

lines of a monophyletic tree of all organisms are becoming increasingly clear" thanks to the new methods. This optimistic expression reflects the tacit assumption of virtually all the authors that dendrograms of ribosomal RNA sequence similarities directly reflect phylogenetic relationships and that all branches must be connected in a single point at the base. From a logical perspective, of course, it is curious to consider that the diagrams invariably get sharper (and focus on fewer groups) as the data get fuzzier (by showing less relatedness), and I wonder if the insistence on monophyletic hypotheses is not cheating us of some useful new ways to interpret taxonomic data.

Happily, the papers presented in *Evolution of Prokaryotes* are not limited to discussions of sequencing and construction of oligonucleotide catalogs. The organizers wisely chose to include comparative discussions of many aspects of bacterial physiology, including transcription, translation, photosynthesis, respiration, chemolithoautotrophy (the ability to grow without an organic carbon source by using energy derived from the metabolism of inorganic compounds), CO₂ fixation, the citric acid cycle, and arginine metabolism. In addition, two papers deal with transposable elements. The standard of presentation is quite good, especially for a symposium volume published within a year of the actual meeting. Although much of the material is rather specialized, I found the book full of useful information and very instructive about certain topics that are normally accessible only to specialists, such as particular adaptations of the citric acid cycle in various bacterial groups and the taxonomic distribution of different photosynthetic electron transport systems.

Though my reaction to the book is favorable because it has such a broad physiological approach to the topic of bacterial evolution, I do note two particular deficiencies in subject matter. The first is the absence of the environmental microbiologist's insight into the unique ecological role bacteria play by virtue of their incredibly diverse biochemical activities and ability to live in many different environments. Basic microbiology textbooks explain how bacteria control the levels of various chemicals over the entire earth, but topics such as sulfur oxidation or nitrification and denitrification are considered in this book only from the perspective of cellular energetics. Surely the way bacteria respond to and regulate changes in the chemical

composition of the biosphere is highly relevant to any discussion of how they acquired the particular constellations of biochemical properties they now display.

The second deficiency is that the treatment of mechanisms for genomic change in bacteria is very cursory. The discussion of transposable elements is limited, and other aspects of bacterial genetics are neglected. Conjugal spread of plasmids, which frequently encode taxonomically important biochemical systems, is discussed only in the paper on chemolithoautotrophy. Other topics relevant to evolution (such as transfer and uptake of heterologous DNA, inducible mutator systems, and the effects of stress regimens on genomic stability) are hardly mentioned, and there is no overall review of one of the most significant examples of bacterial evolution to occur in our time—the emergence of genetically mobile resistance mechanisms in response to human use of antibiotics.

There are two levels where the lack of emphasis on genetics is significant. At the detailed level of specific cases, many intriguing but poorly understood observations are reported that could readily be clarified by genetic approaches that are now routine. For example, the chapter on the citric acid cycle tells us that *Escherichia coli* can mutate to produce novel citrate synthase enzymes that have properties similar to the enzymes typical either of *Acetobacter* or of *Bacillus*, organisms that fall into distinctive taxonomic groups on the basis of ribosome and cell envelope structures. We would learn a great deal about possible evolutionary mechanisms by finding out how the *E. coli* genome changed to produce these novel activities and how the resulting DNA segments compare to their analogs in the *Acetobacter* and *Bacillus* genomes. At a more theoretical level, it is helpful to remember that we now possess a large corpus of information about various aspects of mutation, rearrangement, and exchange in the genomes of laboratory and natural populations of bacteria. This is important because established evolutionary theory is still founded on outmoded assumptions about the mechanisms of genetic variation, basically accepting the doctrine that change arises from the relatively constant appearance of random, independent localized alterations of sequence organization. Such a view of the nature of hereditary change is far out of touch with current knowledge (both for bacteria and for eukaryotes). Thus, it is possible that studies of prokaryotic evo-

lution may make their most important contribution to evolutionary biology in general by introducing an element of genetic sophistication to the subject.

JAMES A. SHAPIRO

Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, Illinois 60637

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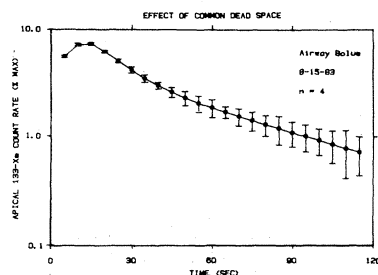
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the United Nations Industrial Develop-
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and the Walker Award and is a member
of the National Academy of Engineering.

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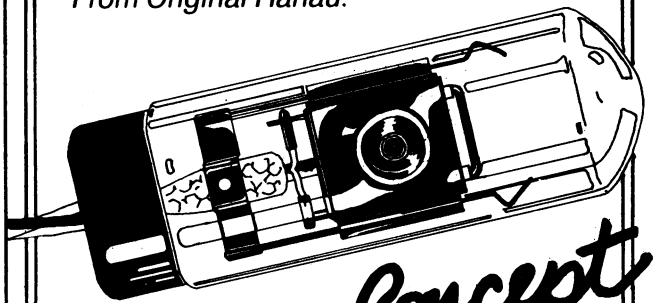
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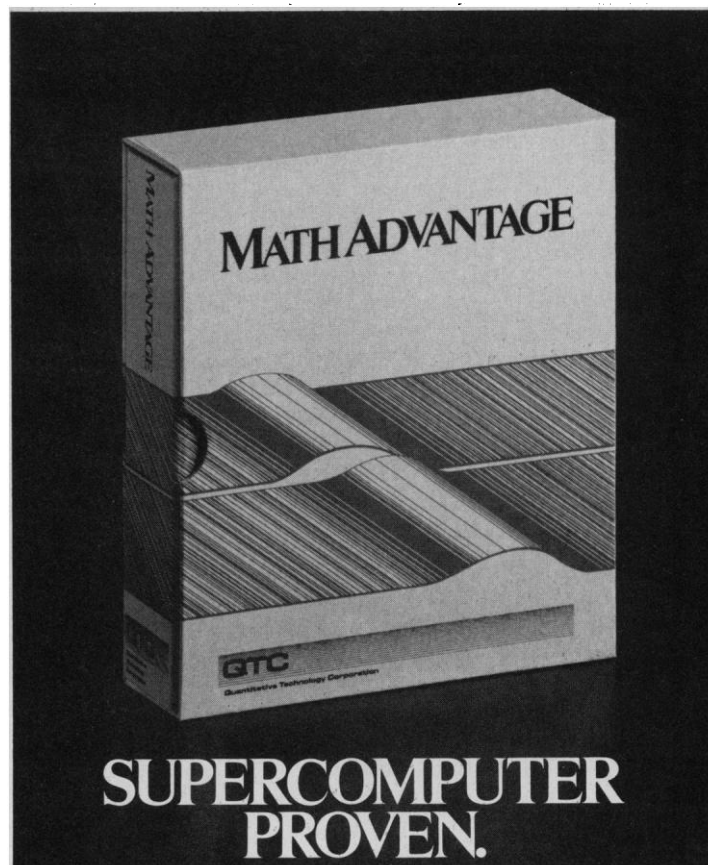
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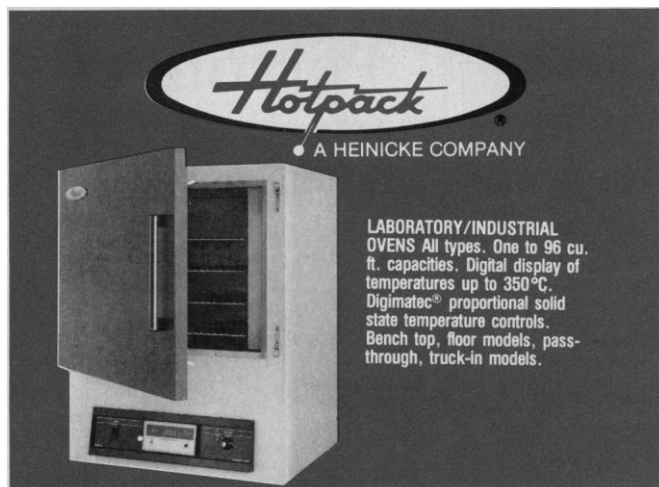
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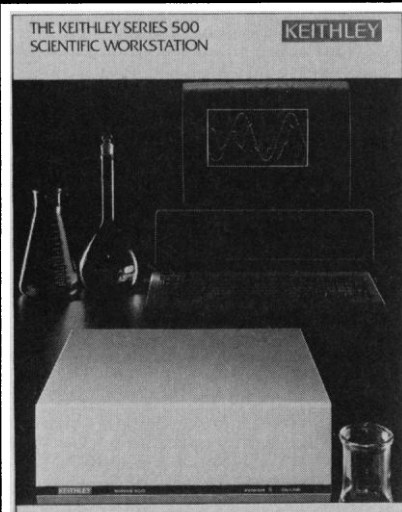
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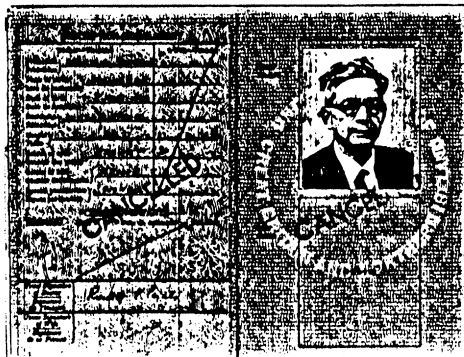
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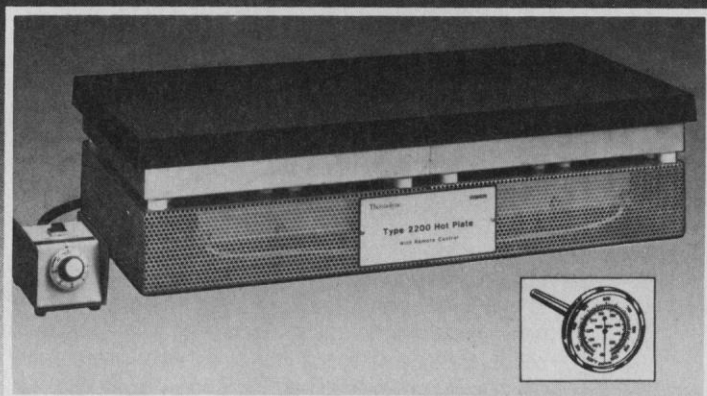
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ANIMAL PHYSIOLOGIST

Indiana University of Pennsylvania invites applications for a permanent, tenure-track position beginning the fall semester 1986, in the Department of Biology at the assistant professor entry level. Teaching experience preferred. Ph.D. preferred, but Ph.D. pending applicants are encouraged to apply. Commitment to quality teaching and research essential. Primary teaching responsibilities include physiology to graduate, undergraduate majors and undergraduate non-major students, and may include a non-majors general biology course. Submit résumé, transcripts, statement of research plans, and three letters of recommendation by 15 January 1986 to:

Dr. William R. Forbes
Search Committee Chair
Biology Department
Indiana University of Pennsylvania
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POSITIONS OPEN

ANATOMIST—OHIO UNIVERSITY. The Program in Anatomy, Development and Neurobiology seeks to fill a tenure-track assistant or associate professorship. We are searching for a research-oriented individual to join a group more biologically oriented than basic scientists at most medical schools. Research area is open, although we may give preference to a muscle biologist. Our program includes strong research groups in functional and comparative morphology, neurobiology, ultrastructure, and exercise physiology. Teaching duties involve participation in the gross anatomy course for medical students and offering one course in the Department of Zoological and Biomedical Sciences. A Ph.D. degree, postdoctoral experience, and previous teaching experience in human gross anatomy area are required. This will be a joint appointment in the College of Osteopathic Medicine and in the Department of Zoological and Biomedical Sciences with a starting date of 1 July 1986. Ohio University, with a student body of 15,000, is located in a small, picturesque town in the hills of rural southeastern Ohio. Salary and start-up funds are competitive, and the costs of living and housing in Athens are moderate. Letter of application, curriculum vitae, description of current and future research plans, copies of most significant publications, statement of teaching experience, and three letters of recommendation must be received by 1 February 1986. Address to: Dr. Joseph Eastman, Anatomy Search Committee, College of Osteopathic Medicine, Irvine Hall, Ohio University, Athens, Ohio 45701-2979. Telephone 614-594-6401, extension 323. Ohio University is an Affirmative Action/Equal Opportunity Employer.

ANIMAL BIOLOGIST, assistant professor of Dairy Science, University of Wisconsin-Madison. Responsibilities are 70 percent research and 30 percent teaching. A Ph.D. in dairy science, biochemistry, cellular biology, molecular biology, immunology, or other appropriate area is required. Postdoctoral research experience is preferred. Research is preferred in, but not limited to, lactation biology or mastitis in dairy cattle. Candidates should send a résumé, transcripts of all university work, a statement of research interests, and request four letters of reference be sent to: Dr. George E. Shook, Chair, Search Committee, Dairy Science Department, University of Wisconsin, 1675 Observatory Drive, Madison, Wis. 53706. Applications accepted until 3 January 1986, or until position is filled. The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.

AQUATIC ECOLOGY MCGILL UNIVERSITY

The Department of Biology invites applications from individuals with research interests and expertise in aquatic ecology for a tenure-track position at the assistant professor level. The position will become effective 1 September 1986. The department has considerable research strength in this area and has an established Centre for Limnology Research to foster this strength.

Send curriculum vitae, and 1 to 5 page statement of research interests, representative reprints, and have three letters of reference forwarded to: Dr. Barid Mukherjee, Chairman, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1. Deadline: 31 January 1986.

ASSISTANT PROFESSOR

The Biology Department at Wheaton College announces an opening at the rank of assistant professor. The position is full-time, with an initial contract for 2 years, renewable. The principal areas of responsibility will be in cell biology and genetics, including introductory and advanced courses with laboratories in cell structure, genetics, and related areas. Responsibilities will include teaching one laboratory section of Introduction to Biology and sponsorship of individual student research projects. The successful candidate will be expected to develop and maintain an active on-going research program for which modest institutional support is available.

Wheaton College is a quality liberal arts institution in southeastern Massachusetts, committed to the education of women, and is an Equal Opportunity Employer. Applicants should hold the degree of Ph.D. and teaching experience is desirable. Applicants should send a letter of interest, curriculum vitae, and three letters of recommendation. The deadline for applications is 31 December 1985.

Applications should be directed to: Dr. John C. Kricher, Chair, Biology Department, Wheaton College, Norton, Mass. 02766.

POSITIONS OPEN

We invite scientists with Ph.D. and/or M.D. degrees to apply for tenure-track positions at the ASSISTANT PROFESSOR level. The Department of Biochemistry is committed to a strong research effort in genetic approaches to problems of cellular growth, differentiation, and control mechanisms. The department is in a modern building with well-equipped laboratories. Current faculty research interests include gene regulation, hormone structure and function, neurochemistry, and enzyme regulation. Appointees will be expected to maintain an independent, externally funded research program that addresses eukaryotic cellular and organismic problems in terms of gene structure and regulation. Opportunities exist for teaching in our Ph.D. and M.D. programs. Applicants should submit curriculum vitae, reprints, and outline of planned research, and should arrange to have letters of support from three individuals sent to: D. James McCorquodale, Ph.D., Chairman of Search Committee, Department of Biochemistry, Medical College of Ohio, C.S. Number 10008, Toledo, Ohio 43699. An Equal Opportunity Employer.

ASSISTANT PROFESSOR

University of California, Irvine, Department of Pathology, is recruiting for a faculty position at the assistant professor level. Required: M.D., licensure for practice in California, certification in anatomic and clinical pathology, and hematopathology fellowship training. Experience in organizing and management of immunohematology service laboratory. Established documented research experience in immunohematology. Duties: Mount an independent research program in the production of monoclonal antibody for the development of diagnostic procedures in hematology. Instructing medical students and residents in pathology. Supervising and organizing a hematopath fellowship training program. Present conferences for medical staff and residents in a teaching hospital. Send curriculum vitae and references to: E. R. Arquilla, M.D., Ph.D., Professor and Chair, University of California Irvine, Department of Pathology, 101 City Drive South, Orange, California 92668, by 6 January 1986. Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR—research (non-tenure) position available for molecular biologist to join group studying gene expression in secretory cells. Knowledge of all phases of recombinant DNA methods required. Send curriculum vitae and names of three references before 15 January 1986 to: Dr. Lawrence A. Tabak, Departments of Endodontics/Oral Biology, 213 Foster Hall, School of Dental Medicine, State University of New York at Buffalo (SUNYAB), Buffalo, N.Y. 14214. SUNYAB is an Equal Opportunity Employer.

SCHOOL OF KINESIOLOGY

The School of Kinesiology, Simon Fraser University, seeks to appoint a tenure-track ASSISTANT PROFESSOR to conduct research and teach in the area of occupational science (human factors/ergonomics). Preference will be given to those with expertise in physiological, biomechanical, or engineering aspects of this area. Teaching responsibilities include both undergraduate and graduate courses and the successful applicant will be expected to develop an independent research program in this field. A completed Ph.D. is required. This position is contingent upon final budgetary approval. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. Applications, including names and addresses of three referees, should be made before 31 January 1986 to: Dr. J. Dickinson, Director, School of Kinesiology, Simon Fraser University, Burnaby, British Columbia, Canada V5A 1S6.

PLANT CELL AND MOLECULAR BIOLOGY MCGILL UNIVERSITY

The Department of Biology invites applications from individuals with research interests and expertise in plant cell and molecular biology for a tenure-track position at the assistant professor level. The position will become effective 1 September 1986. The department has considerable research strength in this area and has recently established a Centre for Plant Molecular Biology to foster this strength.

Send curriculum vitae, a one- to five-page statement of research interests, representative reprints, and have three letters of reference forwarded to: Dr. Barid Mukherjee, Chairman, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1. Deadline: 31 January 1986.

POSITIONS OPEN

NORTHWESTERN UNIVERSITY DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY

Applications are invited for a tenure-track position at the ASSISTANT PROFESSOR level from persons interested in evolutionary biology. Paleobiology, the evolution of the eukaryotic cell, chemical ecology, and ecological genetics are areas of particular interest. However, outstanding individuals in other subdisciplines will also be considered.

Applicants must hold a Ph.D. degree and demonstrate excellence in independent research. The appointment will involve teaching at both the undergraduate and graduate levels and the supervision of graduate student research.

Letters of application should be accompanied by a résumé that includes a description of research interests and accomplishments, teaching experience, a list of publications, reprints of published articles, and the names of at least three referees. Send to: **Andrew J. Beattie, Chairman, Department of Ecology and Evolutionary Biology, Northwestern University, 2153 Sheridan Road, Hogan Hall, Evanston, Ill. 60201.** Closing date for applications is 31 January 1986. We expect to fill the position for fall 1986.

Northwestern University is an Equal Opportunity/Affirmative Action Employer.

WISCONSIN—MARQUETTE UNIVERSITY SCHOOL OF DENTISTRY has two tenure-track assistant professor positions in the anatomical sciences which may become available in July 1986. Applicants must have a Ph.D. Postdoctoral research and teaching experience is desirable but not required. Candidates are expected to participate in the department teaching of dental and allied health students as well as to establish a strong research program. Opportunities are available to interact with the faculty in the other basic sciences. Applicants should send their curriculum vitae, transcripts, names and address of three references, and a statement of their research interests to:

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THE DEPARTMENT OF ANIMAL SCIENCES AT RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY, invites application for a tenure-track appointment at the rank of ASSISTANT, ASSOCIATE, or FULL PROFESSOR. Candidates should have expertise in the area of nutritional biochemistry/physiology of domestic animals, molecular aspects of animal disease/pathology, or biotechnology is applied to agricultural animals. Research responsibilities include the development of an active research program capable of attracting competitive outside grants. Teaching duties will include one undergraduate course per year, and the development of a graduate course in the individual's specialty. Applicants should submit curriculum vitae, statement of research interests, and names of three references to: **Search Committee, Department of Animal Sciences, Bartlett Hall, Rutgers University, New Brunswick, N.J. 08903.** Application deadline is 1 February 1986. *An Equal Opportunity/Affirmative Action Employer.*

ERINDALE CAMPUS UNIVERSITY OF TORONTO DEPARTMENT OF ZOOLOGY

The Department of Zoology, University of Toronto, invites applications for a tenure-track ASSISTANT PROFESSORSHIP IN AQUATIC ECOLOGY beginning July 1986. The successful candidate will be located at Erindale College, and will be part of a large, interactive group of aquatic ecologists in the Department of Zoology. A Ph.D. degree and postdoctoral experience are required. Development of an active externally funded research program, including graduate students, is expected. Teaching duties include contributions to team-taught undergraduate courses in animal behavior, invertebrate zoology, and in general ecology at both graduate and undergraduate levels. Current base salary is \$27,000. Applicants should send curriculum vitae, copies of representative publications, and names and addresses of three referees before 15 January 1986 to: **Dr. Nicholas C. Collins, Department of Zoology, University of Toronto—Erindale College, Mississauga, Ontario, Canada, L5L 1C6.** *In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.*

POSITIONS OPEN

The Department of Microbiology, University of Minnesota, Minneapolis Campus, invites applications for a 12-month, tenure-track appointment at the rank of ASSISTANT PROFESSOR working in the general area of the molecular pathogenesis of virus infections. Candidates must have an M.D., Ph.D., D.V.M., or D.Sci. degree with two or more years of postdoctoral research experience. The successful candidate will be expected to obtain extramural research funding and participate in departmental teaching responsibilities, including supervision of graduate students at the M.S. and Ph.D. levels. Please send a brief description of research interests and plans, curriculum vitae, and three letters of recommendation to: **Peter G. Plagemann, Chair, Virology Search Committee, Department of Microbiology, University of Minnesota Medical School, 421 Delaware Street, S.E., Box 196 Mayo, Minneapolis, Minn. 55455.** Last date for receipt of applications is 31 June 1986. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

BROCK UNIVERSITY MATHEMATICS DEPARTMENT

Tenure-track position at ASSISTANT PROFESSOR level, beginning 1 July 1986.

Applicants must have a Ph.D. together with either a strong research record, or demonstrated research potential. Duties will include teaching both major and large service courses; although strong candidates from all areas of mathematics will be considered, instructional experience in operations research would be advantageous.

Applications, supported by an updated curriculum vitae, reprints of recent publications, and the names of three referees should be sent to:

**Professor J. P. Mayberry
Department of Mathematics
Brock University
St. Catharines, Ontario
Canada L2S 3A1**

Closing date for applications is 28 February 1986.

In accordance with the Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

ASSISTANT PROFESSOR OF ANATOMY position available beginning 1 July 1986. The application for this tenure-track position must have a Ph.D. or equivalent and 2 to 3 years postdoctoral training in neurobiology. In addition to establishing an independent research program, the successful candidate will be expected to teach an undergraduate neuroanatomy course. Submit curriculum vitae, statement of research goals, and names of three references to: **Dr. P. A. Young, Chairman, Department of Anatomy, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, Mo. 63104.** *Equal Opportunity/Affirmative Action Employer M/F/H/V.*

The Department of Genetics at Washington University School of Medicine, St. Louis, Missouri 63110, invites applications at the level of ASSISTANT PROFESSOR from persons whose primary research interests are in the genetic analysis of development in higher eukaryotes. Interested parties should forward to: **Daniel L. Hartl** at the above address, a résumé, a brief statement of specific research interests, and the names of three people who would provide recommendations upon request. *Equal Employment Opportunity/Affirmative Action Employer, M/F/H/V.*

ASSISTANT PROFESSOR PLANT MOLECULAR BIOLOGIST

The Department of Biological Sciences at the University of Wisconsin—Milwaukee announces a tenure-track position. The candidate is expected to develop a rigorous, extramurally supported research program in the area of PLANT MOLECULAR BIOLOGY. Demonstrated research productivity is a requirement. Postdoctoral experience is preferred. Teaching responsibilities include an advanced course in area of specialty and participation in introductory courses.

Applicants must provide curriculum vitae, a concise statement of research and teaching objectives, recent reprints, and have three letters of recommendation sent to: **Chair, Search Committee for Plant Molecular Biologist, Department of Biological Sciences, University of Wisconsin—Milwaukee, P.O. Box 413, Milwaukee, Wis. 53201** Closing date: 22 January 1986.

The University of Wisconsin—Milwaukee is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY

Tenure-track assistant professor of biology in **MAMMALIAN PHYSIOLOGY** with specialization in an area such as muscle physiology, reproductive physiology, or endocrinology. The successful candidate will be expected to provide instruction in both undergraduate and graduate courses in physiology, including human physiology and advanced courses in the specific field of interest; supervise M.A. thesis research; and maintain an ongoing research program. Ph.D. degree required; postdoctoral experience preferred. Academic year salary: \$24,168 to \$29,064. Effective date: 25 August 1986. Applicants should submit curriculum vitae and statement of career goals, and should arrange for three letters of reference to be sent to: **Professor Claude Alexander, Department of Biology, San Francisco State University, 1600 Holloway Avenue, San Francisco, Calif. 94132.** Closing date: 27 January 1986. *San Francisco State University is an Affirmative Action/Equal Opportunity Employer.*

The Department of Microbiology/Immunology, Oral Roberts University School of Medicine, invites applications for an ASSISTANT PROFESSOR OF IMMUNOLOGY. Applicants must have a Ph.D. in immunology or microbiology and postdoctoral experience is desirable. Responsibilities include teaching immunology to medical and graduate students and having an active research program. Send curriculum vitae and names and addresses of three referees to: **Dr. Richard A. Gilmore, Associate Dean for Biomedical Sciences, Oral Roberts University School of Medicine, 8181 South Lewis, Tulsa, Okla. 74137.** *Oral Roberts University is a Christian ministry that employs without regard to race, color, sex, age, handicap, national origin or status as a veteran.*

ASSISTANT PROFESSOR—WATERBIRD AND WETLANDS ECOLOGIST. Salary: \$30,748 to \$35,880, depending on experience. Nine-month, tenure-track, starts 24 August 1986. Require Ph.D. and university/college teaching experience. Prefer postdoctoral research and teaching experience, as well as experience in resource management organization. Duties: teaching, research, public service in wetlands ecosystems, and management in waterbird ecology and management. Send curriculum vitae, statement of interests and experience, transcripts, and list of three referees whom you have asked for letters to: **Biology, Fisheries, and Wildlife, University of Alaska—Fairbanks, Robert Weeden, Chair, Search Committee, 202 Bunnell Building, Fairbanks, Alaska 99775-0280.** Telephone: 907-474-7542. Application postmark deadline is 14 February 1986. *Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR—ZOOLOGY

The Biology Department of Mills College invites applications for a tenure-track position from vertebrate zoologists with strengths in ecology, evolution, and population biology. Teaching responsibilities include ecology, evolution, population biology, vertebrate biology, and part of general biology. Doctorate required. Preference given to applicants with demonstrated success in college level teaching. Mills College is a liberal arts college for women located in the San Francisco Bay Area. Position available 1 July 1986. Send curriculum vitae, and three letters of reference by 1 February to: **Dr. Karen C. Swearingen, Biology Department, Mills College, Oakland, Calif. 94613.**

An Equal Opportunity Employer. Women and minorities are encouraged to apply.

BIOLOGY—ECOLOGY

Rider College seeks applications for a tenure-track assistant professor position to begin September 1986. Applicants will be expected to teach introductory ecology, an advanced course, and contribute to our freshman biology offerings. A strong commitment to undergraduate teaching and the development of a research program involving undergraduates is expected. The applicant should be broadly trained in ecology with a strong interest in interactions at the molecular level. The possibility exists for participation in the biochemistry and/or marine science programs. Ph.D. required. Rider College, a private, 4-year institution of 3500 students located between New York and Philadelphia, stresses excellence in undergraduate education and close student-faculty interaction. Salary dependent upon background and experience. Letter of application, résumé, and three letters of reference should be sent by 15 January 1986 to: **Dr. James H. Carlson, Chairman, Department of Biology, Rider College, 2083 Lawrenceville Road, Lawrenceville, New Jersey 08648.** *An Affirmative Action/Equal Opportunity Employer, M/F/H.*

CONDENSED MATTER/SURFACE PHYSICIST

The Office of Naval Research is seeking a highly qualified individual to plan and manage a program of sponsored research in the broad fields of surface and interface physics and condensed matter physics. The research sponsored is conducted principally at universities and government or industrial laboratories by leading scientists in the field. This is a Civil Service position at the GM-13, GM-14 or GM-15 (\$37,599–\$67,940) level, depending on individual qualifications.

The responsibilities for managing the program include recognizing and defining new research opportunities in surface and interface physics and condensed matter physics. Operating with available resources, the manager receives and evaluates proposals and selects for funding those which contribute to the strongest research program. The incumbent maintains close liaison with the ongoing research, monitors the results for information of importance to Navy interests, communicates these results to appropriate Navy activities, and manages follow-on developmental work. An inherent job satisfaction in the position is obtained through the opportunity to have a creative and significant impact on the quality of research conducted at the national level. Additionally, the opportunity exists to establish or maintain an individual research program at an academic institution or government laboratory.

Applicants must have a Ph.D. or equivalent in physics or a directly related physical science, and at least one year of professional experience or have acquired a minimum of three years of progressively responsible professional experience. Demonstrated research experience is preferred. At least one year of experience must be comparable in difficulty and responsibility to the next lower grade in the Federal service.

Interested persons should submit a resume or Standard Form 171, Personal Qualifications Statement (available at Federal Job Information Centers or from the address below), to:

OFFICE OF THE CHIEF OF NAVAL RESEARCH
Civilian Personnel Division, OCNR Code 01242P
ATTN: Announcement #85-98 (S)
800 North Quincy Street, Arlington, VA 22217-5000

Applications will be accepted through 31 January 1986 and must be received by that date. Applicants are requested to complete the appropriate supplemental forms. For further information and supplemental forms, please call (202) 696-4705.

AN EQUAL OPPORTUNITY EMPLOYER • U.S. CITIZENSHIP REQUIRED

PROTEIN CHEMISTS

An industry leader in advanced biotechnology, **Amgen** develops products for significant applications, including human therapeutics, human diagnostics, animal health care and specialty chemicals. **Amgen** has forged new frontiers in gene synthesis, protein microsequencing and regulated expression of gene clusters. We currently have positions available for protein **Chemistry Scientists and Research Associates**.

Research Scientists

Demonstrated skills in the purification, characterization of proteins, and structure-activity studies of proteins at the molecular level. Knowledge of computer graphics, biophysical chemistry, and glycoproteins is desirable. Position requires a Ph.D. and 2-4 years of related postdoctoral experience.

Research Associates

Experienced with "state-of-the-art" biochemistry instrumentation, including HPLC, amino acid analyzers, and protein sequencers. Knowledge of organic synthesis, computers, and validation of analytical instruments is desirable. Position requires a B.S. or M.S. degree, supplemented by several years of related experience.

Amgen offers a competitive compensation and benefits package and is located in an attractive community about an hour northwest of Los Angeles. Qualified candidates should direct a resume to:

Recruitment

AMGEN
1900 Oak Terrace Lane
Thousand Oaks, CA 91320

AMGen

An Equal Opportunity Employer

POSITIONS OPEN

ASSISTANT RESEARCH SCIENTIST. Applications are invited for a full-time position to conduct grant-supported study of immunochemistry of rhodopsin. Position requires preparation and characterization of monoclonal antibodies and antisera to rhodopsin and its peptides, ELISA, immunoblotting, immunocytochemistry, preparation of peptide conjugates, preparation of rhodopsin and derivatives, supervision of technician/student. Ph.D. and postdoctoral experience required with training and expertise in biochemistry, immunology, and vision research. Recruiting deadline 31 December 1985, to start 15 January 1986. Candidates should submit a letter of application stating research goals, curriculum vitae, and at least three letters of reference to: **George A. Stern, M.D., Associate Professor, Department of Ophthalmology, Box J-284 JHMC, University of Florida, Gainesville, Fla. 32610. The University of Florida is an Equal Opportunity/Affirmative Action Employer.**

Montana State University seeks **ASSOCIATE DIRECTOR OF AGRICULTURAL EXPERIMENT STATION** to evaluate, plan, develop, and coordinate research efforts of 13 on-campus and eight off-campus units. Associate director reports to the Experiment Station Director and is responsible for liaison with regional and national agricultural organizations, and for long-range planning and goal setting. **REQUIRED QUALIFICATIONS:** Earned doctorate in an agricultural science or related field; established research record and evidence of managerial skills. **DESIRED QUALIFICATIONS:** Familiarity with current and emerging agricultural research technology; commitment to land grant mission and knowledge of systems analysis.

SALARY: Negotiable at about \$50,000 to \$55,000 and related to qualifications and experience.

CLOSING DATE: 31 January 1986 or until the position is filled.

APPLICATION: Send letter of application, résumé or curriculum vitae, and the names, addresses, and telephone number of five references to:

Associate Director Search Committee
202 Linfield Hall
Montana State University
Bozeman, Mont. 59717-0002
Telephone: 406-994-3681

Montana State University is an Equal Opportunity/Affirmative Action Employer and encourages applications from female, minority and disabled persons.

ASSOCIATE EDITOR

For staff of multidisciplinary semimonthly scientific journal. Ph.D. or equivalent in a biological or physical science and at least 2 years of further experience required. Excellent command of English essential; some editorial experience preferred. Send curriculum vitae to: **Dr. F. R. Zwanig, Managing Editor, Proceedings Office, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418. An Equal Opportunity Employer.**

MEMORIAL UNIVERSITY OF NEWFOUNDLAND DEPARTMENT OF BIOCHEMISTRY ASSOCIATE PROFESSOR PROFESSOR OF FOOD SCIENCE

The Department of Biochemistry, Food Science Section, Memorial University of Newfoundland, St. John's Newfoundland, invites applications from qualified individuals for a tenure-track faculty position. Applicants should have a Ph.D., productive postdoctoral experience, and demonstrated leadership and managerial abilities. The duties of the incumbent will include heading the Food Science Section of the Biochemistry Department which is under review for status as a Department of Food Science, establishing a high-quality research program in the specialty area of food science, delivery lectures to undergraduates in Introduction to Food Science and to graduate students in areas of specialty. Interest in marine food and food products will be an asset.

This is an exceptional appointment offering a challenge to provide leadership to further develop new intrafaculty programs in the only ongoing undergraduate/graduate Food Science program in Atlantic Canada.

Applicants should submit curriculum vitae and names of five referees to: **Dr. S. Mookere, Chairman, Department of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, A1B 3X9.**

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

POSITIONS OPEN

ASSOCIATE PROFESSOR—MOLECULAR VIROLOGY

Department of Radiation Oncology, University of Massachusetts Medical Center, invites applications from outstanding individuals for a faculty position in virology. We seek an individual with demonstrated independent research productivity in molecular virology to interface with current faculty members. The department has research interests in long-term human and mouse bone marrow culture, pathogenesis of retroviruses, and retroviral-induced alterations of hematopoietic stem cell self-renewal. Send curriculum vitae, three references, and future research plans to: **Dr. Joel Greenberger, Professor and Chairman, Department of Radiation Oncology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, Mass. 01605. An Affirmative Action/Equal Opportunity Employer.**

BIOLOGIST

Tenure-track position available at the assistant professor level beginning August 1986, for an invertebrate zoologist with strong training in physiology. Capability with both SEM and TEM is required, as well as an ability to teach either developmental biology or animal histology. The successful candidate will also participate in the department's introductory courses for both majors and non-majors. Ph.D. required. Send curriculum vitae and three letters of reference by 31 January 1986, to: **Director of Personnel, St. Ambrose College, 518 West Locust Street, Davenport, Iowa 52803.**

Equal Opportunity Employer

CELL BIOLOGIST MOLECULAR BIOLOGIST

Otsuka Pharmaceutical Co., Ltd.'s Maryland Research Laboratories has openings for cellular and molecular biologists to participate in collaborative efforts to examine the role of growth and modulatory factors in regulating cellular growth and differentiation.

The candidates should have a Ph.D. or equivalent in an appropriate discipline, 3-5 years postdoctoral experience in relevant research and a substantial record of research accomplishments.

Salary and benefits are commensurate with qualifications and experience. Applications for this position should include C.V., publication record, and at least three references. Please send applications to:



Otsuka Pharmaceutical Co., Ltd.
Maryland Research Laboratories
P.O. Box 4165
Rockville, Maryland 20850, U.S.A.

An Equal Opportunity Employer

CELLULAR-MOLECULAR BIOLOGIST

(Science Division) Full-time faculty position. Direct undergraduate program in molecular biology-biochemistry. Teach two undergraduate courses, conduct research in cellular and molecular biology. Rank open; salary dependent on qualifications. Ph.D. and postdoctoral experience in biochemistry, molecular biology, or related area required. Submit curriculum vitae, statement of research interests, and names of three references to: **Personnel Coordinator, Long Island University, Brooklyn Campus, Brooklyn, N.Y. 11201. An Affirmative Action/Equal Opportunity Employer.**

TENURE-TRACK OPENING at the junior level in an ACS-approved department at an undergraduate university of 1600 students. Ph.D. in biochemistry or organic chemistry required. The successful candidate will be expected to teach biochemistry, share in the teaching of organic chemistry, and assist the rest of the department in teaching laboratory sections and nonmajors courses. Send application, including undergraduate and graduate transcripts, and have three letters of recommendation sent to: **Dr. David N. Bailey, Head, Department of Chemistry, Illinois Wesleyan University, Bloomington, Ill. 61702. IWU is an Equal Opportunity Employer.**

POSITIONS OPEN

CARDIOVASCULAR—EXERCISE PHYSIOLOGIST

Ohio University has an opening for a full-time, tenure-track assistant or associate professor jointly with the Department of Zoological and Biomedical Sciences and the College of Osteopathic Medicine. We are seeking a broadly trained physiologist with special expertise in cardiovascular and exercise physiology. A Ph.D. degree and postdoctoral experience are required. Primary responsibility is for the teaching of cardiovascular physiology to medical students, along with undergraduate and graduate teaching in an expanding exercise/environmental physiology program and the development of an independent extramurally fundable research program. Collaborative opportunities and current research interests in the physiology program exist in the areas of exercise physiology, hypertension, neurophysiology, muscle biology, endocrinology, and pharmacology. Ohio University has a student body of 15,000 undergraduates and is located in a small university town in rural southeastern Ohio. Salary and start-up funds are competitive, and the cost of living, including housing, is moderate.

Letters of application, curriculum vitae, description of current and proposed research, and names and addresses of three references to be received by 15 February 1986. Address to: **Dr. R. A. DiCaprio, Physiology Search Committee, College of Osteopathic Medicine, Irvine Hall, Athens, Ohio 45701-2979. Telephone 614-594-6401, extension 294. Ohio University is an Affirmative Action/Equal Opportunity Employer.**

CHAIRMAN, DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS LOUISIANA STATE UNIVERSITY MEDICAL CENTER, SHREVEPORT

The School of Medicine invites nominations and applications for the chairmanship of an expanding Department of Physiology and Biophysics. Candidates must have an outstanding record of research, strong commitment to medical and graduate education, and the vision and experience to establish and lead a department of excellence. All résumés will be reviewed by: **Dr. Dennis J. O'Callaghan, Chairman, Physiology Search Committee, College of Osteopathic Medicine, Irvine Hall, Athens, Ohio 45701-2979. Telephone 614-594-6401, extension 294. Ohio University is an Affirmative Action/Equal Opportunity Employer.**

Martha Lennard
Department of Human Resources
Louisiana State University Medical Center
1501 Kings Highway
Shreveport, La. 71130

Affirmative Action/Equal Opportunity Employer.

CHAIR, DEPARTMENT OF PHARMACEUTICS

University of Arkansas for Medical Sciences, College of Pharmacy seeks an individual to head the department which presently consists of six full-time faculty. Qualifications include a Ph.D. degree, an undergraduate degree in pharmacy, a record of excellence in research and teaching, and evidence of academic administrative experience or potential. Letters of application should include curriculum vitae, a summary of current and projected research programs, and three letters of reference. Applications or nominations should be sent by 1 February 1986 to: **Dr. Kim E. Light, Chair, Search Committee, College of Pharmacy, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Ark. 72205.**

An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION— BIOLOGICAL CHEMISTRY WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

We are seeking a faculty member at either the junior or senior level to join an active faculty group involved in studies of dynamic aspects of protein structure. We are particularly requesting applications from individuals interested in physicochemical and molecular genetic approaches such as NMR, in site directed mutagenesis, or in the theory of protein folding to investigate these problems.

Interested individuals should send a complete curriculum vitae and have three letters of recommendation sent to:

Dr. Luis Glaser
Washington University School of Medicine
Department of Biological Chemistry
660 South Euclid Avenue, Box 8094
St. Louis, Mo. 63110

Washington University is an Affirmative Action/Equal Opportunity Employer.

RESEARCH MANAGER, PHYSICAL OCEANOGRAPHY

The Office of Naval Research is seeking a highly qualified individual to plan and manage a significant portion of the contract research program in physical oceanography. The research sponsored is conducted principally at universities and oceanographic institutions. This is a Civil Service position at the GM-13 or GM-14 level (\$37,599–\$57,759), depending on qualifications.

The incumbent will establish goals for and conceive, organize, and direct research and development programs in unexplored areas involving fundamental concepts in the field of physical oceanography. A goal is to determine the fundamental constraints which the ocean environment places on the ability of the Navy to accomplish its mission. Research will be directed to complex multi-disciplinary problems in the global marine environment on all space and time scales.

Applicants must have a Ph.D. or equivalent in oceanography or in a physical science area related to physical oceanography and at least one year of professional experience or acquired a minimum of three years of progressively responsible professional experience. Applicants should have significant research and/or management experience in physical oceanography (e.g. remote sensing, numerical modeling and/or small scale processes.) At least one year of experience must be comparable in difficulty and responsibility to the next lower level in the Federal Service.

Interested persons should send a resume or Standard Form 171, Application for Federal Employment (available at Federal Job Information Centers or from the address below), to:

OFFICE OF THE CHIEF OF NAVAL RESEARCH

Civilian Personnel Division, OCNR Code 01242P

ATTN: Announcement #85-97 (S)

800 North Quincy Street, Arlington, VA 22217-5000

Applications will be accepted through 31 January 1986 and must be received by that date. Applicants are requested to complete the appropriate supplemental forms. For further information and supplemental forms, please call (202) 696-4705.

AN EQUAL OPPORTUNITY EMPLOYER • U.S. CITIZENSHIP REQUIRED

IMMUNOASSAY DEVELOPMENT SCIENTISTS

An industry leader in advanced biotechnology, **Amgen** develops products for significant applications, including human therapeutics, human diagnostics, animal health care and specialty chemicals. **Amgen** has forged new frontiers in gene synthesis, protein microsequencing and regulated expression of gene clusters. **Amgen** currently has major product development programs for several exciting potential therapeutics. We need highly skilled individuals to research and develop assays to support these programs, including development of commercial diagnostic kits.

Research Scientist

A Ph.D. in Biochemistry, Immunochemistry or Protein Chemistry and several years of assay development experience including immunoassays, is required. Experience in the development of commercial diagnostic kits is a plus.

Research Associate

B.S. or M.S. in Biochemistry, or Protein Chemistry with several years of experience assisting in the development of assays. Experience with conjugation of proteins to enzymes and knowledge of ELISA's is a plus.

Amgen offers a stimulating environment and a competitive compensation and benefits package. Our facilities are located in an attractive community about an hour northwest of Los Angeles. Qualified candidates should direct a resume to:

Bill Puchlevic

AMGEN

1900 Oak Terrace Lane,
Thousand Oaks, CA 91320



An Equal Opportunity Employer

SENIOR SCIENTIST

Organon Teknika, Diagnostic is seeking a Ph.D. in Biochemistry or a related field to work as a Senior Scientist in the development of new diagnostics systems in Coagulation. A minimum of 4 years post doctoral work with special emphasis on protein chemistry and enzyme kinetics is essential. A strong knowledge of coagulation biochemistry as well as hands on experience with diverse instrumentation and procedures used in purification and characterization of proteins are necessary. Previous industrial experience is preferred.

We offer an attractive salary and benefits program. Interested and qualified candidates, send letter/resume with salary history to: Frances Wolf, Organon Teknika Diagnostics, 1 Gatehall Plaza, Parsippany, NJ 07054. Equal Opportunity Employer.

ORGANON TEKNIKA

DIAGNOSTICS

CHIEF OF THE SPACE PHYSIOLOGY BRANCH

Major responsibility involves planning, coordinating and directing an experimental research program designed to investigate the effects of the space flight environment on human physiological functions. Studies are conducted to determine the mechanisms involved in the physiological adaptations to space flight conditions, particularly in the musculoskeletal system. Applicants must have an advanced degree in the life sciences or medicine with a minimum of 3 years of independent research experience in bone or muscle physiology or aerospace medicine. Experience in managing or leading a research program is desirable. (Salary: \$44,430-\$67,940).

PHYSIOLOGIST

Conducts research to identify the biochemical, endocrinological, mechanical and physiological mechanisms towards clarifying the factors that underlie muscle atrophy in microgravity, and develops the means to control and reverse the atrophy process. Applicants must have an advanced degree in the life sciences or medicine with a minimum of 3 years of independent research experience in muscle physiology. (Salary: \$37,599-\$57,759).

Competitive salary and fringe benefits are available for highly qualified individual. Please send resume to **NASA-Ames Research Center, Moffett Field, CA 94035, ATTN: Mail Stop 241-6 (Personnel Manager for Code S)**. Application deadline is **December 31, 1985**. U.S. Citizenship is required. NASA is an Equal Opportunity Employer.

POSITIONS OPEN

CHAIRMAN, DEPARTMENT OF INTERNAL MEDICINE—Yale University School of Medicine and Yale-New Haven Hospital invite applications and nominations for the position of chairman and chief of the Department of Internal Medicine. Candidate must be qualified for faculty appointment at the rank of professor and must be a recognized leader in the field with proven ability as a scholar, clinician, teacher, and administrator. Appointment is to be effective July 1986 or as soon thereafter as possible. Applications should be submitted prior to 15 January 1986. *Qualified women and minority group members are encouraged to apply.* Curriculum vitae and bibliography should be sent to: **The Chairman of the Search Committee: Dr. Vincent T. Marchesi, Department of Pathology, Yale University School of Medicine, 333 Cedar Street, P.O. Box 3333, New Haven, Connecticut 06510.**

CHAIRMAN, DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS LOUISIANA STATE UNIVERSITY MEDICAL CENTER, SHREVEPORT

The School of Medicine invites nominations and applications for the chairmanship of an expanding Department of Physiology and Biophysics. Candidates must have an outstanding record of research, strong commitment to medical and graduate education, and the vision and experience to establish and lead a department of excellence. Applicants must provide curriculum vitae, names of three references, and statement of research interests to:

**Dr. Dennis J. O'Callaghan, Chairman
Physiology Search Committee
Louisiana State University Medical Center
1501 Kings Highway
Shreveport, La. 71130**

Affirmative Action/Equal Opportunity Employer

CYTOGENETICIST: Division of Medical Genetics, Department of Preventive Medicine, seeks M.D. or Ph.D., eligible, or certified American Board of Medical Genetics for tenure-track faculty position supervising research/clinical laboratory and teaching. Send curriculum vitae to: **John F. Jackson, M.D., Department of Preventive Medicine, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216-4505. Equal Opportunity Employer, M/F/H/V.**

DEAN, COLLEGE OF SCIENCE AND MATHEMATICS

Wright State University invites applications and nominations for dean of this newly structured College of Science and Mathematics. The college has 151 faculty, 1438 undergraduate majors, and 206 graduate students. It includes departments of biological sciences, chemistry, geological sciences, mathematics/statistics, physics, and psychology. It also includes departments of anatomy, biochemistry, microbiology/immunology, and physiology/biophysics that are matrixed with the School of Medicine. Computer Science is matrixed with the newly formed College of Engineering and Computer Science. Candidates must show evidence of scholarly achievement to be eligible for appointment at the level of professor, along with evidence of administrative experience and leadership.

Send applications with curriculum vitae and names, addresses, and telephone numbers of four references by 30 January 1986 to:

**Dr. Helen Altman Klein, Chair
Advisory Search Committee for
Dean, College of Science and Mathematics
Office of the President
Wright State University
Dayton, Ohio 45435**

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

ENZYMOLOGIST

Merrell Dow Research Institute, Indianapolis Center, is seeking an entry level Ph.D. or postdoctoral biochemistry candidate with a solid background in enzymology and enzyme kinetics. The successful candidate will utilize this knowledge as a key part of an interdisciplinary approach to drug discovery.

We offer professional growth and advancement in our modern research facilities, a pleasant working environment in the northwest suburbs of Indianapolis, and a highly competitive salary and benefits package.

Please send your résumé in confidence to:

**Director of R&D Administration
Merrell Dow Research Institute
P.O. Box 68470
Indianapolis, Ind. 46268**

POSITIONS OPEN

DEVELOPMENTAL BIOLOGIST: Tenure-track position in anatomy at the rank of assistant professor available 1 July 1986. Candidates must be trained in anatomy and should have 2 or more years of post-doctoral research training. Responsibilities include the teaching of medical students, preferably in gross anatomy, and of graduate students in anatomy, as well as the development of an independent, funded research program. Opportunities for collaborative research within the department include pattern formation in developing and regenerating amphibian limbs and mammalian spinal cord development. Interested individuals should send curriculum vitae, statement of research goals, list of three references, and representative reprints to: **Dr. Shirley Ann Gilmore, Professor and Chairman, Department of Anatomy (number 510), University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Ark. 72205, by 15 January 1986. Equal Opportunity/Affirmative Action Employer.**

DEVELOPMENTAL BIOLOGY RHODES COLLEGE

The Biology Department of Rhodes College invites applications for a tenure-track position to be filled at the assistant professor level beginning 1 September 1986. Candidates must have the Ph.D. degree, a strong interest in teaching at the undergraduate level, and a commitment to continuing research. Teaching responsibilities will include a course in developmental biology and involvement in the introductory biology series. EM experience is desirable but not required.

Applicants should submit transcripts, curriculum vitae, a statement of research interests and three letters of recommendation by 15 January to:

**Dr. John Olsen, Chairman
Department of Biology
Rhodes College
Memphis, Tenn. 38112**

Rhodes College is a Liberal Arts and Sciences College of 1000 students and a student/faculty ratio of 12:1. Located in midtown Memphis, Rhodes College and the Biology Department enjoy close ties with Memphis State University, University of Tennessee, Memphis, and St. Jude's Children's Memorial Hospital.

Rhodes College is an Equal Opportunity Employer and encourages applications from qualified minority groups and women.

SCIENCE PUBLISHER DIRECTOR ATLAS/ENCYCLOPEDIA DIVISION

An exciting start-up opportunity! Major East Coast scientific publisher is seeking qualified individual to develop, launch, and manage an encyclopedia of science. Requires planning, directing, staffing, and controlling all aspects of the product. Will involve handling all areas of science and research, publishing, finance, marketing, and administration.

Background Requirements:

Ph.D. in a physical or life science discipline, as well as 12 years of experience in a similar job. Knowledge of information science and related products and the worldwide scientific publishing marketplace. Experience in development and implementation of strategic products plans. Must have numerous contacts with professionals in the scientific and editing fields.

Salary in the \$50,000 range. Please submit résumé or curriculum vitae to: **The Philadelphia Job Bank, 444 North 3 Street, Philadelphia, Pa. 19123. Refer to Order Number 4074361.**

ELECTRON MICROSCOPIST

STAFF APPOINTMENT: the Biology Department of Hamilton College seeks an electron microscopist to maintain the department's transmission electron microscope, participate in research with students and faculty members of biology and other science departments, and teach a one semester course in electron microscopy techniques. It is expected that the successful candidate will have a master's degree. Independent research is encouraged. We anticipate purchasing a scanning electron microscope in the next year and prefer that the candidate have expertise on, and be able to maintain, the scanning electron microscope as well. Applications should be received by 6 January 1986 and should include curriculum vitae, transcripts, and the names of three references. Send résumés to: **Professor Tom Brady, Chairman, Biology Department, Hamilton College, Clinton, N.Y. 13323.**

Hamilton College is an Equal Opportunity Employer. Women and members of minority groups are strongly encouraged to apply.

ANNOUNCEMENT OF WILLIAM C. FOSTER FELLOWS PROGRAM FOR 1986 to 1987

The U.S. Arms Control and Disarmament Agency (ACDA) has announced that it is accepting applications for visiting scholars, under the William C. Foster Fellows Program for 1986 to 1987. This program is designed to give specialists in the physical sciences and other disciplines relevant to ACDA's activities an opportunity to participate actively in the arms control and disarmament activities of the agency and to give the agency the perspective and expertise such persons can offer.

William C. Foster Fellows for 1986 to 1987 will be appointed for 12 months beginning in the summer or early fall of 1986. They will be compensated in accordance with the Intergovernmental Personnel Act which allows the agency to reimburse a university for the services of its employees. Fellows must be citizens or nationals of the United States and on the faculty of a recognized institution of higher learning. Prior to appointment they will be subject to a full-field background security and loyalty investigation for a top secret clearance.

Applications should be made in the form of a letter indicating the perspective and expertise which the applicant offers accompanied by curriculum vitae and any other materials such as letters of reference and samples of published articles which the applicant believes should be considered in the selection process. The deadline date for applications is 31 January 1986. Applications and requests for information on available assignments should be sent to: William C. Foster Fellow Program, Attention: Personnel Officer, Room 5722, U.S. Arms Control and Disarmament Agency, 320 21st Street, N.W., Washington, D.C. 20451; telephone 202-632-2034.



UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY
Washington, D.C. 20451



Research Professorships in Biology

The University of Calgary, Department of Biology, invites applications from highly qualified researchers in medically-related areas of the biological sciences. Successful candidates will be nominated for Scholarships awarded on a competitive basis from the Alberta Heritage Foundation for Medical Research. The Foundation provides a salary and an establishment grant to set up a laboratory. Appointment will be at the assistant professor level with remuneration based on the salary scale at The University of Calgary (1985: \$30,336 - \$47,290). Awardees will be expected to devote at least 75% of their time to research activities. Limited teaching duties and participation in departmental affairs will be required.

Applicants must hold the Ph.D. degree and have at least two years' postdoctoral experience. In accordance with Canadian immigration requirements, consideration in the first instance will be given only to Canadian citizens and permanent residents of Canada.

Deadline for the receipt of applications is March 1, 1986. Qualified individuals should send their curriculum vitae, a brief description of their research interests and the names of three referees to:

The Chairman, Scholarship and Fellowship
Review Committee
Department of Biology
The University of Calgary
Calgary, Alberta, Canada T2N 1N4

EXECUTIVE OFFICER American Association for the Advancement of Science (AAAS), Washington, D.C.

AAAS is conducting a search for the successor to the present Executive Officer who is retiring. The duties of the position are those of chief operating officer and publisher. The incumbent is selected by, and reports to, an elected board of directors.

AAAS publishes the weekly international journal, *Science*, the monthly magazine of science, *Science 86*, and a journal of reviews, *Science Books and Films*. The Association is nonprofit and was founded in 1848. It has an individual international membership of 135,000 and is affiliated with nearly 300 scientific, engineering, and learned societies. A staff of some 270 people, headquartered in Washington, D.C., handles the Association's publishing activities, as well as the planning and support of annual meetings and symposia, a range of special programs in science, education, international cooperation, science and public policy, opportunities in science, and science communication. Four geographic divisions, comprised of volunteers, carry out the objectives of the AAAS at the regional level.

The Board of Directors is seeking a person of substantial experience and accomplishment. Appropriate background may be in scientific or engineering research, education, academic administration, scientific or technical society management and/or publishing, or public administration of research and development policy. Initiative, management skill, and knowledge of the interactions of science with public policy are salient requirements. Successful candidate must have 15 years of relevant experience in one or more of the above areas including 10 years of experience in planning, budgeting, and management. Demonstrable interest in the goals of the AAAS is essential. Salary is negotiable.

Letters of application, accompanied by curriculum vitae, should be addressed to: **David A. Hamburg, M.D., Chairman, Board of Directors, AAAS, 38th Floor, 437 Madison Avenue, New York, N.Y. 10022.** The closing date for receipt of applications is 31 December 1985.

AAAS, one of the largest general science organizations in the world, is an Equal Opportunity Employer.

POSITIONS OPEN

DIRECTOR, GRADUATE PROGRAM IN CLINICAL PSYCHOLOGY

The Department of Psychiatry at University of California, San Diego (UCSD) School of Medicine and the San Diego State University Department of Psychology have begun a joint doctoral program in clinical psychology. UCSD is seeking a faculty candidate to serve as the UCSD co-director of this joint program. Candidates should have career and teaching achievements and accomplishments sufficient to qualify for an appointment as a senior professor in the University of California. Strong emphasis will be placed on previous scholarly research record. Priority will be given to eminent scholars who have an established international reputation in a research area which has clinical relevance. The director of the Clinical Ph.D. Program must be a licensed clinical psychologist and eligible for licensing in the state of California. Demonstrated administrative experience in developing and directing research and/or clinical training programs is very desirable.

Salary related to academic rank and step within the established salary schedule of the University of California, San Diego.

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

Send curriculum vitae by 31 December 1985 to:

Lewis L. Judd, M.D.
Professor and Chairman
Department of Psychiatry (M-003)
Attention: Search Committee C
University of California, San Diego
La Jolla, California 92093

Prior applicants remain under consideration.

EXECUTIVE DIRECTOR: Dayton Museum of Natural History is seeking a new executive director to direct a progressive and expanding museum. The individual selected for this position will guide the museum through its most challenging and exciting period of growth and expansion as it prepares for its centennial celebration in 1993. The museum's collection is exceptional and includes a planetarium, observatory, live animal display, and a prehistoric Indian village excavation project. The staff of 21 is experienced, dedicated, and professional. The current annual budget is \$600,000 with an endowment fund in excess of \$2 million. Qualifications: Graduation from a recognized institution of higher learning with a degree in a field of study related to natural history and 5 years of increasingly responsible professional museum experience, including at least 3 years of experience at the administrative level. Salary is commensurate with experience and qualifications. Excellent fringe benefit program. Applications with résumé and the names, addresses, and telephone numbers of three persons who can comment on the candidate's professional experience and qualifications should be sent by 15 January 1986 to: John S. Wallach, Chairman, Executive Director, Search Committee, Dayton and Montgomery County Public Library, 215 East Third Street, Dayton, Ohio 45402. *Equal Opportunity/Affirmative Action Employer.*

FACULTY FOR EUROPE AND ASIA

The University of Maryland anticipates openings for faculty to teach undergraduate science courses on U.S. military bases overseas. Requirements include the Ph.D. or two M.A.'s, recent college teaching experience, U.S. citizenship, and competence to teach in two of the following fields: astronomy, biology, chemistry, computer science, geology, mathematics, and physics. Renewable annual appointments begin in August 1986. Frequent travel and the cost of schooling make these positions difficult for those with children. Send résumé to: Dr. Lois A. Mohr, The University of Maryland, College Park, Md. 20742. *Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION—BIOCHEMISTRY: The Department of Biochemistry, State University of New York at Stony Brook (SUNY), has a tenure-track position available at the assistant professor level beginning fall 1986. Outstanding candidates of higher rank will also be considered. We invite applications from persons with outstanding potential for research in the field of eukaryotic molecular biology, and with a talent for teaching. Applicants should send complete curriculum vitae with reprints, research interests, and names of three references to: Chairman, Search Committee, Department of Biochemistry, SUNY Stony Brook, Stony Brook, New York 11794-5215. Application deadline, 31 January 1986. *SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer.* AK Number 324-85.

POSITIONS OPEN

DIRECTOR, SPACE ENVIRONMENT LABORATORY (SEL). The Environmental Research Laboratories, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce in Boulder, Colorado, is seeking applicants for a scientific manager to serve as director, SEL. Consisting of 74 employees organized into three Boulder groups with other remote sites and having an annual budget of \$4 million, SEL conducts an integrated program of fundamental theoretical and experimental research on the solar-terrestrial and upper atmospheric environment and provides real-time space environment monitoring forecasts, and warning services to the scientific and military community. Position is career reserved in the Senior Executive Service. Salary is \$61,296 to \$72,300 per annum—negotiable based on experience, scientific achievements, and technical/managerial qualifications. **QUALIFICATIONS:** Broad background in solar-terrestrial research to conceive, design, direct, and evaluate complex theoretical and experimental research programs. Technical competence in space environment monitoring systems. Personal research in solar-terrestrial environment. Executive competence in broad areas of administration such as program planning and evaluation, multigroup coordination, resource acquisition and administration, organizational representation, and human resource utilization including Equal Employment Opportunity. **TO APPLY:** Interested persons should contact: Louise Parrish, NOAA, National Capital Administrative Support Center (NCASC) Personnel (RAS/DC2), 11400 Rockville Pike, Rockville, Md. 20852, telephone: 301-443-6667 for application forms. Reference Vacancy Number NS85-03LP closing 7 February 1986. Applicants must have SF-171 and completed package to above by the closing date. *An Equal Opportunity Employer.*

DIRECTOR OF RESEARCH NORTHWESTERN COLLEGE OF CHIROPRACTIC Bloomington, Minnesota

The Director of Research is responsible for the development and implementation of future chiropractic research, recruitment and direction of new research faculty and staff, teaching of undergraduate research courses, attainment of state and federal funding, faculty development and research, supervision of research personnel, equipment, projects, and budget. Demonstrated abilities in conducting clinical studies, acquisition of grants and foundation support, publications of research, and promoting excellence in research are strongly preferred.

Northwestern College is one of 15 accredited chiropractic colleges and operates on a ten trimester system. It has a faculty and staff of 100 and a student body of 533. It is located in a beautiful residential suburb of Minneapolis/St. Paul. The primary mission of Northwestern College of Chiropractic is to train quality doctors, conduct research for the enhancement of the profession, and provide postgraduate education.

Candidates must have an earned doctorate, teaching experience and interests in research pertinent to clinical studies, provider outcomes, and evaluation of patient care. The salary is competitive. Applicants should forward their résumé, cover letter, and three letters of reference by 1 February 1986 to: Donald M. Cassata, Ph.D., President, Northwestern College of Chiropractic, 2501 West 84 Street, Bloomington, Minnesota 55431. *An Equal Opportunity/Affirmative Action Employer.*

THE OKLAHOMA COLLEGE OF OSTEOPATHIC MEDICINE AND SURGERY

DIRECTOR OF RESEARCH. Chief administrative official for the Division of Research. Candidates should possess a doctoral degree, 5 years of postdoctoral experience in biomedical or behavioral research, evidence of scientific publication, and at least 3 years of experience in research administration. Prefer candidates with a demonstrated record of success in attaining sponsored research (or similar programs of study), and/or currently funded program.

RESEARCH SCIENTIST. Biomedical Sciences. All disciplines in the basic sciences will be considered, however, preference will be given to candidates with molecular genetics experience. Doctoral degree with 2 years postdoctoral experience required. Publications demonstrating scientific achievement and current grant support or applications submitted preferable.

Submit curriculum vitae and three letters of reference by 6 January 1986 to: Gary Watson, Ph.D., Director, Center for Molecular Medicine, The Oklahoma College of Osteopathic Medicine and Surgery, 1111 West 17 Street, Tulsa, Okla. 74107. *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITION IN GEOPHYSICS

The Geophysics Program at the University of Washington invites applications for a tenure-track position at the assistant professor level. Applicants must have a Ph.D. and will be expected to teach courses primarily at the senior and graduate student level and to establish innovative, forward-looking research programs in seismology. Curriculum vitae and four letters of references should be sent prior to 9 January 1986 to: Professor John Booker, Chairman, Recruitment Committee, Geophysics Program, AK-50, University of Washington, Seattle, Wash. 98195. *The University of Washington is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION UNIVERSITY OF HAWAII AT MANOA

The Department of Oceanography and the Hawaii Institute of Geophysics are seeking a full-time, state-funded (9-month appointment), tenure-track faculty member in the area of biological oceanography. The appointment is expected to be made at the rank of associate or full professor. The successful applicant must have the communication skills of an excellent teacher, and the intellect and creativity for high quality individual research. Our oceanic biology program currently has need for a qualified person with training and demonstrated research capability in the area of microzooplankton ecology or microbiological oceanography; however, the final selection process will be based on individual qualifications and excellence rather than on specific discipline. Therefore, we urge all qualified scientists to apply. Applicants must hold a Ph.D. and have research interests in biological oceanography. Salary is open and will depend upon the qualifications and rank of the person to be hired. Salary ranges are: associate professor (\$28,750 to \$53,220), full professor (\$34,992 to \$64,752). Apply in writing with supporting materials, including the names of at least three references to: Dr. David M. Karl, Search Committee Chairman, Department of Oceanography, 1000 Pope Road, University of Hawaii at Manoa, Honolulu, Hawaii 96822. Deadline for receipt of application is 15 February 1986.

An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION (tenure-track) for research on immunologic control of hemoparasitic infections of animals and teaching in animal pathology/microbiology. Opportunities for advancement and tenure consideration after appropriate service. Rank—open; salary is competitive and dependent upon qualifications. D.V.M. and Ph.D. degrees with evidence of recent research productivity and experience in hemoparasitic diseases of animals are required. Board certification in veterinary pathology or microbiology is desirable. An opportunity for a progressive scientist to interact with others in a department with strong interdisciplinary programs in infectious diseases. Postdoctoral/technical support and supplies are negotiable. To apply, send curriculum vitae and names of three references to: Dr. L. E. Perryman, Chairman of Search Committee, Department of Veterinary Microbiology and Pathology, Washington State University, Pullman, Washington, 99164-7040. *Washington State University is an Equal Opportunity/Affirmative Action Employer.* Minority, handicapped, and women candidates are encouraged to apply and identify themselves as such in their applications.

MOLECULAR BIOLOGIST for research and teaching in animal health. Opportunities for advancement and tenure consideration after appropriate service. Rank—open; salary is competitive and dependent upon qualifications. Requirements—Ph.D., with evidence of recent research productivity and research experience in animal health related molecular biology. Duties include teaching a course entitled "Molecular Biology of Veterinary Pathogens," developing an individual and collaborative research program, advising graduate students, consulting with faculty on molecular biology problems, and other duties common to a university professor. An opportunity for a progressive scientist to interact with others in a department with strong interdisciplinary programs in infectious diseases. Postdoctoral/technical support and supplies are negotiable. To apply, send curriculum vitae and names of three references to: Dr. R. Wes Leid, Chairman of Search Committee, Department of Veterinary Microbiology and Pathology, Washington State University, Pullman, Washington 99164-7040. *Washington State University is an Equal Opportunity/Affirmative Action Employer.* Minority, handicapped, and women candidates are encouraged to apply and identify themselves as such in their applications.

CONGRESSIONAL SCIENCE AND ENGINEERING FELLOWSHIPS

Applications Invited

The American Association for the Advancement of Science (AAAS) invites application for two 1-year Congressional Science and Engineering Fellowships it will offer for the period beginning 1 September 1986. The Fellowship Program provides an opportunity for accomplished and societally aware postdoctoral to mid-career scientists and engineers to participate in and contribute to the public policy-making processes within the Congress for approximately 1 year. Fellows work as special legislative assistants within the congressional staff system.

Persons may apply from any physical, biological, or behavioral science or any field of engineering. The term "science" is used broadly to include the system sciences, public health, and other technical professions. In addition to the fellowships awarded by the AAAS, about 25 others are given by other participating professional societies. The AAAS runs a year-long educational program for the set of Congressional Science and Engineering Fellows. Addresses of all participating societies are available from the address listed below.

The 1986-1987 AAAS Congressional Science and Engineering Fellows will receive a stipend of \$26,500; an additional \$1,500 is available for relocation expenses and travel in connection with the Program.

In order to obtain detailed information on the program and specific application requirements, write:

Congressional Science and Engineering Fellows Program
American Association for the Advancement of Science
1333 H Street, NW
Washington, D.C. 20005

The deadline for application is 15 January 1986. The award will be announced around 1 May 1986.

AUSTRALIA

CSIRO

RESEARCH FELLOW

\$26,001-\$38,243

DIVISION OF PLANT INDUSTRY CANBERRA ACT

FIELD: Cytoplasmic male sterility

The CSIRO Division of Plant Industry conducts research on problems fundamental to plant biology and agricultural production. Prominent in this research are programs concerned with plant improvement via molecular genetics, gene transfer and expression, cell culture and plant regeneration as well as more conventional genetic methods.

DUTIES: Undertake research in collaboration with molecular geneticists, cell and tissue culture experts and plant breeders, to study the nature and mechanism of cytoplasmic male sterility and its application to hybrid seed production in important crop species. The project will aim to elucidate the role of mitochondria in cytoplasmic male sterility and to develop techniques for the transfer of cytoplasmic male sterility between genotypes or species. Initial research will concentrate on *Brassica* species with opportunities to extend to other important crop species in which hybrid varieties are important.

QUALIFICATIONS: A PhD degree or equivalent qualifications in a relevant field. Experience in plant mitochondrial genetics or biochemistry, organelle transfer or cell and tissue culture is desirable.

TENURE: A term of three years with Australian Government superannuation benefits available.

APPLICATIONS: Stating relevant personal particulars, including details of qualifications and experience, the names of at least two professional referees and quoting reference No. A4658, should be directed to:

The Chief
CSIRO Division of Plant Industry
GPO Box 1600
CANBERRA ACT 2601

by 4 weeks from Date of Publication

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

CIBA-GEIGY is a major pharmaceutical company with an active interest in molecular biology. The company's excellent new research facilities are located in the heart of Basel, northwestern Switzerland. Basel is centrally located in Europe and has a leading molecular biology community. Several

POSTDOCTORAL POSITIONS

are now available for highly motivated Ph.D graduates to join the Molecular Genetics group for periods up to three years.

We are a group of young scientists working on the expression of foreign genes in mammalian cell cultures, the molecular aspects of allergic reactions, and the modulation of macrophage differentiation.

Candidates should preferably have experience in some of the following areas: mRNA isolation, cloning of cDNA and genomic DNA, expression of foreign proteins in pro- and eukaryotic systems, tissue culture.

Applications including a summary of background and research interest, curriculum vitae and the names of two references should be sent under Ref. "Science 1043" to Dr. U. Spaeti, CIBA-GEIGY Ltd., Personnel Department, Postfach, CH-4002 Basel, Switzerland.

CIBA—GEIGY

POSITIONS OPEN

TENURE-TRACK FACULTY POSITION

The Division of Experimental Therapeutics of the Cancer Center and the Department of Pathology at the University of Rochester invite applications for a tenure-track faculty position at assistant or associate professor ranks. The successful applicant will hold a primary joint appointment in the Department of Pathology and Laboratory Medicine and in the Cancer Center. Applicants should have a Ph.D., M.D., or equivalent, with specialization in pathology, postdoctoral research training, the potential to attract research support to an independent research program, and an interest and ability to teach graduate level pathology. Individuals with expertise in areas of cancer-related pathology/biology which utilize techniques of modern cell and molecular biology are encouraged to apply.

The deadline for applications is 15 February 1986. Applicants should forward curriculum vitae, a list of publications, a summary of current and future research interests, and names and addresses of three references. Applications should be sent to: **Dr. Robert M. Sutherland, Chairman, Search Committee, Pathology/Cancer Center, University of Rochester School of Medicine and Dentistry, 601 Elmwood Avenue, Cancer Center, Box 704, Rochester, N.Y. 14642.** *Equal Opportunity Employer*

TENURE-TRACK FACULTY POSITIONS

Atmospheric Science/Aeronomy/Space Physics
Utah State University

The Center for Atmospheric and Space Sciences (CASS) at Utah State University is currently undergoing a major expansion. Five tenure-track faculty positions are anticipated during the next 5 years. Also, CASS will be moving into a new building with increased office and laboratory space next fall and has recently acquired a new computer system composed of Harris and VAX computers.

A distinguished senior scientist is sought for the **first faculty position**. Candidates must have an outstanding research and grant record and must be internationally recognized in some area of atmospheric science, aeronomy, or space physics. Both theorists and experimentalists are encouraged to apply. The successful candidate's research and grant activity will be associated with CASS, but the candidate will have a tenure-track faculty position in an appropriate academic department; a tenured full professorship is possible. Salary will be commensurate with experience.

Submit résumé and three letters of recommendation by 1 January 1986 to:

Professor R. W. Schunk
Chairman, Search Committee
Center for Atmospheric and Space Sciences
Utah State University
Logan, Utah 84322-3400
Telephone: 801-750-2974

An Affirmative Action/Equal Opportunity Employer.

FACULTY POSITIONS IN MOLECULAR PHYSIOLOGY AND BIOPHYSICS

Tenure-track positions are available for individuals in the Department of Molecular Physiology and Biophysics at Vanderbilt University Medical School. Applicants should have a Ph.D. or an M.D. degree and several years experience, preferably using molecular biology techniques to study control mechanisms in mammalian cells. Evidence of ability to organize and conduct an independent research program is a prerequisite. Faculty rank is negotiable, subject to experience. Candidates should submit a current curriculum vitae, including a brief research plan, and names of three references, to:

D. K. Granner, M.D., Chairman
Department of Molecular Physiology and Biophysics
Vanderbilt University School of Medicine
Nashville, Tennessee 37232

UNIVERSITY OF CALIFORNIA, SANTA BARBARA. Tenure-track position in **GEOGRAPHY-OCEANOGRAPHY**, available 1 July 1986. Salary and rank are dependent upon qualifications, however, preference will be given at the assistant professor level. The Geography Department seeks applicants with backgrounds in **physical oceanography and/or air/sea interaction** with an interest in **remote sensing**. Applicants must have a Ph.D., substantial qualifications in marine research, and a strong commitment to teaching and research. Submit résumé and names of three referees to: **Chairman, Search Committee, Department of Geography, University of California, Santa Barbara, Santa Barbara, Calif. 93106.** Closing date: 30 January 1986. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITIONS PHARMACEUTICS AND PHARMACOKINETICS

The Department of Basic Pharmaceutical Sciences at the University of South Carolina invites applications for two tenure-track positions at the assistant/associate professor level. Applicants for the pharmaceuticals position should have a Ph.D. in pharmaceuticals, or physical chemistry with a research interest in basic pharmaceuticals. For the other position, preference will be given to applicants having a Ph.D. in pharmaceuticals or a related biomedical discipline with a research interest in pharmacokinetics. The successful candidate for each position will be expected to develop a vigorous research program which merits extramural support, and teach graduate and undergraduate students. Applications for these positions may be made by submitting curriculum vitae, brief description of current research, and names of three references no later than 15 February 1986 to:

Dr. J. Roberts, Chairman
Department of Basic Pharmaceutical Sciences
College of Pharmacy
University of South Carolina
Columbia, S.C. 29208
Telephone: 803-777-7824

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITIONS—PATHOGENIC BACTERIOLOGIST

The Department of Microbiology and Immunology, University of Miami School of Medicine, invites applications for a tenure-track faculty position at the assistant professor level. Applicants are sought whose research interests are in the area of the molecular basis of the pathogenic properties of bacteria. Candidates with a strong record of research achievements in the molecular basis and genetic control of bacterial pathogenesis, in the synthesis of protein determinants of pathogenesis, and in the role of host cell receptor proteins for localization of these pathogenic determinants, are particularly encouraged to apply. Quality research facilities, start-up funds, and salary will be made available to the successful candidate. Applicants should have a Ph.D., M.D. or equivalent degree, several years of postdoctoral experience, a commitment to establishing an externally funded and an independent research program, and a willingness to participate in medical and graduate student teaching and training programs. The Department of Microbiology and Immunology is undergoing a significant expansion, particularly in the areas of molecular immunology and virology, which would provide the opportunity for productive interactions. Interested applicants should mail curriculum vitae, a statement of current and future research goals, and the names of three references to: **Chairman-Pathogenic Bacteriologist Search, Department of Microbiology and Immunology (R-138), University of Miami School of Medicine, P.O. Box 016960, Miami, Fla. 33101.** Application deadline is 15 February 1986. *The University of Miami is an Equal Opportunity/Affirmative Action Employer.*

FOREST PATHOLOGY—Assistant/Associate Professor. Academic year, tenure track, \$24,000 to \$31,000. Requirements are a Ph.D. in forest pathology or related areas, research and/or teaching experience in wood decay, and at least one of the following: disease control, basidiomycete mycology, quantitative epidemiology. Responsibilities include undergraduate/graduate level instruction, development of a strong research program, and graduate student supervision. Send letter of application, résumé, transcripts, reprints of publications, and three letters of reference by 14 February 1986 to: **Dr. John D. Castello, Chair, Forest Pathology Search Committee, Environmental and Forest Biology, State University of New York (SUNY), College of Environmental Science and Forestry, Syracuse, N.Y. 13210.** *An Affirmative Action/Equal Opportunity Employer.*

Ph.D. required to INVESTIGATE THE RESPONSE OF MAMMALIAN CELLS in culture to radiation.

Strong background in cell biology, radiation biology, or molecular genetics would be suitable. Appointment could be postdoctoral or at junior faculty level, depending on qualifications and experience. Competitive salary available. Send résumé, reprints, and references to:

Professor E. J. Hall
Radiological Research Laboratory
College of Physicians and Surgeons
Columbia University
630 West 168 Street
New York, N.Y. 10032

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

BRANDEIS UNIVERSITY FACULTY POSITION IN IMMUNOLOGY

Applications are invited for a tenure or tenure-track position in the Department of Biology and Rosenstiel Basic Medical Sciences Research Center, Brandeis University. Candidates should have a Ph.D. or M.D. degree and demonstrated accomplishments in research involving molecular genetic approaches to studies of the immune system. Appointments at the assistant, associate, or full professor levels will be considered. Applicants should submit curriculum vitae, a brief description of research plans, and names of at least three references to: **Dr. Alfred Nisonoff, Rosenstiel Center, Brandeis University, Waltham, Mass. 02254.** *Brandeis University is an Equal Opportunity Employer.*

FOOD ENGINEERING FACULTY POSITION. Cornell University has available a tenure-track assistant/associate professor position in the Department of Food Science. Teaching (40 percent) responsibilities involve courses in food engineering and processing. Research (60 percent) responsibilities will be in the area of food engineering, especially as they apply to the dairy industry and coordinating the use of the department's Food Processing and Development Laboratory. Examples of specific research areas include separation processes, kinetics of food processing, and heat transfer.

A Ph.D. in food, chemical, or agricultural engineering or equivalent, with a strong background in food science. Send complete résumé, transcripts, a statement of research interests, and three reference letters by 1 March 1986 to:

Dr. Syed S. H. Rizvi
Chairman, Search Committee
Department of Food Science
Stocking Hall
Cornell University
Ithaca, N.Y. 14853

Cornell is committed to an Affirmative Action Program to seek applications from women and members of minority groups.

THE DEPARTMENT OF ANATOMY AND CELL BIOLOGY AT THE UNIVERSITY OF MICHIGAN

anticipates openings for three individuals for 3-year appointments. The positions will be at the **INSTRUCTOR OR ASSISTANT PROFESSOR LEVEL**. Candidates with postdoctoral and teaching experience will have priority. Teaching responsibility will be either gross anatomy or neuroanatomy. Successful applicants will be expected to carry on independent research, but will be encouraged to interact closely with existing strong research programs in cell biology, developmental biology, and neurobiology. Interested individuals should send curriculum vitae, names of three references, and a letter indicating current and future research interests, by 15 February 1986 to: **Dr. Allan R. Beaudoin, Associate Chairman, Department of Anatomy and Cell Biology, Medical Science II, The University of Michigan, Ann Arbor, Mich. 48109.** *The University of Michigan is a Nondiscriminatory/Affirmative Action Employer, code 35.*

The Michigan Cancer Foundation (MCF) and Sinai Hospital of Detroit are seeking a clinically-oriented, established **INVESTIGATOR** to direct a major program in the immunology of cancer. Duties include providing leadership in a clinical oncology service and in the development of a research program. MCF and Sinai Hospital are affiliated with Wayne State University School of Medicine. Send letter of interest and curriculum vitae to:

Dr. Gloria H. Heppner
Michigan Cancer Foundation
110 East Warren Avenue
Detroit, Mich. 48201

Affirmative Action/Equal Opportunity Employer.

Ph.D. IN MOLECULAR BIOLOGY DESIRED FOR POSITION IN AN ONCOLOGY RESEARCH LABORATORY

To initiate research program involving: Growth factors, oncogenes, and gene rearrangements in both solid and hematologic malignancies.

Individual with several years of postdoctoral experience as well as record of independent, original research preferred.

Send curriculum vitae and reference letters to:

Larry Nathanson, M.D.
222 Station Plaza North
Room 300
Mineola, New York 11501



NSERC — University Research Fellows

The University of Calgary, Department of Biology, invites applications for research professorships in its four divisions: Botany; Cellular, Molecular and Microbial Biology; Ecology; and Zoology. Successful applicants will be nominated for University Research Fellowships awarded in open competition by the Natural Sciences and Engineering Research Council, Canada. Appointment will be at the assistant professor level. Remuneration will be based on the salary scale at The University of Calgary (1985: \$30,336 - \$47,290).

Applicants must hold the Ph.D. degree and have at least two years' postdoctoral experience. Only those who have a demonstrated ability to carry out productive and independent research of a high calibre will be considered. NSERC Fellowships are open only to Canadian citizens or permanent residents of Canada.

Qualified individuals should send their curriculum vitae, a brief description of their research objectives, and the names of three referees before March 1, 1986 to:

**Chairman, Scholarship and Fellowship
Review Committee
Department of Biology
The University of Calgary
Calgary, Alberta, Canada T2N 1N4**

AUSTRALIA CSIRO

RESEARCH FELLOW MOLECULAR BREEDING IN LIVESTOCK \$26,001-\$32,083

DIVISION OF ANIMAL PRODUCTION PROSPECT, NSW

GENERAL: A team of scientists within the Division is investigating methods for the manipulation of the genotype and phenotype of domestic animals by direct gene transfer technology. Genes under investigation at present include the ovine growth hormone gene, the genes encoding cysteine biosynthesis and the wool keratin genes. The research includes the investigation of gene structure, the control of gene expression, particularly as applied to the sheep, the transfer of foreign genes into ruminant embryos, and the isolation of pluripotent cell lines from early embryos.

DUTIES: To participate in the analysis of the tissue specific expression of foreign genes in transgenic animals. Available areas of research include the chromosomal localization of transferred genes, the effect of promoter sequences on gene expression, the isolation of pluripotent cell lines from early stage sheep embryos and the investigation of viral vectors as a potential method of gene transfer in ruminants.

QUALIFICATIONS: A PhD with a thorough understanding of molecular biology and/or cell culture techniques.

TENURE: A term of 3 years with Australian Government superannuation benefits available.

APPLICATIONS: In writing, stating full personal and professional details, the names of at least two referees and quoting reference No. A6680 should reach:

**The Chief
Division of Animal Production
CSIRO
PO Box 239
BLACKTOWN NSW 2148**

By 4 weeks from Date of Publication

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

ENTER THE 21st CENTURY... IN R&D, WITH MERRELL DOW

The Merrell Dow Research Institute is seeking applicants at the BS/MS level to fill research positions in the Institute's expanding Biochemical Sciences program. The successful candidates will work in an interdisciplinary environment to investigate disease mechanisms and the basic properties and therapeutic applications of biomacromolecules.

SYNTHETIC PEPTIDE CHEMIST

Experience in solid-phase peptide synthesis, purification and characterization using modern techniques and instrumentation.

MOLECULAR BIOLOGIST OR GENETICIST

2 or more years experience in DNA sequencing and recombinant DNA methodology. Experience with the construction and screening of cDNA and genomic libraries is desirable.

PROTEIN CHEMIST

2 or more years experience in the purification and characterization of proteins and peptides, gel electrophoresis, protein blotting and HPLC methodologies.

PHYSICAL BIOCHEMIST

3-5 years experience in fluorescence spectroscopy and applications to proteins and biological membranes. Responsibilities include preparation of fluorescent derivatives of peptides and proteins and measurements of fluorescence spectra, polarization and lifetimes.

NEUROBIOLOGIST

Experience in modern neurochemical techniques related to receptor binding, neurotransmitter and enzyme analysis and neuroanatomy.

We offer excellent compensation, comprehensive benefits and relocation assistance. Please send your resume with names and addresses of references in confidence to:

Personnel Services Manager

Merrell Dow

MERRELL DOW RESEARCH INSTITUTE

2110 East Galbraith Road
Cincinnati, OH 45215

Equal Opportunity Employer M/F/H/V

NATIONAL SCIENCE FOUNDATION

NSF's Division of Astronomical Sciences is seeking qualified candidates for the position of Electromagnetic Spectrum Manager. The position is available on a permanent or 3 year rotational basis. The position is excepted from the competitive civil service. Salary for the permanent position ranges from \$44,430 to \$67,900 (equivalent to grade GS-14/15); and, the salary range for the rotational position is from \$40,000 to \$70,000 (currently limited by statute to \$68,700), depending on the grade level of the assignment. The Electromagnetic Spectrum Manager is responsible for ensuring the availability of suitable frequency spectrum for basic research, particularly astronomy. The incumbent also participates in budgeting, planning, priority setting, and other activities of the Division. Applicants should have a Ph.D. in astronomy or astrophysics, and a record of productive research, preferably in radio astronomy, along with experience in project management/administration.

For further technical information, contact **Dr. Laura Bautz, Director, Division of Astronomical Sciences, 202/357-9488**. For information on how to apply contact **Stuart Solomon on 202/357-7840**. Hearing impaired individuals should call **202/357-7492**. NSF is an Equal Opportunity Employer.

POSITIONS OPEN

GENETICIST—The University of Richmond invites applications for a tenure-track position in biology. The primary responsibilities will involve teaching principles of genetics to undergraduates and developing a research program in molecular genetics which involves both undergraduate and graduate (M.S. level) students. It is likely that the appointee will also be involved in the introductory biology sequence and a second upper-level course in an area such as immunology, virology, or toxicology. Candidates must have the Ph.D. degree and postdoctoral experience is desirable. While it is expected that the appointment will be at the assistant professor level, outstanding candidates at a more senior level are invited to apply. Submit résumé, undergraduate and graduate transcripts, a statement of research plans, and three letters of reference to: **Dr. F. B. Leftwich, Department of Biology, University of Richmond, Richmond, Va. 23173**. Deadline—15 January 1986. *The University of Richmond is an Equal Opportunity Employer and actively seeks applications from female and minority candidates.*

The Department of Biology at the University of San Diego is seeking a **GENETICIST/POPULATION BIOLOGIST** to fill a tenure-track position at the **ASSISTANT PROFESSOR** level beginning in September 1986. We especially welcome applications from candidates with skills in the use of molecular genetic techniques to analyze population problems. In addition, we strongly solicit applications from women. The University of San Diego is a Catholic, liberal arts institution concentrating on undergraduate education. We require a strong commitment to teaching, along with research interests that can involve students at the undergraduate level. Applicants must have completed the Ph.D. degree before 1 September 1986. Application materials, consisting of a full curriculum vitae, a description of teaching philosophy and research interests, and transcripts of undergraduate and graduate course work, must be received before 1 February 1986. Names and addresses of three references should be supplied, but no letters of recommendation should be sent until requested. Address all correspondence to:

**Cole Manes, Chair
Department of Biology
University of San Diego
Alcala Park
San Diego, Calif. 92110**

DEPARTMENT HEAD in Psychology, University of Tennessee, Knoxville (UTK) (primary campus of the state university and land-grant institution). The department of 25 full-time and 10 part-time faculty members conducts research and offers graduate education in a variety of specialties, including an A.P.A.-accredited program in clinical psychology. Approximately 400 undergraduate majors and 130 graduate students in a student body of 25,000. Desired starting date: September 1986. The successful candidate will have a demonstrated capacity for leadership and an established record of scholarship and research. Area of specialization open. Salary commensurate with qualifications. Closing date: 1 February 1986. Send curriculum vitae and names of four references to: **Kenneth R. Walker, Chairperson, Psychology Search Committee, Department of Geological Sciences, University of Tennessee, Knoxville, Tenn. 37996**. *UTK is an Equal Opportunity/Title IX/Section 504 Employer.*

MARINE NITROGEN CYCLE STUDIES: POSTDOCTORAL POSITION to study algal nutrient uptake and bacterial N transformations using the radioisotope ^{15}N . Experience in N cycle studies and use of tracers desirable; \$22,000. **RESEARCH ASSISTANT** for field and laboratory studies. M.S. and/or previous experience required; \$18,000. Both are 2-year appointments, available after 1 January 1986. Send résumé and names of three references to: **Dr. D. G. Capone, Marine Science Research Center, State University of New York (SUNY), Stony Brook, Stony Brook, N.Y. 11794**. *SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK Number 305-85.*

MOLECULAR EMBRYOLOGY OF MOUSE

Oncogenes expression in cultured mouse embryos by microinjection. **Postdoctoral and research associate** position is available for 2 years. Experience in construction of oncogenes plasmids is desired. Please send curriculum vitae, bibliography, brief description of experience, and names of three references to: **Dr. Y. C. Hsu, M.D., Professor, The Johns Hopkins University, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Md. 21205**.

POSITIONS OPEN

HEAD/DEPARTMENT OF MARINE, EARTH, AND ATMOSPHERIC SCIENCES NORTH CAROLINA STATE UNIVERSITY

Nominations and applications are invited for the position of head of the Department of Marine, Earth, and Atmospheric Sciences at North Carolina State University. Primary consideration will be given to those individuals with demonstrated ability in research and teaching, and with the leadership experience and administrative skills to interact effectively with the department's diverse faculty, and with the school and university administration. Candidates must meet standards for appointment to the rank of professor with tenure. Salary will be commensurate with experience.

The department offers graduate programs leading to the M.S. and Ph.D. degrees in meteorology, geology and geophysics, and all areas of oceanography, and undergraduate programs in geology, geophysics, and meteorology. The faculty consists of twelve marine, nine atmospheric and eleven earth scientists with commitments to excellence in teaching and research. External funding for research is presently in excess of \$3.5 million. The department will move into a new \$11 million research and teaching facility, the Natural Resources Research Center of North Carolina, in fall 1987. It also is a part of a consortium which operates the Research Vessel CAPE HATTERAS.

Send curriculum vitae and names of three references to:

**Dr. C. E. Knowles
Secretary of Search Committee
Department of Marine, Earth
and Atmospheric Sciences
North Carolina State University
Raleigh, North Carolina 27695-8208**

The deadline for application is 31 January 1986. *North Carolina State University is an Affirmative Action/Equal Opportunity Employer.*

NEUROCHEMIST OR MOLECULAR NEUROBIOLOGIST

The Department of Physiology and Neurobiology at the University of Connecticut has a tenure-track position at the assistant professor level available beginning 1 September 1986. The department has active research programs in cellular neurobiology, endocrinology, and renal transport and is seeking qualified candidates whose primary training is in biochemistry, and whose area of research is centered on the biochemistry and/or molecular biology of the nervous system. The candidate will be expected to develop an active research program and teach a graduate level course in neurochemistry and participate in the undergraduate offerings of the department. Teaching commitments allow for extensive pursuit of the candidate's research interests. Applicants should have a Ph.D. or equivalent degree; postdoctoral training is desirable. Salary negotiable. Send curriculum vitae, description of research interests, and names and addresses of three references by 30 December 1985 to: **Dr. Lynn T. Landmesser, Search Committee, The University of Connecticut, Department of Physiology and Neurobiology, Box U-42, Room TLS 416, 75 North Eagleville Road, Storrs, Conn. 06268**. (Search Number 6A19)

PHYSICIST Bethel College in Kansas

Tenure-track position in department offering a B.S. in physics in a very strong mathematics/science setting. Teaching duties include upper division and introductory physics with laboratory. Ph.D. preferred. Rank and salary dependent on qualifications. Available fall 1986. Send curriculum vitae, three letters of reference, and evidence of teaching effectiveness by 25 December to: **Brian Schrag, Academic Dean, Bethel College, Newton, Kans. 67117**. Bethel is a Mennonite Liberal Arts College with a strong academic tradition. *An Affirmative Action/Equal Opportunity Employer.*

PLANT PHYSIOLOGIST. Assistant Professor, tenure-track. Research (75 percent) areas include C/N metabolism, photosynthate partitioning and translocation, growth and development, stress physiology, and physiological genetics; emphasis on maize and/or soybeans. Teach (25 percent) graduate level course in crop physiology and one in his/her area of expertise in alternating years. Credentials to include Ph.D. in plant physiology; postdoctoral experience desirable. Send curriculum vitae, all transcripts, and three letters of recommendation by 28 February 1986 to: **Dr. Nelson E. Balke, Search Committee Chair, Department of Agronomy, University of Wisconsin, Madison, Wis. 53706**. *Equal Opportunity/Affirmative Action Employer.*



The Department of Pathology in the School of Medicine at the State University of New York (SUNY) Stony Brook is seeking to hire two individuals, one at the **ASSISTANT PROFESSOR** level and one at the **PROFESSORIAL LEVEL**.

Individuals applying for these positions should have a Ph.D. or M.D. degree and an established record of expertise in the field of experimental pathology. The quality of the applicants shall be judged by educational background, extent of training and experience, ability to secure research grants, and a record of presentations and publications. In each of the preceding, the usual academic criteria for excellence will be applied. The individuals are being recruited with the intent to develop a program in pathology to serve graduate and undergraduate needs, as well as to further the reputation of the State University of New York at Stony Brook in the field of pathology. Specifically, the individuals should have accomplishments at the level of assistant, or full professor. Their interests should be in the fields of inflammation, immunology, oncology, repair, development, degenerative disease, or molecular biology, though not necessarily limited thereto. They would be expected to develop (or expand existing) programs of independent research and would have a role in providing instruction at the graduate, undergraduate, and health professional student levels and would be expected to play important roles in the departmental graduate program. Interactions with the Departments of Biochemistry, Pharmacology, Medicine, and Microbiology are encouraged inasmuch as an interdepartmental disciplinary approach to immunology, neoplasia and other areas is stressed.

SUNY at Stony Brook is located on Eastern Long Island with proximity to ocean and Long Island Sound, as well as New York City. In terms of climate and life-style, there is little left to be desired.

Please send applications to: **Recruitment Committee, Department of Pathology, Health Science Center, SUNY at Stony Brook, Stony Brook, New York 11794-8691**. *SUNY at Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer.*



PHARMACOKINETICIST

Pharmacologist needed to interface with clinical studies of novel anti-cancer agents in Phase I, etc. trials. Individual should be of junior or senior postdoctoral level with prior experience in monitoring drug levels by HPLC, etc. Potential exists for conversion to junior faculty position. Salary commensurate with experience. We provide an excellent benefits package. Qualified individual should send curriculum vitae with 3 references to:

Dr. Kenneth Tew
c/o Personnel Dept.

**Fox Chase
Cancer Center**
7701 Burholme Ave.
Phila., PA 19111

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Equal Oppty Employer*

Ph.D. Neuropharmacologist

The CNS Section at McNeil Pharmaceutical has a scientifically challenging and rewarding career opportunity for a Neuropharmacologist with expertise in antinociceptive and nociceptive processes. You will join a multidisciplinary research team dedicated to basic and applied research for the discovery of novel therapeutic agents.

A Ph.D. in pharmacology, neuroscience or related field with 1-2 years' postdoctoral experience in *in vivo* pharmacology is preferred. You must be familiar with current concepts in biochemical pharmacology, peptide research and possess strong oral and written communication skills. Your immediate responsibilities will include supervision of a state-of-the-art analgesics laboratory as well as participation in other research efforts of this section. The qualified candidate should demonstrate the ability to integrate and interpret pharmacological as well as neurochemical data. Original research leading to novel approaches for the discovery of analgesic agents is mandatory.

In return for your abilities we offer a stimulating environment which encourages professional growth, a highly competitive salary and the excellent benefits you would expect of a Johnson & Johnson company. In addition we're located on a campus like setting in suburban Philadelphia. Applicants are invited to send CV to: Dr. J.L. Vaught, Section Head, CNS Research, McNeil Pharmaceutical, Spring House, PA 19477. An equal opportunity employer m/f/h/v.

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SCIENTIFIC EXCHANGES

**NAS Scientific Exchange Programs
with the U.S.S.R. and Eastern Europe**

The National Academy of Sciences (NAS) invites applications from American scientists who wish to make visits beginning during the period 1 September 1986, through 31 December 1987, to the U.S.S.R., Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania, and Yugoslavia. Long-term research visits of 3 to 12 months duration are encouraged, particularly if contact with colleagues in the other country has already been established. The minimum length of visits is 1 month in one country.

Applicants must be U.S. citizens and have a doctoral degree or its equivalent by the time of the intended visit in physics; chemistry; mathematics and computer sciences; earth, atmospheric, and oceanographic sciences; agricultural, forestry, fishery, and plant sciences; biological and medical sciences; environmental sciences; engineering; archaeology and anthropology; geography; or psychology. Also included are science and technology policy studies and other aspects of the economic and social sciences that involve quantitative analysis. Other scientific disciplines not explicitly mentioned will be considered on a case-by-case basis. Necessary expenses will be met by the NAS and the foreign academy, including reimbursement for long-term visitors for salary lost up to a predetermined maximum and expenses for accompanying family members for visits exceeding 5 months.

Requests for applications should reach the National Academy of Sciences not later than 14 February 1986. Applications must be postmarked by 28 February 1986. Address application requests to:

**National Academy of Sciences
Office of International Affairs
Soviet and East European Affairs**
2101 Constitution Avenue, NW
Washington, D.C. 20418
Telephone: 202-334-2644

The Future in Science

Genetic Systems Corporation, located in Seattle, Washington, is a leader in the field of biotechnology. We develop, manufacture and market immunological products for the diagnosis and treatment of human diseases. Currently, recruiting is underway for the following positions.

Development Program Manager/Infectious Diseases

Position requires technical expertise in microbiology, respiratory diseases, sexually transmitted diseases, EIA, clinical diagnostics. Relevant Ph.D. and 5-10 years' commercial development and management experience necessary.

Project Leader/Monoclonal Immunotherapy Dept.

Ph.D. with post-doctoral experience and management ability will co-direct technical staff. Requires background in cell culture preferably monoclonal immunology or clinical microbiology.

Development Supervisor/HLA

Position requires supervisory, development, HLA and tissue typing experience. Experience in production of monoclonal antibodies for research or commercial use. 3-8 years' supervisory experience with relevant B.S. or M.S. degree.

Development Supervisor/Infectious Diseases

Position requires supervisory, development and project experience with sexually transmitted and respiratory diseases. 3-8 years' supervisory experience with relevant B.S. or M.S. degree.

Development Technicians

Positions require 1-5 years' experience in developing tests for respiratory and sexually transmitted diseases, tissue typing, tissue culture, HLA, chromatography, electrophoresis, assay development and manufacturing lab experience. Relevant B.S. or M.S. degree required.

We offer an advanced laboratory environment, competitive salary and company-paid benefits. Our location in the Pacific Northwest is abundant with recreational and cultural activities. For consideration, please send your resume to: **Personnel Supervisor, Genetic Systems Corporation, 3005 First Avenue, Seattle, WA 98121-1035.** We are an equal opportunity employer.

 **Genetic Systems**
CORPORATION

POSITIONS OPEN

MAMMALIAN MOLECULAR GENETICIST

The University of Illinois invites applicants for an **assistant/associate tenure-track professorship** in mammalian molecular genetics. This position in the College of Veterinary Medicine is expected to provide additional strength to major college programs on biological regulatory mechanisms and their genetic controls, as well as contribute to campuswide biotechnology programs. The successful candidate should have an understanding and interest in regulation of gene expression as it relates to disease resistance and/or reproduction and growth. Individuals interested in the genetics of control and release of biological response modifiers such as lymphokines and endocrine regulatory molecules are particularly urged to apply. The individual should have a Ph.D. with a strong background in mammalian molecular biology and be knowledgeable in methods pertaining to gene mapping and cloning, gene insertion and regulation, and protein chemistry. The appointee will have an opportunity to collaborate with faculty in existing college and campus programs and will be eligible for an appointment in the University Biotechnology Center.

The position also involves a contribution to the college teaching programs in the applicant's area of expertise. Salary is competitive and negotiable, based on experience and qualifications. Applications will be accepted until 15 February 1986 or until an acceptable candidate is identified. Send résumé and three letters of reference to: **Wayne A. F. Tompkins, Department of Pathobiology, College of Veterinary Medicine, University of Illinois, 2001 South Lincoln, Urbana, Ill. 61801; telephone: 217-333-7825.** *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

MICROBIOLOGIST

Applications are invited for a tenure-track **ASSISTANT PROFESSOR** (teaching and research required) position anticipated (September, 1986) for a broadly trained Ph.D. microbiologist to teach microbiology to biology majors and pre-professionals in health-related fields, bacteriology to nutrition-dietetics majors, and development of graduate courses. Area of research open. The Biology Department is committed to excellence in teaching and especially encourages research that involves students. Programs include B.A., B.S. in Education, M.A. (thesis), and M.S. in Education. Submit letter of interest, curriculum vitae including pertinent course background, research interests, and three references to: **Dr. William C. Scheffer, Chairman, Biology Department, State University College at Buffalo, 1300 Elmwood Avenue, Buffalo, New York 14222. Minorities and women encouraged to apply. An Equal Opportunity/Affirmative Action Employer.** Applications will be accepted until 1 March 1986.

PLANKTON TAXONOMIST

Natural History Museum of Los Angeles County has an opening for a technician with expertise in some area of zooplankton or fish taxonomy. Primary activity will be to collaborate with other specialists in identifying fish eggs and larvae. Some opportunity for independent research in systematics/ecology as part of the Larval Fish Group's investigation of spawning patterns and larval ecology in the coastal ocean. Salary range \$18,500 to \$23,500 per year. M.S. or equivalent experience is desired. Send letter, résumé, and list of references to: **Dr. Robert J. Lavenberg, Curator of Fishes, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, Calif. 90007. Telephone: 213-744-3373.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW

Position available immediately to join a research team in experimental hematology at The Johns Hopkins Oncology Center. The project involves isolation and quantitation of hematopoietic stem cells in both animals and humans. Send curriculum vitae, a brief summary of research interests, and names of three references to: **Dr. Saul J. Sharkis, The Johns Hopkins Oncology Center, Room 2-127, 600 North Wolfe Street, Baltimore, Maryland 21205.**

POSTDOCTORAL FELLOW POSITION FOR M.D. or Ph.D. available in the use of recombinant DNA technology, including restriction fragment length polymorphisms to study autosomal dominant ocular disorders. Background in recombinant DNA technology desirable. Position available 1 July 1986. Salary in NIH postdoctoral range. Please send curriculum vitae and three letters of reference to: **Dr. Bronwyn Bateman, Jules Stein Eye Institute, UCLA Hospital, Los Angeles, Calif. 90024.**

POSITIONS OPEN

AGRIGENETICS CORPORATION PLANT GENETICIST/BREEDER

The Advanced Research Division of Agrigenetics Corporation at Madison, Wisconsin, has a career position (Ph.D. level) currently available for a plant geneticist, preferably with experience in the genetics and breeding of Brassica species or other oilseed crops. The position is in an integrated research group involved in the improvement of Brassica crops. The successful candidate will assume a critical role in the development and evaluation of new germplasm, utilizing both novel and conventional plant breeding techniques, and interface with the breeding effort. The salary will be commensurate with background and experience.

Agrigenetics Corporation is a broadly based plant science company contributing to America's agricultural productivity by producing and marketing improved varieties of more than 50 crop species.

Send résumé and names of three references by 23 December 1985 to: **Dr. John Ingle, Director, Agrigenetics Advanced Research Division, 5649 East Buckeye Road, Box PG/S, Madison, Wisc. 53716.**

TULANE UNIVERSITY DEPARTMENT OF BIOLOGY

Beginning academic year 1986 to 1987, three tenure-track appointments, contingent upon final administrative approval, will be available. Each is approximately 50 percent teaching, 50 percent research. Ph.D. required for all positions.

TWO MOLECULAR BIOLOGISTS, one associate professor, and one assistant professor, both with a strong interest in recombinant DNA technology. We expect to make these positions complementary.

TROPICAL ECOLOGISTS (plant or microbial), assistant professor, with neotropical experience as shown by dissertation, field experience, or both, and a willingness to participate in and help develop the interdisciplinary program of the Mesoamerican Ecology Institute of the Roger Thayer Stone Center for Latin American Studies. Special consideration will be given to applicants with an interest in nutrient cycling.

Candidates should have a strong interest in cooperative departmental development, in advising students, in undergraduate and graduate courses in their specialties, and in general biology.

Applicants should send completed application, including curriculum vitae, official transcripts, a statement of future research plans, and have sent three letters of recommendation to: **Arthur Welden, Chairman, Department of Biology, 2000 Percival Stern Hall, Tulane University, New Orleans, La. 70118, by 1 February 1986.**

Tulane University is an Equal Opportunity/Affirmative Action Employer which encourages applications from qualified minority groups and women.

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE MEMBRANE BIOCHEMIST, to join laboratory with expertise in the regulation of ion transport in cultured vascular smooth muscle and endothelial cells, to collaborate in studies of the mechanism of calcium release by inositol trisphosphate and characterization of a new class of compounds that are potent activators of protein kinase C. Send curriculum vitae, description of research interests, and names of three references to: **Dr. Jeffrey B. Smith, Department of Pharmacology, University of Alabama at Birmingham (UAB), Birmingham, Ala. 35294. Telephone: 205-934-7434. UAB is an Affirmative Action/Equal Opportunity Employer.**

TWO POSTDOCTORAL POSITIONS: available immediately. (i) To study the spatial organization of ionic channels in the nerve cell membrane and the expression of this organization during neuronal differentiation. The research will involve single channel recordings. Applicants should have a background in membrane physiology or biophysics. Experience in patch clamp desirable. (ii) To study the structure-function relations of new marine toxins that affect cytoskeletal organization. Applicants should have a background in organic chemistry and immunofluorescence microscopy. Experience in tissue culture and electron microscopy desirable. Send curriculum vitae and names of three references to: **Dr. Ian Spector, Department of Anatomical Sciences, Health Sciences Center, SUNY at Stony Brook, Stony Brook, N.Y. 11794-8081. SUNY at Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK Number 329-85.**

POSITIONS OPEN

POSTDOCTORAL FELLOW with physics, biophysics, or health physics background to work in area of internal dosimetry of new radiopharmaceuticals with emphasis on external quantitation using planar and 3-dimensional nuclear medicine imaging. Must be citizen, noncitizen national, or admitted for permanent U.S. residency. Position open immediately. Send résumé and telephone numbers of three references to: **James E. Carey, Nuclear Medicine, University of Michigan Hospital, Ann Arbor, Mich. 48109. A nondiscriminatory, Affirmative Action Employer.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE (with potential for further advancement) to perform research on the regulation of hematopoiesis, developmentally regulated surface markers on normal and neoplastic hematopoietic cells, autologous bone marrow transplantation, and dye-mediated photosensitization. Ph.D. or equivalent degree required; background in cell biology, membrane biochemistry, and/or immunology desirable. Available immediately. Salary commensurate with qualifications and experience. Send résumé with the names and addresses of three references to: **Dr. Fritz Sieber, Midwest Children's Cancer Center, Department of Pediatrics, Medical College of Wisconsin, P.O. Box 1997, Milwaukee, Wis. 53201.**

Equal Opportunity/Affirmative Action Employer, M/F/H

POSTDOCTORAL FELLOWS PHARMACOLOGY

NIH fellowships (starting level commensurate with experience, at least \$16,000, plus supplementation) presently available in cardiovascular pharmacology, physiology, and biophysics. Active, expanding, well-funded research group studying drug interactions with: receptors, cell regulation, channels, tissues, excitation, and contraction of muscle. Write: **Dr. A. L. Bassett, Department of Pharmacology (R-189), University of Miami School of Medicine, P.O. Box 016189, Miami, Fla. 33101. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to study the mechanism of actin polymerization, the structure of actin gels, and influence of actin-binding proteins in vitro and in vivo systems. Send curriculum vitae and three letters of recommendation to: **Dr. Carl Frieden, Department of Biochemistry, Washington University School of Medicine, St. Louis, Mo. 63110. Washington University is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately to study the relationship between tumor cell surface carbohydrates and the invasive and metastatic phenotype of cancer cells. Experience in cell surface carbohydrate biochemistry, tissue culture, hybridoma technology, and experimental oncology, including tumor immunology, is desirable. Salary negotiable. Send curriculum vitae and names of three references to: **Dr. John Coon, Department of Pathology, Rush Medical College, 1753 West Congress Parkway, Chicago, Illinois 60612. Rush is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately for study of regulation of transcription or isolation and characterization of genes involved in cell senescence. Experience in recombinant DNA, site-specific mutagenesis, and/or isolation of genes from genomic libraries desirable. Salaries are from \$16,000 to \$20,000, depending on qualifications. Send curriculum vitae to: **Dr. Solon Rhode, The Eppley Institute, University of Nebraska Medical Center (UNMC), 42nd and Dewey Avenue, Omaha, Neb. 68105.**

POSTDOCTORAL POSITION IN PLANT MOLECULAR BIOLOGY

Advanced Genetic Sciences (AGS), a company exploring the applications of modern biotechnology to agriculture, has a postdoctoral position available now in the Plant Molecular Genetics group. The successful candidate will work on the isolation of genes showing tissue-specific expression in maize. AGS currently supports a strong research program to clone tissue-specific promoters from a variety of dicotyledonous species. Applicants should have familiarity with molecular biological techniques and, in particular, with cDNA cloning methods. AGS provides a stimulating inhouse research environment and, in addition, has developed strong ties with scientists at the University of California-Berkeley campus. Interested candidates should send curriculum vitae and names of references to: **Dr. Hugo K. Dooner, Advanced Genetic Sciences, 6701 San Pablo Avenue, Oakland, Calif. 94608. Telephone: 415-547-2395.**

Postdoctoral Scientist Pharmaceutical Research

The Pharmaceutical Research and Technologies Department of Smith Kline & French Laboratories is seeking a Postdoctoral Scientist to complement ongoing research into the analysis of peptides and proteins from biological matrices. The successful candidate will be a member of a basic research oriented peptide/protein drug delivery group and as such will be encouraged to foster innovative research approaches to peptide/protein analysis. The job offers substantial opportunities for both personal and professional growth and will equip the successful candidate with an appreciation of novel approaches to peptide/protein drug delivery. Publication of research findings in leading journals is encouraged.

Postdoctoral positions are usually of two years duration.

Candidates are required to have a Ph.D. in the area of peptide or protein analysis and to possess excellent written and oral communications skills.

Smith Kline & French Laboratories is located near Valley Forge, PA, in a new, state-of-the-art research complex. We offer an excellent salary, benefits, and relocation package. Please forward your c.v. to George P. Kissell, Jr., Manager, Personnel Relations, 1582 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

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Science Director



The Research Triangle Institute is seeking a Director for its Center for Life Sciences and Toxicology. The successful candidate will be responsible for overseeing current programs in *in vivo* and *in vitro* toxicology, teratology, reproduction and mammalian genetics. He or she will also be responsible for developing new program areas and for leading research in areas of his or her own expertise.

Qualifications include a Ph.D. degree in one of the biological sciences, scientific reputation and experience in directing research programs.

Research Triangle Institute is located in a geographical center of toxicological and other scientific research. A competitive salary and fringe benefits schedule is offered.

Applicants should send résumés and arrange for three letters of recommendation to be sent to:

Dr. C. E. Cook
Research Vice-President
Chemistry and Life Sciences
Research Triangle Institute
P.O. Box 12194
Research Triangle Park,
NC 27709

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Technical Specialists

Perkin-Elmer is the world's leading manufacturer of analytical chemistry related instrumentation. We have several outstanding career opportunities available for individuals with strong backgrounds in any of the following disciplines: gas or liquid chromatography, thermal and elemental analysis, fluorescence spectroscopy, UV/VIS spectroscopy. These positions are located in Norwalk and Ridgefield, Connecticut.

Applicants must have at least a BS degree in Chemistry (advanced degree preferred) and several years' laboratory experience using any of the above instrumentation. Knowledge of computer programming will be a plus.

The successful candidate will be a responsible, self-starting professional who will be able to provide applications, product development, and technical assistance for the appropriate instrument line. Duties will include specification and evaluation of new hardware/software, development of new applications and methodology, liaison with Engineering, Manufacturing, QA and Field Sales, preparation of technical papers and presentations at technical meetings. Occasional travel may be required.

Invest your future in an innovative Fortune 300 technological leader. Perkin-Elmer rewards qualified professionals with outstanding growth opportunities, highly competitive salaries, and a comprehensive benefits plan.

Qualified candidates are invited to send their resume including salary requirement in confidence to: Mr. E.K. Hutton, Manager, Human Resources, The Perkin-Elmer Corporation, 761 Main Avenue, Norwalk CT 06859-0025.

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PERKIN-ELMER

HOFFMANN-LA ROCHE

Senior Information Scientist

Hoffmann-LaRoche, a major pharmaceutical company, has a career opportunity in its Scientific Literature Department.

Responsibilities include conducting literature searches and writing critical reviews appropriate to company interest; initiating and preparing evaluative literature surveys in the biochemical and biomedical fields and comprehensive bibliographies on Roche products; and abstracting and indexing scientific articles and patents in English and foreign languages.

Qualifications: PhD in a Biomedical Science with emphasis on biochemical therapeutics. Laboratory research experience and a proven ability in writing in-depth literature reviews essential. Reading capability in German and French, course work in organic chemistry, and knowledge of commercially available data bases are desirable.

Roche offers a professional environment and an attractive compensation package. ONLY RESPONSES INCLUDING PRESENT SALARY WILL BE ACKNOWLEDGED. Please send resume to: Position LC, c/o Mrs. Eleanor M. Malone, Professional Employment & Staffing Specialist



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Nutley, NJ 07110

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*Products that matter
from people who care*

POSITIONS OPEN

A POSTDOCTORAL POSITION is available for a suitable, qualified applicant interested in studying the role of viral oncogene expression in leukemogenesis. Applicants should have experience in molecular biology and an interest in immunobiology. The research program of the Trudeau Institute emphasizes the use of animal models of cancer and infectious disease to analyze mechanisms of protective immunity. The salary range is \$16,000 to \$20,000, depending upon experience, plus employer-paid fringe benefits. Subsidized housing may be available.

The Trudeau Institute is a not-for-profit, pure research institute located on the shore of Saranac Lake, 10 miles from Lake Placid, N.Y. Send résumé and names of three references to:

David Hines, Ph.D.
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, N.Y. 12983
An Equal Opportunity Employer

POSTDOCTORAL POSITION is available to study the genetic control of membrane currents in excitable cells. Studies will involve voltage-clamp analysis of single-channel and whole-cell currents in membranes from various invertebrates (snail, fly, nematode). An interest in membrane channels is essential; a background in behavioral genetics, biochemistry, or electrophysiology is desirable. Please send curriculum vitae and names of references to: **Lou Byerly, Department of Biological Sciences, University of Southern California, Los Angeles, Calif. 90089-0371.**

POSTDOCTORAL POSITION—Biochemist/molecular cellular biologist available immediately to study either polyamine metabolism intervention or the mechanism of tumor necrosis factor cytotoxicity. Experience in cell culture, enzyme kinetics, and HPLC are useful, but not an absolute requirement. Send curriculum vitae and three letters of recommendation by 31 December 1985 to: **Dr. Marvin Bregman, Cancer Center Division, University of Arizona, Tucson, Arizona, 85724. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN OBESITY RESEARCH—A postdoctoral position will be available January 1986 to study the effects of the antiobesity agent, dehydroepiandrosterone, on carbohydrate and lipid metabolism in tissues of lean and obese rats. Experience in isolated cell preparations, enzymatic determinations, and radioactive tracers preferred. Send curriculum vitae and names of three references to: **Margot P. Cleary, Ph.D., The Hormel Institute, University of Minnesota, 801 16th Avenue, N.E., Austin, Minn. 55912. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages women and minority applicants.**

A POSTDOCTORAL POSITION is available in spring or summer of 1986 for a biochemist, biophysicist, or molecular biologist to study the role of metal in the regulation and mechanism of gene expression in both prokaryotic and eukaryotic cells, particularly in RNA polymerases and metalloproteins. Experience in metalloproteins is helpful. Send curriculum vitae and three letters of recommendation to: **Professor Felicia Wu, Department of Pharmacological Sciences, Health Sciences Center, SUNY at Stony Brook, Stony Brook, New York 11794. SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK Number 333A-85.**

POSTDOCTORAL POSITION IN MOLECULAR ENDOCRINOLOGY. Projects on mechanisms of estrogen receptor (ER) regulation of gene expression. ER interaction with nuclear domains [(Endocrinology, 116, 2419 (1985))] and regulation of K-ras oncogene expression is studied in mammary tumors by modern techniques: hybridization, immunological. **Dr. Russell Hilt, Biochemistry, Box 607, University of Rochester Medical Center, Rochester, N.Y. 14642. Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately to study phencyclidine effects on central neuronal systems. Strong background in neuropharmacology required and experience with single-cell neurophysiological techniques necessary. Send curriculum vitae and names of three references to: **Dr. Edward D. French, Maryland Psychiatric Research Center, University of Maryland, P.O. Box 3235, Baltimore, Md. 21228.**

POSITIONS OPEN

POSTDOCTORAL POSITION: BIOTECHNOLOGY. Excellent opportunity for a biochemist, biologist, or biochemical engineer to work in an interdisciplinary research effort in **microbial, plant, and mammalian cell culture scale-up.** The applicant will develop techniques for the quantification of intracellular protein concentrations using electrophoretic and/or immunological techniques. Previous experience with two-dimensional electrophoresis, immunological assays, and/or plant/animal cell culture is desirable. Positions are available as early as January 1986. Salary minimum is \$18,000 per annum. Send curriculum vitae and three letters of recommendation to: **Dr. Charles F. Gooch, Department of Chemical Engineering, University of Houston, 4800 Calhoun Street, Houston, Tex. 77004. Telephone: 713-749-4577.**

Equal Opportunity Employer

POSTDOCTORAL POSITION available for NIH-funded project studying ion transport by liver plasma membrane vesicles. Applicant must have recent Ph.D. and a strong background in transport physiology or biochemistry. Salary support will be provided for at least 2 years. Send curriculum vitae and names of three references to: **Bennett L. Blitzer, M.D., Director, Liver Study Unit, University of Cincinnati College of Medicine, 231 Bethesda Avenue (Room 6560), Cincinnati, Ohio 45267.**

POSTDOCTORAL POSITION IN NEUROBIOLOGY. To study neural processing of stimulus quality in the olfactory system of crustaceans. Experience in intra- and extracellular neurophysiological recording techniques, single cell staining and tract tracing using HRP or cobalt, and computer and statistical data analysis is desirable. Available 1 December 1985. Contact: **Dr. Charles Derby, Department of Biology, Georgia State University, Atlanta, Ga. 30303. Telephone: 404-658-3108.**

Georgia State University, a unit of the University System of Georgia, is an Equal Educational Opportunity Institution and is an Equal Opportunity/Affirmative Action Employer in compliance with Title IX and other Civil Rights Laws.

POSTDOCTORAL/RESEARCH ASSOCIATE position in cardiovascular pharmacology available immediately to study the pathogenesis of coronary vasospasm. Interest in cardiovascular effects of thrombin and other vasoactive peptides and regulation of cardiac and vascular muscle contraction is desired. Send curriculum vitae and three letters of recommendation to: **Dr. David D. Ku, Department of Pharmacology, Box 191, University of Alabama at Birmingham (UAB), Birmingham, Ala. 35294. UAB is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES. Available immediately two postdoctoral positions: (i) to study the nature of hepatic mitochondrial cytochrome P-450 induced by xenobiotics, and (ii) to study the regulation of mitochondrial gene expression in mouse cells. The approach in both cases involves enzyme purification, in vitro reconstitution of activity, cDNA cloning/sequencing, and chromosome mapping. Ph.D. in biochemistry or cellular/molecular biology preferred. Send curriculum vitae and names of three references to: **Dr. N. G. Avadhani, University of Pennsylvania, Department of Animal Biology, 3800 Spruce Street, Philadelphia, Pa. 19104.**

PROGRAM MANAGER TECHNOLOGY DEVELOPMENT AND TRANSFER

The Center for Innovative Technology, a Virginia state-funded, nonprofit corporation located in Northern Virginia near Dulles International Airport, is seeking an outgoing, broad-based Ph.D.-level biotechnologist, chemist, physicist, or mechanical, chemical, or electrical engineer. The program manager will work with industrialists and Virginia university faculty to develop joint research projects, to transfer successful research to industry, and to develop other techniques for harnessing innovative technology to encourage economic development. Candidates should have synergistic experience in industry, government, and/or academia addressing multidisciplinary issues, including technology transfer of innovative research and development concepts. The position reports to the vice president for Technology Development and Transfer. Salary will be commensurate with experience. Please reply in confidence, including salary history, to:

Center for Innovative Technology
P.O. Box 15373
Herndon, Va. 22070-9998

POSITIONS OPEN

POSTDOCTORAL POSITION immediately available to study structure-function relationships and metabolism of a membrane receptor. Background in cellular biochemistry and/or enzymology desirable. Contact:

Asok C. Antony, M.D.
Department of Medicine
Indiana University School of Medicine
Room 379, Clinical Building
541 Clinical Drive
Indianapolis, Ind. 46223
Telephone: 317-264-7269

Indiana University is an Equal Opportunity/Affirmative Action Educator, Employer, and Contractor, M/F.

POSTDOCTORAL RESEARCH ASSOCIATE—Position available February 1986 or thereafter in CSF RESEARCH PROGRAM to study developmental transport mechanisms in the choroid plexus-CSF system and blood-brain barrier. Ph.D. in physiology, pharmacology, or biochemistry. Experience desirable with radioisotopes, electrolytes, enzymes, epithelial transport, and laboratory mammals. Salary based on experience. Inquiries should be sent with résumé, statement of goals, and three letters of recommendation to: **Dr. Conrad E. Johanson, Director-CSF Basic Research Program, Department of Neurosurgery, Brown University and Rhode Island Hospital, Providence, R.I. 02902. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES

Interdisciplinary program supported by NIH training offers research in liver carbohydrate metabolism (J. B. Blair, Ph.D., biochemistry); stimulus-secretion coupling (F. R. Butcher, Ph.D., biochemistry); pituitary-ovarian function (R. L. Butcher, Ph.D., obstetrics/gynecology); adrenal/hepatic monooxygenases (H. D. Colby, Ph.D., physiology); gonadotropins and follicular development (R. A. Dailley, Ph.D., animal science); reproductive neuroendocrinology (R. L. Goodman, Ph.D., physiology); thyroid/adrenal neuroendocrinology (G. A. Hedge, Ph.D., physiology); utero/ovarian relationships (E. K. Inskeep, Ph.D., animal science); gene expression/recombinant DNA (R. F. Kletzein, Ph.D., biochemistry); androgen/estrogen action (M. G. Mahinney, Ph.D., pharmacology and toxicology); and hormonal regulation of gene expression/recombinant DNA (Jeanine Strobl, Ph.D., pharmacology and toxicology). Positions filled as available, depending on candidate qualifications and needs of laboratories involved. Application information and more detailed descriptions of these research programs are available on request from:

Dr. George A. Hedge
Professor and Chairman
DEPARTMENT OF PHYSIOLOGY
WEST VIRGINIA UNIVERSITY
MEDICAL CENTER
Morgantown, West Virginia 26506-6302
Equal Opportunity/Affirmative Action Employer

UNIVERSITY OF TENNESSEE AT MEMPHIS CENTER FOR THE HEALTH SCIENCES ENDOWED PROFESSORSHIP IN VIROLOGY

An endowed professorship in virology has been established in the Department of Microbiology and Immunology. Candidates for this appointment should possess a distinguished record of sustained research accomplishment and be internationally recognized as leaders in their fields. The conditions of appointment, that is, salary, laboratory space, teaching responsibilities, funds for equipment, and so forth, are exceptionally attractive. The Health Science Center at the University of Tennessee in Memphis has begun a major growth phase. The department has just moved into a completely renovated building and will be appointing at least eight new faculty during the next several years. New faculty are also being appointed in the Departments of Pharmacology and Biochemistry. A large Center of Excellence grant has resulted in development of a Molecular Resource Center within the department featuring state-of-the-art facilities for: DNA cloning and sequencing, oligonucleotide synthesis, peptide synthesis, monoclonal antibody production, amino acid analysis, protein sequencing, and flow cytometry. Curriculum vitae should be sent by individuals applying directly or by nominators to: **Dr. Terrance G. Cooper, Department of Microbiology and Immunology, University of Tennessee Center for the Health Sciences, 858 Madison Avenue, Room 801, Memphis, Tennessee 38163.**

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

POSITIONS OPEN

POSTDOCTORAL POPULATION GENETICIST required to conduct electrophoretic studies of reef-building corals and related clonal organisms. Available immediately; 18 months funding, initially. Experience with starch-gel electrophoresis essential, interests in genetics and evolution of clonal or marine organisms useful. Send curriculum vitae, brief statement of interests, date available, and three letters of recommendation by 3 January 1986 to: Dr. Donald Potts, Attention: J. Warner, Institute of Marine Sciences, University of California, Santa Cruz (USSC), Calif. 95064. *UCSC is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH POSITION IN PLANETARY ATMOSPHERE Lunar and Planetary Laboratory, University of Arizona

Applications are invited for a postdoctoral research position at the Lunar and Planetary Laboratory, University of Arizona in Tucson, Arizona. The position will involve research in planetary physics and analysis of UV data from the Voyager mission. Research opportunities include the bound and extended atmospheres and ionospheres of the giant planets and their satellites, and Io plasma torus, earth's atmosphere, and interstellar medium. Applicants should have a strong background in theory and data analysis. Physicists and astronomers are encouraged to apply. Send curriculum vitae, bibliography, and three letters of reference to: Dr. A. L. Broadfoot, Lunar and Planetary Laboratory, University of Arizona, 3625 East Ajo Way, Tucson, Arizona 85713. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer.* Applications will be accepted through 31 January 1986.

PROJECT DIRECTOR—SUSTAINABLE AGRICULTURE PROJECT. Washington, D.C., nonprofit, looking for director for sustainable agriculture component of project in environmental planning and management. Position entails program design and operation. Applicants should have education and extensive experience in agricultural development with environmental outlook. Desirable attributes include Ph.D. in relevant field, foreign language ability, and overseas development experience, preferably in Asia or Africa. Apply by 1 January 1986 to Box 256, SCIENCE.

POSITIONS OPEN

POSTDOCTORAL RESEARCH BIOCHEMIST position available immediately at the University of California, San Francisco, to study the genetic regulation, biosynthesis, and structure-function relationships of proteins involved in the oxidation of C₁ compounds by methylotrophic bacteria. Experience in molecular biology preferred. Salary to \$25,000. Contact: Dr. V. L. Davidson, Molecular Biology Division, VA Medical Center (151-S), 4150 Clement Street, San Francisco, Calif. 94121.

RESEARCH ASSOCIATE

Physical Oceanography. Responsible for maintaining and upgrading existing data processing system on VAX. Requires application programming, data communication software development, debugging, updating documentation, and overseeing peripheral hardware with B.S./B.A. in engineering, computer, or physical sciences, plus 5 years of related experience or M.S./M.A., plus 3 years of related experience. Expertise in Fortran programming, working knowledge of assembly language programming on LSI-II type computer, and VAX/VMS operating system and hardware. Apply to: Personnel Manager, Box 54P, Woods Hole Oceanographic Institution, Woods Hole, Mass. 02543. *An Equal Opportunity Employer, M/F/H.*

RESEARCH CHEMIST

A large multinational company seeks a highly qualified person to conduct research in developing new and improved technology in the production of high performance-low cost polymers. The successful candidate will have at least a Ph.D. in chemistry, a strong background in organic and polymer synthesis and organometallic chemistry, and 3 to 5 years of related laboratory research. Must also be proficient in high vacuum line techniques, handling air sensitive compounds, infrared spectroscopy, FT-NMR, GC, and GPC.

Salary in the \$30,000 to \$35,000 range. Excellent benefits/location. Send résumé and salary history to: Bureau of Job Service, 13th and Gordon Streets, Allentown, Pa. 18102, Reference Job Order Number 4033184. *An Equal Opportunity Employer, M/F.*

POSITIONS OPEN

PHARMACEUTICAL COMPANY POSTDOCTORAL RESEARCH ASSOCIATE position is available immediately for a biochemist to study structural and functional adaptations of cardiac tissue to experimental hypertrophy. A background in gel electrophoresis, enzyme kinetics, and/or HPLC is desirable. Interested candidates should send résumé and names of two references to:

Mrs. Nancy Levine
Professional Employment Coordinator
American Cyanamid Co.
Lederle Laboratories
Pearl River, N.Y. 10965

An Equal Opportunity Employer, M/F.

RADIOLOGIC SCIENCES (M.S. or Ph.D.) at the level of research associate to assist in the running of an animal/patient cardiac research facility. There will be an academic appointment at the University of Oklahoma. The laboratory is funded by a privately endowed research foundation. The goals of the laboratory are to develop and apply noninvasive cardiac imaging modalities to the study of cardiac disease and physiology. Modalities currently include isotopes, echocardiography, and nuclear magnetic resonance. The associate would assist in study design and execution, data analysis, and manuscript preparation. The associate's training would ideally include radiologic sciences, statistics, computer programming, and physiology. Please forward curriculum vitae and names of three references to:

Robert D. Okada, M.D.
Saint Francis of Tulsa Medical Research Institute
6465 South Yale
Suite 1010
Tulsa, Oklahoma 74136

PRE- AND POSTDOCTORAL POSITIONS AVAILABLE IN TOXICOLOGY

Contact:

Graduate Administrator
Toxicology Program
Box 7633
N.C. State University
Raleigh, N.C. 27695

DIRECTOR, CARCINOGEN ASSESSMENT GROUP SENIOR EXECUTIVE SERVICE

The U.S. Environmental Protection Agency (EPA) is seeking a director, Carcinogen Assessment Group. The director plans and coordinates comprehensive technical programs related to the development of carcinogenic risk assessment guidelines; advises agency operating programs on the risks associated with chemicals that are suspected or known to cause cancer in human or animal tissues; directs the programs and staff of the group. Serves as an advocate for proper use of cancer data analysis and risk assessments information in agency decisions on standards, guidelines, and regulations.

Applicants must meet Federal Office of Personnel Management X-118 qualification requirements in either the general biological sciences, general health sciences, or general physical sciences and must possess substantial professional experience demonstrating the ability to perform in a senior executive position. Additionally, to be rated qualified for the position, applicants must have the following **MANDATORY FACTORS**: (i) technical experience in the field of carcinogenicity; (ii) management experience (planning, organization, direction, coordination, and control) of projects in the environmental health field involving the accomplishment of tasks through the efforts of in house staff and/or contracts; (iii) experience working in health-related environmental programs whose outputs have public policy implications; and (iv) demonstrated ability to communicate effectively, both orally and in writing, regarding complex issues and problems. The following **DESIRABLE FACTORS** will be used to rate successful applicants: (i) postgraduate degree in one of the following disciplines: life or health sciences, or physical sciences; (ii) experience or training in bioassay or epidemiological aspects of carcinogenicity—general research in carcinogenesis or epidemiology is equivalent; and (iii) demonstrated recognition in the environmental or health field as evidenced by membership in professional organizations, serving on environmental concern committees, and/or authorship of papers dealing with these concerns.

Location: Washington, D.C.

Salary range: \$61,296 to \$66,232, plus civil service benefits.

Telephone inquiries: Edna Morse—telephone: 202-382-3328.

Application submissions: please submit a completed SF-171, available at Federal Job Information Centers and federal agency personnel offices, postmarked by 3 January 1986 to: Edna Morse (PM-224), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. A summary describing specifically how your background and experience relate to all factors will be appreciated.

An Equal Opportunity Employer

SCIENCE, ENGINEERING AND DIPLOMACY FELLOWSHIP Applications Invited

The American Association for the Advancement of Science (AAAS), in cooperation with the Agency for International Development (AID) and the Department of State (STATE), is seeking applicants for two or more Science, Engineering and Diplomacy Fellowships. Fellows will spend 1 year, beginning 1 September 1986, working either in the Bureau of Oceans and International Environmental and Scientific Affairs of the Department of State or in one of the bureaus of the Agency for International Development. Other assignments may also be possible.

Prospective fellows must demonstrate exceptional competence in some area of science or engineering, be flexible, have some experience and/or a strong interest in applying knowledge toward the solution of problems in the area of foreign affairs, and have a Ph.D. or equivalent in years of experience. Awardees will work on scientific and technical subjects in international affairs: foreign policy for STATE and international development for AID. In general, individuals are urged to apply from any area of physical, biological, behavioral, and social science and engineering and whose experience and training is applicable to any one of the following areas: food and agriculture; health and population; nuclear nonproliferation; scientific exchange; forestry, natural resources and ecology; oceans and fisheries; communications; national security; and nutrition among others.

The fellows will serve a 1-year appointment at a salary consistent with education level and experience, if possible, but not exceeding, in the case of STATE, the GS-12 level (beginning at \$31,600). A security clearance process will be initiated after selection. The clearance must be obtained before a selectee can begin work in the State Department or AID, and the fellowship award is contingent upon the selectee obtaining this clearance.

Deadline for receipt of applications is 15 January 1986. For more information and application details, write:

Science, Engineering and Diplomacy Fellows Program
American Association for the Advancement of Science
1333 H Street, NW
Washington, D.C. 20005

POSITIONS OPEN

EMORY UNIVERSITY DEPARTMENT OF PHYSICS

RESEARCH ASSOCIATE position in biophysics is available on or after 1 January 1986. One year with renewal possible. The research involves Mössbauer and EPR studies on metalloproteins; will have opportunity to interact with chemistry and biochemistry research groups. Recent doctorates in physics, biophysics, or physical biochemistry are invited to apply. Experience in Mössbauer spectroscopy and in electronics are desirable.

Send curriculum vitae and names of three references to: **Dr. B. H. Huynh, Physics Department, Emory University, Atlanta, Ga. 30322.** *Emory University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE—Ph.D. in biochemistry or related field to characterize the involvement of lipids, prostaglandins, and hormones in human diseases, for example, in cardiovascular disease, premenstrual syndrome, eczema, and others. Knowledge of GC and HPLC is essential. Experience in working with small animals is desired.

Send curriculum vitae including publications, complete official transcripts, and three letters of reference to:

Mr. Ken Plant
Director of Human Resources
Murdoch International
P.O. Box 4000
Springville, Utah 84663

RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW IN BIOCHEMISTRY: Biochemist to participate in ongoing study of receptor-mediated entry of hybrid proteins into cells. Project will involve protein chemistry, radioligand binding and uptake, and tissue culture work. Position is available immediately either at technical research associate or postdoctoral level. Applicants at technical research associate's level should have M.S. in biochemistry and at least 3 years of research experience. Postdoctoral applicants should have recent Ph.D. in biochemistry or cell biology with no more than 3 years of postgraduate work. Send curriculum vitae and two reference names to: **Dr. T. Chang, G. I. Unit, THE GENESEE HOSPITAL, 224 Alexander Street, Rochester, N.Y. 14607.** *Equal Opportunity Employer.*

Positions for **RESEARCH UNIVERSITY GRADUATES** with a bachelor's degrees in the biological sciences to do research in the areas of cellular and molecular biology with the W. Alton Jones Cell Science Center, for a period of 3 years. Salary ranges from \$8,000 to \$10,000, depending on experience. Send curriculum vitae to: **The Personnel Office, W. Alton Jones Cell Sciences Center, 10 Old Barn Road, Lake Placid, New York 12946.** Please refer to: **Job Order SA-509.**

An Affirmative Action/Equal Opportunity Employer

Opening for a **SURGICAL PATHOLOGIST.** The Department of Pathology of the University of Massachusetts Medical Center has an opening for a service-oriented pathologist at the assistant professor level.

Requirements: Certification in anatomic pathology; expertise in immunohistochemistry with the ability to supervise an immunohistochemical laboratory; expertise in renal pathology and the desire to become an effective consultant to an active renal medicine and transplantation service; interest in teaching and/or research.

The University of Massachusetts Medical Center, University Hospital, currently has 350 beds; the number of surgicals this year will be about 12,000 and the number of autopsies, 150. *The University of Massachusetts is an Equal Opportunity Employer.*

Please write (and submit three references) to: **G. Nash, M.D., Director, Division of Anatomic Pathology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, Mass. 01605.**

TEACHING POSITION—Biologist. The Department of Biology, Emory University, invites applications for a teaching position at the assistant professor rank for a nontenure-track, 1-year term, renewable for up to 3 years. Responsibilities include teaching courses primarily at the general biology level. Send curriculum vitae with a statement on your background in biology and experience in teaching, and arrange to have three letters of recommendation sent to: **Dr. W. H. Murdy, Chairman, Department of Biology, Emory University, Atlanta, Ga. 30322.** Closing date for receipt of applications is 15 January 1986. *Emory is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

RESEARCH ASSOCIATE

Two positions available immediately related to studies on insulin growth factor/regulation of protein phosphorylation. Experience in protein purification; experience in recombinant DNA technology, including expression of cloned genes in mammalian cell culture. Protein microsequencing, oligonucleotide, and peptide synthesis are available via an adjacent core facility. Salary commensurate with experience. Send curriculum vitae and three letters of support to: **J. Avruch, Howard Hughes Medical Institute Laboratory, Diabetes Unit, Massachusetts General Hospital, Boston, Mass. 02114; or telephone: 617-726-6909.**

RESEARCH ASSOCIATE position available immediately for the identification and cloning of genes and gene products associated with Marek's Disease Herpesvirus System. Prior experience with molecular biology on DNA technology is desirable. Salary is up to \$23,000, depending on qualifications. Initial 1-year appointment may be extended for up to 2 additional years. Send curriculum vitae and the names of three references to:

Dr. Lucy F. Lee
Regional Poultry Research Laboratory
3606 East Mt. Hope Road
East Lansing, Mich. 48823
Telephone: 517-337-6828

Michigan State University is an Affirmative Action/Equal Opportunity Employer.

RESEARCH PHARMACOLOGIST—CARDIOVASCULAR DISEASES: To apply practical and conceptual knowledge to the development of novel therapeutic approaches to cardiovascular diseases. The candidate must have a Ph.D. in pharmacology. A strong background in physiology is essential. At least 2 years postdoctoral experience in cardiovascular pharmacology is required. The applicant must have experience in the central and peripheral control of blood pressure with heavy emphasis on in vivo and in vitro techniques. Salary: \$3,200 per month. Send résumé, including a list of publications to: **Thelma Jones, Division of Employment and Training, Delaware State Department of Labor, 3301 Lancaster Pike, P.O. Box 2168, Wilmington, Delaware, 19899.** Job Reference Number 601239.

The Biology Department of Villanova University is seeking candidates to fill two tenure-track positions for fall 1986.

VERTEBRATE ECOLOGIST: teaching duties will include undergraduate general ecology and undergraduate/graduate courses in area of specialization, with possible participation in general biology.

INVERTEBRATE BIOLOGIST: teaching duties will include general biology and undergraduate/graduate courses in area of specialization.

For both positions, Ph.D. and postdoctoral experience are required. Candidates are expected to develop research programs with potential for extramural support, participate actively in departmental affairs, and exhibit a personal concern for students. Applicants should send transcripts of undergraduate and graduate work, curriculum vitae, a brief statement of research and teaching goals, and the names and addresses of three referees. Candidates should also arrange for letters of reference to be sent by the application deadline. Submit all materials by 15 January 1986 to: **Vertebrate Ecologist Search Committee or Invertebrate Biologist Search Committee, Department of Biology, Villanova University, Villanova, Pa. 19085.** *Villanova University is an Affirmative Action/Equal Opportunity Institution. Women and minorities are especially encouraged to apply.*

VIROLOGIST. The Department of Microbiology and Immunology, University of Colorado Health Sciences Center, requests applications for a 12-month, tenure-track position from a molecular virologist with an active research program investigating replication and/or pathogenesis of animal viruses. Applicants should have postdoctoral experience and demonstrated the capacity to do creative scientific research. Teaching responsibilities include microbiology to medical students and virology to graduate students. Send curriculum vitae and names of three references to: **Dr. L. I. Pizer, Department of Microbiology/Immunology, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, Colo. 80262.** Applications should be received by 1 May 1986. *The University of Colorado Health Sciences Center is an Equal Opportunity Employer and applications from women and minorities are encouraged.*

POSITIONS OPEN

RESEARCH ASSISTANT to operate central DNA sequencing and oligonucleotide synthesis facility. Unique opportunity for independent B.S. or M.S. level scientist. Experience in DNA sequencing essential, familiarity with HPLC or instrumental methods preferred. Direct correspondence to: **Dr. G. W. Litman, Chairman, Molecular Genetics Department, Showa University Research Institute, 10900 Roosevelt Boulevard North, St. Petersburg, Fla. 33702.**

RESEARCH ASSOCIATE—VASCULAR SMOOTH MUSCLE MECHANICS AND PHARMACOLOGY. Applicants who have a strong background in mechanics, physiology, or pharmacology of smooth muscle are invited to participate in an innovative research program on the cellular interactions in the walls of microvessels. Projects include studies of: mechanics of vascular smooth muscle, the nature of the myogenic response, and the role of endothelial cell-derived relaxing factor in microvessel function. Interested individuals should submit curriculum vitae and the names of references to: **Brian R. Duling, Department of Physiology, School of Medicine, University of Virginia, Charlottesville, Va. 22908.**

VETERINARY PHYSIOLOGIST/ PATHOPHYSIOLOGIST

D.V.M./Ph.D. or Ph.D. in physiology or pathophysiology. Tenure-track position with 50 percent teaching and 50 percent research responsibilities. Respiratory or cardiopulmonary physiology/pathophysiology research of primary interest with contribution to team studying respiratory diseases of livestock. Participate in undergraduate and graduate teaching, and supervise graduate students. Applicants should forward detailed curriculum vitae and names of three references by 1 February 1986 to: **Dr. Edgar T. Clemens, Chair, Veterinary Physiologist Search Committee, Department of Veterinary Science, University of Nebraska, Lincoln, Neb. 68583-0905.** Telephone: 402-472-6219. *Affirmative Action/Equal Opportunity Employer.*

SYMPOSIUM

CALORIES AND ENERGY EXPENDITURE IN CARCINOGENESIS

Sponsored by International Life Sciences Institute-Nutrition Foundation (ILSI-NF), 24 and 25 February 1986, the Capital Hilton Hotel, Washington, D.C. Proceedings to be published. For further information, contact: **Wendy Gasch, ILSI-NF, 1126 16th Street, Suite 111, Washington, D.C. 20036; telephone: 202-659-0074.**

GRADUATE STUDIES

NEUROSCIENCES AT BAYLOR COLLEGE OF MEDICINE

Baylor College of Medicine offers an interdepartmental Neuroscience Program for students interested in advanced study leading to the Ph.D. in neuroscience. Applications must be completed by 1 April 1986, and applicants will be notified regarding admissions and financial support by 15 May 1986. Information regarding the program curriculum, faculty, research opportunities, and application procedures may be obtained from: **Scott F. Basinger, Ph.D., Director of Graduate Studies, Program in Neuroscience, Baylor College of Medicine, NSC 200, One Baylor Plaza, Houston, Texas 77030.**

GRADUATE TRAINING in animal biotechnology at the Department of Animal Science, Ohio State University—Ohio Agricultural Research and Development Center (OARDC). Research programs focus on maternal-fetal interactions in fetal growth and development, regulation and molecular mechanisms of action of steroid hormone inducible genes, identification and purification of growth factors in mammary secretions, and molecular biology of growth factor genes. The laboratories of Drs. R. C. M. Simmen and F. A. Simmen are part of the newly established Biotechnology Core Group based at Wooster, Ohio. The successful applicant will be trained in molecular biology, recombinant DNA, and protein biochemistry techniques designed for career opportunities in the expanding field of Animal Biotechnology. A limited number of fellowships offering tuition and stipend are available. Apply to: **Dr. Frank A. Simmen or Dr. Rosalia C. M. Simmen, Department of Animal Science, Ohio State University—OARDC, Wooster, Ohio 44691.** *An Equal Opportunity/Affirmative Action Employer.*

**MASSACHUSETTS
INSTITUTE OF
TECHNOLOGY**

**Graduate Opportunities
In The
Department Of Applied
Biological Sciences**

The Department of Applied Biological Sciences at MIT is actively seeking outstanding graduate students to pursue advanced training (MS, PhD, or ScD) in various fields of specialization. These include:

Biochemical Engineering and Biotechnology;
Molecular Pharmacology and Nutritional
Biochemistry; Toxicology.

Fellowships, research and teaching assistantships are available for qualified candidates. Application for Sept. 1986. Admission due Jan. 14, 1986.

Send inquiries to:

**Student Office, Department of Applied
Biological Sciences, Room 16-330, MIT,
Cambridge, MA 02139,
Tel. (617) 253-5804.**

MIT is an equal opportunity/
affirmative action employer.

MIT

**Electrophysiology
or Neuroanatomy**

The **Pharmaceutical Research and Development Division of Upjohn**, located in Kalamazoo, Michigan, is seeking a Research Associate in the CNS Research Unit. This position will assist a research team in studying the effects of new drugs within the brain and spinal cord.

Applicants should have a B.S. or M.S. degree in a biomedical science. Techniques will include: microelectrode recordings, microiontophoresis and/or 2-deoxyglucose autoradiography as well as collection and summarization of research results. Position requires experience with stereotaxic surgery or neurosurgery. Experience with microelectrode recordings, neuroanatomy and/or autoradiography would be beneficial.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers an excellent salary, commensurate with experience and an outstanding benefits program.

For confidential consideration, please call from outside of Michigan toll free 1-800-253-8600, ext. 3-6767, (inside Michigan call collect 616-323-6767) to request an employment application be sent to you immediately. Please refer to ad number **18628-A** when calling.

Upjohn

A century of caring

An Equal Employment Opportunity Employer M/F

**Marine Biological Laboratory
Fellowships – Summer 1986**

Frederik B. Bang Fellowship—invertebrate pathology

Charles Ulrick and Josephine Bay Fund—
marine veterinary science

Frank A. Brown, Jr. Memorial Readership—
for library research

E. E. Just Fellowships—for blacks and other minorities

Stephen W. Kuffler Fellowship—neuroscience

H. B. Steinbach Fellowships

MBL Summer Fellowships

These fellowships support either independent research or participation in the Laboratory's summer courses. For further details, contact the Office of Grants and Educational Services, MBL, Woods Hole, MA 02543. (617) 548-3705, x 216.

DEADLINE: January 15, 1986



AUSTRALIA

CSIRO

RESEARCH FELLOW

\$26,001–\$32,083

**DIVISION OF ANIMAL PRODUCTION
PROSPECT, NSW**

GENERAL: A team of scientists within the Division is investigating methods for the manipulation of the genotype and phenotype of domestic animals by direct gene transfer technology. Genes under investigation at present include the ovine growth hormone gene, the genes encoding cysteine biosynthesis and the wool keratin genes. The research includes the investigation of gene structure, the control of gene expression, particularly as applied to the sheep, the transfer of foreign genes into ruminant embryos, and the isolation of pluripotent cell lines from early embryos.

DUTIES: To participate in the analysis of the tissue specific expression of foreign genes in transgenic animals. Available areas of research include the chromosomal localization of transferred genes, the effect of promotor sequences on gene expression, the isolation of pluripotent cell lines from early stage sheep embryos and the investigation of viral vectors as a potential method of gene transfer in ruminants.

QUALIFICATIONS: A PhD with a thorough understanding of molecular biology and/or cell culture techniques.

TENURE: A term of 3 years with Australian Government superannuation benefits available.

APPLICATIONS: In writing, stating full personal and professional details, the names of at least two referees and quoting reference No. A6680 should reach:

**The Chief
Division of Animal Production
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ASSISTANTSHIPS

TEACHING ASSISTANTSHIPS (including tuition waiver) available for qualified applicants beginning September 1986, include 1986 courses and 9-month stipends. Graduate study leading to M.S. or Ph.D. with concentration in biochemistry, botany, ecology, marine biology, microbiology, molecular biology, physiology, and vertebrate zoology. For further information, write to: **Professor G. S. Jones, Department of Biology, Northeastern University, Boston, Mass. 02115.** *Northeastern University is an Equal Opportunity/Affirmative Action/Title IX Employer.*

CONFERENCE

**The New York Academy of Sciences
CONFERENCE ON ALCOHOL AND THE CELL**
30 April to 2 May 1986
Franklin-Plaza Hotel, Philadelphia, Pennsylvania

The conference will explore the effects of alcohol on biological functions at the cellular and subcellular levels. Symposia topics will include pathways of ethanol and acetaldehyde metabolism, ethanol as a physical (anesthetic) agent and its interaction with biological membranes, and ethanol-induced alterations in the structure, organization and function of cells and subcellular organelles of all organs, particularly the nervous system, liver and heart.

There will be contributed poster sessions. The deadline for submission of abstracts is 15 February 1986. A 200-word summary of work to be presented should be sent to: **Dr. Emanuel Rubin, M.D., Hahnemann University, Department of Pathology and Laboratory Medicine, Broad and Vine Streets, Philadelphia, Pa. 19102.**

Chairman: **Dr. Emanuel Rubin, M.D., Hahnemann University, Philadelphia, Pa.**

Inquiries should be addressed to: **Conference Department, The New York Academy of Sciences, 2 East 63 Street, New York, N.Y. 10021.**

TRAINING PROGRAM

**MOLECULAR BIOLOGY AND PATHOGENESIS
DEPARTMENT OF MICROBIOLOGY AND
IMMUNOLOGY
AND MOLECULAR RESOURCE CENTER
UNIVERSITY OF TENNESSEE—MEMPHIS**

The University of Tennessee announces an interdepartmental **TRAINING PROGRAM** for predoctoral and postdoctoral candidates. Faculty in the Departments of Microbiology and Immunology, Medicine, and Pediatrics participate as preceptors for research and clinical training. The Molecular Resource Center staff, an integral component of the Department of Microbiology and Immunology, conduct workshops for hands-on training in DNA cloning and sequencing and monoclonal antibody production, as well as providing custom synthesis of oligonucleotide and polypeptide reagents. Areas of research include prokaryotic and eukaryotic molecular biology, virology, immunology, microbial physiology, and pathogenesis. Prerequisites are bachelor's degree in science for predoctoral candidates and Ph.D. or M.D. degree for postdoctoral candidates. Post-M.D. candidates should have 2 to 3 years of clinical training in internal medicine or pediatrics. Predoctoral stipend is \$8,000 per year plus tuition and the postdoctoral stipend is dependent on previous experience. For detailed information contact: **Dr. Antonino Incardona, Department of Microbiology and Immunology, University of Tennessee, Memphis, Tenn. 38163.** *An Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

**HARVARD UNIVERSITY
DEPARTMENT OF BIOCHEMISTRY AND
MOLECULAR BIOLOGY
POSTDOCTORAL FELLOWSHIPS**

A limited number of postdoctoral research positions will be available in the upcoming months. Appointments are funded through research grants awarded to faculty members, are for 1 year, and are renewable. For a list of faculty members who have postdoctoral positions available, write, but please—no résumés at this time—to: **Laura Wilson, Department of Biochemistry and Molecular Biology, Harvard University, 7 Divinity Avenue, Cambridge, Mass. 02138.** *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

**PREDOCTORAL FELLOWSHIPS
IN BIOMEDICAL AND PHYSICAL SCIENCES**

Physics	Biochemistry	Molecular Cell Biology
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Physiology	Biomathematics	Physiological Optics
Pathology	Biostatistics	Biomedical Engineering
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Virology	Medical Genetics	Medical Psychology
Immunology	Public Health	Cell Biology and Anatomy

Well-funded faculty with diverse interests. Good postgraduation placement record. Above average stipends include payment of tuition. Contact: **The Graduate School (A), University of Alabama at Birmingham, Birmingham, Ala. 35294; telephone 205-934-8246.** *Equal Opportunity/Affirmative Action Institution.*

NASA PLANETARY BIOLOGY SUMMER INTERNSHIPS. The Marine Biological Laboratory, Woods Hole, Massachusetts, invites applications from graduate students and seniors accepted in graduate programs for \$1,800 awards to participate in research at NASA centers and collaborating institutions during the summer. Application deadline: 1 April 1986. For information and applications, contact: **Michael Enzien, Planetary Biology Intern Program, Department of Biology, Boston University, 2 Cummings Street, Boston, Mass. 02215.** *An Equal Opportunity/Affirmative Action Institution.*

POSTDOCTORAL FELLOWSHIP—NEUROSCIENCE. Position in established laboratory to study neurochemistry of peripheral and central auditory processes. Experience in biochemistry of receptor binding, immunocytochemistry, or enzyme/protein microchemistry required. Starting salary: \$22,000, for 2 to 3 years, renewed annually. Send curriculum vitae, representative publications, and names of three references to: **Dr. Dennis Drescher, Director, Laboratory of Bio-otology, Wayne State University School of Medicine, 540 East Canfield Avenue, Detroit, Michigan 48201.** *Wayne State University is an Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH FELLOWSHIPS
IN HUNTINGTON'S DISEASE**

Applications invited for postdoctoral fellowships in clinical and/or basic research in studies relating to problems of Huntington's Disease. Applications must have M.D., Ph.D., or equivalent before fellowship can be activated. Fellowships awarded for one year but second year may be applied for. Candidates welcomed whose background and research proposal are within one of the following: basic sciences, including neuroscience, biochemistry, molecular biology, pathology, and pharmacology, and clinical sciences, including neurology, psychiatry, and human genetics. Stipend from \$15,500 to \$17,000, depending on background of fellow. May be done at any institution with adequate facilities and appropriate sponsor. Application deadline: 17 February 1986. Awards announced by 15 March 1986. Fellowship to begin 1 July 1986. Send for application materials: **National Huntington's Disease Association, 1182 Broadway, Number 402, New York, N.Y. 10001.**

**PREDOCTORAL EXCELLENCE FELLOWSHIPS
in Biomedical Engineering, Ceramic Science and Engineering, Chemical and Biochemical Engineering, Chemistry, Ecology, Food Science, Mathematics, Mechanical and Aerospace Engineering, Mechanics and Materials Science, Nutrition, Physics, Psychology, Statistics.**

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FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIPS
IN HEALTH PSYCHOLOGY RESEARCH**

The Department of Psychology at Yale University expects to have available two NIMH-funded postdoctoral fellowships in Health Psychology Research Training beginning 1 July 1986. Core psychology faculty includes **Judith Rodin, Jerome Singer, Allan Wagner, Patricia Linville, and Roger Weissberg.** Applicants are expected to have exhibited (or shown clear promise of) excellence in research. Applicants should send a letter of application with a description of research interests, a résumé, papers and reprints, and arrange for three letters of recommendation to be sent to: **Gary E. Schwartz, Director, Postdoctoral Training Program in Health Psychology Research, Department of Psychology, Yale University, Box 11A Yale Station, New Haven, Conn. 06520.** Deadline for completed applications: 1 February 1986. *Yale is an Equal Opportunity/Affirmative Action Employer and applications from women and minority group members are especially encouraged.*

CONVOCATION

**10TH INTERNATIONAL CONVOCATION ON
IMMUNOLOGY**
Buffalo, New York, 14 to 17 July 1986
**VACCINES: NEW CONCEPTS AND
DEVELOPMENTS**

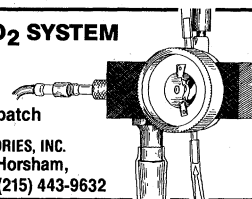
Presented by **THE ERNEST WITEBSKY CENTER FOR IMMUNOLOGY** at the Hyatt Regency Buffalo following the Vth International Congress of Immunology, Toronto, Canada, only 100 miles distant. Closed plenary sessions will focus on the topics: Conceptual Basis of Antigens; Antigen Identification and Purification; Host Response; Production of Vaccines by Recombinant DNA Techniques; Idiotypic Vaccines; Human and Veterinary Vaccines. Open poster sessions on the theme will be offered. Contact: **Dr. James F. Mohn, Director, 210-A Sherman Hall, State University of New York, Buffalo, N.Y. 14214.** Telephone: 716-831-2848.

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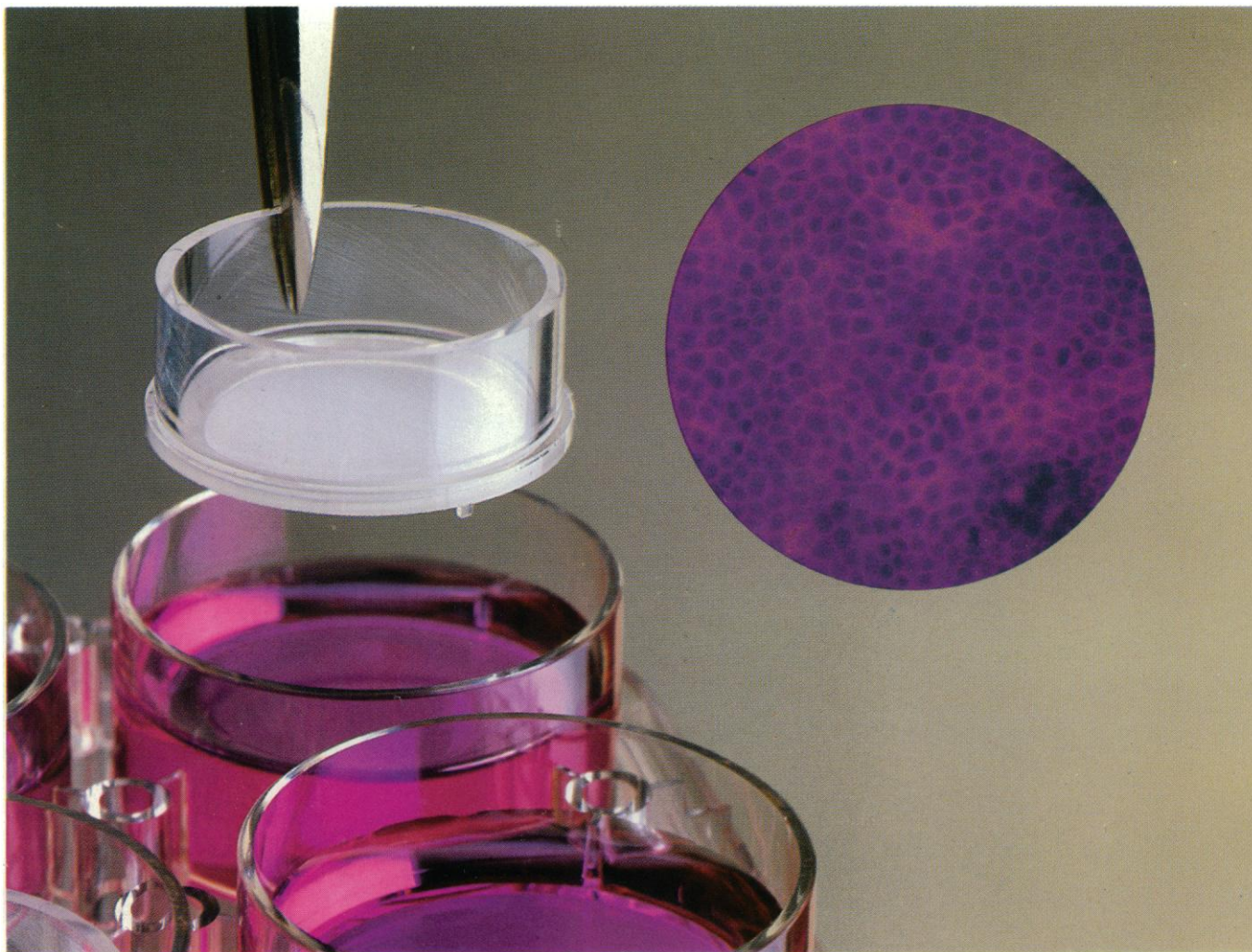
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*Bibliography available upon request.

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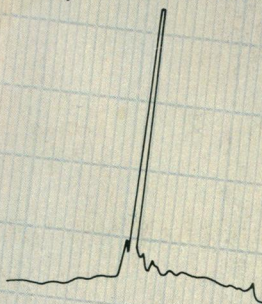
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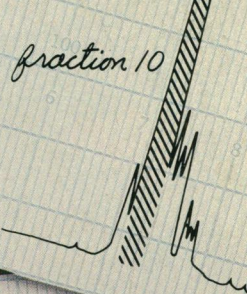
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