

lar components of a wide range of both cross-striated cells and smooth ones alike, the possibility of there being more than one molecular element generating contraction must be considered. Likewise, the possibility that they might have had independent, polyphyletic evolutionary origins is at least as good as an assumed homogeneity and common ancestry."

The conceptual approach in a single-authored text can lead to a tendency to select data to bolster one's own hypotheses and to slight alternative hypotheses. In this case, the tendency is exacerbated by the author's belief as stated in the introductory chapter that most scientists who have studied muscle have assumed that vertebrate skeletal twitch muscle should provide the model for all other muscle types. Often such scientists "are not familiar with, and act as if unwilling even to consider, available knowledge on more than a very few muscles" (p. 3). Perhaps in reaction to this situation, the author in presenting his own hypotheses and data sometimes extensively cites his own (quite significant) contributions while ignoring or citing only briefly the work of others in the field. There is also relatively little space devoted to the molecular events of contraction, perhaps because, in the author's view (p. 608), "The seriousness of the search for muscle's presumed 'Holy Grail,' the X bridge cycle, resembles nothing so much as that evinced in medieval times concerning how many angels may stand on the head of a pin. Now, however, the question concerns the type of dance they are performing on it." On this and other topics, Hoyle may present his personal viewpoints, but he is certainly not dull in either his hypotheses or his rhetoric. This book really should be read by the audience to which it is directed—research scientists in the field and students in courses on locomotion or the neural control of behavior.

GEORGE BITTNER

Department of Zoology,  
University of Texas, Austin 78712

## Books Received

- Advances in Cladistics.** Vol. 2. Proceedings of a meeting, Ann Arbor, Mich., Oct. 1981. Norman I. Platnick and V. A. Funk, Eds. Columbia University Press, New York, 1983. xii, 218 pp., illus. \$32.50.
- Advances in Infrared and Raman Spectroscopy.** Vol. 10. R. J. H. Clark and R. E. Hester, Eds. Wiley Heyden, New York, 1983. xvi, 454 pp., illus. \$110.
- Advances in Physical Chemistry.** Current Developments in Electrochemistry and Corrosion. Ya. M. Kolotyrkin, Ed. Mir, Moscow, 1982 (U.S. distributor, Imported Publications, Chicago). 192 pp., illus. Paper, \$6.45. Advances in Science and Technology in the U.S.S.R.: Chemistry Series.
- Beyond the Urban Fringe.** Land Use Issues of Nonmetropolitan America. Papers from a confer-

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Applicants should send comprehensive curriculum vitae, reprints and the names, addresses, and telephone numbers of at least three persons who can serve as referees by 31 December to: **Dr. Kenneth L. Heck, Jr., Division of Environmental Research, Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pa. 19103.**

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**Dr. Wesley D. Wicks**  
Department of Biochemistry  
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Candidates should submit a résumé and a concise statement of research goals and objectives, and have three letters of reference forwarded to: **Dr. David Wilson** concerning Position 1 and to **Dr. David Boykin** concerning Position 2; **Department of Chemistry, Georgia State University, Atlanta, Georgia 30303**. Application deadline: 20 December 1983. *An Affirmative Action/Equal Opportunity Employer.*

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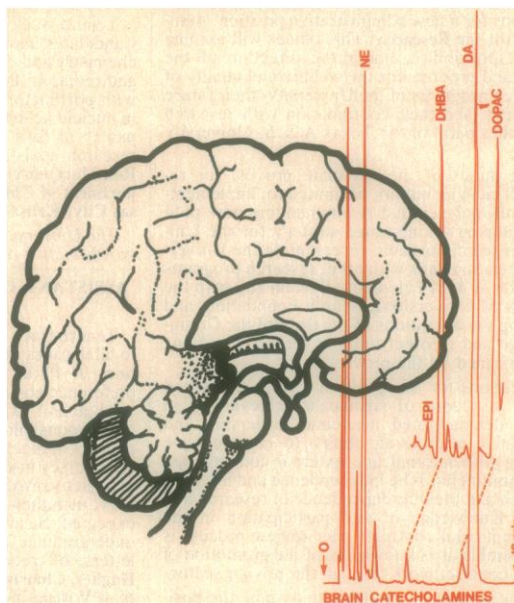
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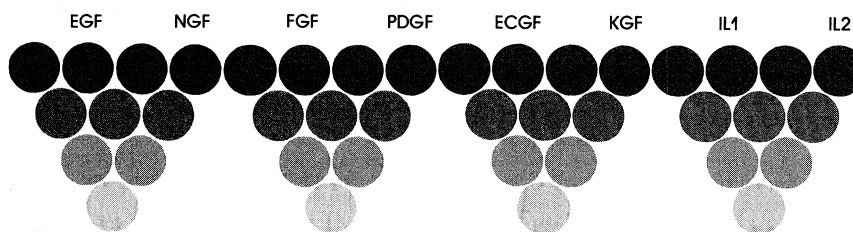
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Candidates must be available to assume the position no later than 1 September 1984. Nominations and applications, with résumés and names of references, must be submitted on or before 15 December 1983 to:

**Dr. Charles E. McCandless**  
Associate Provost  
Texas A & M University  
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## College of Agriculture

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The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

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

### ASSISTANT OR ASSOCIATE PROFESSOR OF BIOCHEMISTRY

Tenure-track position beginning 30 January 1984, to fill vacancy created by recent unexpected resignation. A Ph.D. in biochemistry is required, with preference given to candidates who also have course work and/or experience in the organic area. Teaching responsibilities include undergraduate/graduate courses in biochemistry and occasional undergraduate courses in organic chemistry. The development of an active research program in an area of biochemistry, including the pursuit of extramural funding, is expected. Salary competitive. Send résumé, official undergraduate and graduate transcripts, and three letters of recommendation to: **Dr. Kenneth J. Hughes, Chairman, Chemistry Department, University of Wisconsin-Oshkosh, Oshkosh, Wis. 54901.** Application deadline is 7 December 1983. *An Equal Opportunity/Affirmative Action Employer.*

**DUKE UNIVERSITY, DEPARTMENT OF BOTANY,** invites applications for an **ASSISTANT PROFESSORSHIP**, tenure-track. Research interest in the systematics, development, cytology, or other aspect of the biology of the bryophytes. Teaching responsibility in bryology and another advanced course of the individual's specialty; participation in introductory courses. Submit curriculum vitae and research plans, and have three letters of recommendation sent by 15 January to: **Professor William Louis Culbertson, Botany, Duke University, Durham, N.C. 27706.** *Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR—GENETICS.** The Department of Biological and Environmental Sciences, McNeese State University, invites applications for a tenure-track position in the general area of genetics, to begin August 1984. Applicants must have a Ph.D.; a strong commitment to research and teaching at both graduate and undergraduate levels is essential. Send résumé and summary of research plans to: **Dr. Bill W. Taylor, Chairman, Biology Search Committee, Department of Biological and Environmental Sciences, McNeese State University, Lake Charles, La. 70609.** *An Equal Opportunity/Affirmative Action Employer.*

**CELL BIOLOGIST.** Assistant to full professor with duties including research, teaching, and administration in the Department of Ophthalmology, University of California, San Diego (UCSD), School of Medicine. Appointment and salary commensurate with qualifications and experience. Candidates must have an M.D. or a Ph.D. and significant experience in glycoprotein biochemistry. Experience in ophthalmic research and research funding preferred. Dual appointment in basic science department possible. Associate and full professor levels require evidence of outstanding abilities in teaching and research. Reply by 31 December 1983 to: **Stuart I. Brown, M.D., Chairman, Department of Ophthalmology (H-898), UCSD Medical Center, 225 Dickinson Street, San Diego, Calif. 92103.** *UCSD is an Equal Opportunity/Affirmative Action Employer.*

**PHARMACOLOGIST.** Assistant to full professor with duties including research, teaching, and administration in the Department of Ophthalmology, University of California, San Diego (UCSD), School of Medicine. Appointment and salary commensurate with qualifications and experience. Candidates must have an M.D. or Ph.D. and significant experience in the study of inflammation and its mediators. Experience in ophthalmic research and funding for research preferred. Dual appointment in basic science department possible. Associate and full professor levels require evidence of outstanding abilities in teaching and research. Reply by 31 December 1983 to: **Stuart I. Brown, M.D., Chairman, Department of Ophthalmology (H-898), UCSD Medical Center, 225 Dickinson Street, San Diego, Calif. 92103.** *UCSD is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

Seek tenure-leading **ASSISTANT PROFESSOR** (or instructor, non-tenure leading) in **PALEOBIOLOGY** starting August 1984. Requires Ph.D. for assistant professorship. (Highly qualified persons in final stages of Ph.D. will be considered for instructorship.) Preference will be given to those with postdoctoral experience and peripheral strengths in micropaleontology and carbonate petrology. Taxonomic specialty will not be an important consideration.

Responsibilities include the teaching of undergraduate course in paleobiology, participation in the introductory geology program, the development of a strong research program, and the supervision of M.S. and Ph.D. thesis work. Send résumé on or before 1 February 1984, names of three references, transcripts, and a letter of application indicating research interests and experience and a listing of courses that the applicant feels qualified to teach to: **Chairman, Search Committee, Department of Geology, 433 Morrill Hall, University of Nebraska-Lincoln, Lincoln, Nebraska 68588-0340.**

*Affirmative Action/Equal Opportunity Employer*

**ASSISTANT PROFESSOR IN PSYCHOBIOLOGY.** The Psychobiology Program of the University of Pittsburgh will have an opening for a tenure-track position at the assistant professor level to begin 1 July 1984. The focus of research by members of the Psychobiology Program faculty is on neurobiological analyses of brain-behavior relations, though candidates with expertise in any area of the neurosciences will be considered. Applicants should have postdoctoral experience and are expected to establish an independent research program. Participation in the graduate and undergraduate teaching program will also be required. Please submit curriculum vitae, a brief statement of research interests, and three letters of recommendation to: **Dr. Theodore W. Berger, 465 Crawford Hall, Psychobiology Program, University of Pittsburgh, Pittsburgh, Pa. 15260.**

**ASSISTANT/ASSOCIATE PROFESSOR OF SOILS.** The Department of Agronomy and Soils seeks a Ph.D. to teach undergraduate and graduate courses in soil fertility and/or plant nutrition and to conduct a research program in soil fertility and/or plant nutrition. Salary open; application review begins 1 December 1983. Submit résumé, statement of career interests, academic transcripts, and names of five personal/program evaluators to:

**Dr. J. C. Engibous, Chairman**  
Department of Agronomy and Soils  
Washington State University  
Pullman, Wash. 99164-6420

*An Equal Opportunity/Affirmative Action Employer*

### BEHAVIORAL ECOLOGIST

The Department of Biological Sciences at the State University of New York at Albany (SUNYA) is seeking a behavioral ecologist with demonstrated mathematical and experimental skills. Level: associate professor or experienced assistant professor. Please send curriculum vitae and names of three references before 15 December 1983 to: **Jerram L. Brown, Department of Biological Sciences, State University of New York at Albany, Albany, N.Y. 12222.**

*SUNYA is an Affirmative Action/Equal Opportunity Employer. Applications from minority persons, women, and handicapped persons and Vietnam-era veterans are especially welcomed.*

The **Department of Biology** announces two tenure-track appointments for 1984-1985 in:

**ANATOMY.** Teach neuroanatomy, gross anatomy, possibly histology or embryology.

**IMMUNOBIOLOGY.** Teach general and some medical immunology.

Occasional part-time appointments in other areas; no closing date.

Inquiries and complete applications by 1 January 1984 to: **Dr. Howard Shellhammer, Chair, Department of Biology, San Jose State University, 1 Washington Square, San Jose, Calif. 95192.** *Equal Opportunity Employer.*

**CHAIRMAN AND PROFESSOR of microbiology,** Catholic Medical College, Seoul, Korea. Highly qualified candidates in all areas of microbiology will be considered. Established fields of investigation include molecular virology and gene cloning. Position of **ASSOCIATE OR ASSISTANT PROFESSOR of immunology** is also available. Korean speaking is essential. Send curriculum vitae and the names of three references to: **Dr. Bong-Sop Shim, Dean, Catholic Medical College, Banpo-Dong, Seoul 135, Korea.**



## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSORS CELLULAR AND MOLECULAR PHYSIOLOGY

The Department of Physiology and Biophysics, University of Washington, invites applications for two tenure-track positions in cellular/molecular physiology. Applicants should demonstrate ability to develop strong independent research programs and should be motivated to teach at the graduate level. Submit curriculum vitae, statement of research interests and goals, and names of three references before 31 December 1983 to: **Bertil Hille, Chair of Search Committee, Physiology and Biophysics SJ-40, University of Washington School of Medicine, Seattle, Wash. 98195. Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT OR ASSOCIATE PROFESSOR OF PHARMACOLOGY.** The Department of Pharmacology of the West Virginia School of Osteopathic Medicine (WVSOM) seeks an assistant or associate professor of pharmacology. Applicants must have a good background in general pharmacology, with experience in one or more of the following areas: cardiovascular pharmacology, neuropharmacology, chemotherapy, and antibiotics. Significant teaching experience and a demonstrated ability to conduct independent research are also required. Rank and salary will be commensurate with qualifications. Send current curriculum vitae and three letters of recommendation to: **Elizabeth Blatt, Associate Dean for Academic Affairs, WVSOM, 400 North Lee Street, Lewisburg, West Virginia 24901, by 2 December 1983; the position is available immediately. An Equal Opportunity/Affirmative Action Employer.**

**BIOPSYCHOLOGIST.** The Department of Psychology at the University of New Orleans has an opening at the assistant or associate professor level in biopsychology beginning August 1984. Salary is commensurate with experience. The Department of Psychology has graduate programs leading to the doctorate in applied biopsychology and applied developmental psychology. Applicants should therefore have demonstrated research competence in biopsychology and have applied interests and capabilities. Curriculum vitae and three letters of recommendation should be sent no later than 15 January 1984 to: **Dr. Bruce M. King, Biopsychology Search Committee, Department of Psychology, University of New Orleans, New Orleans, Louisiana 70148. An Equal Opportunity/Affirmative Action Employer.**

Washington State University is accepting applications for the position of **CHAIRMAN**, Department of Veterinary Microbiology and Pathology. Qualifications required are the D.V.M. (or equivalent), a post-D.V.M. advanced degree in one of the disciplines included in the department (immunology, microbiology, parasitology, or pathology), and administrative experience. The duties of the position are administrative responsibility for teaching, research and service within the department, teaching and participation in College policy determination. The position is available 1 February 1984; closing date for applications is 1 January 1984. Salary is commensurate with qualifications and experience. Applicants should send a letter of application, a copy of their current curriculum vitae, and the names of three references to: **Dr. A. M. Gallina, College of Veterinary Medicine, Washington State University, Pullman, Washington 99164-7040; telephone: 509-335-9696.**

*Washington State University is an Affirmative Action/Equal Opportunity Employer. Women and candidates from minority groups are encouraged to identify themselves.*

The University of Connecticut, School of Dental Medicine, invites applications for the position of **CHAIRPERSON**, Department of Periodontology. The department is responsible for undergraduate preclinical and clinical education, postgraduate education, continuing education, and research in periodontology and related areas. Applicants should have administrative experience and an established research record in such related areas as clinical investigation, microbiology, immunology, connective tissue biology, or bone physiology.

Send curriculum vitae to:

**Dr. Leslie S. Cutler, Chairman  
Periodontology Search Committee  
Department of Oral Diagnosis  
School of Dental Medicine  
University of Connecticut  
Farmington, Connecticut 06032  
Telephone: 203-674-2952**

*An Affirmative Action/Equal Opportunity Employer, M/W/H*

## POSITIONS OPEN

### CELL BIOLOGIST—ANATOMIST

Applications are invited for a tenure-track position at the assistant or associate professor level. Candidates must have a Ph.D. or M.D. degree, at least 2 years of relevant postdoctoral research experience, and be able to participate in team-taught courses in cell biology/histology. Preference will be given to candidates working in the fields of developmental cell biology or developmental neurobiology. Those interested should send curriculum vitae, reprints, research plans, and names of three senior investigators familiar with the candidate's work to: **Dr. Jerome Sutin, Chairman, Department of Anatomy, Emory University School of Medicine, Atlanta, Georgia 30322. Closing date for receipt of applications is 15 December 1983. Emory University is an Affirmative Action/Equal Opportunity Employer.**

Applications are invited for the joint position of

### CHIEF EXECUTIVE OFFICER (NATIONAL)

of the Canadian Cancer Society and the National Cancer Institute of Canada.

This is a challenging and rewarding opportunity to become associated with two large, respected and closely affiliated Canadian voluntary health agencies. We are seeking an individual of recognized stature in medicine and/or medical research who possesses major leadership and administrative skills. The successful candidate should have demonstrated skills in communication and in the area of interpersonal relationships.

Apply in writing, including curriculum vitae, by 31 January 1984, to: **The Chairman, Selection Committee, Canadian Cancer Society, Suite 1001, 130 Bloor Street West, Toronto, Ontario, Canada M5S 2V7.**



### DEVELOPMENTAL BIOLOGIST

The Biology Department of Emory University invites applications for a tenure-track assistant professorship in **DEVELOPMENTAL BIOLOGY** to begin 1 September 1984. Preference will be given to applicants with postdoctoral experience. The successful applicant will be expected to establish a research program which will attract extramural funding, and to use contemporary molecular technology for the study of developing systems. Teaching responsibilities will be at the undergraduate and graduate levels. Send curriculum vitae, research plans, and the names of four references to: **Chairperson, Developmental Biologist Search Committee, Department of Biology, Emory University, Atlanta, Ga. 30322, by 1 January 1984. Emory University is an Equal Opportunity/Affirmative Action Employer.**

**DIRECTOR**, Center for Environmental Toxicology. The Colleges of Agriculture and Natural Resources, Human Medicine, Osteopathic Medicine and Veterinary Medicine, and the Agricultural Experiment Station provide joint support for the Center for Environmental Toxicology at Michigan State University (MSU). The center coordinates interdisciplinary research, develops and serves as an interface between the university and these agencies. Candidates should hold a Ph.D. or professional degree and be an established scientist actively engaged in toxicological research. Applications or nominations, accompanied by curriculum vitae, should be sent to: **Dr. Robert Leader, Center for Environmental Toxicology, C231 Holden Hall, Michigan State University, East Lansing, Mich. 48824. Deadline for receipt of applications is 31 December 1983. MSU is an Affirmative Action/Equal Opportunity Employer.**

**ECOSYSTEM ECOLOGIST.** Postdoctoral position available 1 February 1984 for 2 years. Desert ecosystems research group needs ecologist with experience in computer modeling of plant-soil processes. Salary: \$18,500. Submit curriculum vitae and names and addresses of three references before 15 December to: **Dr. R. A. Virginia or Dr. W. M. Jarrell, Soil and Environmental Sciences, University of California, Riverside, Calif. 92521.**

## LANDSCAPE ARCHITECTURE AND PLANNING

Applications are invited from persons qualified to offer graduate-level instruction and conduct research or professional studies in the field of **applied ecology and natural resources.**

The position is full-time and appointment will be made as professor for a fixed term or with tenure, depending on qualifications. Academic appointments entail responsibilities for teaching, academic administration, and scholarship.

### APPOINTMENT CRITERIA

Candidates are sought who have the requisite academic qualifications and professional experience. Priority will be given to persons who have achieved distinction as teacher-scholars or as teacher-practitioners.

### APPLICATION

Applications will be accepted on the form available from the: **Graduate School of Design Appointments Committee, c/o Catherine Kornyel, Harvard University, 48 Quincy Street, Cambridge, Massachusetts 02138.** Applicants should not send dossiers. Applications should be received by 1 December 1983.

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

## Dean

### College of Natural Sciences Colorado State University

Colorado State University invites applications and nominations for the position of **DEAN** of the College of Natural Sciences. The dean is the chief administrator of the second largest college of the University, enrolling approximately 2,500 undergraduate and graduate students in the departments of Biochemistry, Botany/Plant Pathology, Chemistry, Computer Science, Mathematics, Physics, Psychology, Statistics and Zoology/Entomology. There are 185 faculty members in the college.

Colorado State University is the land-grant institution in the State of Colorado and consists of 9 colleges and the graduate school, with approximately 18,000 full-time students enrolled in 82 bachelor's, 61 master's, and 36 doctoral degree programs housed in 56 departments with 1,120 full-time faculty. The main campus of Colorado State University is located in Fort Collins, approximately 60 miles north of Denver. Fort Collins is a growing community with a population of approximately 80,000 and offers a wide range of cultural resources and recreational advantages.

The Dean of the College of Natural Sciences provides leadership within the college and promotes the goals of the departments of the college to the upper administration of the university and to both governmental and private sectors. Candidates should have successful administrative experience and an established record of excellence in both teaching and research.

**BEGINNING DATE:** Applicants should be available to assume the position on approximately June 1, 1984.

**CLOSING DATE:** Applicants must submit all application data by December 15, 1983.

**APPLICATIONS:** Applications and nominations should include a detailed resume and a list of references and should be addressed to:

**D. W. Dobler, Chairman  
Dean's Search Committee, C.N.S.  
College of Business  
Colorado State University  
Fort Collins, Colorado 80523**

CSU is EEO AA employer. E.O. Office: 314 Student Serv. Bldg.

## POSITIONS OPEN

### CLINICAL RESEARCH OPPORTUNITY

#### Medical Writer

Medi-Physics, Inc. is seeking a self-motivated individual with a B.S./M.S. in biological sciences or equivalent, to join its clinical research team. A minimum of 3 years of pharmaceutical industry experience and proven ability in clinical protocol and report composition is required. Must also be able to assume project responsibility.

Medi-Physics, Inc., a leading innovator in the radio-pharmaceutical industry and a subsidiary of Hoffmann-La Roche, offers the successful candidate the opportunity to participate in a dynamic and creative environment. We are located within sight of downtown San Francisco. We offer an excellent salary and a full range of benefits.

Interested candidates should send résumé, together with salary requirements, in confidence to:

**Director of Human Resources  
MEDI-PHYSICS, INC.**

P.O. Box 8684

Emeryville, Calif. 94608

*An Equal Opportunity Employer, M/F*

### DEAN THAYER SCHOOL OF ENGINEERING DARTMOUTH COLLEGE

Nominations and applications are invited for the position of dean of the Thayer School of Engineering at Dartmouth College. The dean is responsible for the academic, administrative, and financial leadership of the school and will oversee a major expansion in the faculty, facilities, and graduate programs during the next several years.

The Thayer School of Engineering is responsible for the undergraduate engineering science major within the faculty of Arts and Sciences and for programs at the B.E., masters, and doctoral levels. Areas of research strength include biomedical, computer, electrical and mechanical engineering, materials science, and cold regions science and engineering. A commitment to interaction with industry is fostered through the Cook Engineering Center.

Candidates should hold a doctoral degree in engineering or a related field, qualify for a tenured position at the full professor level, and have experience in teaching, research, and administration. Applications requested by 1 January 1984 for appointment beginning 1 July 1984. Nominations and applications should be sent to:

**Dean Search Committee  
Office of the Provost  
Parkhurst 102  
Dartmouth College  
Hanover, N.H. 03755**

*Dartmouth College is an Affirmative Action/Equal Opportunity Employer.*

### ELECTRONICS SPECIALIST

We require a research support specialist to manage a newly created Flow Cytometry Laboratory at Cornell. Duties include operating, maintaining, and scheduling use of a fluorescence-activated cell sorter and accessories. Applicants should have maintenance skills and knowledge of optics and computer programming. Submit interest letter, curriculum vitae, and names of three references to:

**Dr. Douglas McGregor  
James A. Baker Institute  
Snyder Hill Road  
Ithaca, New York 14850**

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

### GENETIC ENGINEERING, INC.

A Colorado company, based in Denver, on the forefront of science and technology in the livestock industry, invites for immediate employment experienced postdoctorates in the fields of:

- 1) EMBRYOLOGY
- 2) IMMUNOLOGY

The persons have to be willing to relocate to Denver, Colorado. Denver has many positive attributes, such as spectacular recreational opportunities and an excellent cultural environment.

Salaries are competitive.

Please apply in writing to:

**Dr. Jan E. Clee (President)  
Genetic Engineering, Inc.  
P.O. Box 33554  
Denver, Colo. 80233**

*Genetic Engineering, Inc., is an Equal Opportunity Employer.*

## POSITIONS OPEN

### ENVIRONMENTAL SCIENTISTS

**Organic/Environmental Chemists:** Experience in process chemistry, environmental release, and fate of industrial chemicals and waste products.

**Health and Environmental Scientists:** Experience in human and environmental exposure analysis and hazard assessment.

Opportunities to participate in programs involving reviews of the literature, data analysis, discussion with industry and the preparation of reports assessing exposure, effects and hazards of industrial chemicals and waste products.

Excellent writing and analytical skills required. Industrial experience preferred.

Applicants should send résumés to:

**Personnel Director  
Dynamac Corporation  
11140 Rockville Pike  
Rockville, Md. 20852**

**FACULTY POSITION IN PHYSIOLOGY.** The Department of Physiology of the Temple University School of Medicine seeks a Ph.D. or M.D. to fill a full-time, tenure-track position. Individual should demonstrate ability to do independent research and will be involved in medical and graduate level teaching programs. Salary is commensurate with experience. Send curriculum vitae to: **Dr. Alan R. Freeman, Department of Physiology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, Pa. 19140.** *Temple University is an Equal Opportunity/Affirmative Action Employer.*

The Department of Internal Medicine at the University of Michigan Medical School has positions available for full-time **FACULTY MEMBERS IN GENERAL INTERNAL MEDICINE.** The General Medicine Division seeks an internist to expand its research and training programs. The individual will teach the primary care track in the Internal Medicine Residency Program; he/she will be expected to undertake a research program and to participate in the academic program of the department. An M.D. degree, clinical primary care experience, a specific research interest, and Board-eligibility in internal medicine are required. Title, rank, and salary are negotiable. Send curriculum vitae to: **Jeffrey K. Stross, M.D., Acting Division Chief of General Medicine, Department of Internal Medicine, D3211 SACB, Ann Arbor, Mich. 48109.** *The University of Michigan is an Affirmative Action/Equal Opportunity Employer.* Codes 33DO, 272DO, and 149FO.

The University of Michigan Medical School, Department of Internal Medicine, has positions available at the Veterans Administration Hospital to work in the **DIVISION OF GENERAL MEDICINE.** The individual will have patient care activities in both ambulatory care and inpatient settings. Candidates should be Board-eligible in internal medicine and have an interest in health services and research. Address inquiries, including curriculum vitae, to: **Jeffrey K. Stross, M.D., The University of Michigan Medical School, Department of Internal Medicine, D3211 SACB, Ann Arbor, Michigan 48109.** *The University of Michigan is a nondiscriminatory, Affirmative Action Employer.* Codes 265HO, 263HO, and 264HO.

The Department of Internal Medicine is seeking a **JUNIOR FACULTY MEMBER** to work in the Division of General Medicine. The position will consist of clinical activity at the Brighton Health Center. This will include both patient care and teaching activities. Candidates should be Board-certified or -eligible in internal medicine and have an interest in health services. Address inquiries, including curriculum vitae, to: **Jeffrey K. Stross, M.D., Department of Internal Medicine, The University of Michigan Medical School, Ann Arbor, Michigan 48109.** *The University of Michigan is a nondiscriminatory, Affirmative Action Employer.* Code 320HO.

The Department of Internal Medicine is seeking a **JUNIOR FACULTY MEMBER** to work in the Division of General Medicine. The position will consist of two bases of clinical activity—outpatient general medicine at the Veterans Administration Hospital and the Brighton Health Center. This will also include both patient care and teaching activities. Candidates should be Board-certified or -eligible in internal medicine and have an interest in health services. Address inquiries, including curriculum vitae, to: **Jeffrey K. Stross, M.D., Department of Internal Medicine, The University of Michigan Medical School, Ann Arbor, Michigan 48109.** *The University of Michigan is a nondiscriminatory, Affirmative Action Employer.* Code 321HO.

## POSITIONS OPEN

### EXPERIMENTAL NUTRITION: Faculty Position

The Department of Nutritional Sciences at the University of California, Berkeley, seeks an outstanding individual with an established record of excellence in research and teaching for the position of professor or associate professor of experimental nutrition. Research emphases are not restricted but should be related to biochemical aspects of experimental nutrition, such as studies of intermediary metabolism and its control or mechanisms of nutrient action. Teaching responsibilities normally include two courses per year (including a laboratory). Level of appointment will depend on qualifications. Applications should be submitted to: **Chairman, Experimental Nutrition Search Committee, Department of Nutritional Sciences, 119 Morgan Hall, University of California, Berkeley, Calif. 94720.** Applications should be accompanied by complete curriculum vitae and publication list, a statement of research interests, and a brief description of teaching experience. Applicants should submit the names of five referees able to evaluate the academic, teaching, and research abilities of the applicant. Deadline for completed applications: 1 December 1983. Position available 1 July 1984, pending approval of University administration.

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

### SIX TENURE-TRACK POSITIONS

A newly established medical school is expanding its faculty in: **ANATOMY, CELL BIOLOGY, NEUROSCIENCE, PHARMACOLOGY, PHYSIOLOGY, AND VIROLOGY.** We are seeking candidates with a Ph.D. and/or M.D. with postdoctorate training. Successful candidates will participate as tutors in a problem-based curriculum and will be expected to develop an active research program. Applications will be accepted until 15 December 1983. Send curriculum vitae, names and addresses of three references, and a brief statement outlining career goals to: **Dr. Robert Moon, Chairman, Department of Basic Medical Sciences, Mercer University School of Medicine, Macon, Ga. 31207.** *An Equal Opportunity/Affirmative Action Employer.*

**FACULTY POSITION.** The Cancer Research Center and the Departments of Pharmacology and Microbiology and Immunology at the University of North Carolina at Chapel Hill (UNC-CH) are recruiting a new faculty member for July 1984. Faculty rank will be specified according to the candidate's qualifications and is not restricted. The position is for a person who can complement and expand the research capabilities of the Cancer Center's Cell Biology Program, particularly in the area of the molecular and cellular mechanisms of growth control. The areas of particular interest include, but are not limited to, mechanism of growth factor action, control of genetic expression during normal and neoplastic growth, effect of growth regulatory agents upon genetic expression, cell cycle analysis, role of cellular oncogenes, mechanisms of transformation, tumor heterogeneity, biology of metastasis, and molecular mechanism of differentiation. The individual will have teaching responsibilities in the relevant department and research opportunities in the department and in the Cell Biology Program of the Cancer Center. Applicants should send their curriculum vitae and the names and addresses of three references to: **Shirley P. O'Keefe, Cancer Research Center, Box 30, MacNider Building 202H, UNC-CH School of Medicine, Chapel Hill, N.C. 27514.** *Women and minorities are encouraged. UNC is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION IN BIOCHEMISTRY

A tenure-track position in the Department of Chemistry at the assistant professor level to be filled no later than 1 September 1984. The candidate must have a strong background in chemistry and a Ph.D. in biochemistry or bioorganic chemistry with appropriate postdoctoral or equivalent experience in the areas of plant, invertebrate, environmental, or microbial biochemistry. Applicants showing potential for bridging the various natural resource and chemical disciplines will be most highly desirable. Participation in the teaching of beginning courses in biochemistry is required. A letter of application and statement of research interest and plans, a résumé, and three letters of recommendation should be sent by 15 December 1983 to: **Dr. Robert T. LaLonde, Department of Chemistry, State University of New York College of Environmental Science and Forestry, Syracuse, N.Y. 13210.** *An Affirmative Action/Equal Opportunity Employer.*

## RESEARCH ASSOCIATES

### East-West Center

The East-West Center is an educational institution established in Hawaii by the United States Congress in 1960 "to promote better relations between the United States and the nations of Asia and the Pacific through cooperative study, training and research."

Applications and nominations for academic staff positions in the Environment and Policy Institute are being accepted. The Research Associate positions are full-time and are for fixed-terms up to three years with the possibility of renewal. Applications for Research Fellow appointments in these areas are also sought. All Center programs are multinational and multidisciplinary. Research Associates, visiting scholars, professionals, and graduate degree students form teams which work on problems with significant mutual consequences for the United States and nations of Asia and the Pacific.

Candidates must have a Ph.D. or equivalent in a natural science, social science, or professional discipline relevant to the program and at least four (4) years of relevant experience. Positions are open in areas of policy and management analysis of issues related to tropical forest lands, watersheds, water resources, and agroecosystems. Experience in Asia/Pacific region preferred. Working proficiency in English language is required.

Cover letter should give examples of demonstrated ability to: a) discover knowledge about natural resource and environmental issues, especially at the international level; b) develop applications of this knowledge, for example, curricula, educational materials, policy aids; and c) design and implement research and education projects and activities in a team context, preferably multinational.

Salary for academic staff members commensurate with extent of experience and qualifications plus current cost-of-living allowance of 22.5 percent (subject to change). All nominees will be contacted to determine interest. Applications with cover letter, complete curriculum vitae, and names and addresses of three professional references must be postmarked no later than January 15, 1984. Starting date flexible. Send to Karen Lam, Personnel Office, East-West Center, Dept. 19, 1777 East-West Road, Honolulu, Hawaii 96848.

*An Equal Opportunity Employer M/F*

## RESEARCH DIVISION UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY (UMDNJ) NEW JERSEY SCHOOL OF OSTEOPATHIC MEDICINE (NJSOM)

Tenure-track (or tenured) position for 1984-1985 at level of assistant to full professor in collaborative basic and clinical research. Applicants for junior rank (tenure-track) should have several years of productive postdoctoral training and show promise of vigorous research program. Applicants for senior rank (tenure-track or tenured) should provide evidence of outstanding productivity and record of research support.

**MEDICINE:** Immunologist/monoclonal antibody experience microbiologist/biochemist to collaborate in basic/clinical medical research. Specialized field of interest open.

**PEDIATRICS:** Medical geneticist (Ph.D.) to combine clinical laboratory direction and collaborative basic/clinical prenatal/developmental research with pediatricians and basic scientists.

**PSYCHIATRY:** Biometricist/biostatistician/computer specialist to combine applied/theoretical personal academic program with collaboration on wide range of basic and clinical research programs.

**SURGERY:** Physiologist/pharmacologist animal surgeon to collaborate in surgical research. Specialized field of interest open; oncology/immunology research interest/preferred.

Application by 31 December 1983, to be accompanied by curriculum vitae, reprints, research experience and plans, and names of three references. Application to: **Dr. Matthew Freund, Associate Dean for Research, UMDNJ-NJSOM, 300 Broadway, Camden, N.J. 08103. UMDNJ is an Affirmative Action/Equal Opportunity Employer.**



## THE UNIVERSITY OF MANITOBA

invites applications and nominations  
for the position of

### DEAN OF THE FACULTY OF SCIENCE

The Faculty of Science at The University of Manitoba has a complement of 190 faculty and 90 support staff. Its twelve departments and units span the Biological, Mathematical and Physical Sciences; they offer a full range of undergraduate Science programs for approximately 4000 students enrolled in the Faculty, courses for a large number of students from other faculties and schools, and M.Sc. and Ph.D. programs for about 290 graduate students.

Candidates should have an active commitment to research in a major field of Science, have a commitment to advancing higher education in Science, and have strong leadership ability. Relevant administrative experience and knowledge of the Canadian educational system would be assets.

The appointment is expected to commence July 1, 1984, and will be for a term of normally five to seven years. Reappointment is possible under the University's policies.

Both women and men are encouraged to apply. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Applications (with the names of three persons from whom confidential references may be obtained), nominations and suggestions will be received until December 31, 1983, and should be forwarded to

**Dr. F. G. Stambrook**  
Chairman, Advisory Committee for the  
Dean of Science  
Room 202 Administration Building  
Winnipeg, Manitoba R3T 2N2  
Canada

## Postdoctoral Training Program

### CELLULAR AND MOLECULAR ENDOCRINOLOGY

Postdoctoral traineeships are available immediately and for 1984 in a new NIH supported program. Trainees with a Ph.D. or M.D. degree will participate in a research program with one of thirteen faculty from the Biochemistry Department and the Program in Biomedical Sciences on the campus of the University of California, Riverside. The purpose of the program is to provide for research training at the postdoctoral level in the following five major areas of focus.

- intracellular events in hormone action;
- endocrinology of vitamin D, calcium, phosphorus and bone;
- insulin and its action;
- molecular biology of hormone action;
- structure of hormones and their receptors.

For detailed information and application forms write to:

**Dr. Anthony W. Norman, Program Director**  
Department of Biochemistry  
University of California  
Riverside, California 92521

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## CSIRO

### FISHERIES SCIENTIST

A\$35,630 to A\$40,470

**DIVISION OF FISHERIES RESEARCH  
MARINE LABORATORIES  
HOBART, TASMANIA  
AUSTRALIA**

CSIRO conducts scientific and technological research in laboratories located throughout Australia and employs about 7,500 staff, of whom some 2,900 are professional scientists. The Organization's research activities are grouped into five Institutes: Animal and Food Sciences, Biological Resources, Energy and Earth Resources, Industrial Technology, and Physical Sciences. The CSIRO Division of Fisheries Research is a member of the Institute of Animal and Food Sciences.

**GENERAL:** The Division of Fisheries Research is a major component of the CSIRO Marine Laboratories, which is Australia's principal marine research institution. The division currently employs about 70 scientists and 40 support staff based in laboratories in Sydney, Perth, and Brisbane. The Sydney staff will be transferred in the latter half of 1984 to new laboratories being built at Hobart, Tasmania. The appointee will be located in the new laboratories which are expected to be completed about August 1984.

The division's major research program is an investigation of fisheries resources right around the Australian coast using a 53-meter stern trawler. A 2-year study of the fish resources and ecology of the northwest shelf of Australia will be completed by early 1984 and the ship will then be operated out of Hobart, principally to investigate the demersal fish resources in southeastern Australian waters.

**DUTIES:** The appointee will be responsible for the research leadership of the migratory fish group, which includes tuna research. The prime objective of the latter is to provide a scientific basis for management of the southern bluefin tuna fishery, mainly through quantitatively oriented studies based on fisheries statistics and mark-recapture data. A new intensive tagging program has started in 1983. Biological studies leading to advances in the theory of tuna management will also be undertaken.

The appointee will initiate and carry out a personal research program on one facet of the migratory fish program.

**QUALIFICATIONS:** A fisheries scientist with outstanding achievement in biology and with experience in population dynamics is required. He or she must be a capable research leader, must have a Ph.D. degree or equivalent qualifications in a relevant science with training in fisheries biology, and have at least 12 years of postdoctoral experience. A substantial record of significant research publications is essential.

**TENURE:** Indefinite with Australian Government Superannuation (pension) benefits available.

**APPLICATIONS:** Quoting reference number A2392 and giving full personal particulars, including details of qualifications and experience, copy of academic transcripts, and the names of at least two professional references should be directed to:

**The Acting Chief**  
CSIRO Division of Fisheries Research  
P.O. Box 21  
CRONULLA, N.S.W. 2230  
AUSTRALIA

by 9 December 1983.

## POSITIONS OPEN

### FACULTY POSITIONS

The Department of Natural Science and Mathematics invites applications for three positions.

- 1) Two-year **instructor or assistant professor of biology** to teach undergraduate biology courses. Strong background in physiology and anatomy and zoology desired. Immediate opening.
- 2) **Assistant or associate professor of chemistry**, tenure track, to teach undergraduate organic and general chemistry and introductory physics. Starting January 1984.
- 3) **Assistant or associate professor of mathematics**, tenure track, to teach undergraduate mathematics courses. Starting January 1984.

Send curriculum vitae and three letters of recommendation to: **Dr. A. Samuel, Department of Natural Science and Mathematics, Saint Paul's College, Lawrenceville, Virginia 23868.** Ph.D. required for ranks of assistant professor or higher. *Equal Opportunity Employer.*

### Faculty Position—WATER RESOURCES ENGINEER and/or Chemist

The Johns Hopkins University, School of Hygiene and Public Health, has a position open at the **assistant professor** level in the Division of Environmental Health Engineering, Department of Environmental Health Sciences. The position involves teaching and research in the water and wastewater program. Applicants should hold an earned doctorate in chemistry or environmental engineering with a strong background in chemistry and a demonstrated ability to conduct laboratory and field investigations. *The Johns Hopkins University is an Equal Opportunity Employer and welcomes applications from qualified women and minorities.* Send curriculum vitae and references to: **Dr. Morton Corn, School of Hygiene and Public Health, 615 North Wolfe Street, Room 6010, Baltimore, Maryland 21205.**

**ALBERT EINSTEIN COLLEGE OF MEDICINE, FACULTY POSITIONS IN CELL BIOLOGY**—The Division of Biology invites applications for faculty positions. Opportunities are particularly attractive for candidates who combine genetic and molecular approaches to the study of eukaryotic cells including, but not limited to, gene organization and regulation, cellular differentiation, molecular virology, and nucleocytoplasmic interactions. Will establish an independent research program, direct graduate students and postdoctoral fellows, and participate in graduate-level teaching. To apply send curriculum vitae, a summary of past research experience, a description of proposed future research, and the names of four references to: **Dr. Jonathan R. Warner, Chairman, Department of Cell Biology, ALBERT EINSTEIN COLLEGE OF MEDICINE, New York, N.Y. 10461.** *An Equal Opportunity Employer.*

### FACULTY POSITIONS IN PHARMACOLOGY

Applications are invited for two tenure-track appointments as assistant or associate professor in the Department of Pharmacology at the University of Tennessee Center for the Health Sciences. Applicants should possess Ph.D., M.D., or other doctoral degree, have no less than 2 years of postdoctoral experience, and have demonstrated ability to conduct an independent research program which applies modern constructs and methods of biochemistry, immunology, genetics, or molecular biology to research problems in pharmacology. Responsibilities include the development of an independent research program and participation in the Pharmacology Department teaching programs. Please forward curriculum vitae and a research proposal and arrange for three letters of recommendation to be sent to: **Dr. Alberto Nasjletti, Search Committee Chairman, Department of Pharmacology, University of Tennessee Center for the Health Sciences, 874 Union Avenue, Memphis, Tenn. 38163.** Inquiries should be received prior to 15 December 1983, for a position available 1 July 1984. *An Equal Opportunity/Affirmative Action Employer.*

**FACULTY POSITION, PARASITOLOGY/MICROBIOLOGY.** Tenure-track, academic-year position, assistant professor, starting September 1984. Teach undergraduate and graduate courses in parasitology and microbiology. Must have training and experience sufficient for supervision of electron microscope facility and for training of students. Research, vigorous pursuit of outside research support expected. Ph.D., postdoctoral experience required. Application deadline: 15 February 1984. **R. A. Faust, Ph.D., Department of Microbiology, University of Montana, Missoula, Montana 59812.** *Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

The Department of Biological Chemistry, University of Michigan Medical School, has very recently filled an assistant professorial position in eukaryotic gene expression and now has available another tenure-track **FACULTY POSITION** in this area with **RANK DEPENDENT UPON EXPERIENCE.** Dedication to research and interest in teaching biochemistry and molecular biology are essential. Please send résumé to: **Dr. G. R. Greenberg, Chairman of Search Committee, Department of Biological Chemistry, Medical Science I, Box 034, Ann Arbor, Mich. 48109-0010.** A nondiscriminatory, Affirmative Action Employer. Code 37FO.

**HEAD, DEPARTMENT OF PLANT PATHOLOGY,** North Carolina State University. Candidates should have an established professional reputation in plant pathology as well as academic experience in teaching, research, and/or extension. Send curriculum vitae and the names of three references to: **Dr. R. J. Kuhr, Box 5215, North Carolina State University, Raleigh, N.C. 27650.** *An Equal Opportunity/Affirmative Action Employer*

### IMMUNOGENETICS/PARASITOLOGY

**Postdoctoral Position** available immediately to study the genetic control of immunity to parasitic helminths. Applicants should have experience in the immunochemical techniques required to purify and characterize relevant parasite antigens and experience with cell hybridization and cloning techniques. Salary: \$15,000 to \$17,000. Send curriculum vitae and the names of three references to: **Dr. Donald L. Wassom, Department of Preventive Medicine, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853.**

**IMMUNOLOGIST.** Research position available immediately for Ph.D. immunologist to study immune complexes and idiotypes of autoantibodies in human diseases. Experience with isoelectric focusing, electrophoretic transfer techniques, immunoassay, and ELISA required. Applicants should submit, prior to 1 December 1983, curriculum vitae, statement of research interests, reprints, and three letters of reference to: **Vincent Agnello, M.D., New England Medical Center, Box 405, 171 Harrison Avenue, Boston, Mass. 02111.**

### MANAGER—QUALITY CONTROL CHEMISTRY LABORATORY

The New York Blood Center, a major not-for-profit manufacturer of biological parenterals, is seeking a highly qualified individual to fill the above position at its Plasma Processing Laboratories on Long Island. Candidates should have a Ph.D. in biochemistry or analytical chemistry or the equivalent experience.

Experience in biologics, parenterals, or pharmaceuticals manufacturing, quality control and/or GMP's is highly desirable. The candidate must have a strong background in protein chemistry, analytical biochemistry, and instrumental analysis. A good knowledge of plasma proteins and blood coagulation techniques is important.

The successful candidate will manage and coordinate the activities of the Quality Control Chemistry Laboratory, review and analyze all laboratory data, develop new assay procedures when necessary, provide analytical support for other New York Blood Center laboratories, and participate in product-related R & D and scale-ups of new procedures. Candidates should have good managerial skills and the ability to function well under pressure. Excellent working conditions and an attractive salary and benefits package are offered. Send résumé with salary history and at least two references to: **Personnel Department, The New York Blood Center, 155 Duryea Road, Melville, N.Y. 11747.**

### MICROBIAL GENETICIST TEXAS TECH UNIVERSITY

Tenure-track faculty position. Applicants should be capable of establishing a strong research program utilizing molecular biology—recombinant DNA technologies. Teaching duties in introductory microbiology and microbial genetics with graduate teaching in field of expertise. Curriculum vitae, recent reprints, statement of research goals, and names of three references should be sent to: **Dr. Caryl E. Heintz, Chairman, Search Committee, Department of Biological Sciences, Texas Tech University, Lubbock, Texas 79409.** *Texas Tech, An Affirmative Action/Equal Opportunity Employer,* is one of four major comprehensive universities in Texas and has an enrollment of approximately 24,000 students.

## POSITIONS OPEN

### IGNEOUS/METAMORPHIC PETROLOGIST or STRUCTURAL GEOLOGIST HOBART AND WILLIAM SMITH COLLEGES

The Department of Geoscience of these private, coordinate, liberal arts colleges seeks applicants for a full-time, tenure-track position for September 1984. We need a field-oriented igneous or metamorphic petrologist or structural geologist, a person committed to excellence in teaching and to stimulation of undergraduate research. Ph.D. required and teaching experience desirable. Teaching includes introductory courses, mineralogy, petrology and structure plus participation in the Colleges' general curriculum. Research encouraged and supported. Submit curriculum vitae and three letters of recommendation to: **Donald L. Woodrow, Department of Geoscience, Hobart and William Smith Colleges, Geneva, N.Y. 14456.** *Applications from women and members of minority groups encouraged.*

One full-time position at the **INSTRUCTOR OR ASSISTANT PROFESSOR** level in the Department of Psychiatry, University of Michigan, as **staff psychiatrist** with the Adolescent Psychiatry Service. Responsibilities include teaching and supervision of residents, fellows, and medical students in the Inpatient and Partial Hospitalization Programs. Involvement in ongoing research in affective disorders and other projects is desirable. Tenure-track appointments at academic rank appropriate to qualifications and experience. Send curriculum vitae and names and addresses of three references to: **Douglas Robbins, M.D., Department of Psychiatry, Box 50, University of Michigan Hospital, Ann Arbor, Michigan 48109.** *A nondiscriminatory, Affirmative Action Employer.* Code 100HO.

### MEDICAL RESEARCH SCIENTIST

Guthrie Research Institute, an affiliate of the Guthrie Medical Center at Sayre, Pennsylvania, seeks a full-time research scientist for a new program in **human immunology** to start in 1984. Applicants must have advanced degree, 2 to 4 years of postdoctoral experience, and an interest in human immune regulation and disease mechanisms. A background in cell biology, biochemistry, or molecular genetics all are suitable. Advantages include a well-equipped new facility; endowed support of salary and baseline research; potential collaborative/teaching affiliations with nearby institutions; generous travel and working arrangements; attractive life-style in rural, culturally rich area—Susquehanna Valley on the New York/Pennsylvania border; opportunity to be involved in development of new program. Send letter and résumé to:

**Dr. S. D. Litwin  
Guthrie Research Institute  
at the Guthrie Foundation  
for Medical Research  
Sayre, Pa. 18840**

### LUDWIG INSTITUTE FOR CANCER RESEARCH RESEARCH SYDNEY, AUSTRALIA MEMBRANE BIOCHEMIST

A senior scientist with expertise in membrane biochemistry is required to join the Sydney branch of this Institute. The successful applicant, who will be responsible for the membrane biochemistry group, is required to function as part of an interdisciplinary team of senior scientists whose disciplines include molecular biology, biophysics, cell kinetics, and clinical oncology. The aim of this group is to understand the genetic and membrane changes which accompany drug resistance and metastatic potential. A salary consistent with the applicant's experience will be awarded and includes travel and removal expenses for the appointee's dependent family. The appointment will initially be for 3 years with potential for renewal. The Institute is independently funded in five yearly cycles.

Applications should be made in writing to:

**The Director  
Professor M. H. N. Tattersall  
Ludwig Institute for Cancer Research  
Blackburn Building  
University of Sydney  
Sydney, N.S.W. 2006  
Australia**

Closing date for applications 21 January 1984.



## CSIRO

**PLANT MOLECULAR BIOLOGISTS  
(THREE POSITIONS)  
A\$23,340 to A\$33,330  
DIVISION OF PLANT INDUSTRY  
CANBERRA, ACT  
AUSTRALIA**

CSIRO conducts scientific and technological research in laboratories located throughout Australia and employs about 7500 staff, of whom some 2900 are professional scientists. The Organization's research activities are grouped into five Institutes: Animal and Food Sciences, Biological Resources, Energy and Earth Resources, Industrial Technology, and Physical Sciences. The CSIRO Division of Plant Industry is a member of the Institute of Biological Resources.

The CSIRO Division of Plant Industry conducts research on problems fundamental to plant biology and agricultural production. Prominent among this research are programs concerned with gene transfer and expression, cell culture, photosynthetic processes, and nitrogen fixation. The prime objective of this research is to develop the molecular and cellular capacity for genetic manipulation to improve productivity in crop plants. As part of an expansion of this effort applications are invited for research positions in the following areas:

- 1) The isolation, cloning, and characterization of haemoglobin genes from nonleguminous plants capable of fixing atmospheric nitrogen,
- 2) The isolation, cloning, and characterization of nuclear and chloroplast genes involved in photosynthesis, and
- 3) The development of protoplast culture and plant regeneration in cereals or the genetic and molecular analysis of somaclonal variation.

Applicants should have a Ph.D. degree or equivalent qualifications, and relevant research experience.

Tenure for each position is 3 years with Australian Government superannuation benefits available.

**APPLICATIONS:** Indicating field of interest and stating full personal and professional details, names of at least two referees, and quoting reference number A6836 should be directed to:

**The Chief  
CSIRO Division of Plant Industry  
G.P.O. Box 1600  
CANBERRA, ACT 2601, AUSTRALIA**

By 9 December 1983.

## THE BOARD OF REGENTS OF THE UNIVERSITY OF NEVADA SYSTEM

### PRESIDENT

### DESERT RESEARCH INSTITUTE

The Board of Regents of the University of Nevada System invites applications and nominations for the position of president of the Desert Research Institute (DRI).

This autonomous, statewide division of the university system conducts research programs in atmospheric sciences, water resources, energy systems, social sciences, and biological sciences, funded by both governmental and private sources. Established in 1959, the institute has a current annual budget of \$9 million and a faculty of 100 professionals. There is a close association between institute research and university graduate programs. The president reports through the chancellor to the board of regents; the position is equivalent to presidents of the other university campuses.

The president is responsible for management of a diverse but coordinated research institute, for relationships with the research sponsors, the university system, the board of regents, the legislative and executive branches of state government and should be prepared to play an active role in assisting industrial diversification in the state of Nevada.

Qualifications include demonstrated management and leadership abilities, a doctoral degree, a distinguished record of achievement in scientific research, a broad background in the funding and conduct of research, and proven effectiveness in the areas of governmental, university, and community relations. A record of successful and substantial institutional fund raising is highly desirable.

Applications with curriculum vitae, including a list of publications and summary of career research and support, must be postmarked by 15 December 1983. The position is currently vacant and will be filled as soon as possible.

To apply, or for further information, contact:

**Regent Daniel J. Klaich, Chair  
DRI Presidential Search Committee  
University of Nevada System  
405 Marsh Avenue  
Reno, Nevada 89509**

*An Equal Opportunity/Affirmative Action Employer*

## Pre-Doctoral Training in Biomedical Sciences

at the

## Mount Sinai School of Medicine of the City University of New York

Pre-doctoral study towards a Ph.D. degree in Biomedical Sciences from CUNY is offered on the Mount Sinai Medical Center campus. A wide variety of active research groups and formalized curricula are available for specialization in: anatomy, biochemistry, cellular and molecular pathology, human genetics, microbiology, neurobiology, pharmacology, and physiology/biophysics. A lively intellectual environment is enhanced by extensive collaborative and interdepartmental programs and projects. Stipends (\$7,500 for calendar year) and tuition support are provided. Student housing is available. All applicants must present undergraduate records, recommendations, and GRE scores. Inquiries should be addressed to: Graduate School, Annenberg 5-210, Mount Sinai School of Medicine of CUNY, 1 Gustave L. Levy Place, New York, New York 10029. An Equal Opportunity Employer.



**The Mount Sinai  
School of Medicine**

## DEAN OF THE COLLEGE OF AGRICULTURE DIRECTOR OF THE AGRICULTURAL EXPERIMENT STATION AND DIRECTOR OF THE AGRICULTURAL EXTENSION SERVICE THE UNIVERSITY OF WYOMING

Applications and nominations are invited for the position of Dean of the College of Agriculture, Director of the Agricultural Experiment Station and Agricultural Extension Service.

The dean is chief academic and administrative officer for the College of Agriculture and directs operation of both the Wyoming Agricultural Experiment Station and Agricultural Extension Service. The position holds responsibility for budgeting human, physical, and financial resources, including state and federal funds, as well as providing effective leadership in teaching, research, extension, and service programs.

Qualifications for the position include an earned doctorate, a record of academic excellence, demonstrated administrative leadership, a firm commitment to the interdependence of research, teaching, extension, and service in a land-grant university and an ability to communicate effectively with faculty, staff, students, and external agricultural constituents.

The College of Agriculture is one of eight colleges within the University of Wyoming, a land-grant institution. An excellent new addition containing 90,000 utilizable square feet of classrooms, offices, and well-equipped laboratories has been added to the existing college facilities. Administratively, the College of Agriculture is organized into seven academic and research departments (Agricultural Economics, Animal Science, Biochemistry, Home Economics, Microbiology and Veterinary Medicine, Plant Science, and Range Management), offering both undergraduate and graduate degrees. The college has approximately 300 full-time on- and off-campus faculty and staff members and an enrollment of over 700 student majors.

Salary will be commensurate with ability and experience and competitive nationally. Nominations and applications, including a résumé, other supporting material, and five references, will be accepted until 15 January 1984, and should be addressed to:

**Dr. Don A. Roth, Chairman  
Search Committee for the Dean of the  
Agriculture College  
The University of Wyoming  
Box 3354, University Station  
Laramie, Wyoming 82071**

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

## POSITIONS OPEN

The University of California at Davis is seeking a full-time organic-analytical assistant research **MASS SPECTROMETRIST** for the central instrumentation facility. Applicants must be proficient in mass spectrometry with a Ph.D. in an applicable science or an equivalent combination of education and experience. The incumbent will be responsible for the operation and maintenance of a state-of-the-art medium resolution GC/MS with EI, CI, and FAB. He/she will collaborate in research projects with University staff and aid in the interpretation of data and assist campus researchers in the use of mass spectrometry. The ability to interact well with researchers in various subdisciplines of chemistry and the biological sciences is essential. This is a permanent, nontenure-track research position with a salary range of \$22,900 to \$30,100 (range adjustment due in 1983-1984), commensurate with experience. Send résumés and references before 6 January 1984 to:

**J. Pangborn, Director**  
Facility for Advanced Instrumentation  
9-Hutchinson Hall  
University of California  
Davis, California 95616

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

### IMMEDIATE OPENING FOR MEDICAL MICROBIOLOGIST in Department of Pathology.

Salary offer is \$10.10 per hour with 40-hour minimum work week.

Duties include performing various microbiological procedures and other tests as assigned. Processing cultures and report results. Decontaminate microbiological areas. To maintain quality control program. Prepare a specimen sent out of laboratory for analysis. To obtain accurate collection of the required specimen when requested, prepare reagents, maintain proper records, use established flowchart procedures, perform antibiotic susceptibility testing, process spore strip cultures, and perform environmental testing as requested by the chairman of the Infection Control Committee.

Education required is a master's degree in microbiology with no experience or other requirements, or B.S. in medical technology with 12 months of clinical education and certification in clinical laboratory services.

Persons interested contact: **The Louisiana Department of Labor, Office of Employment Security, 706 East Vermilion Street, Lafayette, Louisiana 70501.** Job Order Number 416728.

## MOLECULAR BIOLOGY

The Public Health Research Institute of The City of New York, Inc. (PHRI), is seeking both senior- and junior-level scientists with backgrounds in the following areas:

- 1) Molecular genetics and microbiology of Gram-positive organisms,
- 2) In vitro mutagenesis, and
- 3) Nucleic acid biochemistry.

Send résumé and references to:

**Personnel Department**  
**PHRI**  
455 First Avenue  
New York, N.Y. 10016

### MOLECULAR GENETICS

The Department of Zoology at Arizona State University invites applications for a tenure-track position at the **assistant professor** level starting August 1984. We are searching for a person whose specialty is genome evolution in mammalian systems. The successful candidate will have direct experience with recombinant DNA technology. Applicants must demonstrate the ability to conduct a vigorous research program, and have a strong commitment to teaching. Postdoctoral experience is expected. Teaching responsibilities will include human genetics and other courses in the specialty. Detailed curriculum vitae, a description of research interests and teaching experience, and three letters of recommendation should be sent to: **Dr. Elliott S. Goldstein, Chair, Search Committee, Department of Zoology, Arizona State University, Tempe, Ariz. 85287.**

The application must be postmarked by 13 January 1984.

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

## POSITIONS OPEN

### MOLECULAR BIOLOGIST/MICROBIOLOGIST

The Department of Microbiology of Miami University invites applications for a tenure-track appointment at the rank of assistant professor starting in August 1984. The candidate must have a Ph.D. in microbiology or related discipline, postdoctoral experience, and interest in gene expression and regulation in microbial systems with potential applications to biotechnology. The individual will be expected to develop a productive research program, direct the research of M.S. and Ph.D. candidates and actively participate in teaching undergraduate and graduate courses. Send curriculum vitae, an outline of research interests, and three letters of recommendation by 15 January 1984 to: **Ronald W. Treick, Chair, Search Committee, Department of Microbiology, Miami University, Oxford, Ohio 45056.**

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

### MOLECULAR BIOLOGIST/ PLANT PATHOLOGY CORNELL UNIVERSITY

The Department of Plant Pathology invites applications for a tenure-track (12-month), research (80 percent)-teaching (20 percent) appointment at the assistant or associate professor level. The appointee will be expected to develop a strong independent program of research on the molecular biology of plant pathogens and/or on their interactions with their hosts and to contribute to the graduate-level teaching program. All applicants should have a Ph.D. or postdoctoral experience in molecular biology. Appointment at the associate professor level will be possible only for individuals with considerable experience with plants and/or plant pathogens. Submit a letter of application, which should include a brief statement as to the nature of your interest in the molecular biology of plant pathogens or their hosts, transcripts, résumé, reprints of publications, and names and addresses of four referees to: **Dr. H. D. VanEtten, Department of Plant Pathology, Cornell University, Ithaca, N.Y. 14853 (telephone: 607-256-3243),** by 31 January 1984. The position is available 1 April 1984. *An Equal Opportunity/Affirmative Action Employer.*

### PLANT MOLECULAR BIOLOGY CORNELL UNIVERSITY

Cornell University is expanding its Program in Plant Molecular Biology with at least four new faculty positions. This initiative is enhanced by the recent establishment of the Cornell Biotechnology Program in which the state of New York and a consortium of industries are cooperating to support basic research in biotechnology.

Applications are invited for a senior-level faculty appointment as professor in any one of three departments (Genetics and Development, Plant Biology, or Plant Breeding) to initiate this expansion. This is a full-time, 12-month tenured position with research (80 percent) and teaching (20 percent) responsibilities. The appointee must have an established record of significant research achievements in plant molecular biology and will be expected to provide leadership to this field at Cornell. The appointee will have the opportunity to participate in the selection of others for this program; within 6 months candidates will be sought for at least two more faculty positions. Inquiry is invited. A position for a molecular biologist interested in plant pathogens is being advertised concurrently.

Candidates for the senior position should submit a letter of application, a résumé of biographical data and professional experience, and names and addresses of four referees to: **Dr. M. Zaitlin, Department of Plant Pathology, Cornell University, Ithaca, New York 14853 (telephone: 607-256-3243),** by 31 January 1984. Informal inquiries are invited. The position is available immediately. *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION AVAILABLE IMMEDIATELY** to study the molecular mechanism of mutagenesis during DNA replication and repair. The annual salary is \$18,500. The project will utilize in vitro systems in which bacteriophage T7 DNA subjected to potentially mutagenic conditions can be replicated or repaired in vitro and the genetic consequences of these manipulations monitored by encapsulating the DNA into phage heads. Send curriculum vitae, statement of research interests and experience, and the names of two references to: **Dr. Warren Masker, Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee 37830.**

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

### MOLECULAR BIOLOGIST/PARASITOLOGIST

The Department of Parasitology and Laboratory Practice at the School of Public Health, has an opening for a tenure-track faculty position at the level of assistant or associate professor beginning 1 July 1984. Applicants must have a doctorate, postdoctoral experience, and demonstrated potential for excellence in teaching and research. The successful candidate will be expected to establish a vigorous, independent research program in molecular parasitology. Teaching responsibilities include an introductory course in molecular biology for students of public health and continuing education for health care professionals on the techniques, applications, and potential hazards of current biotechnology. Applicants should send curriculum vitae, a one- to two-page statement of research interests, three letters of recommendation, and reprints to: **Chairman, Search Committee, Department of Parasitology and Laboratory Practice, 360 Rosenau Hall 201H, University of North Carolina, Chapel Hill, N.C. 27514.**

## Molecular Biologist

Department of Biology seeks to fill a tenure-track position at the assistant professor level, effective September 1984.

We are seeking candidates with research interest in the molecular aspects of cell biology and biochemistry. We are interested in applicants with experience in cellular or viral genetics in eukaryotic systems. Ph.D. and postdoctoral experience are required. The candidate appointed to this position is expected to teach and develop a curriculum in advanced genetics and molecular biology and to establish an active, independent research program.

Please submit, by 31 January 1984, curriculum vitae, a description of research work, and three references to: **Professor Richard White, Chairperson of Search Committee, Biology Department, College of Arts and Sciences, University of Massachusetts at Boston, Harbor Campus, Boston, Mass. 02125.** Appointments are subject to the availability of funds. *Affirmative Action applications are encouraged. An Equal Opportunity/Affirmative Action/Title IX Employer.*

### MOLECULAR GENETICIST

The Biology Department of Emory University invites applications for a tenure-track assistant professorship in **MOLECULAR GENETICS** to begin 1 September 1984. The successful candidate will be expected to teach in the undergraduate and graduate programs and to develop a research program which attracts extramural funding. Preference will be given to candidates having postdoctoral experience and research interests in eukaryotic genetics which broaden the scope of current departmental activities. Send curriculum vitae, including the names of four references and an outline of a proposed research program, to: **Chairperson, Molecular Genetics Search Committee, Department of Biology, Emory University, Atlanta, Ga. 30322,** before 1 January 1984. *Emory University is an Equal Opportunity/Affirmative Action Employer.*

**MOLECULAR GENETICS.** The University of Illinois announces the current availability of two tenured or tenure-track positions at the assistant or associate professor level in the Department of Veterinary Pathobiology. Qualified individuals are expected to have a Ph.D. or equivalent and clear evidence of research capability in one of the areas of eukaryotic, viral, or bacterial molecular genetics with an interest and commitment to problems of importance in veterinary medicine. In addition to developing an active, independent, and collaborative research program, duties will include teaching veterinary and graduate students in an area of microbiology and guiding graduate student research. Salary is competitive and negotiable based on experience and qualifications. Applications will be accepted until 15 March 1984, or until acceptable candidates are identified. Send résumé and three letters of reference to: **Dr. Wayne A. Tompkins, Department of Veterinary Pathobiology, College of Veterinary Medicine, University of Illinois, 2001 South Lincoln Avenue, Urbana, Ill. 61801, telephone: 217-333-7825.** Starting date: as soon as possible after 15 March 1984.

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

## Protein Crystallographer

Department of Biology  
Brookhaven National Laboratory

The Structural Biology Group has an opening for a protein crystallographer to conduct research in neutron protein crystallography, using extensive diffraction facilities at the High Flux Beam Reactor (HFBR) and the National Synchrotron Light Source (NSLS), including molecular graphics with an Evans and Sutherland Picture System II linked to a VAX 730. The protein crystallography station at the HFBR has a two-dimensional counter with associated display and on-line computer system.

For further information, interested candidates should contact: Dr. Benno P. Schoenborn, Biology Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973 (Telephone 516 282-3421)

Equal opportunity employer m/f



Brookhaven National Laboratory  
Associated Universities Inc.

## POSITIONS OPEN

Plant Genetics, Inc. announces expansion of its research and development laboratories in Davis, California. The company is a broadly based, plant biotechnology firm with established research and development programs in plant breeding, plant tissue culture, plant pathology, agricultural microbiology and molecular biology. Positions are now open in the following areas:

### MOLECULAR BIOLOGISTS

Positions for scientists with Ph.D., M.S. and B.S. degrees and expertise in gene isolation and expression, plasmid manipulation and DNA hybridization. Additional experience in DNA sequencing and computer utilization, expression vectors, plant molecular biology, soil microbiology, or bacterial physiology will be important considerations.

### PLANT DEVELOPMENTAL BIOLOGIST

A position is open for a Project Leader with skills in plant cell regeneration and biochemistry. M.S., Ph.D. or equivalent experience in monocot or dicot regeneration is required.

The company offers competitive salaries and benefits in a stimulating work environment. Interested individuals should send their resume and salary history in confidence to:

**PLANT GENETICS**

1930 Fifth St.  
Davis, CA 95616

An Equal Opportunity Employer

## Scientific Staff

Department of Biology  
Brookhaven National Laboratory

We seek candidates with a Ph.D. degree and a record of performance demonstrating the ability to establish a strong independent research program in their specialties. While no research areas are excluded *a priori*, applicants should have expertise in protein chemistry and/or molecular biology, and possible areas of research include enzymology, membrane receptor biochemistry, molecular immunology, site-directed mutagenesis, and cell structure or motility.

Applicants should submit, by **December 1, 1983**, curriculum vitae, reprints, statement of research interests, and the names of three references to: Dr. M. Elzinga, Department of Biology, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973

Equal opportunity employer m/f



Brookhaven National Laboratory  
Associated Universities Inc.

## Senior Scientist - Pharmacology

For

Growing Dallas-Fort Worth-Based Pharmaceutical Company

Alcon Laboratories is presently building its overall capability to generate new technology in the 1980's-90's. The primary thrust of this effort is development of innovative new drugs to treat certain eye and skin diseases.

As a part of this effort, we have an immediate need for an innovative Pharmacologist to become directly involved in basic pharmacological research leading to the discovery/development of new, novel systemic and topical ocular drugs.

### Other minimum requirements include:

- ☐ Ph.D in Pharmacology or related discipline
- ☐ 3 or more years of drug discovery/development experience, to include the development of systemic medications. Thorough understanding of general pharmacological principles and ability to integrate biochemical and physiological approaches. Experience in autonomic, cardio-vascular or renal pharmacology and/or the areas of membrane/ion transport or hemodynamics is highly desirable.
- ☐ Good oral/written communication skills

If our opportunity is what you have been thinking of -- please give us serious consideration. We are a high technology corporation building for the future. We need and appreciate talented individual contributors who can function effectively as team members.

Naturally, our position includes a highly competitive starting salary, plus comprehensive benefits including profit sharing trust, group medical and dental.

To indicate your interest in exploring this key position on a confidential basis, please send your detailed C.V. to:

Tom D. Faver -- Employee Relations -- Employment Manager



Alcon Laboratories, Inc.  
P.O. Box 1959  
Fort Worth, TX 76101

Equal Opportunity Employer, m/f/v/h  
Principals Only, Please

## POSITIONS OPEN

### NEUROBIOLOGIST

The Department of Biology at Virginia Tech is seeking a tenure-track faculty member at the assistant professor rank working in the general area of neurobiology to begin September 1984. The research area is not precisely defined, but we are seeking someone to complement our current faculty in development, genetics, molecular biology, physiology, or behavior. The successful candidate is expected to develop a vigorous research and graduate training program competitive for external funding. Teaching responsibilities include upper-division and graduate courses in the area of specialty and some participation in the general teaching programs of the department. Applications, including curriculum vitae, a detailed description of research and teaching interests, and the names of three references, should be sent by 1 December 1983 to:

**E. R. Stout**  
Department of Biology  
Virginia Polytechnic Institute  
and State University  
Blacksburg, Va. 24060-0794

*Virginia Polytechnic Institute and State University is an Equal Opportunity/Affirmative Action Employer.*

### NEUROSCIENTIST

A position is available in the Center for Neural Science at Brown University for an individual interested in both teaching and research. The teaching comprises two neural science courses (one in laboratory techniques). Candidates should have an active research program, preferably with an interest in the function of the cerebral cortex. Candidates with experience consistent with an appointment at the assistant professor level (or in an unusual case, associate professor without tenure) should submit curriculum vitae, a publication list, a description of research interests and teaching experience, and the names of three references to:

**Dr. Ford F. Ebner**  
Center for Neural Science  
Brown University  
Providence, R.I. 02912

*An Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL FELLOW** in Cancer Research Center. Immediate openings for postdoctoral training in cancer pharmacology and membrane effects of anticancer drugs. Applicant should have Ph.D. in biochemistry, pharmacology, or cell biology with experience in HPLC and other separation techniques. Send curriculum vitae with three letters of recommendation to: **Dr. Robert L. Capizzi, Director, Oncology Research Center, Bowman Gray School of Medicine of Wake Forest University, 300 South Hawthorne Road, Winston-Salem, N.C. 27103. An Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL OPENINGS PROGRAM IN MOLECULAR BIOLOGY PRINCETON UNIVERSITY

Several postdoctoral positions are now available in areas of molecular biology, genetics, cancer biology, and biochemistry in the laboratories of Professors M. Bothwell, S. J. Flint, J. Fresco, E. Gilboa, C. Gilvarg, M. Hogan, and J. Stock. Applicants should send curriculum vitae, references, and research interests to: **The Postdoctoral Program, Molecular Biology, Biochemical Sciences Laboratory, Princeton University, Princeton, N.J. 08544.**

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

**RESEARCH ASSOCIATE** to work as a member of a team investigating the sensory basis of bird navigation. Ph.D. required, postdoctoral training and experience working with homing pigeons, electronics, computer database management, and geophysics preferred. Salary: \$14,000 to \$19,000 per year. Send letter, curriculum vitae, and names of three references to: **Charles Walcott, Laboratory of Ornithology, Cornell University, Sapsucker Woods, Ithaca, N.Y. 14850.**

### RESEARCH ASSOCIATE

Postdoctoral position available to study regulation of expression of the actin gene family during embryonic development. Background in molecular and/or developmental biology preferred. Send curriculum vitae and names of three references to: **Dr. William R. Crain, Jr., c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Massachusetts 01545.**

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Available 1 January 1984 to study development of infant oculomotor systems using corneal reflection techniques. Experience in eye movement recording techniques and minicomputers required. Send curriculum vitae and names of references to: **Dr. L. Hainline, Department of Psychology, Brooklyn College of City University of New York, Brooklyn, New York 11210.**

*An Equal Opportunity/Affirmative Action Employer*

### POSTDOCTORAL POSITION—HEMATOLOGY

The University of Arkansas for Medical Sciences (UAMS) and the Geriatric Research Education and Clinical Center of the Little Rock VA Hospital has a position to study hematopoietic aspects of aging. Research involves studies on hematopoietic stem cell function in vivo and in vitro, differentiated hematopoietic cell structure and function, and radioisotopic evaluation of hematopoietic cell kinetics. Additional research involves protein chemistry, nutrient-cell interactions, and cellular immunology. Position available immediately with 3 years of guaranteed support. Send curriculum vitae to: **Dr. David A. Lipschitz, Chief, Division of Hematology/Oncology, UAMS, 4301 West Markham, Little Rock, Ark. 72205.**

**POSTDOCTORAL POSITION** available for Ph.D. biochemist to study structure and biogenesis of brain proteins. Experience with HPLC, protein purification, and microsequencing essential.

**Box 305, SCIENCE**

**POSTDOCTORAL POSITION** available immediately for studies upon plasma fibronectin, phagocytic cells, and the mechanisms by which they influence hemostatic/thrombotic processes. Applicant should have a background in cell biology, protein chemistry, immunology, or hematology. Send curriculum vitae and names of references to: **John E. Kaplan, Ph.D., Department of Physiology, Albany Medical College, Albany, N.Y. 12208. Equal Opportunity/Affirmative Action Employer, M/F.**

**POSTDOCTORAL POSITION** available immediately to study the regulation of immunoglobulin gene expression in hybridoma cell lines, using recombinant DNA techniques. Please send curriculum vitae with description of research interest and names and telephone numbers of three references to: **Dr. Sauping Kwan, Children's Hospital and Harvard Medical School, Enders Room 810, 320 Longwood Avenue, Boston, Mass. 02115.**

**POSTDOCTORAL POSITION.** Two-year, recent Ph.D. in chemistry, biochemistry, or physiology with strong biochemistry training to study the biosynthesis of chitin and surface glycoproteins in cultured insect cells. Proposed salary: \$20,000. Applicants should submit curriculum vitae and have three letters of recommendation send to: **H. J. Klosterman, Biochemistry Department, North Dakota State University, Fargo, N.D. 58105. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available July or September 1984 at Stanford University, School of Medicine. M.D. or Ph.D. applicant sought to work in areas involving regulation of catecholamine biosynthetic enzymes. Specific projects include cloning of cDNA probes, nucleotide sequencing, and assessment of gene regulation. These projects represent the collaborative efforts of three laboratories, headed by Drs. Roland Ciaranello, Jack Barchas, and Larry Kedes; fellows will interact with each laboratory. NIMH-funded stipends available for 2- or 3-year period. Interested applicants should write to: **Roland D. Ciaranello, M.D., Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, California 94305.**

**POSTDOCTORAL POSITION** available July or September 1984 in Laboratory of Developmental Neurochemistry, Department of Psychiatry, Stanford University School of Medicine. M.D. or Ph.D. applicant sought to work in areas involving serotonin receptor isolation, purification and characterization. Projects include preparation of antibodies to receptor proteins using hybridoma techniques. NIMH-funded stipends available for 2- or 3-year period. Interested applicants should write to: **Roland D. Ciaranello, M.D., Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, California 94305.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** in neurochemistry available immediately to study various aspects of glutamate metabolism and function in the CNS with emphasis in the role of the enzyme, glutamate dehydrogenase. Recent Ph.D. or M.D. with biochemical experience desired. Send letter, curriculum vitae, and names of references to: **Dr. William J. Nicklas, Department of Neurology, UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY—Rutgers Medical School, P.O. Box 101, Piscataway, New Jersey 08854. An Equal Opportunity/Affirmative Action Employer, M/F.**

**POSTDOCTORAL POSITIONS** available for research on the role of clathrin-coated membranes in intracellular membrane dynamics. Special projects involve studies on the in vitro and in vivo structure and assembly of the clathrin coat using protein chemistry, monoclonal and polyclonal antibodies, immunocytochemistry, and microinjection techniques. Send curriculum vitae with the names of three references to: **Dr. James H. Keen, Fels Research Institute, Temple University School of Medicine, Philadelphia, Pa. 19140. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN MEMBRANE BIOCHEMISTRY** available immediately for ongoing studies analyzing the interactions of desmosomal proteins in the processes of desmosomal assembly, desmosome-cytoskeletal association and cell-cell adhesion. Candidates must be proficient at methods of protein biochemistry, and a knowledge of immunanalytical methods would also be desirable. See [JCB 258, 2621 (1982)] and [J. Cell. Biochem. 20, 113 (1982)]. Please send curriculum vitae and three letters of reference to: **Dr. Malcolm S. Steinberg, Department of Biology, Princeton University, Princeton, N.J. 08544. An Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL POSITION

Position available for M.D. or Ph.D. in biological sciences with group working in area of developmental lung metabolism and developmental biochemistry. Areas of interest include carbohydrate-lipid interactions, phospholipid metabolism, hormone and growth-factor influences on cultured type II cells, and influences of oxygen toxicity on lung metabolism and phospholipid synthesis. Salary \$18,000 to \$24,000 depending on experience. Send curriculum vitae and names of references to:

**Joseph B. Warshaw, M.D.**  
Department of Pediatrics,  
The University of Texas Health Science  
Center at Dallas  
5323 Harry Hines Boulevard  
Dallas, Texas 75235

*An Equal Opportunity/Affirmative Action Employer*

**POSTDOCTORAL POSITION** available immediately to study the molecular biology of endothelial cells and hemostasis. Current work centers on synthesis of factor VIII/von Willebrand factor by endothelial cells and the interaction of protein C with FVIII. Background in endothelial cell culture and/or biochemistry of clotting proteins is desirable. Competitive salary for up to 3 years. Send curriculum vitae, summary of research interests, and names of three references to: **Dr. Robert R. Montgomery, The Blood Center, 1701 West Wisconsin Avenue, Milwaukee, Wis. 53233.**

**VIROLOGIST,** Faculty Position in Virology, California Veterinary Diagnostic Laboratory System, School of Veterinary Medicine, University of California, Davis. Applications are invited from virologists with an orientation to viral diseases of food animals. Demonstrated interest and aptitude in diagnostic virology essential. Ph.D. in virology and D.V.M. preferred. Emphasis will be placed on the diagnosis of viral diseases affecting the livestock industry. Interaction with veterinarians and livestock producers is required. The incumbent will have limited teaching responsibilities to veterinary students and/or graduate students.

Salary and rank commensurate with qualifications.

Qualified applicants should submit curriculum vitae with the names of three references to: **Dr. Alex Ardans, Department of Medicine, School of Veterinary Medicine, University of California, Davis, Calif. 95616.**

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

Applications will be accepted through 30 January 1984 or until a suitable candidate is identified.



**FOOD AND DRUG ADMINISTRATION (FDA)  
PUBLIC HEALTH SERVICE  
DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Commissioner of Food and Drugs  
(\\$56,945 to \\$67,200 per annum)**

Applications are invited for the position of Commissioner of Food and Drugs, Food and Drug Administration, Rockville, Maryland. The Commissioner of Food and Drugs is responsible for planning, executing and evaluating FDA's legislated mission to protect the public health of the nation's 220 million consumers as it may be impaired by food and food additives, drugs, biological products, cosmetics, medical devices, and ionizing and nonionizing radiation-emitting products and substances. The agency operates with a \\$360 million budget and approximately 7100 medical, scientific, professional and support personnel located throughout the United States.

This position is a Senior Executive Service General Position with a salary of \\$56,945 to \\$67,200 per annum, depending on qualifications. Candidates must have an M.D. or equivalent level degree in a scientific or health related field and recognized stature in a professional discipline; demonstrated management ability to direct and lead a complex, diversified medical or scientific organization; demonstrated ability to assimilate a large body of complex scientific and technical information and formulate policy and make decisions on public health related issues; and the ability to implement equal employment opportunity programs. Candidates should also have a broad knowledge of FDA's legislated regulatory responsibilities and the major public health issues confronting the agency and the ability to formulate regulatory policy in the light of consumer safety and the economic effects of such policy.

Commissioned Officers interested in performing the duties within the Commissioned Corps may submit a resume. Commissioned Officers wishing to enter SES and all other applicants must submit an SF-171, Personal Qualifications Statement (available at all Federal Job Information Offices). All applicants should submit a supplemental statement detailing the extent to which they possess the qualifications outlined above. Each qualification should be addressed separately and pertinent experience, education, training, and awards described. Failure to submit the supplemental statement may result in an applicant being given less than due credit in the rating process. Applications should be sent to: **Office of Personnel Management, Public Health Service, 5600 Fishers Lane, Room 18A-38, Rockville, Maryland 20857.** For further information, contact: **Patricia A. Werner, telephone: 301-443-6445.**

The Public Health Service is an Equal Opportunity Employer.

## Molecular Biologist

PPG Industries, Chemicals Group, has an immediate opening in its special research project team located in Pittsburgh, Pennsylvania.

Successful candidates will have a PhD in Molecular Biology, Biochemistry or closely related science, have 0-3 years experience or high interest in genetic engineering, gene cloning, gene expression and in modern immunochemistry techniques. The individual who fills this position will join a unique environment working with other industrial scientists in an academic environment with the broad mission of investigating and developing applications of biotechnology in specialty chemicals.

Qualified applicants are invited to send a resume to:



Candice Mendenhall  
**PPG Industries, Inc.**  
One Gateway Center  
Pittsburgh, Pennsylvania 15222

We are an affirmative action employer



## SECOND KUWAIT INTERNATIONAL MEDICAL SCIENCES CONFERENCE

**4-8 March, 1984 — Kuwait**

**HEALTH SCIENCES CENTRE  
FACULTY OF MEDICINE, KUWAIT UNIVERSITY**

### SCIENTIFIC SESSIONS

- 1- Structure & Function of the CNS .....
- 2- Heat Stroke and Heat-Induced Illnesses .....
- 3- Diarrhoeal Diseases—A Global Problem .....
- 4- Understanding the Biology of Cancer; Malignant Lymphomas as a Human Model .....
- 5- Diagnostic and Screening Procedures for Metabolic Disorders .....
- 6- Non-Invasive Myocardial Investigations .....
- 7- Pharmacology of Smooth Muscle .....
- 8- Thyroid Disease .....
- 9- Urological Complications of Bilharzia .....
- 10- Peptic Ulcer Disease .....
- 11- Streptococcal Infection in Childhood .....
- 12- Reproductive Failure .....

### INVITED SPEAKERS

R. P. SKOFF (U.S.A.)  
J. R. S. HALES (AUSTRALIA)  
T. WADSTROM (SWEDEN)  
H. HARRIS (ENGLAND)  
R. GUTHRIE (U.S.A.)  
H. W. STRAUSS (U.S.A.)  
J. A. BEVÁN (U.S.A.)  
S. B. CHRSTENSEN (SWEDEN)  
I. HUSSEIN (U.A.E.)  
J. E. MCGUIGAN (U.S.A.)  
A. L. BISNO (U.S.A.)  
Sir J. DEWHURST (ENGLAND)

**N.B.** DEADLINE FOR RECEIPT OF ABSTRACTS—DECEMBER 1st, 1983.

FOR FURTHER INFORMATION PLEASE WRITE TO:

**CONFERENCE SECRETARIAT  
FACULTY OF MEDICINE  
P.O. BOX 24923, SAFAT  
KUWAIT (ARABIAN GULF)**

**TEL: 312300 (EXT. 343)  
TELEX: 44595 ALRAZI**

## POSITIONS OPEN

### POSTDOCTORAL POSITIONS— ATHEROSCLEROSIS RESEARCH

Two postdoctoral positions are available in the Section of Atherosclerosis Research. The research projects involve (i) isolation and characterization of monocyte chemotactic factors from atherosclerotic arteries; applicant for this position must have a strong background in biochemistry, cell biology and related techniques; and (ii) evaluation of the effects of fiber-optic lasers in removing atherosclerotic plaques in vitro. Applicant for this position should have background in ultrastructural morphology and interpretation. Starting stipend: \$17,600.

Applicants should submit curriculum vitae, bibliography, and three letters of reference to:

Ross G. Gerrity, Ph.D.  
Section of Atherosclerosis Research  
Division of Research  
Cleveland Clinic Foundation  
9500 Euclid Avenue  
Cleveland, Ohio 44106

### POSTDOCTORAL RESEARCH

Position available about 1 March 1984 or later to study genetic recombination in vivo and in vitro. Apply genetic and recombinant DNA techniques to prokaryotic and possibly eukaryotic systems. Interact with molecular biologists at nearby NIH, Johns Hopkins University, Frederick Cancer Research Facility. Background in molecular genetics and/or DNA biochemistry preferred. Compensation: \$16,000 to \$20,000 per year, plus liberal fringe benefits. Send curriculum vitae, and three references to:

Professor John Hays  
Department of Chemistry  
University of Maryland Baltimore County  
Catonsville, Maryland 21228

### U.S. DEPARTMENT OF ENERGY Senior-Level Staff Positions in Biomedical Research Management RADIATION BIOLOGIST GENETICIST

Office of Health and Environment Research, Office of Energy Research, U.S. Department of Energy (DOE), is seeking qualified applicants for the staff positions of RADIATION BIOLOGIST and GENETICIST in the Health Effects Research Division, which administers a broad multidisciplinary program of basic and applied research to understand and quantify health effects associated with the large-scale production and use of energy. Both positions involve appointments for a period of 2 years.

Must be U.S. citizen, Ph.D. or equivalent required. Experience in independent research required. Salary range for GS-15 is from \$48,553 to \$63,115. Duty station: Headquarters Office, Germantown, Md. Send SF-171, applications for federal employment, or direct inquiries to:

Stephanie Chaconas  
Office of Personnel Operations, GTN  
MA-205.4  
Office of Personnel  
U.S. Department of Energy  
Washington, D.C. 20545  
Telephone: 301-353-5591

The Department of Energy is an Equal Opportunity Employer.

**RESEARCH ASSISTANT PROFESSOR** to work on problems relating to structure and internal dynamics in proteins and nucleic acids. Available 1 April 1984. Demonstrated expertise in applying state of the art NMR and spectroscopic approaches to protein structure problems. Send curriculum vitae and names of three references before 15 December to: S. W. Englander, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, Pa. 19104. An Affirmative Action/Equal Opportunity Employer.

**RESEARCH ASSOCIATE(S)** to work on control of gene expression by plant hormones. Studies involve cloning and membrane-receptor interactions. Salary: \$15,000 or more, based on experience. One to 2 years. May work in Beltsville, Maryland, or in Manhattan, Kansas. Contact: Dr. Chandra, telephone: 301-344-2491 or Dr. Krishnan, telephone: 913-532-6939. Required: Ph.D. in biochemistry/biology or related area. Preferred: postdoctoral experience in molecular biology/cloning/membrane biology. Kansas State University is an Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

**RESEARCH ASSOCIATE**—Must have Ph.D. in mechanical engineering and strong background in fluid mechanics and/or acoustics. Experimental skills related to turbulent boundary layer measurements and digital signal processing desirable. Will perform research on hydroacoustics of complex turbulent flow; upgrade wind tunnel, evaluate and select instruments for experiments; plan, supervise, and run experiments as well as analyze data and prepare reports, \$22,000 per year. Qualified applicants send résumé and copy of ad to: Department of Employment Service, 500 C Street, NW, Number 324, Washington, D.C. 20001. Refer to Code Number 3064.

**Three-year RESEARCH ASSOCIATE in biochemistry.** Research associate position available to study oxygen stress. Specific opportunities available in: (i) mechanism of redox active xenobiotics; (ii) aging; (iii) respiratory burst of leukocytes; and (iv) plant-plant interaction. M.S. or Ph.D. in biochemistry is required. Please send curriculum vitae to: Dr. Ronald S. Pardini, Department of Biochemistry, University of Nevada, Reno, Nevada 89557. Closing date: 1 December 1983; \$18,000 to \$20,000. Affirmative Action Equal Opportunity Employer.

### RESEARCH ASSOCIATE OR POSTDOCTORAL FELLOW

Position available for Ph.D. with experience in protein purification and protein sequencing in the Cell and Molecular Biology Department at Baylor College of Medicine. Research goals are to study the structure of eukaryotic receptors and other regulatory proteins. Facilities include a Beckman HPLC and an Applied Biosystems Inc. vapor phase microsequencer. Excellent intellectual and learning environment. Salary commensurate with experience.

Send curriculum vitae and two references to: Nancy Weigel, Ph.D., Department of Cell Biology, Baylor College of Medicine, 1200 Moursund Avenue, Houston, Texas 77030.

**RESEARCH**—Research staff position, tenure track, available for independent research in the general area of NMR investigations of structure, dynamics, and function of biological macromolecules and their complexes. Multinuclear high-resolution FT NMR spectrometers available. Send curriculum vitae and statement of proposed research to: Dr. Mildred Cohn, Chairman, Search Committee, Institute for Cancer Research of the Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, Pa. 19111. Equal Opportunity Employer.

**TOXICOLOGIST:** Ph.D. preferred. Administer pesticide regulation section of progressive state agency. Requires thorough knowledge of pesticides and toxic effects on humans and environment. Coordination of residue sampling; interpretation of laboratory tests; critical review of toxicity data; supervise computerized pesticide information system. \$30,000. Application deadline: 1 December 1983. Announcement Number: 83-87. Ken Kadlec, Texas Department of Agriculture, P.O. Box 12847, Austin, Texas 78711. Telephone: 511-475-4457.

**TOXICOLOGIST,** Faculty Position in Toxicology, California Veterinary Diagnostic Laboratory System, School of Veterinary Medicine, University of California, Davis. Applications are invited from veterinarians with advanced training in toxicology. Ph.D. in toxicology or a closely related field is strongly preferred. Board-certification by the American Board of Veterinary Toxicology or eligibility is desirable. A demonstrated interest and aptitude for diagnostic toxicology is essential. Emphasis will be placed on the diagnosis of toxicoses affecting the livestock industry, animal production, and food from animal sources. Interaction with veterinarians and livestock producers required. The incumbent will have limited teaching responsibilities to veterinary students and/or graduate students. Development and implementation of new and improved diagnostic methods essential.

Salary and rank commensurate with qualifications. Qualified applicants should submit curriculum vitae with the names of three references to: Dr. J. Desmond Baggot, Department of Veterinary Pharmacology and Toxicology, School of Veterinary Medicine, University of California, Davis, Calif. 95616.

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

Applications will be accepted through 30 January 1984 or until a suitable candidate is identified.

## POSITIONS OPEN

### RESEARCH ASSISTANT

The person filling this position will work at a research facility in San Mateo County, California, and:

- 1) Assist in design and construction of magnetic spectrometers, multiwire proportional chambers, and electromagnetic shower counters.
- 2) Write on-line and off-line software to monitor operation of experimental equipment and analyze experimental data.
- 3) Direct the operation of high-energy electron beams and monitor electron scattering experiments using on-line computers.
- 4) Perform analysis of experimental data and write reports describing the analysis and the results.

Applicants must hold a master's degree in experimental high-energy physics and have expertise in high-energy electron physics, magnetic spectrometers, multiwire proportional counters and associational electronics, FORTRAN computer language, and basic mathematical methods for analyzing high-energy charged particle data. The starting salary is \$15,000 per year. Apply by résumé to: Job Number 6133, P.O. Box 865, Sacramento, Calif. 95804, by 26 November 1983. If offered employment, must show you have legal right to work.

### VERTEBRATE BIOLOGY LECTURESHIP

One anticipated 12-month position for a recent Ph.D. for 1984-1985; the appointment is potentially renewable for a second year. The successful candidate will share responsibility with college faculty for lecture and laboratory instruction in vertebrate morphology and physiology during the winter quarter, and deliver a second course in his/her area of specialization during another quarter. Remaining time would be free for research. Research interests in comparative and ecological physiology, vertebrate ecology, or vertebrate morphology are preferred. Salary is \$15,000. Ph.D. required.

Send curriculum vitae, statement of research interests, and names of three references to: Martin Feder, Department of Anatomy, The University of Chicago, 1025 East 57th Street, Chicago, Ill. 60637, by 15 January 1984.

The University of Chicago is an Equal Opportunity Employer; women and members of minority groups are specifically encouraged to apply.

## REQUEST FOR PROPOSALS

### BIOLOGICAL NEUTRON SCATTERING AT OAK RIDGE NATIONAL LABORATORY

The NSF/DOE/ORNL National Center for Small-Angle Scattering Research (NCSASR) is now accepting proposals for beam time in the areas of small angle neutron and x-ray scattering on the 30- and 10-meter SANS, and the 10-meter SAXS instruments. Staff assistance is available for preparing proposals and conducting measurements.

For further information contact: Dr. G. J. Bunick, Biology Division, Oak Ridge National Laboratory, P.O. Box Y, Oak Ridge, TN 37830, Tel: (615) 576-2685



## PROGRAMS

**THE RAND GRADUATE INSTITUTE (RGI)** invites applications for its doctoral degree program in policy analysis. Deadline for submitting applications for 1984-1985 is 1 February 1984. RGI is an integral part of The Rand Corporation. Its curriculum consists of interdisciplinary study, combined with on-the-job training (OJT), leading to the award of the Ph.D. in policy analysis. Students receive OJT support equivalent to doctoral fellowships. The Rand Graduate Institute is fully accredited by the Western Association of Schools and Colleges.

A master's degree, or equivalent post-bachelor's degree training and experience, is required for admission.

For more information concerning application procedures, write: The Rand Graduate Institute, 1700 Main Street, Santa Monica, California 90406, or telephone: 213-393-0411.

The Rand Corporation is an Equal Opportunity/Affirmative Action Employer.

## Assistant Research Investigator / Research Investigator Drug Metabolism / Disposition



American Critical Care, a pharmaceutical division of American Hospital Supply Corporation, specializing in cardiovascular drugs, has an excellent opportunity for a qualified individual in our Drug Metabolism Group.

The person selected for this position will be responsible for studying the absorption, distribution, metabolism and excretion of drugs and their metabolites. Additional responsibilities include developing bio-analytical assays and pharmacokinetic analysis of preclinical data.

Minimal requirements for the position include a Ph.D. in pharmacology, biopharmaceutics, or medicinal chemistry with extensive training in drug metabolism and disposition. Experience in bioanalytical methodology is essential; working knowledge of pharmacokinetics is a plus.

Our R&D facility is located in a beautiful park setting in the far north suburbs of Chicago. The work environment is progressive and fast paced and the compensation package is excellent. For confidential consideration, please forward resume to:

Personnel Manager—Dept. DM

### American Critical Care

division of American Hospital Supply Corporation

1600 Waukegan Road  
McGaw Park IL USA 60085

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## HOFFMANN-LA ROCHE

### Cardiovascular Pharmacologist

#### PhD to direct Research Program

Hoffmann-La Roche has a 75 year history of leadership in the development of pharmaceuticals, vitamins and fine chemicals.

We are seeking a creative self-starter to direct a research program in calcium ion regulation as it relates to myocardial ischemia. Qualifications include an understanding of the pathophysiology of myocardial ischemia and knowledge of biochemical techniques used to study uptake storage and release of calcium. You should have at least 5 years post-doctoral experience and a proven ability to publish scientific articles independently.

Roche offers an outstanding benefits package, including an attractive bonus. Only responses including present salary will be acknowledged. Please send resume in confidence to: Mrs. Eleanor M. Malone, Professional Employment and Staffing Specialist,



**HOFFMANN-  
LA ROCHE INC.**  
Nutley, NJ 07110

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Products that matter  
from people who care

## LABORATORY DIRECTORS FOR ENVIRONMENTAL RESEARCH

**U.S. ENVIRONMENTAL PROTECTION AGENCY** seeks applicants for three Laboratory Director positions. Salary range \$56,945-\$61,515. Each Director manages national research, development and demonstration programs.

**Director**, Environmental Research Lab, Athens, GA. (Announcement # EPA-3-RD-3116) *Subject area:* transport, fate, impact of pollutants on fresh surface water systems and water quality planning techniques, including rural non-point source control. *Approx. staff/budget:* 110/\$5M. *Qualifications:* Required—Experience/degree to BS level (PhD desirable) in biological or physical science. Extensive R&D management experience, research in environmental engineering sciences related to transport/fate/impact of pollutants on water quality; effective communication skills with professional/public sectors. *Desirable quals:* working knowledge of lab administration, including: ADP applications, budget, personnel; demonstrated ability to establish relationships with academic/scientific research community.

**Director**, Environmental Research Lab, Narragansett, RI (Announcement # EPA-3-RD-3117) *Subject area:* ecological effects of pollutants on marine/estuarine systems, implementation of Ocean Disposal Research Program. *Approx. staff/budget:* 70/\$4M. *Qualifications:* Required—Experience/degree to BS level (PhD desirable) in biological or physical science or environmental engineering, extensive experience in R&D management, research in environmental impact of pollutants on aquatic ecosystems; effective communication skills with professional/public sectors. *Desirable quals:* same as above for Announcement # EPA-3-RD-3116.

**Director**, Environmental Monitoring and Support Lab, Cincinnati, OH (Announcement # EPA-3-RD-3118) *Subject area:* test evaluation, standardization and QA of equipment and techniques to sense pollutants in water and wastewater systems; operates national pollution monitoring QA program for water/wastewater systems, supports maintenance monitoring program for system design and certification of drinking water labs. *Approx. staff/budget:* 90/\$7.5M. *Qualifications:* Required—Experience/degree to BS level (PhD desirable) in physical science, experience in R&D management related to subject area cited above, experience with environmental research community. *Desirable quals:* working knowledge of Federal contract, grant, budget systems; experience directing monitoring methodology development, procedures for lab certification and QA.

*To apply:* Submit SF-171, available at Federal Job Information Centers by December 11, 1983 to **Ms. Edna Morse, PM-212, EPA, 401 M Street, S.W., Washington, D.C. 20460.** (Resumes unaccompanied by SF-171 will not be accepted). *Inquiries:* **Ms. Edna Morse 202-382-3328.** An Equal Opportunity Employer.

## Organic Geochemist/ Soil Chemist

Battelle, Pacific Northwest Laboratories at Richland, Washington, invites applications from organic geochemists, soil chemists, or physical organic chemists to do work on abiotic degradation processes in soils, subsoils, and aquifers.

Position requires knowledge of the fate of organics in soils and subsurface environments. PhD or equivalent experience required. Some familiarity with research project management desirable.

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## PROGRAMS

### PREDOCTORAL PROGRAM IN BIOLOGICAL SCIENCES AT STATE UNIVERSITY OF NEW YORK AT ALBANY (SUNYA)

Support ranges from teaching assistantships (\$6,000 for 10 months) to special fellowships (\$10,000 for 12 months). Areas of research include cell and developmental biology, ecology and animal behavior, molecular biology, and neurobiology and behavior. Please contact: **Chairperson, Admissions Committee, Department of Biological Sciences, State University of New York at Albany, Albany, New York 12222** or telephone: 518-457-8282.

*SUNYA is an Affirmative Action/Equal Opportunity Employer. Applications from minority persons, women and handicapped persons, and Vietnam-era veterans are especially welcomed.*

**TOXICOLOGY POSTDOCTORAL TRAINING.** Postdoctoral positions are available in all areas of toxicology but with major emphases on biochemical toxicology including xenobiotic metabolism; heavy metal toxicology; neurotoxicology; behavioral toxicology; pulmonary and inhalation toxicology; carcinogenesis and mutagenesis. Applicants must have a Ph.D., M.D., D.V.M., or equivalent degree. Candidates must be U.S. citizens or permanent residents. Please address curriculum vitae with research background and interests and names and addresses of three references to: **Dr. David Holbrook, Curriculum in Toxicology, Faculty Laboratory-Office 231 H, University of North Carolina, Chapel Hill, N.C. 27514.** *Equal Opportunity/Affirmative Action Employer.*

## FELLOWSHIPS

### HARVARD UNIVERSITY SCHOOL OF PUBLIC HEALTH TAKEMI FELLOWSHIPS IN INTERNATIONAL HEALTH

The Takemi Program in International Health invites applications from promising graduates of advanced degree programs and mid-career professionals with relevant backgrounds, for fellowships in research and advanced training on critical problems in international health, especially those concerned with less developed countries. Fellows will be appointed for a 1-year term beginning in September 1984. Deadline for application is 1 February 1984. Decisions will be announced in May 1984. For information, write to:

**Professor David E. Bell**  
Acting Director  
Takemi Program in International Health  
Harvard School of Public Health  
665 Huntington Avenue, Building One  
Boston, Mass. 02115

### POSTDOCTORAL RESEARCH POSITION

A postdoctoral fellowship will be available 1 January 1983 for research concerned with the regulation of fatty acid degradation (*fad*) in *Escherichia coli*. Biochemical, genetic, and recombinant DNA techniques are being used to determine how the *fadR* regulatory gene product(s) controls the expression of five *fad* enzymes and a *fad* transport protein whose structural genes are located at different positions on the *E. coli* chromosome. Knowledge and experience in microbial genetics and recombinant DNA technology is essential. Send curriculum vitae and three references to: **Dr. William D. Nunn, Molecular Biology and Biochemistry, University of California, Irvine, Calif. 92717.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

### Organization for Tropical Studies (OTS) PRE- AND POSTDOCTORAL FELLOWSHIPS IN TROPICAL BIOLOGY

Fellowships sponsored by the Jesse Smith Noyes Foundation are available to former OTS course participants, and to other scientists affiliated with OTS institutions. In addition to a modest stipend, support covers foreign airfare and living expenses while conducting field research in Costa Rica. The awards are judged on the basis of scientific merit of the proposed research, curriculum vitae, and letters of recommendation. Support is usually limited to a maximum of 12 months. Applications are welcome at any time. For more information write: **Dr. Donald E. Stone, Organization for Tropical Studies, P.O. Box DM, Duke Station, Durham, N.C. 27706.** Telephone: 919-684-5774.

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIP

Postdoctoral fellowship experience in neurology of aging available through Tarbox Parkinson's Disease Institute at Texas Tech University Health Sciences Center. Fellowship is for up to 3 years in duration for study of Alzheimer or Parkinson disease. Contact: **J. Thomas Hutton, M.D., Ph.D., Department of Medical and Surgical Neurology, Texas Tech University Health Sciences Center, Lubbock, Texas 79430.**

### POSTDOCTORAL FELLOWSHIP DROSOPHILA GENETICS

Applications are invited for a postdoctoral fellowship position. Candidates should have research experience in *Drosophila melanogaster* genetics and an interest in coordinated genetic and recombinant DNA analysis of genes involved in purine metabolism in the fruit fly. Some background in recombinant DNA technology is desirable, but not essential.

Initial appointment will be for 1 year, at a salary of \$20,000; an extension for at least one further year would be normal. Appointment available immediately. Send curriculum vitae and the names and addresses of three academic referees to:

**Dr. David Nash**  
Acting Chairman  
Department of Genetics  
University of Alberta  
Edmonton, Alberta, Canada T6G 2E9

**POSTDOCTORAL FELLOWSHIP** for Ph.D., M.D., or equivalent degrees to investigate allergen chemistry and allergic disease pathogenesis in selected respiratory and gastrointestinal allergies. Training in immunology, microbiology, or biochemistry desired. Applicants must be U.S. citizens or hold a permanent residency visa. Send curriculum vitae and three references to: **Samuel B. Lehrer, Ph.D., Tulane Medical Center, 1700 Perdido Street, New Orleans, La. 70112.** *An Equal Opportunity Employer.*

### RESEARCH FELLOWSHIP

A research fellowship to study basic or clinical aspects of Huntington's disease or other areas relevant to understanding its etiology, pathogenesis, or treatment is available starting 1 July 1984. A Ph.D. or M.D. degree is required. Research will be conducted in the laboratory of an appropriate senior faculty member at the University of Pennsylvania School of Medicine. Salary will be \$17,000 to \$21,000 depending upon experience. For information contact: **Huntington's Disease Research Fellowship Selection Committee, c/o Dr. Robert Barchi, Room 452, Medical Education Building, University of Pennsylvania School of Medicine, 36th Street and Hamilton Walk, Philadelphia, Pa. 19104.** *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.*

Scripps Institution of Oceanography invites applications for a **POSTDOCTORAL FELLOWSHIP** (postgraduate researcher) in any aspect of marine geology, marine geochemistry, or marine geophysics. Support is for 12 months beginning July 1984, and appointee may seek extramural support in collaboration with a permanent academic staff member of the institution for a second year. Salary will be approximately \$21,000, depending upon experience and publications. Preference will be given to recent Ph.D.'s. No moving expenses can be paid. Send names of three references, biobibliographical material, including a list of publications, copies of pertinent publications, abstract of dissertation, and a statement of research interests for the duration of the fellowship, to: **Dr. LeRoy M. Dorman, Chairman, Geological Research Division, A-020, Scripps Institution of Oceanography, La Jolla, Calif. 92093.** Deadline for applications is 15 January 1984. *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWSHIP in Clinical Laboratory Immunology.** Applications are invited for a 2-year fellowship in clinical laboratory immunology at North Carolina Memorial Hospital and the University of North Carolina. Fellowship provides residency-type training in laboratory immunology through laboratory experience, conferences, and research. Send curriculum vitae and three letters of reference before 16 December 1983 to: **Dr. James D. Folds, Clinical Microbiology-Immunology Laboratories, 1035 SST, North Carolina Memorial Hospital, Chapel Hill, N.C. 27514.** *An Equal Opportunity/Affirmative Action Employer.*

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Statement required by the Act of 12 August 1970; Section 3685, Title 39, United States Code, showing the ownership, management, and circulation of:

1-6. *Science* is published weekly on Friday except the last week in December, at 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. Date of filing: 20 October 1983. This is also the address of the publisher and the editor, who are, respectively, William D. Carey and Philip H. Abelson. There is no managing editor.

7. The owner is American Association for the Advancement of Science, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. Stockholders: None.

8. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities: None.

9. The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes have not changed during preceding 12 months.

10. The average number of copies of each issue during preceding 12 months is (A) Total number of copies printed: 166,786; (B) Paid circulation: (1) sales through dealers and carriers, street vendors, and counter sales: None; (2) mail subscriptions: 157,413; (C) Total paid circulation: 157,413; (D) Free distribution by mail, carrier, or other means: samples, complimentary, and other free copies: 5,019; (E) Total distribution: 162,432; (F<sub>1</sub>) Office use, leftover, unaccounted, spoiled after printing: 4,354; (F<sub>2</sub>) Returns from news agents: none; (G) Total: 166,786.

Actual number of copies of single issue published nearest to filing date are (A) Total number of copies printed: 163,881; (B) Paid circulation: (1) sales through dealers and carriers, street vendors, counter sales: none; (2) mail subscriptions: 154,829; (C) Total paid circulation: 154,829; (D) Free distribution by mail, carrier, or other means: samples, complimentary, and other free copies: 2,784; (E) Total distribution: 157,613; (F<sub>1</sub>) Office use, leftover, unaccounted, spoiled after printing: 6,268; (F<sub>2</sub>) Returns from news agents: none; (G) Total: 163,881.

I certify that the statements made by me above are correct and complete. (signed) *Robert V. Ormes*, Associate Publisher.



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This position participates in the development of projects relating to protein purification, process development and scale-up. Candidates must have post-doctoral or industrial experience and be capable of taking projects from the research stage through implementation. Knowledge of biochemical engineering, protein purification and biochemistry of serum and plasma is desirable. **Reply to Dept. SL1**

### Ph.D. BIOCHEMISTRY/ ANALYTICAL CHEMISTRY

Responsibility involves taking technical support projects from development through implementation. This includes troubleshooting technical problems, upgrading product performance by utilizing new technology, and improving processes for efficiency yield and cost reduction, while interacting with all operations areas. Post-doctoral or industrial experience is required. **Reply to Dept. SL2**

### Ph.D. VIROLOGY

Joins a project team focusing on the development of tissue culture systems for the propagation, isolation and purification of hepatitis viruses for use in the development of serological assays for screening and diagnosis of hepatitis. Post-doctoral or industrial experience in Virology/Tissue Culture research is required, and knowledge of viral serology and immunological techniques is desirable. **Reply to Dept. SL3**

### Ph.D. IMMUNOCHEMISTRY/ IMMUNOLOGY

This position will perform independent research in immune complexes and immuno/serologic assays associated with hepatitis. Candidates will have post-doctoral or industrial experience in Immunochemistry and Immunoassay (RIA/EIA) development. Experience in virus/antigen purification and viral serology is desirable. **Reply to Dept. SL4**

### Ph.D. BIOCHEMISTRY/ IMMUNOCHEMISTRY

The selected individual will work in a multidisciplinary group researching new areas of technology in immunodiagnostic assays. In addition to a strong research orientation, qualifications include a proteolytic enzyme or complement background, and experience with immunoassays, monoclonal antibodies and protein purification and/or modification. **Reply to Dept. SH1**

### RESEARCH ASSISTANT/ MOLECULAR IMMUNOLOGY

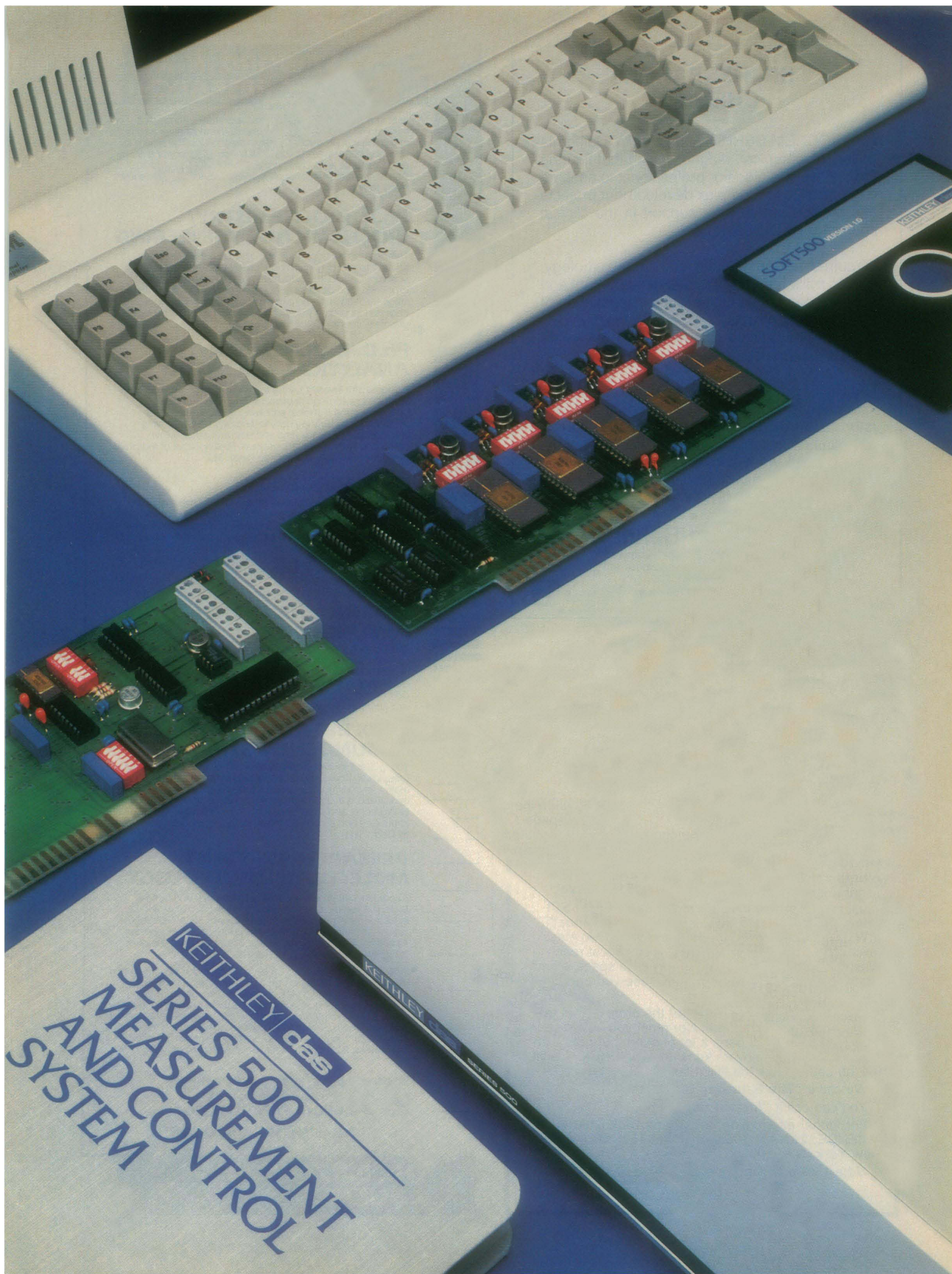
Candidates must have a BS/MS in Molecular and Cellular Biology, Microbiology, Immunology or Biochemistry, and at least 2 years experience with recombinant DNA techniques such as cloning, hybridization and nucleic acids sequencing. Familiarity with tissue culture and DNA transfer techniques is highly desirable. **Reply to Dept. SC1**

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16 Digital Outputs	Yes	Yes	+ \$175 <sup>(11)</sup>	+ \$350	+ \$710
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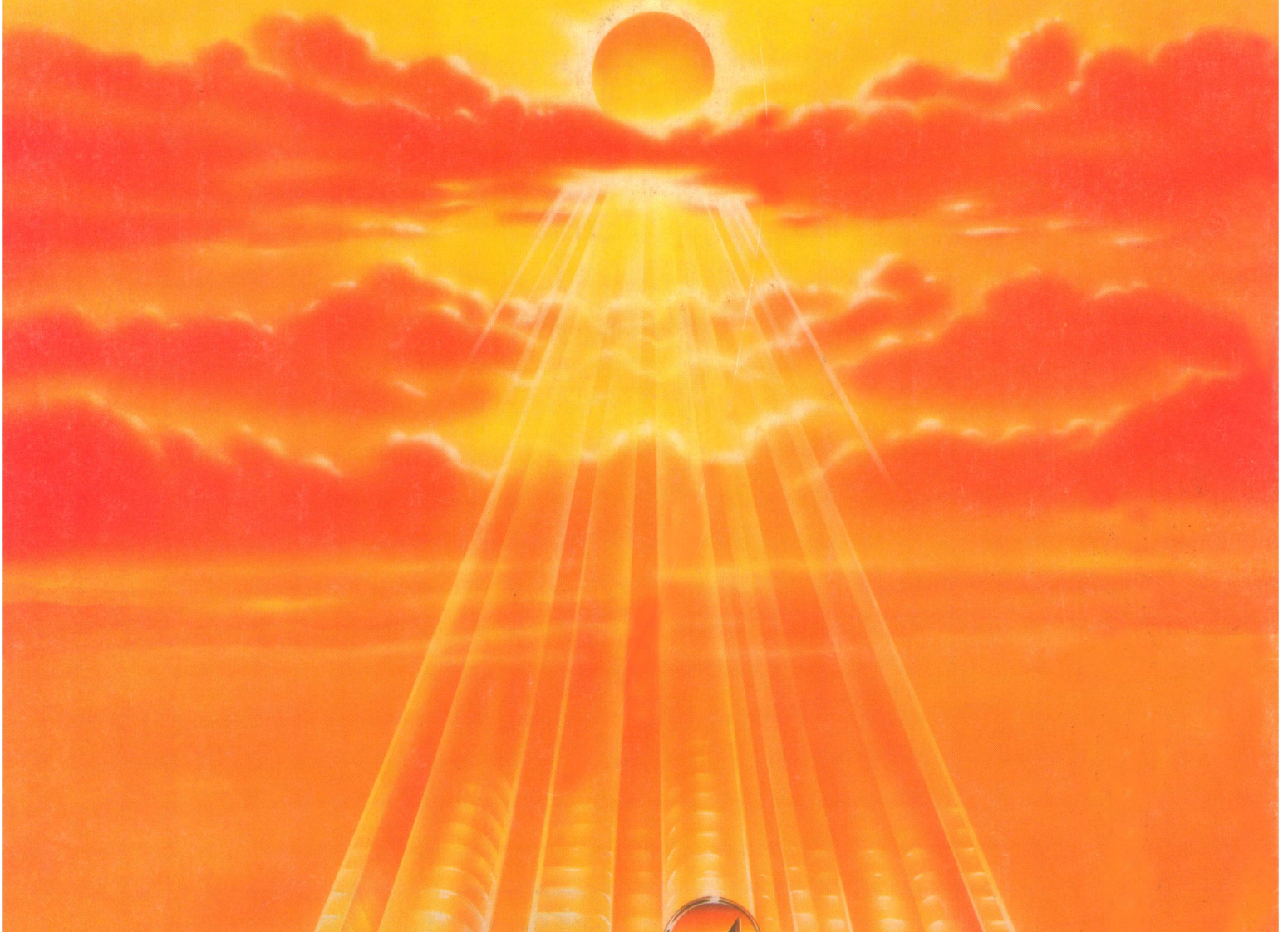
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