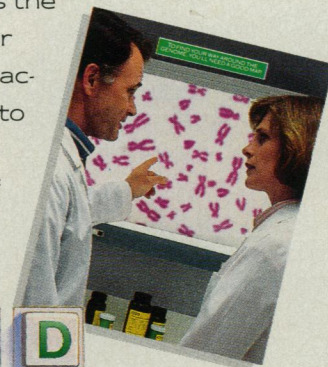
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1. D. C. Schwartz and C. R. Cantor. *Cell*, **37**, 67 (1984).

2. Programmed Autonomously Controlled Electrodes. See S. M. Clark, E. Lai, and L. Hood. *Science*, **241**, 1203 (1988).

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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.)

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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.

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Address ad copy or requests for information to:

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## MARKETPLACE AND DISPLAY PERSONNEL ADVERTISEMENTS

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

**ACADEMIC ANATOMIC PATHOLOGIST.** Department of Pathology, Oregon Health Sciences University (OHSU), is searching for an anatomic pathologist at the **ASSISTANT/ASSOCIATE PROFESSOR** level. The position requires good diagnostic skills, experience in teaching, and the capacity for investigative work. The applicant should have a strong background in anatomic pathology and be Board-certified or -eligible. Special interest or training in pediatric pathology and/or solid tumor molecular pathology is desired but not required. Curriculum vitae and three references should be sent to: **Donald C. Houghton, M.D., Chairman of Pathology, Oregon Health Sciences University, Department of Pathology, L 113, 3181 S.W. Sam Jackson Park Road, Portland, OR 97201-3098. OHSU is an Affirmative Action/Equal Opportunity Employer.**

**ANATOMIST.** Tenure-track position for qualified anatomist (Ph.D. and/or M.D.) to teach gross anatomy and assist in neuroanatomy or histology laboratories. Research in areas of neurobiology, extracellular matrix or image analysis preferred. Available 1 September 1990 but will remain open until suitable candidate is identified. Salary competitive. Send curriculum vitae and three reference sources to: **Wesley W. Parke, Ph.D., Chairman, Department of Anatomy, University of South Dakota School of Medicine, Vermillion, SD 57069.**

*Affirmative Action/Equal Opportunity Employer.*

## ASSISTANT PROFESSOR OF BIOLOGY

Biology: beginning fall semester 1990. Instructor/assistant professor to teach introductory biology and physiology. Appointment is for 1 year, but candidate may apply for tenure-track position available the following year. Arkansas College is a selective, church-related college located in Batesville, a community of 10,000. The college has 850 students, an 11-to-1 student/faculty ratio, \$38-million endowment, and a demanding core curriculum which includes laboratory sciences and mathematics. Send résumé and names and telephone numbers of three referees to: **Dr. Scott Peterson, Chairman, Biology Search Committee, Arkansas College, Batesville, AR 72503. Deadline: 27 July 1990 or until position is filled. Affirmative Action/Equal Opportunity Employer.**

**BIOLOGY, ASSISTANT PROFESSOR.** Tenure track. To teach undergraduate and graduate courses in botany and general biology and to conduct research appropriate to undergraduate and master's level students. Botanist with specializations in plant systematics and/or plant physiology and Ph.D. required. Send letter of application, résumé, and names, addresses, and telephone numbers of three references to: **Dr. Leon J. Gorski, Chairperson, Biology Department, Central Connecticut State University (CCSU), New Britain, CT 06050-4010. Review of applicants will begin on 1 September 1990. CCSU is an Affirmative Action/Equal Opportunity Employer. Women, minorities, handicapped, and veterans are encouraged to apply.**

## MOLECULAR BIOLOGIST PACIFIC NORTHWEST RESEARCH FOUNDATION SEATTLE, WASHINGTON

Applications are invited for a research staff position at the **ASSISTANT, ASSOCIATE, OR PROFESSOR** level in a multidisciplinary research laboratory. Housed in a new 45,000-square-foot facility in scenic Seattle, research programs include immunology, toxicology, and biochemistry, with more specific programs in AIDS and cancer research. Candidates must have demonstrated exceptional research ability in dynamic areas of molecular biology with an independent research program as well as a record of peer-reviewed grants and research publications. Preference will be given to individuals who have expertise and commitment in the area of molecular biology, more specifically that related to cancer and/or genetic disorders. The Pacific Northwest Research Foundation provides competitive salaries and benefits, a stimulating research environment, and opportunities for interaction with faculty at nearby institutions. Interested applicants should send complete curriculum vitae, the names of three recent references, and a brief statement of research interests to: **William B. Hutchinson, M.D., Director, Pacific Northwest Research Foundation, 720 Broadway, Seattle, WA 98122. Telephone: 206-726-1210. FAX: 206-726-1217. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### ASSISTANT PROFESSOR UNIVERSITY OF WISCONSIN-MADISON

The Department of Dairy Science is searching for a **REPRODUCTION BIOLOGIST**. This is a 70% research, 30% teaching position. It is expected that the incumbent will develop an innovative independent program of research addressing the general area of reproductive biology in cattle using state-of-the-art approaches in either molecular or cellular biology, or physiology, or endocrinology. Collaboration with faculty in interdisciplinary joint research projects and the Endocrinology-Reproductive Physiology Program is desired. Contributions to the department's public service function by interpreting new research and advances and applications in biotechnology are expected. Instructional efforts will include the supervision of research of graduate and undergraduate students and participation in undergraduate and graduate reproduction courses, as well as responsibility for a reproductive management course for farm and industry short course. Applications will be accepted until 15 August 1990 or until position is filled. Send a résumé, transcripts of all university work, a statement of research goals in this position, and three letters of reference to:

**Dr. Robert D. Bremel, Chair  
Search and Screen Committee  
Department of Dairy Science  
850 Animal Science Building  
University of Wisconsin-Madison  
Madison, WI 53706**

### HARVARD UNIVERSITY ASSISTANT PROFESSOR CELLULAR AND DEVELOPMENTAL BIOLOGY (CDB)

The Department of Cellular and Developmental Biology intends to make an appointment at the assistant professor level effective September 1992. Our department covers a broad range of topics in cellular biology, developmental biology, neurobiology, and molecular genetics. We are seeking outstanding candidates in any of these fields. We are particularly interested in making an appointment in the areas of plant molecular biology, developmental genetics, and protein sorting. However, we will consider exceptional applicants in other fields as well. *We strongly encourage applications from women and minority groups.* Applications should include curriculum vitae, reprints of publications, and a statement of present and future research plans. Complete applications and three letters of recommendation, solicited by the applicant, should be received no later than 1 October 1990 by: **CDB Search Committee, Cellular and Developmental Biology, Harvard University, 16 Divinity Avenue, Cambridge, MA 02138. Telephone: 617-495-2327. Harvard University is an Affirmative Action/Equal Opportunity Employer.**

### ASSISTANT PROFESSOR CONSERVATION BEHAVIOR AND COMMUNITY WASTE REDUCTION

The University of Michigan's School of Natural Resources is seeking to fill a full-time 9-month, tenure-track position in conservation behavior and community waste reduction at the level of assistant professor. The candidate must have a doctorate in either the biological, physical, or social sciences, demonstrated interest and experience in behavioral aspects of natural resources, and training and experience in waste management and recycling. Candidates must demonstrate research performance and interdisciplinary teaching competence at graduate and undergraduate levels, and must be experienced in developing interdisciplinary programs.

Candidate should maintain an active, externally funded research program in behavioral change, particularly in waste reduction and recycling, and direct interdisciplinary graduate research. Preference will be given to candidates with demonstrated research activities and scholarly achievements and who are actively developing new knowledge and management strategies for reduction and recycling in household, commercial, and institutional wastes.

Candidates should submit curriculum vitae, list of publications, transcripts of college work, and names and addresses of three persons able to evaluate leadership, research, and teaching skills. Send all materials to: **Dr. Paul F. Nowak, Chair, Search Committee, School of Natural Resources, 2028 Dana Building, The University of Michigan, Ann Arbor, MI 48109-1115. Telephone: 313-763-1312 by 15 September 1990.**

## POSITIONS OPEN

### GENETIC TRANSFORMATION OF PLANTS

**ASSISTANT PROFESSOR.** The Department of Plant Pathology and Physiology, Clemson University, announces a tenure-track, 12-month, assistant professor level position to be 75% research, 25% teaching. Research emphasis to be on genetic transformation of plants. A Ph.D. in plant pathology/physiology or associated biological science required. Persons with postdoctoral experience will receive preference. Evidence of publications and promise of securing extramural funding expected. This person will be part of a group of scientists with a common interest in use of molecular genetics to develop pest and pesticide resistance and improved production characteristics of plants. Emphasis will be on plant cell transformation (gene identification, isolation, transfer, and regeneration of transformants). Teaching will include a graduate course stressing physiological/molecular techniques in plant pathology/physiology. Standard benefits. Salary competitive. A letter of application, résumé, transcripts, three letters of evaluation, and a brief statement of goals should be sent to: **Dr. O. J. Dickerson, Department of Plant Pathology and Physiology, Clemson University, Clemson, SC 29634-0377. Telephone: 803-656-3450.** Applications will be received until 1 September 1990. *Clemson University is an Equal Opportunity/Affirmative Action Employer.*

Applications are invited for a tenure-track, **ASSISTANT/ASSOCIATE PROFESSOR** position in veterinary toxicology. Qualifications include the Ph.D. degree in toxicology or related discipline. Preference will be given applicants who also have the D.V.M. or V.M.D. degree. Postdoctoral experience and Board certification or Board eligibility in toxicology will be given consideration. The successful applicant will participate in professional and graduate instruction, consult on selected clinical toxicology problems, and conduct an active research program in toxicology. Applications received by 1 September 1990 are assured of consideration. Applicants should send a letter of application including a statement of career goals and curriculum vitae and have three letters of recommendation sent to: **Dr. John M. Bowen, Chair, Search Committee, Department of Physiology and Pharmacology, College of Veterinary Medicine, The University of Georgia, Athens, GA 30602.** *The University of Georgia is an Equal Opportunity/Affirmative Action Institution.*

**EVOLUTIONARY BIOLOGIST.** The Department of Biological Sciences, a doctoral department of 30 faculty and 80 graduate students, invites applications for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level to begin as early as 1 January 1991. The appointee will be expected to establish an extramurally funded research program, advise Ph.D. and M.S. students, and participate in the instructional program. Postdoctoral experience preferred. Research interests that complement existing strengths in evolutionary biology within the department are being sought. Applications will be accepted through 15 September 1990 or until the position is filled. Send résumé, statement of research interests, reprints, and the names of at least three references to: **Reginald Noble, Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403.**

Applications are invited for a **PRINCIPAL INVESTIGATOR** position with the U.S. Department of Agriculture/Agricultural Research Service—University of California (UC), Berkeley, Plant Gene Expression Center (PGE). The applicant will be considered for appointment as an **ADJUNCT PROFESSOR** at UC-Berkeley, which would include teaching and graduate student training. Candidates must have a Ph.D. in an appropriate discipline and at least 2 years of postdoctoral experience. The applicant's research program should address an agriculturally important problem, using biochemical, molecular, or genetic approaches. Existing programs at the PGE are: phytochrome molecular biology (Peter Quail), transposon biology (Barbara Baker), plant development (Sarah Hake), pollen development (Sheila McCormick), heavy metals/recombination (David Ow), and plant hormone action (Athanasios Theologis). Application deadline: 1 October 1990. Send résumé, a statement of research plans and objectives, and three letters of reference to: **Dr. S. McCormick, Plant Gene Expression Center, 800 Buchanan Street, Albany, CA 94710.** *Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR OF ANATOMY

Position available 1 January 1991. Primary responsibility is teaching gross anatomy, living anatomy/physical examination, histology, and neuroanatomy with minimum of 2 years of teaching experience required in these clinically oriented anatomy areas. Requires Ph.D. or M.D. in anatomy. Minimum of 2 years of experience in research in anatomy areas. Annual salary minimum of \$30,000. Send curriculum vitae and names of three references by 30 August 1990 to: **Mr. Bernie Childerston, P.O. Box 94600, Lincoln, NE 68509.** Refer to: **Job Order Number 520-222.**

### ASSISTANT PROFESSOR DEPARTMENT OF VETERINARY PATHOLOGY

The University of Missouri College of Veterinary Medicine is accepting applications for a tenure-track position. D.V.M. (or equivalent) plus M.S. or Ph.D. required. ACVP or ACLAM certification or eligibility preferred. Successful applicant expected to develop strong biomedical research program and guide M.S., Ph.D. students and residents in laboratory animal medicine and pathology. A research animal diagnostic and investigative lab and NIH institutional training grant in laboratory animal medicine are in place. Send applications including curriculum vitae, professional goals, and names and addresses of four references to: **Dr. Cynthia Besch-Williford, Chairman Search Committee, P.O. Box 6023, Columbia, MO 65205.** Screening of applications will begin 1 September 1990. *Equal Opportunity/Affirmative Action Employer.*

### IMMUNOLOGIST UNIVERSITY OF CALIFORNIA, IRVINE

Tenure-track appointment at the level of **ASSISTANT PROFESSOR** to begin in 1990–1991. The Department of Molecular Biology and Biochemistry at the University of California, located in Irvine, is seeking qualified candidates in immunology. Research interests can be in areas of molecular mechanisms of recognition, regulation and control in host-antigen or host-tumor interaction. Applicants will be required to teach in areas of immunology and molecular biology. Please submit curriculum vitae, bibliography, representative publications, a description of current research, and three letters of reference to:

**Immunology Search Committee  
Department of Molecular Biology and Biochemistry  
University of California, Irvine  
Irvine, CA 92717**

The deadline for applications is 31 September 1990.

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

**PERMANENT TRACK (ASSISTANT/ASSOCIATE OR FULL PROFESSOR).** Position in developmental immunology and/or immunological aspects of hematopoiesis. Successful applicants will be expected to develop outstanding independent research programs which could involve, for example: B or T cell ontogeny, development of T cell repertoire, or cytokine regulation of lymphocyte development. Strong interest in graduate and postdoctoral education programs required. Highly interactive, academic immunology department of ten independent laboratories located within Mayo Clinic medical complex. Excellent laboratory facilities. Start-up funds are available. Candidates with proven productivity and credentials please send curriculum vitae, statement of research interests, and names of three references to: **Larry R. Pease, Ph.D., Department of Immunology, Mayo Clinic, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Employer.*

### VISITING PROFESSOR OF BIOLOGY UNITED STATES AIR FORCE ACADEMY

The Department of Biology, USAF Academy, Colorado Springs, invites nominations and applications for a visiting professor position. Seek professor or associate professor with extensive experience teaching undergraduate biology and a strong record of scholarly activity. *Applicants must be U.S. citizens employed by a university.* One-year appointment beginning in July 1991; inquiries welcome for subsequent years. Salary commensurate with qualifications. Send nominations or your curriculum vitae, letter of introduction, and request for application information to: **Chairman, Department of Biology, USAF Academy, Colorado Springs, CO 80840.** Deadline: 15 August 1990.

## POSITIONS OPEN

### ASSISTANT OR ASSOCIATE PROFESSOR PLANT VIROLOGY

The University of Arizona invites applicants for a tenure-track assistant or associate professor position with research (75%) and teaching (25%) responsibilities. The appointee will be expected to develop a creative research program in plant virology. The specific area is unrestricted. Appropriate areas of research include genome structure and function, host-virus and virus-vector relationships. The position will be one of several focusing research on the molecular and ecological mechanisms which will eventually be applied to reducing losses to plant virus diseases. Deadline is 31 July 1990 or until a suitable candidate is found. Submit a letter of application stating career goals, reprints, and résumé, and have four letters of recommendation sent to: **M. R. Nelson (Telephone: 602-621-1828), Department of Plant Pathology, Forbes 104, University of Arizona, Tucson, AZ 85721.** *An Affirmative Action/Equal Opportunity Employer.*

### TENURE-TRACK POSITION INDIANA UNIVERSITY SCHOOL OF MEDICINE

The Department of Physiology and Biophysics invites applications for a full-time tenure-track position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Applicants should have a strong record of independent research utilizing a cellular or biophysical approach. Preference will be given to individuals whose area of expertise will complement departmental strengths in neuroscience, vascular biology, membrane biophysics, and signal transduction mechanisms. Rank and salary will be based on academic and research record. Minimum requirements include Ph.D. or M.D. and relevant postdoctoral training. Send curriculum vitae, a statement of research interests, representative publications, and names and addresses of three references by 10 August 1990 to: **Dr. Stephen A. Kempson, Search Committee Chairman, Department of Physiology and Biophysics, Medical Sciences 374, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46202-5120.**

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

### BIOCHEMICAL TOXICOLOGIST

**STUDY DIRECTOR** position with primary responsibility in pharmacokinetics and metabolism. Ph.D. or M.S. degree with prior experience preferred. Conduct studies in a leading toxicology contract laboratory meeting Environmental Protection Agency/Food and Drug Administration guidelines.

A growing corporation located 1 hour north of Dayton. Please send résumé to:

**J. Plescher  
Human Resources Department  
Springborn Laboratories, Inc.  
553 North Broadway  
Spencerville, OH 45887  
Equal Opportunity Employer.**

**CHAIR, DEPARTMENT OF ENTOMOLOGY AND APPLIED ECOLOGY.** Applications are invited for professor and chair, Department of Entomology and Applied Ecology, University of Delaware. We seek candidates who will continue superior achievement in research and who demonstrate commitment to quality undergraduate and graduate instruction. Research specialty is open. Persons using insect models in disciplines other than entomology are encouraged to apply. Salary and fringe benefits are competitive. Committed to academic excellence, the University of Delaware is a mid-sized, comprehensive land-grant institution with convenient access to major museum, U.S. Department of Agriculture, and industrial research facilities. The position is available 1 July 1991; final application deadline is 15 September 1990. The search will continue until the position is filled. Send full curriculum vitae, including complete funding and publication record, and names, addresses, and telephone numbers of four references to: **Dr. John Dohns, Search Committee Chair, Entomology and Applied Ecology, University of Delaware, Newark, DE 19717-1303.**

*The University of Delaware is an Equal Opportunity Employer which encourages applications from minority group members and women.*

## Postdoctoral Research Fellowships

The PARKE-DAVIS Pharmaceutical Research Division of Warner-Lambert has initiated a multidisciplinary postdoctoral research program which will provide exciting opportunities to conduct basic studies in areas of potential therapeutic utility. The following Fellowships are currently available in the Pathology and Experimental Toxicology Department:

### Immunotoxicology (Fellowship V)

The Fellow will characterize peripheral blood lymphocytes from various species. These studies will include the use of in-vivo and in-vitro techniques, including cell purification, foreign cell recognition, lymphokine production and time course monitoring, to define the activity of cluster-designated (CD) lymphocyte subpopulations. The project will also include application of these findings in the assessment of candidate drugs.

Applicants should have a Ph.D. in immunology, toxicology, or a related field, with experience in flow cytometry and primary cell culture techniques.

### Mechanisms of Endocrine Toxicity (Fellowship W)

The Fellow will be involved in investigating mechanisms of endocrine toxicity; in particular, relating to the adrenal. Studies will include determination of the biochemical basis for the toxicity, the basis for tissue and species sensitivity and the role metabolism may play in the process. In-vivo and in-vitro approaches will be utilized.

Applicants should possess a Ph.D. in toxicology or a related discipline with experience in biochemical toxicology and enzymology.

### Mechanisms of Cardiovascular Toxicity (Fellowship X)

The Fellow will investigate mechanisms of drug-induced cardiac toxicity and hypertrophy. These studies will involve biochemical and molecular biological approaches including protein chemistry, receptor characterization and gene expression, and morphologic techniques including EM, immunocytochemistry and in-situ hybridization.

Applicants should have a Ph.D. in toxicology, biochemistry or a related field, with experience in the techniques described above.

All appointments are for one year, renewable for a second year. Compensation includes \$32,000 annual salary with relocation expenses and an attractive benefits package. Our modern research facilities are located adjacent to the University of Michigan in an outstanding living and working environment.

Send letter of application with curriculum vitae and names of three references to Jack Moyer, Human Resources, PARKE-DAVIS Research Division, Warner-Lambert Company, 2800 Plymouth Road, Ann Arbor, MI 48105. Please indicate the Fellowship you are applying for. "Smoke-Free Work Environment"

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## Research Scientist I Tumor Biology

We have an immediate opening in the Division of Cell Biology to participate in the antitumor drug development program within the Tumor Biology Section and to provide laboratory support for project compounds in clinical trial. This individual will also identify, develop and implement new and innovative ways to identify antitumor drugs.

Candidates must have a Bachelor's degree in a life science discipline plus two years experience with **in vivo** antitumor drug evaluation and basic computer skills, **OR** a Master's degree in a life science discipline with a thesis and some **in vivo** modeling experience. Other factors to be considered in selection include experience with: **in vivo** antitumor drug evaluation techniques; microisolator cage systems; osmotic (Alza) mini pump implantation; and long-term infusion techniques.

As a valued professional at Burroughs Wellcome Co. you will receive a salary commensurate with your experience and be supported by the highest level of benefits in our industry. If you are interested in working for us, submit your resume, indicating position number in your cover letter by **August 13, 1990** to: **Burroughs Wellcome Co., Scientific Recruiting and Staffing, Pos. #61993-5, 3030 Cornwallis Road, Research Triangle Park, NC 27709.**

For information on other job opportunities with Burroughs Wellcome Co., call our Job Information Line at **(919) 248-8347** in Research Triangle Park, NC or **(919) 830-2997** in Greenville, NC.



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## POSITIONS OPEN

### DIRECTOR OF INSTITUTIONAL DEVELOPMENT FOR SCIENCE

The New York Botanical Garden seeks an experienced fund-raiser and writer. Degree in biology preferred. This is a new position intended to help develop new sources of funding, including government, for botanical and environmental research: for operations, laboratory equipment, computerization, and other capital needs. Promotional or marketing skills useful. Ease and sophistication in making presentations is essential. Reports to the vice president for development. Competitive salary and benefits, including 4 weeks of vacation. Send résumé to:

**Personnel Administrator—IDS**  
The New York Botanical Garden  
200th Street and Southern Boulevard  
Bronx, NY 10458-5126

*Affirmative Action/Equal Opportunity Employer, M/F.*

## **SmithKline Beecham** Animal Health

SmithKline Beecham Animal Health, a leader in the animal health industry, has an opening for a **PROJECT MANAGER, IMMUNOLOGY**, in our Biological Development Division.

The candidate will join a group of virologists and bacteriologists in the development of vaccines leading to the licensure of new biological products. The candidate will manage a laboratory that will investigate ways of adjuvanting vaccine antigens to stimulate protective immunity.

The successful applicant will have a Ph.D. in immunology with specific experience in stimulating mucosal immunity to pathogens utilizing vaccine antigens combined with appropriate adjuvants and delivery systems. SmithKline Beecham Animal Health has an excellent benefit program including life, health, LTD insurance, retirement, savings, and profit-sharing plans. Interested applicants should send résumé with salary requirements to Steve Eicher at:

**SmithKline Beecham Animal Health**  
P.O. Box 80809  
Lincoln, NE 68521

*SmithKline Beecham Animal Health is an Equal Opportunity/Affirmative Action Employer.*

## PESTICIDE RESIDUE MANAGER

Biospherics, Inc., a multifaceted environmental consulting firm, is currently accepting résumés for the senior position in our pesticide residue practice. As an analytical production laboratory, our client list includes a number of the major international agricultural/chemical companies, as well as governmental agencies.

Our position requires that candidates possess not only a strong technical background (FIFRA and GLP in-depth knowledge), but excellent managerial skills and a strong profit-and-loss orientation. Seven to ten years of hands-on experience as well as a minimum M.S. degree in chemistry are required. A Ph.D. is a decided plus.

Beyond an attractive salary and benefits package, the laboratory facility is state of the art, and was designed as a laboratory not retrofitted.

For consideration, submit résumé with salary requirements to:

**Biospherics, Inc.**  
Attention: Human Resources  
12051 Indian Creek Court  
Beltsville, MD 20705

## ENVIRONMENTAL DATA ANALYST

Growing consulting firm specializes in study design, data analysis, and methods development in broad range of environmental disciplines. Seek creative, self-motivated individual with real-world experience in statistical analysis and project management. Advanced degree in related field preferred; must have computer skills. Send résumé and references to: **EcoAnalysis, Inc., 221 East Matilija Street, Suite A, Ojai, CA 93023.**

## POSITIONS OPEN

**EXECUTIVE DIRECTOR.** The Center for Field Research (CFR)—Earthwatch is seeking a senior scientist to administer our grants program in support of field research in the physical, biological, and social sciences. The 1991 program will provide over \$3 million for 135 projects in 60 countries and 20 states. The executive director's responsibilities include overall program analysis, advising program officers, representing CFR-Earthwatch at major conferences, development of education and scholarship programs, and procurement of external research support. Excellent organizational and personnel skills are required to work with other managers in field operations, publications, development, and finance. Applications should be received by 1 August 1990. Send curriculum vitae and three references to: **Dr. R. D. Estes, Acting Director, Center for Field Research, Earthwatch, P.O. Box 403, Watertown, MA 02172.**

## FACULTY POSITIONS IN CELL BIOLOGY

Tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** positions available in a Department of Cell Biology. The department currently has strong research programs in cell biology, molecular biology, neurobiology, reproductive biology, and developmental biology; we are seeking candidates who can interact in any of these areas and have potential to develop independent research careers. Teaching responsibility is in the area of cell biology/histology. Send curriculum vitae and three letters of reference to: **Reid L. Norman, Cell Biology and Anatomy, Texas Tech University Health Sciences Center, Lubbock, TX 79430. Texas Tech University Health Sciences Center is an Equal Opportunity/Affirmative Action Employer.**

## UNIVERSITY OF MIAMI SCHOOL OF MEDICINE FACULTY POSITION IN MOLECULAR PHARMACOLOGY

The Department of Molecular and Cellular Pharmacology at the University of Miami School of Medicine is seeking applications for a tenure-track faculty position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. The position is available now at a rank and salary commensurate with experience. Generous laboratory space and start-up funds are available. Candidates must have a Ph.D. and/or M.D. degree and an established record of research excellence involving molecular approaches to problems of pharmacological interest. The new faculty member will complement existing research efforts in the department, which include regulation of cardiac, smooth, and skeletal muscle contraction; receptors and transmembrane signaling mechanisms; function and development of the nervous system; and regulation of gene expression.

Applicants should send curriculum vitae, statement of past and future research interests, and the names and addresses of three references to: **Dr. Lincoln T. Potter, Search Committee Chairman, Department of Molecular and Cellular Pharmacology, University of Miami School of Medicine, P.O. Box 016189, Miami, FL 33101.**

*An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS IN GENETICS

The University of Iowa invites applications for two positions in genetics.

• A 1- to 2-year **VISITING FACULTY POSITION** (all ranks considered) to be filled by a geneticist who would be responsible for teaching a one-semester undergraduate laboratory course in genetics once each year. Facilities would be provided to allow the visitor to pursue his/her own research, if desired. Appointment will be effective no later than 1 December 1990.

• A **TENURE-TRACK APPOINTMENT** (effective 15 August 1991) of a highly qualified geneticist (research area open) who is capable of and interested in teaching an undergraduate laboratory course based primarily on the genetics of a multicellular organism(s). It is expected that this appointment will be at the **ASSISTANT PROFESSOR** level, but more senior applicants will also be considered.

Please send curriculum vitae and names of three references to: **Genetics Search Committee, Biology Department, University of Iowa, Iowa City, IA 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### FACULTY POSITION IN PHARMACOLOGY

Applications are invited for a tenure-track position at the level of **ASSISTANT PROFESSOR**. Candidates should document experience in the broad area of molecular pharmacology. The position requires a Ph.D. degree, preferably in pharmacology, with proven accomplishments in modern areas of molecular pharmacology. Areas of special interest are receptor structure and function, nucleic acid metabolism, signal transduction, and toxicology.

A clear capability for generating extramural research support and for working as an independent investigator are critical factors in the selection process. Start-up funds are available and salary will be competitive. The successful applicant will participate in the teaching of pharmacology to graduate and medical students.

Please send curriculum vitae, three representative reprints, and the names and addresses of three references to: **Dr. Elliot S. Vesell, Department of Pharmacology, Pennsylvania State University College of Medicine, Hershey, PA 17033.**

*An Affirmative Action/Equal Opportunity Employer. Women and minorities encouraged to apply.*

## X-RAY CRYSTALLOGRAPHER UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Molecular Biology and Biochemistry at the University of California, located in Irvine, is seeking an established protein crystallographer at the **FULL PROFESSOR** level. The School of Biological Sciences has established a long-term goal of establishing a structural biology program with the School of Physical Sciences and the School of Medicine. Please submit curriculum vitae, bibliography, representative publications, a description of current research, and three letters of recommendation to:

**Structural Biology Search Committee  
Department of Molecular Biology and Biochemistry  
University of California, Irvine  
Irvine, CA 92717**

The deadline for applications is 31 September 1990.

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

## TENURE FACULTY POSITIONS

The Department of Molecular Pathology, University of Texas M. D. Anderson Cancer Center, invites applications for two tenure-track/tenure positions at **ASSISTANT/ASSOCIATE PROFESSOR** levels. The M. D. Anderson Cancer Center, an internationally renowned facility, is located in the Texas Medical Center within southwest Houston together with two medical schools, a graduate school, and several other internationally recognized biomedical facilities. Applicants must hold a Ph.D., M.D., or M.D./Ph.D. degree and have at least 3 years of postdoctoral research training. Associate professor candidates must have an established funded research program. Strong preference will be given to candidates having interest, experience, and skills in the areas of basic cancer research or related areas. Successful candidates will develop/maintain productive independent research programs and have the opportunity to participate in graduate student training programs. Salaries/benefits and research start-up support are nationally competitive. Submit curriculum vitae, description of research interests, and names of three references to: **Dr. Ralph B. Arlinghaus, Chairman, Department of Molecular Pathology (Box 89), The University of Texas, M. D. Anderson Cancer Center, Houston, TX 77030. Equal Opportunity/Affirmative Action Employer.**

**MATHEMATICIAN (APPLIED).** Conceive and develop mathematical models to describe and predict movements of major economic factors. Advise research personnel concerning mathematical methods applications. Apply mathematical research methodology, including stochastic control theory, to research experimental system designs and parameter estimation techniques. Analyze and interpret data affecting major investment programs. Requirements: Ph.D. in applied mathematics or statistics; 2 years of experience in job or in research of math-economics interrelationships. Salary: \$67,000 per year; 7 a.m. to 4 p.m., Monday to Friday. Job and interview at Walnut Creek, California. Send résumé and copy of this ad by 4 August 1990 to: **Job #PC16420, P.O. Box 9560, Sacramento, CA 95823-0560.**

## POSITIONS OPEN

### 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.*

**HUMAN MOLECULAR BIOLOGY AND CYTOGENETICS.** The new Division of Human Genetics and Molecular Biology, Hahnemann University in Philadelphia, is seeking qualified staff for positions at the level of **POSTDOCTORATE, SENIOR INSTRUCTOR, and ASSISTANT PROFESSOR** with expertise either in molecular biology, protein biochemistry, or molecular cytogenetics. Research includes identification and characterization of novel oncogenes and their role in the pathogenesis of human cancer. Candidates should have a Ph.D. and/or M.D. Positions in molecular diagnostics and cancer cytogenetics are also available. A B.S. or M.S. in the biomedical sciences is required, with experience in Southern blotting and molecular hybridization techniques or in human cancer cytogenetic techniques. Positions and salary are commensurate with experience. Forward curriculum vitae, professional interest, and names of three references to: **Jorge Yunis, M.D., Vice Chairman, Department of Neoplastic Diseases, Hahnemann University, Mail Stop 412, Philadelphia, PA 19102.** *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL ASSOCIATE, NEUROBEHAVIORAL PHARMACOLOGY.** Position available for research on opiate drugs in rodents and small primates. Behavioral assays are used to study drug-receptor interactions relevant to tolerance, dependence, and potential for abuse. Requires recent Ph.D. in pharmacology or related basic science or psychology. Send curriculum vitae, names of three references, and brief statement of interests to: **Stephen G. Holtzman, Ph.D., Department of Pharmacology, Emory University School of Medicine, Atlanta, GA 30322.** *Emory University is an Equal Opportunity/Affirmative Action Employer.*

13 JULY 1990

## FACULTY POSITION

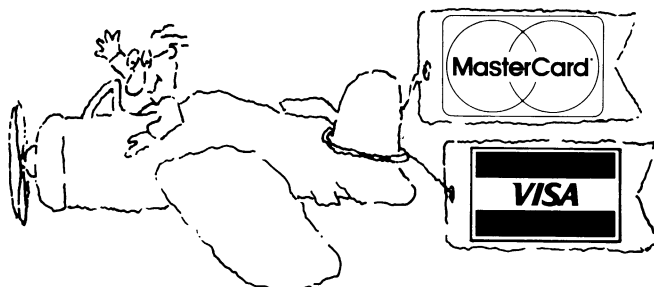
# THE OHIO STATE UNIVERSITY

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

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## 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.



## FACULTY POSITIONS IN CELLULAR & MOLECULAR PHYSIOLOGY

The Department of Cellular and Molecular Physiology of The Pennsylvania State University, College of Medicine is seeking applications for two full-time, tenure-track positions at the Assistant/Associate Professor rank to begin in Winter or Spring 1991. The Department presently has twelve full-time, well-funded faculty, who are working in the general area of cellular and molecular physiology.

We are seeking candidates with substantial postdoctoral experience in applying Molecular Biology and recombinant DNA techniques to one or more of the following areas: metabolic regulation, mechanisms of hormone action, membrane receptors, cytoskeletal-membrane interactions, intracellular membrane trafficking, signal transduction, ion channels, control of growth and differentiation, and regulation of expression of eukaryotic genes. Special attention will be given to candidates who are able to relate molecular concepts and information to the cell and tissue levels of the organism.

Significant research accomplishment and ability to obtain independent funding are essential. Excellent opportunities exist for research collaboration, teaching in a medical school curriculum, and participation in one or more graduate programs. Competitive salaries and start-up funding are available.

Applicants should submit, prior to October 31, 1990, curriculum vitae, reprints, statement of current and planned research interests, and letters from at least three references to:

Dr. Leonard S. Jefferson,  
Chairman, Department of Cellular and  
Molecular Physiology  
College of Medicine  
The Pennsylvania State University  
P.O. Box 850  
Hershey, PA 17033

An Affirmative Action/Equal Opportunity Employer.  
Women and Minorities encouraged to apply

## VETERINARY PROGRAM COORDINATOR Animal Science Research Department Woodbridge, NJ

This position supports staff veterinarians in the planning, execution and control of administrative functions required in the clinical study programs. While the focus of the position will be on biostatistical work, you will also be involved in trial data auditing and the development of study reports.

An M.S. degree in Statistics (or a closely related discipline, such as Biometry, Biostatistics, etc.) and a minimum of 3 years' biostatistics experience in the life sciences or animal health disciplines is required. Good verbal and written communications skills are essential.

Merck Research Laboratories are located in Woodbridge, NJ (approx. 30 miles from NYC). Merck offers outstanding benefits and a competitive salary commensurate with experience. Interested candidates should submit their Curriculum Vitae with the names of (3) references and salary requirements to **Human Resources Manager, Merck Sharp & Dohme Research Laboratories, P.O. Box 2000, WBD-362, Rahway, New Jersey 07065.** We are an EO/AA Employer.



Merck & Co., Inc.

## Mammalian Transformation

Agracetus, a biotechnology company owned by W. R. Grace & Co., is seeking highly motivated individuals to join an active genetic engineering program directed toward genetic modification of plants and animals.

### Research Assistants

Candidates should have a B.S. or M.S. degree with demonstrated capabilities in one or more of the following areas: construction and use of mammalian gene expression vectors, molecular biology, immunology, analysis of gene expression in transfected mammalian cells or transgenic animals. Experience in cell biology, cell culture manipulations, tissue extractions and biochemical assays is highly desirable.

### Research Scientists

Candidates should hold a Ph.D. degree and must have demonstrated technical experience in mammalian gene transfer and expression, retroviral vector construction and utilization, or related areas of research. Relevant post-doctoral experience or additional background expertise in somatic cell and biochemical genetics is also desirable.

*Agracetus offers a competitive salary and a comprehensive benefits package. Our research complex, located near the University of Wisconsin in Madison, provides an ideal setting for both career and lifestyle enhancement. Send resume to: **Personnel Department, Agracetus, 8520 University Green, Middleton, WI 53562.***

*We are an Equal Opportunity Employer*



**Agracetus**

THE UNIVERSITY OF ADELAIDE SOUTH AUSTRALIA invites applications from both women and men for a **TENURABLE LECTURESHIP** available immediately in the **DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY**. The Department teaches Science and Medical undergraduate and postgraduate students and has an excellent research record in studying infectious agents and the diseases they cause. Current research areas include the pathogenesis of and immunological responses induced by a number of enteric bacterial, protozoan and persistent virus infections. The Department has particular strength in molecular biology, monoclonal antibody technology, immunochemistry and cellular immunology. Opportunities also exist for collaboration with relevant research groups in the adjacent Institute of Medical and Veterinary Science and Royal Adelaide Hospital. Applicants should hold a Ph.D. degree or equivalent with appropriate teaching ability and experience and should have a significant track record in research within the field of Immunology. Duties of the appointee will include lecturing, primarily to undergraduate Science students, supervision of research work of postgraduates, and sole responsibility for some of the teaching programmes and administrative tasks of the Department. Preference will be given to applicants providing evidence of ability to develop active research interests in areas which would add to or complement existing research interests of the Department. Further information may be obtained from Professor Chris Burrell, Head of the Department of Microbiology and Immunology. Annual Salary: A\$33,163 x 7-A\$43,096 plus para-clinical loading of A\$8,049. It is University policy to encourage women to apply for consideration for appointment to tenurable academic appointments. Holders of full-time tenured or tenurable academic appointments have the opportunity to take leave without pay on a half-time basis for a specific period of up to ten years where this is necessary for the care of children.

APPLICATIONS IN DUPLICATE quoting reference number 1725, giving personal particulars (including whether candidates hold Australian permanent residency status), resume and names and addresses of three referees should reach the Director, Personnel Services, University of Adelaide GPO Box 498, Adelaide, South Australia 5001, Australia, Telex UNIVAD AA 89141, Facsimile (08) 224 0464 not later than 16 August 1990. From 1 January 1991 Roseworthy Agricultural College will merge with the University of Adelaide. THE UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER.



## GLAXO INSTITUTE FOR MOLECULAR BIOLOGY

The Geneva molecular biology research institute of one of the world's most successful healthcare groups is recruiting a

### CELLULAR NEUROBIOLOGIST

The successful candidate will join a highly motivated team of 30 molecular and cellular biologists and biochemists studying the structure/activity relationships of neurotransmitter receptors, and factors involved in nerve cell proliferation and differentiation.

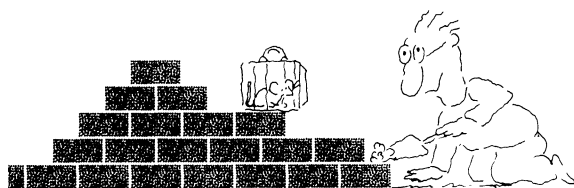
The candidate is expected to have a PhD, and several years of postdoctoral research experience in neuro-cell biology with, if possible, experience in cell line immortalization. The candidate's experience should be demonstrated by a significant list of publications.

The Glaxo Institute for Molecular Biology carries out long term research to support the company-wide effort to discover effective new medicines. It provides a dynamic research environment, and encourages the publication of scientific results as well as collaborative projects with academic groups.

We offer an excellent salary and benefits package and opportunities for career development in one of the most attractive parts of Europe.

If you are interested in this position, please send your Curriculum Vitae with a list of publications and the names of three referees to : Rita Gloor, Personnel Manager, GLAXO IMB S.A., 46, route des Acacias, 1211 Geneva 24, Switzerland.

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## DIRECTOR GENERAL

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**ICRISAT**, with headquarters in Patancheru, Andhra Pradesh, India, seeks an exceptional scientist, administrator, and manager to lead international staff — representing 31 nationalities — as Director General, at multi-faceted research institute with centers also located in Niger and Zimbabwe. Candidates must demonstrate:

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- \* Proficiency in English and French

Send curriculum vitae and names of three referees, **by September 1**, to: **Mr. Martin J. Tillman, Secretary, ICRISAT Search Committee, c/o International Food Policy Research Institute, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036-1998 USA. TELEPHONE: (202) 862-5678, FAX: (202) 467-4439, TELEX: 440054, E-MAIL: 157: CG1701.**



## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Position open to investigate the molecular mechanisms of carcinogenesis. Experience in cellular and molecular biology required. Please send a description of current and past research activities, curriculum vitae, and three letters of reference to: **Dr. Thomas J. Slaga, The University of Texas (UT) M. D. Anderson Cancer Center, P.O. Box 389, Smithville, TX 78957. UT M. D. Anderson is an Equal Opportunity/Affirmative Action Employer and a smoke-free workplace.**

## MOLECULAR PARASITOLOGY

**POSTDOCTORAL POSITION.** Immediate opening for postdoctoral fellow with strong background in molecular biology to identify, clone, and express surface antigen genes from pre-erythrocytic stages of malaria as part of a large, multidisciplinary vaccine development program. Send curriculum vitae and names of three references to: **Dr. Stephen L. Hoffman, Naval Medical Research Institute, 12300 Washington Avenue, Rockville, MD 20852. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION.** In auditory neurophysiology, available immediately for up to 5 years. Research involves recording and interpreting single unit and compound responses from the auditory system in a multidisciplinary study of intensity coding which includes integrated physiological, psychophysical, and anatomical projects in audition and vibrotact. Please send curriculum vitae and three letters of recommendation to: **Dr. Robert L. Smith, Associate Director, Institute for Sensory Research, Syracuse University, Syracuse NY 13244-5290. Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL/LECTURER POSITION.** Available 1 September 1990 for 2 to 3 years, Ph.D. preferred. Research area open, though some interest and experience in comparative anatomy and evolutionary biology is preferred. The Department of Cell, Molecular, and Structural (CMS) Biology at Northwestern University's Medical and Dental Schools is composed of a large and diverse group of researchers with interests which include modern structural, molecular, cellular, developmental, and evolutionary biology. The successful candidate will serve as coordinator for a course in histology for dental students. Please send curriculum vitae, names of references, and statement of research interests by 1 August 1990 to: **Postdoctoral Search Committee, Department of CMS Biology, Northwestern University, 303 East Chicago Avenue, Chicago, IL 60611.**

*Northwestern University is an Equal Opportunity/Affirmative Action Educator and Employer and invites applications from all qualified individuals. Applications from women and minorities are especially sought.*

**POSTDOCTORAL POSITIONS.** Fully funded positions are available immediately to study the molecular biology of Golgi and cell surface forms of glycosyltransferases [see *Mol. Cell. Biol.* 9, 2370 (1989); *J. Cell Biol.* 110, 461 (1990)]. Studies include intracellular sorting of membrane glycoproteins and consequences of altering cell surface glycosyltransferase expression on cell-cell and cell-matrix interactions. Experience in molecular biology is essential. The M. D. Anderson Cancer Center is located within the Texas Medical Center, which also includes the University of Texas Health Science Center and Baylor College of Medicine. There is a large and highly interactive group of cell, molecular, and developmental biologists within the medical center. Send curriculum vitae and names and addresses of three references to: **Dr. Barry D. Shur, Department of Biochemistry and Molecular Biology, Box 117, M. D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030. The University of Texas M. D. Anderson Cancer Center is an Equal Opportunity/Affirmative Action Employer and is a smoke-free environment.**

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## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Available 1 June 1991 for Ph.D. to study human neutrophil activation. Active areas of investigation include: (i) intracellular second messengers, (ii) membrane fusion, (iii) protein kinases, and (iv) cell surface receptors. Doctorate in biochemistry, cell biology, immunology, or cell physiology preferred. Send curriculum vitae and names or letters of references to: **Dr. Laurence A. Boxer, University of Michigan Medical Center, Department of Pediatrics, Hematology/Oncology, F6515 Mott Hospital, Ann Arbor, MI 48109-0238. The University of Michigan is an Equal Opportunity/Affirmative Action Employer.**

**TWO POSTDOCTORAL POSITIONS.** To study molecular biology and biochemistry of (i) cytochrome P450 enzymes in insects and (ii) neuroendocrine control of juvenile hormone biosynthesis. Experience in molecular biology, biochemistry, or insect endocrinology is desirable. Send curriculum vitae and names of three references to: **Dr. R. Feyerherzen, Department of Entomology, Oregon State University, Corvallis, OR 97331-2907.**

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**POSTDOCTORAL POSITION.** To study biosynthesis and translocation of dolichol-linked oligosaccharides in mammalian cells using genetic and biochemical and approaches. See *J. Biol. Chem.* 263, 19796; 264, 1584; 265, 2296; and in press August to September. Send curriculum vitae and names and telephone numbers of three references to: **Mark A. Lehrman, Department of Pharmacology, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235. Equal Opportunity University.**

**POSTDOCTORAL POSITION.** Available immediately to study adenovirus transcription control. Background in molecular biology and animal virus and cell culture preferred. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. David J. Spector, Department of Microbiology and Immunology, Pennsylvania State College of Medicine, Hershey, PA 17033. An Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.**

## POSTDOCTORAL POSITIONS

Ph.D. biochemistry/immunology with 0 to 3 years of experience. Experience in protein purification, monoclonal antibody, cell culture, and molecular biology techniques is desirable but not necessary. Two positions are available immediately involving: (i) Structure and function of cell receptors of immune system. Research involves isolation and functional characterization of Fc receptors and identification of new receptors. (ii) Cell biology of antigen processing for activation of class II-restricted T cells. Send curriculum vitae and three references to: (i) **Dr. Periasamy Selvaraj** or (ii) **Dr. Peter E. Jensen, Department of Pathology and Laboratory Medicine, Room 777 WMB, Emory University, Atlanta, GA 30322. Emory University is an Equal Opportunity/Affirmative Action Employer.**

## CELLULAR AND MOLECULAR BIOLOGY THE UNIVERSITY OF IOWA COLLEGE OF MEDICINE

One **POSTDOCTORAL POSITION** is immediately available. The main focus of this laboratory is the study of the structure, function, and regulation of the LH/CG and FSH receptors [*Endocrine Rev.* 10, 27 (1989); *Science* 245, 494 (1989); *Mol. Endocrinology* 4, 525 (1990)]. The research project for this position involves studying the genomic regulation of the LH/CG and FSH receptor genes, defining the cis- and trans-acting factors underlying hormonal regulation of these receptor genes. Experience in molecular biology is preferred. Please send curriculum vitae, statement of research interests, and three letters of recommendation to:

**Dr. Deborah L. Segaloff**  
Department of Physiology and Biophysics  
Room 6-530 BSB  
College of Medicine  
The University of Iowa  
Iowa City, IA 52242

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

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Biochemistry of protein prenylation. Available immediately to characterize the enzymes involved in this recently discovered protein modification pathway. Background in protein isolation and analysis is desirable. Send résumé and names of at least two references to: **Professor M. H. Gelb, BG-10, University of Washington, Seattle, WA 98195.**

**POSTDOCTORAL POSITION.** Department of Cell Biology, University of Massachusetts Medical Center. A postdoctoral position is available immediately to study several aspects of the biology of transforming growth factor- $\beta$  (TGF- $\beta$ ) beta. Current research involves examination of the growth-inhibitory and differentiation-inducing effects of TGF- $\beta$  on promonocytic leukemia cells. The laboratory is funded by the American Cancer Society.

Interested candidates should send curriculum vitae and three letters of reference to: **Ronald A. Ignatz, Ph.D., Department of Cell Biology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, MA 01655.**

**POSTDOCTORAL POSITIONS AVAILABLE.** The Department of Dermatology, University of Michigan, has openings for the study of growth regulation in human skin. Areas of interest include: receptor tyrosine kinases, growth factor gene regulation, retinoid and steroid receptors, and dermal-epidermal interactions. Ph.D.'s should have experience in molecular and/or cellular biology. M.D.'s desiring molecular biology training are welcome to apply. Send curriculum vitae and two letters of reference to: **James T. Elder, M.D., Ph.D., University of Michigan, C560 MSRB II Box 0672, Ann Arbor, MI 48109-0672.**

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## POSTDOCTORAL POSITIONS LIMNOLOGY/WATER QUALITY

Three individual positions are available in summer-fall 1990 to participate in field/laboratory research and ongoing monitoring projects at Pyramid Lake, Castle Lake, and Lake Tahoe. Topics include: nutrient cycling, N-fixation, trophic interactions, transformations of dissolved organic matter, and water quality modeling. Salary range is \$29,000 to \$31,000. Multiyear appointments. Send résumé, reprints of publications, and description of research interests to: **Dr. Charles R. Goldman, Attention: Post-Doc, Division of Environmental Studies, University of California, Davis, CA 95616. The University of California is an Affirmative Action/Equal Opportunity 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.**

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## **I N F L A M M A T I O N — P h D**

The candidate will provide creative in vivo models of acute and chronic inflammation in support of our effort to study the biochemical and cellular events in inflammation. The position requires a PhD with 2+ years of experience in animal models of inflammation. A publication record in biochemistry, immunology, or cellular biology is expected.

## **I N F L A M M A T I O N — B S / M S**

Positions available for BS/MS to conduct studies to identify and elucidate mediators of inflammation. Applicants must have 2+ years' experience in biochemistry, pharmacology, or related discipline with demonstrated proficiency in sample preparation and chromatographic or radioscopic techniques. Experience in small animal handling and/or leukocyte biology is highly desirable. Additional experience in characterizing enzymes or receptors or in analyzing inflammatory lipids or peptides would be preferred.

## **L E U K O C Y T E B I O L O G Y — P h D**

A postdoctoral position is available for a recent PhD experienced in microvascular research or the biochemistry of adhesion molecules.

## **L E U K O C Y T E B I O L O G Y — B S / M S**

BS/MS applicants are being sought to examine adhesive interactions at a molecular level. 2-3 years of laboratory experience in immunology, membrane biology, or biochemistry is required. Experience in cell culture, protein purification, and monoclonal antibody development is preferred. Experience in fluorescent-activated cell sorting or molecular biology would be useful.

## **C A R T I L A G E B I O L O G Y — B S / M S**

Applicants with a BS and 1-2 years of veterinary technical experience are sought to work in a team studying the pathogenesis of osteoarthritis. Previous experience in anesthesia, sterile surgery, animal handling, tissue collection, histology, and computers is desirable.

These positions offer attractive compensation commensurate with qualifications, generous benefits, and an excellent opportunity for personal growth and professional satisfaction. Resumes including salary history should be forwarded in confidence to: **Department CEC, Miles Pharmaceutical, 400 Morgan Lane, West Haven, CT 06516.**



Research  
Center



## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Position open to investigate suicide substrates as inhibitors of carcinogenesis. Experience in organic chemical synthesis and cellular biology is desirable. Please send a description of current and past research activities, curriculum vitae, and three letters of reference to: **Dr. Thomas J. Slaga, The University of Texas (UT) M. D. Anderson Cancer Center, P.O. Box 389, Smithville, TX 78957. UT M. D. Anderson is an Equal Opportunity/Affirmative Action Employer and a smoke-free workplace.**

**POSTDOCTORAL POSITION.** Available 1 September 1990 to carry out research on processing and the immuno- and peptide chemistry of pro-peptide hormone proteins. The successful candidate will be experienced in cell culture, cell fractionation, preparation of peptide antigens, preparation of antisera, and immunocytochemical methods. Send curriculum vitae and names of three references to: **Dr. Robert B. Harris, Virginia Commonwealth University, Department of Biochemistry, Box 614, Richmond, VA 23298-0614. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH FELLOWSHIP IN INHALATION TOXICOLOGY.** Seeking applicants for a National Research Council fellowship in the Pathophysiology Division, U.S. Army Medical Research Institute of Infectious Diseases. The laboratory conducts research on the toxicity/pathogenesis, prophylaxis, and therapy of inhaled plant, animal, and microbial toxins. Research opportunities exist in the areas of toxin aerosol generation, characterization, deposition, and clearance; alteration in pulmonary mechanics resulting from inhaled toxins; pulmonary physiology including macrophage function and involvement of soluble mediators; and evaluation of therapeutic intervention for the prevention of toxicosis after inhalation of toxin aerosols. In addition, the laboratory offers opportunities to collaborate with experts in the areas of mucosal immunity, vaccine development, pulmonary biochemistry, and cardiac function. Applicants should have a recent Ph.D. in toxicology or physiology. For information, contact: **Dr. Michael A. Chirigos, U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, Frederick, MD 21701-5011. Telephone: 301-663-2227.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** To study varicella latency and gene expression. Immediate opening for an individual with strong training in molecular virology-genetics to collaborate with a team studying varicella virus latency and gene expression. Send curriculum vitae and names of three references to: **Dr. Donald H. Gilden, Professor and Chairman of Neurology, University of Colorado School of Medicine, 4200 East Ninth Avenue, Box B-182, Denver, CO 80262. Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL FELLOWS BIOCHEMISTRY CHEMICAL CARCINOGENESIS

- To study the mechanism of carcinogen-hemoglobin bindings to characterize the modified amino acids, and to establish these modifications as dosimeters of human carcinogen exposure.
- To investigate the metabolism of nitrosamines in oral cavity tissue.

Knowledge of cytochrome P450 enzymology is desirable. We are a modern, well-equipped research facility located in a northern suburb of New York City. Please submit curriculum vitae to:

**Dr. Sharon Murphy  
American Health Foundation  
Division of Chemical Carcinogenesis  
1 Dana Road  
Valhalla, NY 10595**

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**POSTDOCTORAL RESEARCH FELLOWSHIP.** Applications are invited for a postdoctoral fellow to participate in a program investigating growth factor and oncogene expression in human leukemias. Molecular biology and protein chemistry approaches will be utilized; applicants should have a background in one or both of these areas and an M.D. or Ph.D. degree. Send curriculum vitae to: **Razelle Kurzrock, M.D., Clinical Immunology and Biological Therapy, Box 41, The University of Texas M. D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030. Telephone: 713-794-1226. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### POSTDOCTORAL FELLOWSHIPS

Two positions are available after 1 July 1990 for studies on the biochemistry and molecular biology of isoprenoid metabolism. Of particular interest are studies on the translational control of HMG-CoA reductase and characterization of post-translational modification of nuclear lamina proteins by isoprenoids. Support for both positions is available for at least 3 years. Please send curriculum vitae to: **Dr. Michael Sinensky, Eleanor Roosevelt Institute, 1899 Gaylord Street, Denver, CO 80206. United States citizens and permanent residents only.**

**POSTDOCTORAL FELLOWSHIPS, MOLECULAR EVOLUTIONARY GENETICS.** The Pennsylvania State University. Two postdoctoral positions are available for work with faculty members in the Institute of Molecular Evolutionary Genetics in a variety of research areas, including theoretical population genetics; the sequencing of genes in bacteria, *Drosophila*, amphibians, and other organisms; the statistical analysis of nucleotide sequences; and the epidemiological and bio-systematic applications of molecular data. Applicants should send curriculum vitae and the names of two references to: **Dr. Robert K. Selander, Chairman, Search Committee, Department of Biology and Institute of Molecular Evolutionary Genetics, Box A4, 208 Mueller Laboratory, Penn State University, University Park, PA 16802. Application deadline: 13 August 1990. An Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.**

**RESEARCH ASSOCIATE.** Needed for protein purification, spectrophotometry, recombinant DNA, enzyme assays. Involves independent research; gene cloning and analysis. Must have B.S. or equivalent in chemistry or biochemistry with 5 years of technical experience in protein purification and recombinant DNA work. Must have ability to independently follow protocols. Salary: \$25,000 per year. Forty hours per week. Apply at: **Texas Employment Commission, Houston, Texas**, or send résumé to: **Texas Employment Commission, TEC Building, Austin, TX 78778. J.O. #5456870. Ad paid by an Equal Opportunity Employer.**

## University of Medicine & Dentistry of New Jersey

### Robert Wood Johnson Medical School

A FACULTY POSITION (tenure track) at Associate Professor or Professor level in MOLECULAR GENETICS has been established in the Department of Neurology at the University of Medicine & Dentistry of New Jersey-Robert Wood Johnson Medical School in Piscataway/New Brunswick. The Department seeks an experienced Scientist (PhD and/or MD) with a record of research achievement and extramural funding to develop and direct a new Laboratory of Molecular Neurogenetics supported by endowments dedicated to defining the etiology of chronic neurodegenerative disorders, in particular OPCA. The position will be available from October 1990.

Qualified persons are invited to send a C.V., a summary of research interests and career goals and the names of three references to: **Roger C. Duvoisin, MD, Professor & Chairman, Department of Neurology, UMDNJ-Robert Wood Johnson Medical School, CN-19, New Brunswick, NJ 08903-0019, U.S.A. (Tel. #201-937-7732, Fax #201-418-8041); or William J. Nicklas, PhD, Professor & Director, Division of Laboratory Neuroscience, Department of Neurology, UMDNJ-Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854-5635, U.S.A. (Tel. #201-463-4047, Fax #201-463-5295).** 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.



## MOLECULAR BIOLOGISTS

Use your skills in molecular biology in the development/support of new products and technology as part of interactive multi-disciplinary project teams. Research focuses on the development of proteins for human therapeutic use.

We are looking for BS/MS scientists with 3-5 years laboratory experience in molecular biology and Ph.D. scientists with 0-2 years postdoctoral experience. Skills in a variety of techniques such as DNA/RNA preparation, plasmid construction, sequencing, blot analysis and PCR is essential. Experience with immunoglobulin genes or mammalian expression systems is preferred.

We offer a smoke-free work environment. Employment contingent on the results of a drug-screening test. For consideration, please send your resume along with a cover letter summarizing your qualifications and salary history in confidence to: **Baxter Hyland Division, Human Resources, Dept. MS-02, 4501 Colorado Blvd., Los Angeles, CA 90039. An Equal Opportunity Employer.**

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**ENVIRONMENTAL PHYSICIST**  
Remote Sensing Applications

**RESEARCH  
SCIENTIST/  
SENIOR RESEARCH  
SCIENTIST**

**Salary Range**  
**A\$32,471 to A\$47,070**

Position No. A3120

Division of Water Resources  
Canberra ACT AUSTRALIA

**GENERAL:** The CSIRO Division of Water Resources conducts research and development into the definition, use and management of Australia's water resources. A Divisional program of research into the processes which occur in the land phase of the hydrological cycle centres on the definition of radiation and water balances at various spatial scales. Remote sensing is an essential component in these studies.

**PROJECT TOPICS:** The Division is well-known nationally and internationally for its research, development and applications in remote sensing and image processing. There is a commitment to technology transfer and an established commercial partnership with industry through its microBRIAN image processing software system. Current primary research areas involving remote sensing are: (1) land surface modelling and radiative transfer; (2) water and energy balance in the Murray-Darling Basin; (3) remote sensing in the measurement of evapotranspiration; (4) microBRIAN support and development; and (5) applications, technology transfer and documentation.

**THE POSITION:** Initially the appointee will join the remote sensing project team as a participant in its overall activities with emphasis on research areas (1), (2) and (3). The position offers an exciting opportunity for a younger scientist to develop research activities in the fields of environmental physics, algorithm development and problem solving within the context of current and future environmental science.

**QUALIFICATIONS:** A PhD in Science or related field. Capacity to handle computer systems and skill in scientific programming in a PC or workstation environment is essential. Experience and interest in environmental physics, mathematical modelling of natural systems and remote sensing is most desirable.

**TENURE:** Appointment will be for an indefinite period with Australian Government Superannuation benefits available.

**MORE INFORMATION:** Duty statements and selection criteria can be obtained from Ms C. Clyde on (06) 246 5760 (international 61 6 246 5760). Further questions can be addressed to Mr D.N. Body, phone (06) 246 5732 (international 61 6 246 5732), e-mail: david@ivan.cbr.dwr.csiro.au.

**APPLICATIONS:** Written applications addressing the selection criteria should be submitted within four weeks of this advertisement, quoting the above position number. Applications should include relevant personal and professional particulars including formal qualifications and experience. Applicants should nominate at least two professional referees and address applications to:

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Water Resources  
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# Development Biochemists

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**Qualified** candidates should send their resumes and references to: Employee Relations Department, Room PSS-0018, Du Pont Company, Wilmington, Delaware 19898.



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### MOLECULAR BIOLOGISTS

Requirements include a BS MS in Molecular Biology, Microbiology, Biochemistry or related science. Candidates should have experience in basic microbiological, viral recombinant DNA techniques. Experience in sequencing, site directed mutagenesis, tissue culture methodologies, including isolation propagation of recombinant viruses are highly desirable.

Explore your exceptional career advantages with Wyeth-Ayerst. We offer a competitive salary, comprehensive company benefits and an innovative environment with top professional colleagues. For confidential consideration, forward your resume with salary requirements to: **Wyeth-Ayerst Research, Position #079,085, P.O. Box 8299, Philadelphia, PA 19101.** Equal opportunity employer, M/F/H/V responses encouraged.





We're Syva, a subsidiary of Syntex, and a major medical diagnostics company that develops, manufactures and markets products to benefit patients worldwide. We currently have the following positions available:

## SENIOR SCIENTISTS I/II

We are seeking Senior Scientists to develop methods for rapidly extracting target nucleic acids from clinical samples. Extracted sequences need to be of sufficient purity for direct detection and/or amplification by simple instrumentation. Additional duties include developing methods for capturing the released target polynucleotide on a solid support, washing the support free of background producing material and detection of captured complex. The most important scientific goal will be maximizing sensitivity in a simple, automated format.

Qualified candidates should possess a Ph.D. in biochemistry, molecular biology or related discipline with 2 or more years' postdoctoral experience. Should be skilled in biochemistry of nucleic acid hybridization and interactions of nucleic acids with solid supports. Experience in rapid and simple DNA/RNA extraction protocols from bacterial or viral sources. Extensive experience in nucleic acid manipulation, including amplification, labeling, sequencing and purification.

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### STAFF SCIENTIST-(Immunologist) Position #051

The position involves the development of reagents and methods for scale-up and purification of monoclonal antibody fragments produced in E. Coli, as well as the development of novel antibodies for the research market. The successful candidate will interact closely with individuals developing Stratagene's lambda bacteriophage monoclonal antibody screening technology. A doctoral degree and at least 5 yrs of post-doctoral experience is required.

### STAFF SCIENTIST-(Cell Biologist) Position #052

The growth of mammalian cells in culture often depends on poorly defined serum factors. The successful candidate will be asked to lead a research and development program to engineer cell lines to be less dependent on growth factors. Experience with oncogenes, transfection and the regulation of cell proliferation is desired. A doctoral degree and at least 4 yrs of post-doctoral experience is required.

### STAFF SCIENTIST-(Polymer Chemist) Position #053

Excellent opportunity to perform exciting and useful research leading to products based on synthetic polymers. Multi-disciplinary research experience required in synthetic polymers which relates to biological applications as well as interest in materials useful for electrophoretic separations of nucleic acids and proteins. A doctoral degree and at least 3 yrs of post-doctoral experience is required.

### STAFF SCIENTIST-(Electrophoresis) Position #054

The position involves the development of new electrophoretic systems for nucleic acids and proteins. We are seeking a creative, intelligent individual with a good understanding of physics, and electrolyte chemistry, and preferably some knowledge of biochemistry/molecular biology. A doctoral degree and at least 3 yrs of post-doctoral experience is required.

### TECHNICAL SALES REPRESENTATIVES Position #041

Unique opportunity for qualified individuals to participate in a growing technical sales organization. Candidates should have strong practical experience in molecular biology and a BS or MS degree in molecular biology or related field. Prior sales experience is beneficial, but not required. Sales Representatives will attend an extensive one month training program at our beautiful coastal location in La Jolla, California.

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Applicants should have a BS degree in Biology and at least 3 yrs of lab experience in molecular biology. Previous customer service experience preferred. Will be responsible for answering technical inquiries related to our product line.

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The ideal candidate will have a strong background in science with proven technical writing ability. Desk-Top Publishing knowledge helpful.

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# STAFF SCIENTISTS & POSTDOCTORAL FELLOWS

## *Molecular Biology & Neurobiology*

Regeneron Pharmaceuticals, a company dedicated to developing therapeutic agents for degenerative and traumatic neurological diseases, is seeking to apply recent advances in the understanding of neuronal growth and regeneration.

Regeneron offers an exciting, collegial environment in which state-of-the-art molecular skills are brought to bear on outstanding problems in neurobiology and medicine. Key projects focus on the discovery, purification and molecular cloning of novel neurotrophic growth factors, and on the assessment of their biological roles as well as therapeutic potentials using innovative cell culture methods and animal models.

*Openings in Molecular and Cell Biology require skills in the areas of:*

- Protein Biochemistry
- Mammalian Expression Vectors
- Molecular Genetics
- Monoclonal Antibodies

*Positions in Neurobiology require expertise in the areas of:*

- Neural Regeneration (PNS/CNS)
- Models of Neuronal Disease

All positions in Neurobiology require a strong neuronatomical background. Experience with receptor autoradiography and/or *in situ* hybridization is desirable.

Regeneron's modern facility is located on a 275-acre wooded campus in Westchester County, 20 miles north of Manhattan, near major universities and medical centers. We offer excellent compensation packages, including generous stock options. Suburban Westchester features attractive and affordable housing, outstanding public schools and recreational facilities along with ready access to the cultural and business centers of New York City.

Please forward your resume, in confidence, to: **Ms. Carol Deaken, Regeneron Pharmaceuticals, Inc. 777 Old Saw Mill River Road, Tarrytown, NY 10591-6706.** Equal opportunity employer.

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**Pharmaceuticals, Inc.**

**R**epligen Corporation is a leader in the application of biotechnology to the healthcare market. We are currently developing an AIDS vaccine, AIDS therapeutic and diagnostic products, cancer therapies, and novel bioprocess reagents. We take pride in the high caliber of our scientific staff and our collaborations with major research institutions and corporate partners in Europe with the United States. The expansion of our effort has created the following opportunity:

## **Molecular Biology Research Scientist**

Our molecular biology department has an opening for a research scientist to participate in the development of retroviral vaccines, therapeutics and related product candidates. Successful candidates will have a Ph.D. and at least two years of postdoctoral experience, be highly motivated and possess a record of accomplishments and strong publications. Experience with many or all of the following are recommended: cloning, site directed mutagenesis, sequencing, gene expression (bacterial and mammalian cell), biochemistry, and protein purification. Experience studying protein structure/function relationships using molecular biology will be helpful but not necessary.

Repligen Corporation offers a competitive salary, excellent benefits, relocation, and equity participation. Please submit a cover letter, resume, and references to: B. Fleming, Repligen Corporation, One Kendall Square, #122, PO Box 9171, Cambridge, MA 02139. An Equal Opportunity Employer.

# **RepliGen**

## **Postdoctoral Fellow In Neurotoxicology**

The Pharmaceutical Research Institute of the Bristol-Myers Squibb Company in Syracuse, NY will offer an annual contract for up to two years to a postdoctoral fellow in Neurotoxicology. This long-term temporary position may well convert to permanent status.

The selected candidate will use animal and *in vitro* models to conduct studies leading to a better understanding of drug related neuropathy. The environment is excellent for this kind of research, in terms of equipment, laboratory space, and interaction with experienced resident scientists.

To join our Exploratory Toxicology/Cellular/Biochemical Toxicology Group, you must be a PhD experienced in the evaluation of biochemical mechanisms of neurotoxicity. You should have practical background in at least one of the following topics: electrophysiology, neurohistopathology, neuroreceptor binding studies, or related techniques for evaluating functional anomalies of the nervous system. In-depth experience in tissue culture techniques for cells of the mammalian nervous system is highly desirable.

We offer an excellent salary, comprehensive benefits and a working environment conducive to professional growth. For prompt confidential consideration, please forward your resume and two references to: **MANAGER OF EMPLOYMENT**



**BRISTOL-MYERS SQUIBB COMPANY  
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## POSITIONS OPEN

### POSTDOCTORAL POSITION RESEARCH SCIENTIST

Nonprofit public health research organization seeks individual for full-time research project, "Particle Resuspension and Deagglomeration by Collision Processes." This is an experimental study of the fundamental processes involved in the resuspension and deagglomeration of particles on a surface when other particles bombard the surface. The facilities for the research include the Aerosol Laboratory, which is located on the campus of the University of California, Berkeley. This position is intended to provide an opportunity for the development of additional skills and experience in scientific research beyond those attained in earning a doctorate degree. Funding for this position will be for 1 year only. Salary: \$2458 per month with an excellent benefits package. Send résumé and names of three references by 31 August 1990 to: **California Public Health Foundation, 2001 Addison Street, Suite 210, Department 180, Berkeley, CA 94704-1103.** We are proud to be an Equal Opportunity/Affirmative Action Employer.



Agricultural Research Service  
United States Department of Agriculture

### LIPID BIOCHEMISTRY POSTDOCTORAL RESEARCH ASSOCIATE

The Lipid Nutrition Laboratory, ARS, Beltsville, Maryland, is seeking a bioanalytical chemist or a nutritional biochemist to join a team investigating effects of dietary lipids on eicosanoid synthesis, especially those affecting atherogenesis and thrombotic events. Successful candidate will be responsible for (i) developing and validating GC-MS-based quantitative assay systems or (ii) conducting research, with humans and animal models, on effect of formula diets and specific dietary supplements on eicosanoid synthesis. Starting salary is \$29,891 (GS-11). Research effort is supported by state-of-the-art instrumentation. For application information/forms, contact: **Dr. Aldo Ferretti, USDA-ARS, Lipid Nutrition Laboratory, Room 122, Building 308, BARC-East, Beltsville, MD 20705.** Telephone: 301-344-2171. Applications in response to this advertisement should be marked OEO11 and must be received by 31 October 1990. ARS is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

### POSTDOCTORAL RESEARCH ASSOCIATE DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

A Ph.D. with a background in protein chemistry and an interest in reproductive biology is sought to join a laboratory at the University of Illinois investigating hormonal control of the female reproductive tract during pregnancy. Investigation centers around the identification, isolation, and characterization of hormone-induced proteins.

Salary: Competitive, dependent upon qualifications.

Person to contact: **Dr. O. D. Sherwood, Department of Physiology and Biophysics, University of Illinois, 524 Burrill Hall, 407 South Goodwin Avenue, Urbana, IL 61801.**

Closing date: In order to insure full consideration, applications (curriculum vitae and three letters of reference) must be received by 1 August 1990.

Starting date: As soon as possible after closing date.

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

### CELL BIOLOGY GROUP CHILDREN'S HOSPITAL OF LOS ANGELES UNIVERSITY OF SOUTHERN CALIFORNIA

**RESEARCH ASSISTANT PROFESSOR OR RESEARCH ASSOCIATE** appointment. Biochemist with an interest in molecular biology to work on glutathione synthesis during oxidant stress. Position will have significant independence and responsibilities in the laboratory of Henry Jay Forman, Ph.D., Head, Cell Biology Group. Position has stable (nongrant) support and opportunities for advancement. Submit curriculum vitae and names of references to: **Mr. John Baciu, Personnel Office, Children's Hospital of Los Angeles, 4650 Sunset Boulevard, Box 48, Los Angeles, CA 90027.** Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH POSITION

The Dana-Farber Cancer Institute is seeking to fill one research position at the postdoctoral level with an individual interested in studying the regulation of the expression of an endogenous retrovirus-like gene family by NGF and other neurotrophic factors in a multidisciplinary environment [PNAS 87, 3778-3882 (1990)]. The position carries a joint appointment as a postdoctoral fellow at Harvard Medical School. Please send curriculum vitae, a statement of research interests, and the names of three references to: **Dr. John A. Wagner or Dr. Paul Kaplan, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.** An Affirmative Action/Equal Opportunity Employer.

**POSTGRADUATE RESEARCH PROGRAM IN FOSSIL ENERGY.** Opportunities at Department of Energy Technology Centers in Morgantown, West Virginia, and Pittsburgh. Research positions in the areas of physical sciences, engineering, and microbiology available. Degree within last 3 years required as is U.S. citizenship or PRA status. Contact: **Fossil Energy Postgraduate Program, Science/Engineering Education Division, Oak Ridge Associated Universities, Box 117, Oak Ridge, TN 37831-0117.** Telephone: 615-576-3456.

**ASSISTANT RESEARCH PROFESSOR.** West Virginia University (WVU) Health Sciences Center is recruiting for a faculty position in the Anesthesiology Research Laboratory. Applications are invited from qualified Ph.D.'s or M.D.'s. The applicant is expected to establish independent studies that will complement current research activity related to the basic science of analgesics and pain processing pathways. The successful candidate will also be committed to active collaboration in ongoing research activity within the department. Skill in supervision and training of staff and students is necessary. Joint appointment within an appropriate basic science department is possible. Send curriculum vitae, addresses and telephone numbers for three references, and a statement of research and academic goals to: **David J. Smith, Ph.D., c/o Richard Robinson, Administrator, Department of Anesthesiology, WVU Health Sciences Center, Morgantown, WV 26506.** Applications will be accepted until 30 September 1990. WVU and University Health Associates are Affirmative Action/Equal Opportunity Employers.

**RESEARCH ASSOCIATE POSITION.** To conduct theoretical physics studies in lattice gas automata and turbulence; for lattice gas research, focusing on applications to astrophysics, space physics, thermohydrodynamics and multiphase flows, the knowledge of optimized parallel and vector computations, including experience on CRAY and Connection Machine, are required, with emphasis on the lattice gas code development for MHD and multidimensional lattice gas kinetic theory; for turbulence, applying the turbulence theory in direct-interaction approximation, decimation methods, and mapping schemes for probability distribution. Candidates are expected to have a Ph.D. degree with 2 years of postdoctoral experience. Salary: \$32,000. Deadline for application: 1 September 1990. Submit application, letters of recommendation, and supporting documents to: **Job #804100, Division of Employment and Training, Department of Labor, 3301 Lancaster Avenue, P.O. Box 2168, Wilmington, DE 19805.**

**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.

## POST-DOCTORAL POSITIONS

### Department of Cellular and Radiation Oncology

### THE UNIVERSITY OF CHICAGO

Positions available immediately to study molecular and genetic aspects of cellular growth control. Individuals are expected to interact with other members of the department, as well as other departments in The University of Chicago, while pursuing their independent research. Applicants should be experienced in the basic techniques of molecular biology with an emphasis on recombinant DNA methods.

Send curriculum vitae, letters of reference and a brief letter of research interests and experience to:

**Dr. Ralph R. Weichselbaum**  
Professor and Chairman

### THE UNIVERSITY OF CHICAGO

Dept. of Radiation and  
Cellular Oncology  
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### Fellowship in AIDS Research

#### Program Information

New York University, an NIH-designated Center for AIDS Research, invites applications to a multidisciplinary post-doctoral program for training in basic research related to the immunopathogenic mechanisms underlying HIV infection. Trainees will work collaboratively in at least two laboratories with mentors specializing in immunology, retrovirology, molecular biology, anti-viral therapeutics or pediatrics. The program is placed within a multi-institutional setting with labs located at NYU Medical Center, the Aaron Diamond Foundation, Public Health Research Institute, Veterans Administration Medical Center and Bellevue Hospital. As many as five fellows will be accepted into this NIH-sponsored program for up to three years of training, beginning July 1, 1990. Women and minority candidates are encouraged to apply.

#### Eligibility

Individuals with an MD, PhD, or MD/PhD may apply. Candidates must be U.S. citizens or permanent residents.

#### How to Apply

Candidates should submit a curriculum vitae with a summary of past research experience and should include names of three individuals from whom they have requested letters of recommendation. These applications should be addressed to:

**Dr. Susan Zolla-Pazner**  
Professor of Pathology  
New York University  
Medical Center  
Department of Pathology  
550 First Avenue  
New York, New York 10016

**I**mmuCell Corporation is a young, publicly held company engaged in the development of diagnostics, immunoprophylactics and immunotherapeutics for the animal and human health care industries. The following position is currently available within our research and development group.

## Scientist

We are currently seeking a Ph.D. with postdoctoral training in viral immunology and/or vaccine development and microbial pathogenesis. Experience in the characterization of microbial antigens and the immune response are key skill areas. The successful candidate will participate in the development of immunoprophylactic and immunotherapeutic agents for the preventions of infectious diseases.

ImmuCell offers a competitive compensation package that includes potential equity participation, as well as a beautiful coastal New England setting with a unique quality of life. Our entrepreneurial environment provides the opportunity to grow professionally and to attain commensurate recognition and reward.

Please send resume and salary history to: **Dr. Joseph Crabb, ImmuCell Corporation, 966 Riverside Street, Portland, Maine 04103.**

**ImmuCell**

## POSTDOCTORAL POSITION

### Peptide Chemistry/Immunology

Applications are invited to join a multidisciplinary team involved with studies directed towards immunotherapy for autoimmune diseases, including arthritis and diabetes. The selected individual will be responsible for:

- Design and synthesis of peptidoglycan-polysaccharide derived peptides and study of their *in vitro* immunogenicity.
- Study of T cell receptor structure
- Study of molecular mimicry
- Synthesis of specific T cell receptor peptides and analysis of their effects on *in vivo* immunoregulation

The position will be closed at our state-of-the-art research facility in Research Triangle Park, N.C. For consideration, send your resume and names of references to: **Human Resources Department, Job # 9141T004, 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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### DEPARTMENT OF CELLULAR AND MOLECULAR BIOLOGY

## Two Senior Researchers in Biology/Biochemistry

(PhD. or post-doctoral level)

The successful candidates have a good experience in mRNA isolation, protein purification, Northern and Western blot and are creative and independently working individuals. They are interested in the isolation and characterization of transport proteins or the expression of oncogenes.

Please submit CV to Média-System, 6 impasse des Deux Cousins, 75849 Paris Cedex 17 France. Please quote reference 528 on the envelope.



## POSITIONS OPEN

**ASSISTANT RESEARCH PHYSIOLOGIST.** Ph.D. in physiology or related field required. Experience in respiratory and cardiovascular structure and function measurements related to exercise (i.e., quantitative cardiac and skeletal muscle morphometry, muscle metabolism, oxygen consumption, gas exchange kinetics, and acid-base balance). Salary and rank related to established University of California, San Diego, salary schedule. Apply by 3 August 1990 to: **Dr. John West, Division of Physiology, M-023A, University of California, San Diego, La Jolla, CA 92093-0623.** *Affirmative Action/Equal Opportunity Employer.*

**BIOCHEMIST. ASSISTANT RESEARCH** level position available in Oakland, California, to study the structure and mechanism of action of lipogenic enzymes. Candidate must have Ph.D. in chemistry or biochemistry, a minimum of 3 years of experience in techniques of enzymology (enzyme purification and characterization, kinetic studies, protein chemistry, and amino acid sequencing) and molecular biology (DNA library construction, cloning and screening, DNA sequencing, fermentation, and mutagenesis) and should be able to maintain a small computer network. Salary: \$37,500. Send copy of this ad with résumé and names of two referees to: **Job #CR15529, P.O. Box 9560, Sacramento, CA 95823,** no later than 28 July 1990.

### 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.*

**SENIOR ASSOCIATE RESEARCH ENGINEER.** Direct research activities for the design and implementation of in-house capabilities for applying artificial intelligence and machine learning technologies to the diagnostics division of a manufacturer and distributor of pharmaceuticals. Utilizing expert systems techniques, control engineering, and statistics/probability theories, identify and direct product-oriented projects such as design and development of an expert system which will present, analyze, and interpret data on a real-time basis and a mathematical model-based system to analyze raw data to predict appropriate actions. Conduct internal-services projects and training programs for research scientists and engineers in the development of artificial intelligence and expert system technologies for a variety of internal purposes. Minimum requirements: Ph.D. in computer science and engineering. Must have completed one course in each of the following: (i) real-time computing systems; (ii) digital control systems; (iii) optimal control; (iv) artificial intelligence; (v) design and analysis of algorithms; (vi) stochastic theories and processes; and (vii) theory of statistics. Ph.D. dissertation must be in field of machine learning. Six months of experience as a graduate teaching assistant. Teaching assistantship must have assisted in a graduate-level course in machine learning and adaptive systems. Forty hours per week, 9:00 a.m. to 5:00 p.m.; \$45,000 per year. Send résumé with social security number to: **Indiana State Employment and Training Services, 10 North Senate Avenue, Indianapolis, IN 46204, Attention: W. F. Shepherd.** Identification number: 3180502. *An employer-paid ad.*

### SENIOR SCIENTIST

The Salk Institute, Government Services Division, engaged in the production of biologics in northeastern Pennsylvania, has an opening for an experienced molecular biologist with a Ph.D. in microbiology/biochemistry to organize and direct a laboratory devoted to developing human use vaccines and vaccine-related products.

Excellent salary and benefits. Qualified applicants should submit curriculum vitae, including salary history, to: **Director of Personnel, The Salk Institute, Government Services Division, P.O. Box 250, Swiftwater, PA 18370.** *Equal Opportunity Employer, M/F/H/V.*

## POSITIONS OPEN

**RESEARCH TECHNICAL ASSOCIATE.** For college in northeastern Ohio. To conduct research, in cooperation with research neuroscientists, to develop a computer-based multichannel data acquisition and analysis system for the central nervous system. This specifically involves: (i) image processing for neuron images (e.g., edge detection contour enhancement, three-dimensional computer graphics, geometry, and description of pictures in terms of representation of structures); (ii) neural network: organization of natural neuro mechanisms for information processing; and (iii) cardiac electrogram signal analysis. Must have M.S. in biomedical engineering and academic program must have included one course each in: processing of biomedical signals, image form and processing, imaging devices, physiological control systems, sensory and motor prosthetics, neuro networks, and biomedical instrumentation. Must have 3 months of experience as research assistant and experience must have been in biomedical engineering. Must have the ability, as evidenced by scientific publication(s), employer testimonials, academic transcripts, or letters of reference from academic adviser(s) and/or professor(s) who supervised research thesis work, to develop software for biomedical engineering. Forty hours per week, 8 a.m. to 5 p.m.; \$23,145 per year. *Must have proof of legal authority to work permanently in the United States.* Send résumé and course transcript in duplicate (no calls) to: **J. Davies, JO# 1241861, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

The European Molecular Biology Laboratories (EMBL), an international research institute, has a vacant **STAFF SCIENTIST** post in the group of Patrick Argos to research theoretical techniques to build protein tertiary models from primary sequences. Methods include analysis of consistent patterns in homologous tertiary structures, energy minimization, molecular dynamics, development of potential functions, and new creative approaches. Computer programming experience is important. Modeled structures include viral proteins. An above-average salary and renewable 3-year contract are offered. Write for an application form, quoting number: **90/26, to: EMBL, Personnel Section, Postfach 10.2209, D-6900 Heidelberg, Federal Republic of Germany.**

### SENIOR STAFF RESEARCHER

You will be responsible for screening certain chemical compounds with the purpose of analyzing and assessing the response of certain cell materials called ligands and neurotransmitter receptors. Salary: \$60,000 per year. Ph.D. in molecular pharmacology plus 5 years of experience in industrial environment involving ligand binding at a wide range of receptors such as excitatory amino acid, muscarinic, dopaminergic, adrenergic, peptidergic. Knowledge and experience in the use of second messengers as functional measures of receptor activity; experience in the use of cell culture for both ligand binding and second messenger studies; working knowledge of computer-aided data analysis. Job site and interview: **Palo Alto, California.** Send this ad and your résumé to: **Job #EG16265, P.O. Box 9560, Sacramento, CA 95823-0560,** no later than 3 August 1990. *An Equal Opportunity Employer.*

## MEETINGS

### ADVANCES IN CHEMOTHERAPY OF AIDS-II 13-14 September 1990

Symposium on recent advances in basic research on development of novel drugs and pharmacologic approaches against AIDS. Details and application forms: **Department of Pharmacology, University of Alabama at Birmingham, University Station Box 600, Birmingham, AL 35294.** Telephone: 205-934-4578 or 205-934-4584. FAX: 205-934-8240.

## ANNOUNCEMENTS

Pharmaceutical group operating on an international level is looking for cooperation with universities and research institutes for the development of drugs (growth factors, protease inhibitors, cytokines, or cytokine modulators) that can be used in the treatment of bone and cartilage diseases. Please contact: **Box 68, SCIENCE.**

## SITUATIONS WANTED

**MICROSURGEON, Ph.D.** Experience: rat heart/lung ischemia-reperfusion injuries in vivo/vitro, perfusion, transplantation, preservation, lipid peroxidation, hypertension, enzymes, metabolism. **Box 69, SCIENCE.**

**MOLECULAR BIOLOGIST, B.S.** Recombinant DNA, organelle isolation, restriction analysis. Writing, computer, math skills. Seeks position with West Coast biotechnology firm. **Box 70, SCIENCE.**

**MOLECULAR BIOLOGIST, Ph.D.** (1983). Expression, cloning, transgenics, vectorology, retroviruses. NIH funding, numerous publications. Seeks scientific/consulting/administrative position. **Box 64, SCIENCE.**

**PHARMACEUTICAL DEVELOPMENT, Ph.D.** (pharmacology); 16 years of clinical experience in industry: approved NDAs; FDA presentations. Seeks clinical/regulatory management, Midwest. **Box 67, SCIENCE.**

**Ph.D. PHYSICS.** Small-, macro-molecular crystallography, fiber diffraction of helical polymers. Wants post in Maryland, D.C., nearby area; academic/industry. **Box 71, SCIENCE.**

**Ph.D. (1972).** Wide experience: cellular immunology, immunotherapy, virology, radiobiology, animal tumor model systems, drug screening, grants. Seeking research/industry position. **Box 72, SCIENCE.**

Articulate tenured **Ph.D.** with 20 years of experience in biomedical research seeks career change to science writer or editor in Northeast. **Box 73, SCIENCE.**

**TOXICOLOGIST, Ph.D.** Seeks part-time or short-term assignment. **Box 74, SCIENCE.**

**JOB-SHARING TEAM, Ph.D.'s:** analytical and biological chemistry; analytical development, surface analysis, robotics, proteins, molecular biology, computers. Research/teaching. **Doug Wilson and Betsy Kraus, 19A Courtney Square, Greenville, NC 27858.** Telephone: 919-355-2478.

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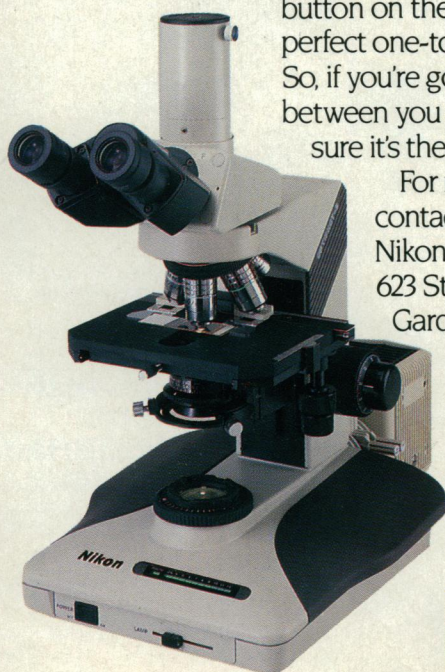
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**HIV regulatory protein**  
The protein, a regulatory protein of the human immunodeficiency virus, contains 84 amino acids, including a Cys-rich cluster and a highly basic region. The fusion protein CII-tat was expressed in *E. coli* and isolated from the soluble cell lysate by cation exchange chromatography at 4°C.

Lysate was loaded through the pump onto the column. The acidic proteins, the majority of the material, were washed through the column followed by gradient elution of the strongly basic CII-tat. The collected fraction was further purified by reverse phase chromatography. Sequencing of the first 20 N-terminal amino acids confirmed the identity of the product.

**Fast micropurification**  
Non-porous resin (NPR) column materials offer the possibility of extremely fast and efficient separation of protein mixtures. The purification of cytochrome *c* from *R. viridis* required only sonication, centrifugation, and ion exchange chromatography of the crude supernatant.

Previously, the cytochrome had been prepared using low pressure ion exchange chromatography followed by chromatofocusing, requiring more than a full day. The NPR column allowed isolation of 0.5 µg of pure protein in less than 30 minutes.

**Enzyme purification**  
Aspartate aminotransferase (AAT) is a dimeric protein, molecular weight 87,000 and pI 4.6, with pyridoxal phosphate as coenzyme. The enzyme was purified from strain of *E. coli* containing a multicopy plasmid with the *AAT* gene, which results in 10X overexpression of the enzyme.

Cells were sonicated, centrifuged to remove insoluble cell debris, and applied to a strong ion exchange column. Absorption by the coenzyme at 300 nm is used for identifying AAT during elution. This single chromatography step recovered active protein 95% pure by the  $A_{280}/A_{300}$  ratio.

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