

contributions reach this stage. Anandan studies the effects that interacting gravitational and electromagnetic fields treated classically exert on quantum mechanical particle probes. Smolin discusses stochastic quantization on a curved background. On a more fundamental level, Károlyházy *et al.* and Penrose seek to explain the reduction of the wave packet as a gravitational effect, and Page reviews the Hartle-Hawking boundary conditions for the “wave function of the universe.” Here we finally encounter some fascinating conjectures about how general relativity and quantum theory may meet in an unexpected manner. These papers bear the seal of relativity as a field. Károlyházy *et al.* and Penrose, however, never quite work their speculations into a coherent theory, and Page, like the sources he reviews, does not come to grips with the subtle problems of the probabilistic interpretation of the “state function of the Universe.” One is left with an uncomfortable feeling that the founding fathers of quantum mechanics, by following its unpleasant consequences *bis zum bitteren Ende*, left us, as well as the subject, at an impasse. To get beyond the present stage, one cannot accept any reasoning that is less painstaking, less orderly, and less profound than theirs. Misunderstood and mistrusted, distorted and dismissed, and very probably provisional, the traditional interpretations of quantum mechanics, those of the Copenhagen school and of von Neumann, still stand (unfortunately, I feel) unsurpassed.

KAREL KUCHAR

*Department of Physics, University of Utah,
Salt Lake City, UT 84112*

Imaginative Biochemistry

Free Radical. Albert Szent-Gyorgyi and the Battle over Vitamin C. RALPH W. MOSS. Paragon House, New York, 1987. xx, 316 pp. + plates. \$22.95

This book is much more than the story of Albert Szent-Gyorgyi's battle over the discovery and function of vitamin C. It is a biography that covers his personal life, his entire scientific career, and his political beliefs and activities, particularly in Hungary and the United States. Szent-Gyorgyi was always in search of peace. As Studs Terkel says in his foreword, “Albert Szent-Gyorgyi saw the world, he saw hope. . . . As scientist, poet, and maverick, he always defied the ‘institutional truths’.” He didn't like to catch small fish, so when he went fishing he used the largest hook he could find. And, as he said, if you want to build a house you have to dig a foundation. He dug deep in science

because he wanted to build the skyscraper of modern medicine.

The story of the discovery of vitamin C (formerly ignose, godnose, and hexuronic acid) is covered in detail. The story had its tragic moments, involving a battle of two scientists over priority of discovery. In 1937 Szent-Gyorgyi received the Nobel Prize for studies on cellular respiration and the isolation of vitamin C. His studies on respiration demonstrate the imagination of this great scientist. He stepped into a bitter argument between two giants of biochemistry, Otto Warburg and Heinrich Wieland. Warburg argued that oxidation was due to the activation of oxygen by his “Atmungsferment” (cytochrome oxidase), while Wieland argued that the activation of the substrate by dehydrogenases was the primary event in oxidation. Through brilliant experiments Szent-Gyorgyi demonstrated that both were correct. Using minced pigeon breast muscle, he demonstrated that dicarboxylic acids, such as fumaric acid, were an essential coupler between the dehydrogenase and cytochrome oxidase for biological oxidation. Thus, activation of substrate à la Wieland and the activation of oxygen à la Warburg—the so-called Szent-Gyorgyi cycle—were both essential for biological oxidation. This discovery was later used by Krebs in his brilliant work describing the citric acid (Krebs) cycle.

Szent-Gyorgyi's later work on muscle biochemistry could also have been the basis for a Nobel Prize. He and his co-workers Ilona Banga and F. Bruno Straub prepared myosin threads on a slide and observed them under the microscope when adenosine triphosphate was added. The threads began to contract and shrink to a third of the original size. Szent-Gyorgyi described this observation as “perhaps the greatest excitement of my life.” Subsequent developments in work on myosin A and B, actin, and ATP interactions are described in some detail in the book. The excitement is best summed up in Szent-Gyorgyi's own words: “Muscular contraction is one of the most wonderful phenomena of the biological kingdom. That a soft jelly should suddenly become hard, change its shape and lift a thousand times its own weight, and that it should be able to do so several hundred times a second, is little short of miraculous. Undoubtedly, muscle is one of the most remarkable items in nature's curiosity shop.” Szent-Gyorgyi soon decided that muscle behavior could not be described in terms of orthodox chemistry. Rather, the distribution of electrons over the entire molecular structure must be understood if one is to answer the question What is life? Thus his beginnings in the study of quantum biology.

Among the many other aspects of Szent-Gyorgyi's life covered in the book is his move to the Marine Biological Laboratory at Woods Hole, Massachusetts, which initiated an interesting phase in his career. He bought a wonderful home, Seven Winds, on Penzance Point, where he had regular sessions with visiting scientists. This was where a number of ideas concerning quantum biology were developed. Szent-Gyorgyi's ideas on the electronic states and protein structure and organization in relation to cancer were discussed extensively at these sessions.

During this period Jane McLaughlin played an important role in Szent-Gyorgyi's life, as did his cousin Andrew and Andrew's wife, Eva. He needed good people around him to challenge the many “wild” ideas that came along. Michael Kasha recalled his visit: “Life with the Szent-Gyorgyis was colorful and gay. Swimming in the cold ocean, fishing for flounder, daring motor boat rides through narrow channels in the nearby islands, night fishing for a striped bass in the swift tidal currents around the peninsula, volley ball—all these things were part of the informal life of Albert Szent-Gyorgyi. Mornings of intensive science and late afternoons of intensive recreation became the delicious summer diet at Woods Hole.”

Many scientists will be interested in reading the details about how “Prof” supported his research, including his interaction with Stephen Rath, and, in particular, the role of Franklin C. Salisbury and his wife, Tamara, in starting the National Foundation for Cancer Research. His interaction with Warren Weaver at the Rockefeller Foundation and with Armour and Company are classic examples of grantmanship, which Moss covers in a wonderful way. Prof could not write a grant. He didn't know how to write down his ideas and what he might anticipate in the way of results. If he could do that, then he didn't think it was worth doing.

Moss has done a remarkable job in capturing the spirit of this “free radical” whose motto was “Long live imagination.”

W. D. McELROY

*Department of Biology,
University of California at San Diego,
La Jolla, CA 92093*

Books Received

Antibiosis and Host Immunity. Andor Szentivanyi, Herman Friedman, and Gunther Gillisen, Eds. Plenum, New York, 1987. x, 314 pp., illus. \$55. Based on a symposium, Siena, Italy, May 1985.

Categorical Perception. The Groundwork of Cognition. Stevan Harnad, Ed. Cambridge University Press, New York, 1987. x, 599 pp., illus. \$59.50.

Diffraction. Charles Taylor. Hilger, Bristol, U.K., 1987 (U.S. distributor, Taylor and Francis, Philadelphia). viii, 55 pp., illus. Paper, \$8. Student Monographs in Physics.

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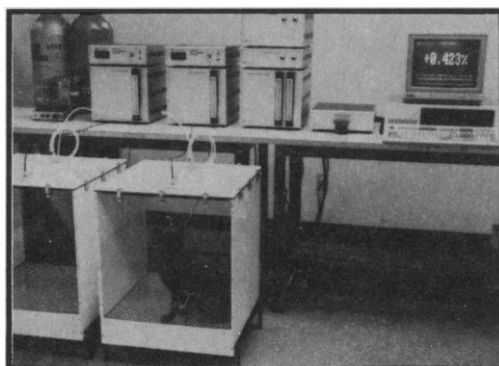
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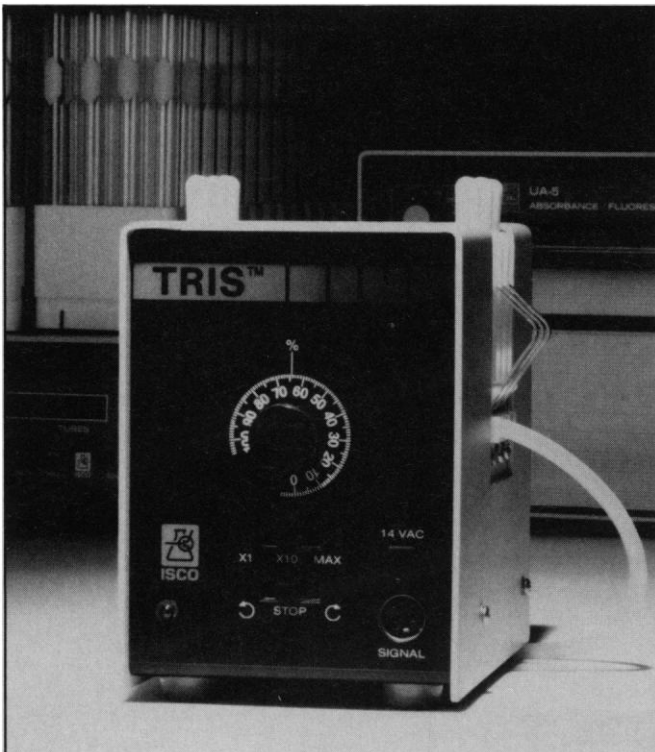
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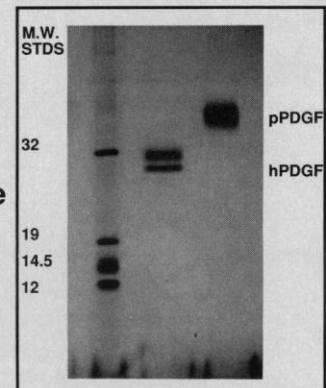


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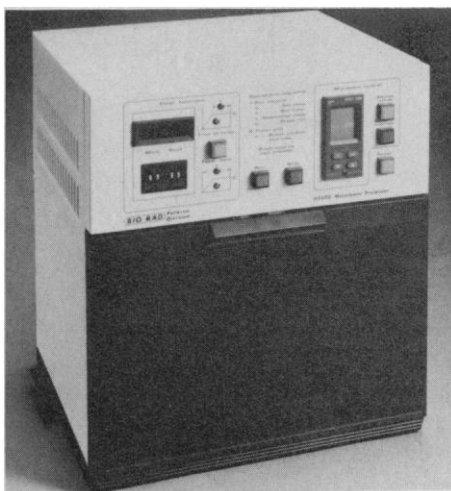
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Literature

Speedvac A160 Concentration Station is a product brochure about an automatic benchtop concentrator-evaporator. Savant Instruments. Circle 544.

The Complete Software Plotting Solution is a brochure describing graphics software packages for producing color plots on pen and electrostatic plotters. Versatec. Circle 545.

Data Acquisition on the Macintosh is a catalog of hardware and software systems for capturing and manipulating data. GW Instruments. Circle 546.

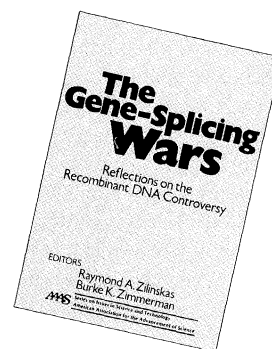
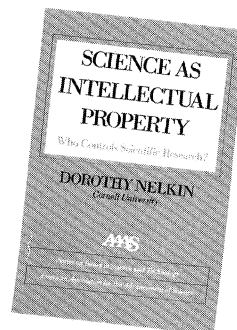
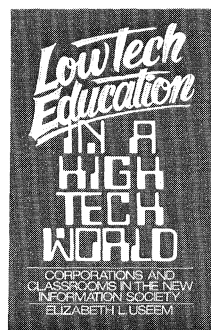
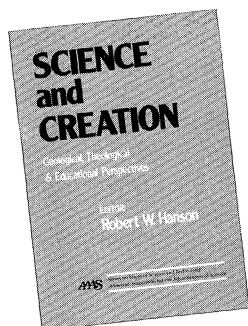
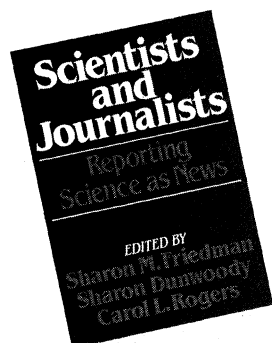
Your Fiber Optic Connection is a catalog of connectors, mating hardware, epoxies, and other fiber optic products. Optical Fiber Technologies. Circle 561.

High Speed Minibore Columns is an 8-page brochure about a short, small-diameter column for gas chromatography. J&W Scientific. Circle 562.

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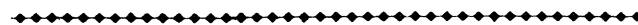
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ASSISTANT PROFESSOR: To perform research and instruct students in immunology of herpes simplex viruses and human immunodeficiency virus with focus on antibody response and humoral-cellular interaction. Responsibilities also include development of active research program involving coordination of ongoing projects in natural history of genital herpes, AIDS, and development of rapid diagnostic methods. Potential future tenure-track consideration. Requires Ph.D. with a minimum of 5 years of experience in virological and/or immunological research in above areas with a substantial publication record. Contact: **Andre J. Nahmias, M.D., Director of Division of Infectious Diseases and Immunology, Department of Pediatrics, Emory University School of Medicine, 69 Butler Street, S.E., Atlanta, GA 30303.** Application deadline is 1 February 1988. *Emory University is an Equal Opportunity/Affirmative Action Employer.*

MICHIGAN STATE UNIVERSITY DEPARTMENT OF ZOOLOGY

The Department of Zoology announces a tenure-track position at the **ASSISTANT PROFESSOR** level in the area of Developmental Biology to begin 1 September 1988. The Department is particularly interested in applicants working in the area of the development of neural systems. Applicants should be willing and able to assist in the teaching of comparative chordate morphology and to design and teach an advanced course in their specialty. The applicant will be expected to maintain an active, extramurally funded research program. Applicants with postdoctoral experience are preferred.

Applicants for the position should submit their curriculum vitae, a statement of their research activities and interests, and have four letters of reference sent to:

Developmental Biology Search Committee
Department of Zoology
203 Natural Science Building
Michigan State University
East Lansing, MI 48824-1115

Applications should be submitted by 15 February 1988. *Michigan State University is an Affirmative Action/Equal Opportunity Employer.*

California State University, San Bernardino invites applicants for tenure-track position in the Department of Biology, available September 1988. Appointment is at the rank of **ASSISTANT PROFESSOR** (\$27,588 to \$38,136) based on experience. We offer B.A., B.S., and M.S. degrees in biology. Qualifications: Ph.D. in cell biology with expertise in neurophysiology and toxicology. Deadline is 15 January 1988. Submit letter of application, curriculum vitae, and three letters of recommendation to: **Dr. Sarojam K. Mankau, Chair, Department of Biology, California State University, 5500 University Parkway, San Bernardino, CA 92407. An Equal Opportunity/Affirmative Action, Section 504, Title IX Employer.**

ASSISTANT PROFESSOR, Developmental Neurobiologist, tenure-track, Ph.D., fall 1988; to teach general biology and advanced courses in area of specialty, with commitment to research with participation in master's program. Send résumé, three letters of recommendation, transcripts, and short statement of teaching/research goals to: **Dr. James R. Toepfer, Chair, Faculty Search Committee, Department of Biological Sciences, Youngstown State University, Youngstown, OH 44555** by 31 January 1988. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF BIOLOGY. The Department of Biology at Hiram College invites applications for a full-time, tenure-track faculty position to begin 1 September 1988. A Ph.D. and teaching experience are required. We are looking for a plant scientist with major experience in molecular and cellular biology. Experience in electron microscopy is desirable. Teaching responsibilities include courses in introductory biology, plant physiology, plant molecular biology, and possibly electron microscopy. Additional responsibilities include academic advising of students, working on committees, and directing undergraduate research projects. Send curriculum vitae, a letter describing your scientific background and interests, three letters of reference, and undergraduate and graduate transcripts to: **William Laughner, Chair, Biology Department, Hiram College, Hiram, OH 44234** by 1 March 1988. *Hiram College is an Equal Opportunity Employer.*

POSITIONS OPEN

Two tenure-track ASSISTANT PROFESSOR positions beginning August 1988; Ph.D. required. One position for a vascular plant taxonomist using biochemical methods in research. This person will also have responsibility for the departmental herbarium. The other position is for a cellular biologist with expertise in immunology. Both candidates will be expected to teach in a multisection general biology program, complement existing faculty interests, direct graduate and undergraduate research, and seek extramural support.

Send letter of application, curriculum vitae, and names, addresses, and telephone numbers of three references by 5 February 1988 to:

Dr. J. A. Butts, Chairperson
Department of Biology
Appalachian State University
Boone, NC 28608
Telephone: 704-262-3025

ASU is an Equal Employment Opportunity/Affirmative Action Employer.

HARVARD MEDICAL SCHOOL ASSISTANT PROFESSOR OF GENETICS/MOLECULAR BIOLOGY

The Department of Genetics at Harvard Medical School is seeking to fill a tenure-track position at the assistant professor level for September 1988. Research laboratories will be located in the Department of Molecular Biology at Massachusetts General Hospital in Boston. Major research funding, including postdoctoral support will be available through the Department of Molecular Biology. The Department of Genetics is building a strong graduate Ph.D. program, and is engaged in teaching genetics to both graduate and medical students. We are interested in candidates conducting research in any area of molecular, developmental or structural biology. Applicants should have a strong background in molecular genetics research including significant postdoctoral training.

Applicants should submit, prior to 1 March 1988, curriculum vitae, reprints, statement of research interests, and letters from at least three references to: **Dr. Howard M. Goodman, Chief, Department of Molecular Biology, Massachusetts General Hospital, Boston, MA 02114.**

Harvard University/Massachusetts General Hospital are Equal Opportunity/Affirmative Action Employers. Qualified women and minority group members are encouraged to apply.

ASSISTANT PROFESSOR OF NUTRITION. TWO POSITIONS. Tenure-track, 9-month appointment, to conduct research and teach human nutrition. One position will deal with nutrition/genetic interactions and the other with nutrition and development. Ph.D. in human nutrition or equivalent is required. R.D. and postdoctoral or clinical experience are desirable assets. Salary commensurate with experience. To apply, send application letter, curriculum vitae, and names of three references by 1 February 1988 to: **Dr. M.T. Attallah, Department of Food Science and Nutrition, University of Massachusetts, Amherst, MA 01003. An Affirmative Action/Equal Opportunity Employer.**

The Department of Neurosciences, University of California, San Diego is seeking qualified applicants for a position as **ASSISTANT RESEARCH NEUROSCIENTIST**. The successful candidate will have at least 2 years of postdoctoral experience in biochemistry, and will be expected to establish an independent research program in the area of biochemical study of neuronal proteins abnormally expressed in Alzheimer's disease—with special emphasis directed toward the study of processing and regulation of membrane proteins (such as growth factor receptors), cytoskeletal proteins and amyloid. He/she will be expected to work closely with existing research groups conducting biochemical, molecular biological, histological and morphometric studies of Alzheimer's disease. Applications received on or before 29 February 1988 will be considered. Salary will be commensurate with candidate's experience and University policy. Send curriculum vitae, names and addresses of five references, and brief description of your research objectives and ideas to: **Dr. Robert Katzman, Department of Neurosciences, M-024, University of California, San Diego, La Jolla, CA 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR MICROBIAL PATHOGENESIS

Tenure-track position beginning August 1988. Ph.D. degree required with postdoctoral experience favored. The individual should have research experience in molecular biology or ultrastructure in conjunction with microbial animal pathogens and will be expected to develop an active research and graduate program dealing with molecular mechanisms of pathogenesis of medical or agricultural importance. Excellent opportunities exist for research collaboration with faculty in the colleges of veterinary medicine and agriculture. Teaching responsibilities include courses in pathogenic bacteriology and general microbiology. A commitment to excellence in research and teaching is required. To assure full consideration, send curriculum vitae, statement of research goals, and the names of three references by 15 February 1988 to: **Dr. Glenn Todd, Head, Department of Botany and Microbiology, Oklahoma State University, Stillwater, OK 74078. Oklahoma State University is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR OF SURGERY—The Orthopaedic Surgery Section is seeking an assistant professor to coordinate research activities and develop the basic science curriculum for orthopaedic residents. The successful candidate will possess a Ph.D. in, e.g., biomedical/biomaterials engineering and experience in tissue culture, biomaterial implantation/retrieval, histology, biochemistry, mechanical property determination. Familiarity with bone and soft tissue biology, bulk and surface properties of bio-ceramics/metals/polymers and biomechanics of the skeletal system is a must. The group's research interests include total joint replacement, remodeling and repair of bone; tendon and ligament repair/replacement. Send curriculum vitae and three references to: **Dr. Joseph P. Zawadzky, M.D., Professor and Chief, Orthopaedic Surgery, UMDNJ—Robert Wood Johnson Medical School, One Robert Wood Johnson Place, CN 19, New Brunswick, NJ 08903—0019. Equal Opportunity/Affirmative Action Employer. M/F/H/V.**

ASSISTANT PROFESSOR/ VETERINARY SCIENCE

The Institute of Arctic Biology and the Department of Biology and Wildlife, University of Alaska Fairbanks invite applications for a tenure-track faculty position in veterinary science. Major emphasis: development of appropriate research programs; secondary emphasis: teaching of undergraduate and graduate courses. Supervision of graduate students is expected. Supervise animal facility and staff and ensure institutional compliance with applicable animal welfare regulations. D.V.M. required. Board certification or eligibility in laboratory animal science or other specialty fields. Licensed (or eligible) to practice veterinary medicine in the State of Alaska. Ph.D. preferred. Applicant should have clinical and surgical skills and an interest in wildlife research. Salary: \$38,500 to \$51,400 DOE. Send curriculum vitae, statement of research and teaching interests, graduate and undergraduate transcripts, and three letters of reference by 15 February 1988 to: **Dr. Edward C. Murphy, Chairman, Search Committee, Veterinary Science Position, Institute of Arctic Biology, 215 Irving Boulevard, University of Alaska Fairbanks, Fairbanks, AK 99775. Telephone: 907-474-7154. The University of Alaska is an Equal Opportunity/Affirmative Action Employer and Educational Institution.**

ASSISTANT/ASSOCIATE PROFESSOR, ANATOMY/HISTOLOGY: A tenure-track position will be available at the assistant or associate professor level in the Department of Biomedical Sciences, Washington University School of Dental Medicine in 1 July 1988. Individuals applying for the position should have a strong potential to develop an externally funded research program or current support. Preference will be given to individuals whose research interests are in neurosciences, extracellular matrix, and/or musculoskeletal systems. The selected candidate will be expected to participate in the teaching of either the gross anatomy or histology course. A Ph.D. is required and postdoctoral experience preferred. Interested individuals should submit curriculum vitae, names and addresses of three references, and a brief outline of research plans by 1 February 1988 to: **Dr. Philip Osdoby, School of Dental Medicine, Washington University, 4559 Scott Avenue, St. Louis, MO 63110.**

POSITIONS OPEN

The Department of Medicine, University of Toronto, has an opening for an **ASSISTANT PROFESSOR OR RESEARCH ASSOCIATE**. The candidate should have a Ph.D. (M.D./Ph.D.) in the field of renal physiology or pathophysiology. A minimum 2 years of postdoctoral experience is required. The candidate will be expected to develop an independent research program that will be working in close association with a basic research membrane biology group. Salary offered will be commensurate with qualifications and experience. The appointment is to be effective 1 July 1988 or sooner, with a closing date for receipt of applications being 29 February 1988. *The University of Toronto encourages both men and women to apply. In accordance with Canadian Immigration requirements this advertisement is directed firstly to Canadian citizens and permanent residents.* Enquiries should be directed to:

Dr. M. Silverman, Director
MRC Group in Membrane Biology
Medical Sciences Building, Room 7226
University of Toronto
Toronto, Ontario, M5S 1A8

ASSISTANT RESEARCH PHYSIOLOGIST—A research position to study signal transduction systems in the kidney and vasculature using cell culture, micropuncture, microinjection, fluorescence, and chromatographic techniques. Applicants must have M.D. or Ph.D. with proven skills in renal tubule micropuncture, tissue culture, cell microinjection, fluorescence measurement of pH and calcium in single cells, TLC and HPLC. Salary \$36,600. Please send curriculum vitae, copies of recent publications, and three letters of recommendation by 1 February 1988 to: **Harlan E. Ives, M.D., Ph.D., Cardiovascular Research Institute, Box 0532, University of California, San Francisco, CA 94143. An Equal Opportunity/Affirmative Action Employer.**

Department of Psychology, Queens College, CUNY, September 1988, tenure-track, **ASSISTANT/ASSOCIATE/PROFESSOR**, neural bases of learning/memory or language/cognition. Publication record and ability to attract research funding essential. Involvement in doctoral program in neuropsychology in addition to undergraduate teaching. Contact: **Dr. D. Berman, Department of Psychology, Queens College, 65-30 Kissena Boulevard, Flushing, NY 11367 by 15 February 1988. Queens College, CUNY is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT OR ASSOCIATE PROFESSOR OF MOLECULAR/CELLULAR PHARMACOLOGY UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL TENURE-TRACK AVAILABLE SPRING 1988

The Department of Pharmacology seeks candidates with demonstrated excellence in their postdoctoral training and a background in pharmacology, or a relevant science. The scope of expertise sought is purposefully broad and includes molecular, cellular, or receptor biology, chemistry of macromolecules, electrophysiology, drug metabolism, toxicology, and environmental health science. The successful candidate will be expected to conduct a vigorous research program and participate in the education of medical and graduate students.

Send, by 1 March 1988, curriculum vitae, a statement of research interests and goals, and names, addresses, and telephone numbers of three references to:

Neal C. Brown, Chair
Department of Pharmacology
University of Massachusetts Medical School
Worcester, MA 01655

An Equal Opportunity/Affirmative Action Employer

ASSOCIATE PROFESSOR OR PROFESSOR OF PSYCHIATRY. Board-eligible or Board-certified psychopharmacologist. Teaching and clinical responsibilities and research opportunities. Send curriculum vitae and references to:

Javier Escobar, M.D.
William Shoemaker, Ph.D.
Department of Psychiatry
University of Connecticut Health Center
Farmington, CT 06032

An Affirmative Action/Equal Opportunity Employer M/F/H/V.

Group Leader

Clinical Trial Support Group

CYTOGEN Corporation is a biotechnology Research and Development Group noted for its sophisticated environment, as well as its innovative, creative research efforts. We are currently seeking an individual to manage our Clinical Trial Support Group.

The qualified candidate will be responsible for the Group's development of novel immunoassays for clinical investigation projects and potential diagnostic kit applications. In addition to summarizing and reporting scientific clinical data in FDA acceptable format, the Group Leader will attend scientific meetings and initiate new drug developmental programs as required.

A Ph.D. in Immunology, Biology, or related field with 6-8 years industrial experience in a supervisory capacity is essential. Expertise should include immunoassays (RIA, ELISA, etc.), pharmacokinetics, and radioisotopes along with strong management/supervisory skills. Demonstrated scientific creativity as evidenced by publication history is necessary for publishing findings in appropriate journals.

CYTOGEN provides a highly competitive salary plus a generous program of employee benefits in a challenging and supportive atmosphere.

For immediate and confidential consideration, please send resume including salary history/requirements to: **Recruiting Supervisor, CYTOGEN CORPORATION, 600 College Road East, Princeton, New Jersey 08540.** An equal opportunity employer m/f.

CYTOGEN
CORPORATION

ASSOCIATE EDITOR SCIENCE MAGAZINE

Editorial position available for a PhD biochemist or molecular biologist with two or three years of research experience and specific capability in one or more of the following areas: protein structure and function, enzymology, cell biology, or immunology. We are seeking someone with wide general interest in quantitative aspects of the life sciences and publications in the refereed literature. Editors have wide responsibilities in manuscript selection ranging from solicitation to editing for clarity. Previous editorial experience is not required. This is a full-time position in our Washington offices.

Please send resume with cover letter including salary requirements to:

Ms. Carolyn Bell
AAAS
1333 H Street, NW
Washington, DC 20005

EOE

Molecular Neurobiology



Professor of Molecular Neurobiology and Associate Director of Biotechnology Center

The Ohio State University is launching a major effort in molecular neurobiology to build on an existing foundation in neuroscience that spans many departments. Molecular neurobiology is one of two areas chosen for development into major centers of excellence by the university's Biotechnology Center.

The established molecular neurobiologist we seek will move into a newly remodeled laboratory and provide leadership in building a team of about 10 new faculty who will occupy a 30,000 sq ft floor in the Ohio State Biotechnology Center building. This group will be part of the interdepartmental graduate program in neurosciences and will have access to other graduate programs in basic and biomedical sciences. The molecular neurobiology group will also be part of a university-wide network of interacting research groups involved in molecular approaches to the solution of problems in medicine, agriculture and related areas. An instrumentation center for services such as protein and DNA synthesis and sequencing is available as an integral part of this program. The successful candidate will hold a tenured appointment in one of the departments in the College of Medicine. A competitive salary and an attractive package to set up a modern laboratory will be provided.

The Ohio State University is a major comprehensive university with all of the basic science and professional colleges in one campus in the state capital. Columbus, a growing community of 1.3 million population, is within 500 miles of most midwestern and eastern population centers of North America.

Please send nominations and applications to P.E. Kolattukudy, Director, Biotechnology Center, Rightmire Hall, The Ohio State University, Columbus, Ohio 43210. Equal Opportunity Affirmative Action Employer.

RESEARCH SCIENTISTS

Telios is a new and growing pharmaceutical company strategically focused in developing synthetic and recombinant extracellular matrix components into an exciting portfolio of human therapeutic products. **Telios** is located near the University of California at San Diego and in close proximity to a number of prestigious medical and research institutes. We offer the opportunity to join the company during its organizational stages and participate in the challenging job of building a successful company. We are seeking senior level scientists, recent Ph.D.'s with postdoctoral experience and technicians in the following areas:

Animal Physiologist and Pharmacologist

to establish model systems to study the efficacy of our drugs in wound healing, chemotherapy, cardiovascular and other applications.

Cell Biologists

to study peptide / receptor interactions and develop cell-based models to optimize the biological activities of selected peptides.

Peptide Chemists

to aid in the design and synthesis of novel peptides and conjugates and to manufacture candidate drugs for clinical trials.

Molecular Biologists

to engineer and express synthetic genes for novel extracellular matrix proteins and receptors.

Analytical Chemists

to devise test methods and quality control procedures for the drug manufacturing procedures.

Please send your **CV, bibliography and references** to:

Telios
Pharmaceuticals, Inc.
Director of Personnel
2909 Science Park Road
San Diego, California 92121

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR OF BIOCHEMISTRY UNIVERSITY OF ILLINOIS AT CHICAGO COLLEGE OF MEDICINE

The Department of Biological Chemistry is seeking applications for a tenure-track assistant/associate professor position effective academic year 1988 or later in the area of molecular biology of eukaryotic gene expression. The Department is strong in this area and is committed to further expansion. We are seeking candidates with a strong commitment to developing an independent research program and teaching in a large medical school environment. Applicants should provide curriculum vitae, at least three letters of reference and a statement of research interests and plans by 1 March 1988. Send applications to: **Dr. Robert Storti, Department of Biological Chemistry, University of Illinois at Chicago, College of Medicine, 1853 West Polk Street, Chicago, IL 60612.**

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

Columbia University, Department of Psychology is soliciting applicants from individuals who would like to be considered for a position in social or personality psychology at the **ASSOCIATE OR FULL PROFESSOR** level. We seek an outstanding researcher with a record of significant scientific accomplishment, who is also an outstanding teacher at the undergraduate and graduate levels. While our preference is for an appointment at the senior level, we will consider applications from individuals at all levels of experience. Applicants should send their current curriculum vitae, along with the names and addresses of three individuals who are willing to write letters of recommendation to: **Personnel Search Committee, Department of Psychology, Box 29 Schermerhorn Hall, Columbia University, New York, NY 10027.** *Columbia University is an Affirmative Action/Equal Opportunity Employer.*

ASSOCIATE PROFESSOR MOLECULAR-CELL BIOLOGY

Applications are invited for a tenure-track position beginning July 1988. Candidates are expected to conduct independent extramurally funded research in contemporary cell-molecular biology. Experience in TEM, SEM, and immunocytochemistry are highly desirable. Teaching obligations involve primary attention to development and coordination of an interdisciplinary graduate course in molecular-cell biology for students in anatomy and other basic science disciplines. Special attention will be given candidates able to relate molecular concepts and information to the cell and tissue levels of the organism. Applicants should submit curriculum vitae, a statement of research and teaching experience/interests, and independently request three letters of recommendation to be sent directly to: **Chairman, Search Committee, Department of Anatomy, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46223.** Application deadline 1 March 1988. *An Equal Opportunity/Affirmative Action Employer.*

ASSOCIATE RESEARCH SCIENTIST POSITION available for molecular biologist or a biochemist/cell biologist to join a basic atherosclerosis research laboratory studying the regulation of growth factor expression in mammalian cells. A Ph.D. or M.D. degree is required. Funding via an NIH-SCOR grant. Send curriculum vitae and arrange for three letters of recommendations to be sent to: **Dr. Larry Witte, Columbia University, Department of Medicine, 630 West 168th Street, New York, NY 10032.**

An Equal Opportunity/Affirmative Action Employer.

BIOCHEMISTRY SENIOR RESEARCH TECHNICIAN—Challenging opportunity for individual to assist in ophthalmology research at Tufts University. Will help design and perform biochemistry experiments on normal and dystrophic human and animal corneas. Various techniques employed are electrophoresis, column chromatography, HPLC, radioisotope labeling, and other related duties. Selected candidate will have a B.S. and 1 to 2 years of experience in a biochemistry lab. Experience in nucleic acid isolation and sequencing preferred. Please send résumés to: **Dr. Panjwani, Department of Ophthalmology, Box 450, Tufts University School of Medicine, 136 Harrison Avenue, Boston, MA 02111.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

The Surgery and Biochemistry Departments at Case Western Reserve University School of Medicine announce the availability of a position for an independent **BIOCHEMIST / BIOPHYSICIST / MOLECULAR BIOLOGIST** with demonstrated interest in questions of biomedical importance. This position requires commitment to establishing an independent research program as well as extensive interaction with members of the Surgery Department. The level and salary of this position will be commensurate with the applicant's experience and background. The Surgery Department at Cleveland Metropolitan General Hospital has established research facilities supporting the studies of department members in a variety of areas including: protein and drug interactions with membranes, endothelial cell function, cellular immunity, interleukin structure and function, host-graft response, control of gene expression, and photodynamic therapy. The successful applicant is expected to provide ongoing and flexible support to laboratories in the Surgery Department engaged in these studies. Send outline of research plans, curriculum vitae, and names of three references to: **Anthony L. Imbembo, M.D., Director, Department of Surgery, Cleveland Metropolitan General Hospital, 3395 Scranton Road, Cleveland, OH 44109.**

Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.

BIOCHEMISTRY—MOLECULAR BIOLOGY. Positions available for research in the area of chemistry and function of gastric and salivary secretions. Seeking M.D., Ph.D. or D.D.S. applicants with interest in glycoprotein synthesis and processing, enzymology, biochemical pharmacology, immunology, proteoglycan and lipoprotein metabolism. Exceptional candidates will be considered for faculty appointment. Send résumé, statement of research interests, and references to: **Dr. B. L. Sliomany, Department of Medicine, New York Medical College, Valhalla, NY 10595.**

BIOLOGIST. The Department of Biology and Wildlife and the Institute of Arctic Biology at the University of Alaska Fairbanks invite applications for a tenure-track position at the advanced assistant or associate professor level starting 21 August 1988. The applicant must have a Ph.D., experience and an interest in instruction at the introductory level, and a specialization in one of the following areas: cellular/molecular biology; aquatic pollution ecology; comparative animal nutrition.

Responsibilities include 75% instruction (participate in teaching introductory biology, develop courses in area of specialty, and advise undergraduate and graduate students) and 25% research (develop program and funding in specialty area). Please send by 1 February 1988, curriculum vitae, statement of teaching and research interest, copies of transcripts, and at least three letters of reference to: **R. L. Smith, Department of Biology and Wildlife, University of Alaska Fairbanks, Fairbanks, AK 99775.** *The University of Alaska is an Equal Opportunity/Affirmative Action Employer.*

ARMSTRONG STATE COLLEGE

BIOLOGY: DEPARTMENT HEAD, beginning September 1988. Requires Ph.D., 5 years of college-level experience, and evidence of administrative ability. Appointee must be capable of teaching upper level courses in a biology specialty, plus introductory biology or support courses for health sciences programs. Ecology, comparative anatomy, and/or embryology desirable. Seven-member department offers a biology major, baccalaureate core curriculum courses, and support courses for health sciences and graduate programs. Candidates are to submit a letter of application, curriculum vitae, transcripts (or reasonable facsimile), and the names of three persons to be contacted for references to: **Dean of Arts, Sciences, and Education, Armstrong State College, Savannah, GA 31419.** Screening of applicants will commence on 18 January 1988, with search continuing until position is filled. *An Affirmative Action, Equal Opportunity Employer.*

BIOMEDICAL ENGINEER AND PRODUCT LINE MANAGER: Pennsylvania manufacturer of medical monitoring instrumentation seeks an Engineer with prior design and clinical testing experience and a Product Line Manager with medical new product and market development experience. To arrange a local interview call: **800-421-8889, extension 444, Monday to Friday, 12:00 noon to 8 p.m. EST.**

POSITIONS OPEN

BIOLOGIST III

An opportunity exists in our Pharmacology Department for a Biologist III. The ideal candidate will have a bachelor's/master's degree in a biological science. Experience required in all aspects of laboratory procedures, including preparation of solutions/suspensions, surgical skills, data recording, statistical analysis, and reporting of results both verbally and in writing. Stereotaxic skills and familiarity with neuropharmacologic techniques desired.

Duties include assisting the Manager of Neuropharmacology in the identification and development of new chemical entities for the treatment of disorders of the central nervous system.

This opportunity offers excellent benefits and competitive salary based upon background and experience. Please send résumé with salary requirement in confidence to: **Mrs. Patricia E. Goodwin, Placement Specialist, A. H. Robins, 1211 Sherwood Avenue, Richmond, VA 23220.** *Equal Opportunity Employer M/F.*

BIOLOGY DEPARTMENT

Of the more than 200 colleges and universities in Pennsylvania, Indiana University of Pennsylvania (IUP) is the fifth largest, with an enrollment of 13,405 students on its main campus and two branches. The University, employing over 1500 employees, including a faculty of approximately 700, consists of six colleges and two schools and offers more than 100 majors within 40 departments. Located just 50 miles Northeast of Pittsburgh, IUP is located in the foothills of the Allegheny Mountains in Indiana, PA, a community of 35,000 residents.

Indiana University of Pennsylvania invites applications for **ASSISTANT PROFESSOR** (tenure-track) to teach undergraduate courses in the biology department to begin fall 1988.

Qualifications: Ph.D. or Ed.D. in science education and a strong background in the biological sciences; demonstrated research in science education; college level teaching experience in secondary science education, professional involvement in local or regional public education, and secondary science teaching experience.

Duties: Will include teaching undergraduate secondary science teaching methods courses, supervision of secondary biology student teachers, and advising of biology education majors.

Send application, résumé, transcripts, and three references to: **Dr. Lawrence C. Scharmann, Biology Department, Weyandt Hall, Indiana University of Pennsylvania, Indiana, PA 15705.** Telephone: 412-357-2352. Deadline for receipt of application is 1 February 1988.

IUP is an Affirmative Action/Equal Opportunity Employer.

BIOORGANIC CHEMIST for tenure-track appointment as assistant professor, beginning 28 August 1988. Ph.D. in biochemistry or organic chemistry, with some research background in biochemistry. Teaching duties would include organic lectures and labs, as well as biochemistry. Candidate must be able to establish and maintain a vigorous research program. Research interests in the biomedical field could provide the possibility of collaboration with several faculty members active in this area, but applicants are not restricted to this. A viable research program in any area of biochemistry or organic chemistry is sufficient. The involvement of talented senior students in faculty-directed research is strongly encouraged. Applicants should submit résumé, three letters of recommendation, and a brief statement of research interests and tentative plan for establishing a research program to: **J. K. Cashion, Chairman, Department of Chemistry, University of Wisconsin-Parkside, P.O. Box 2000, Kenosha, WI 53141.** Applications should be received by 15 February 1988. *UWP is an Equal Opportunity/Affirmative Action Employer. Racial/ethnic minorities, women, and handicapped persons are encouraged to apply.*

BIOTECHNOLOGY PATENT ATTORNEY

Corporate growth of New York metropolitan area biotechnology company has created the need for an additional attorney seeking a fast-paced informal environment. Substantial background in molecular biology or related field and a minimum of 2 to 3 years of legal experience required. Please send résumé in complete confidence to: **Box 1, SCIENCE.**

The
MAX-PLANCK-GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN e.V.,
 in cooperation with the Institut für Genetik der Universität zu Köln, has endowed at the site of the
 Max-Planck-Institut für Züchtungsforschung in Köln the

MAX-DELBRÜCK-LABORATORIUM IN DER MAX-PLANCK-GESELLSCHAFT,
 in which the existing programs of both institutions will be mutually strengthened through
 incorporation of several new areas of research. Emphasis will be placed on

Phytopathogens
 Soil Microbiology
 Reproductive Biology of Plants
 Insect Viruses
 Transgenic Mice
 Human or Animal Parasites

though other complementary systems will also be considered.

SCIENTISTS

who have earned international recognition in one of the respective fields will have the opportunity
 to establish one of six planned independent groups for the pursuit of individual research goals.

Appointment of group leaders will be for a period of five years with salary up to BAT I,
 commensurate with training and experience.

Operating expenses and funding of additional personnel for each group will be granted by the
 Bundesministerium für Forschung und Technologie on the basis of proposals submitted by
 successful candidates. Appropriate laboratory facilities will be provided.

Applications for group leader positions should be sent by *March 1, 1988* to

Prof. Dr. Heinz Saedler
 Max-Planck-Institut
 für Züchtungsforschung
 Egelspfad, 5000 Köln 30

or

Prof. Dr. Benno Müller-Hill
 Institut für Genetik
 der Universität zu Köln
 Weyertal 121, 5000 Köln 41

Applications should include a detailed research proposal which will be forwarded to the
 Bundesministerium für Forschung und Technologie as criteria for the approval of necessary
 funds. Applications will be reviewed by a commission appointed by the Präsident der Max-
 Planck-Gesellschaft.

NEW

MULTIDEPARTMENTAL GRADUATE PROGRAM IN CELL AND MOLECULAR BIOLOGY

GENE REGULATION

MOLECULAR GENETICS

DEVELOPMENTAL BIOLOGY

ONCOGENES AND GROWTH FACTORS

STRUCTURAL BIOLOGY

NEUROBIOLOGY

MOLECULAR VIROLOGY AND IMMUNOLOGY

BAYLOR COLLEGE OF MEDICINE has created a new
 graduate program of **CELL AND MOLECULAR BIOLOGY**
 stressing basic research in the above areas. Students
 accepted for studies leading to the Ph.D. will receive
 financial support. For further information contact

Dr. Savio Woo, Director
 Graduate Program in Cell and Molecular Biology
 Baylor College of Medicine
 One Baylor Plaza
 Houston, Texas 77030

IMMUNOLOGIST NATIONAL CANCER INSTITUTE NATIONAL INSTITUTES OF HEALTH

The Biologics Evaluation Section of the Cancer Therapy Evaluation
 Program, DCT is seeking an Immunologist who is interested in the ap-
 plication of preclinical models on the design of cancer trials.

The Cancer Therapy Evaluation Program, DCT sponsors extramural
 clinical trials with BRMs including IFNs alpha, beta and gamma, TNF
 alpha, IL-2, adoptive immunotherapy, colony stimulating factors and
 monoclonal antibodies. The primary responsibilities for the im-
 munologist will be: to coordinate and direct the laboratory research of
 contractors conducting trials with activated leukocytes; in conjunc-
 tion with the BRM Committees in the Oncology Cooperative Groups,
 to develop methodology for immunologic monitoring on selected
 Cooperative Group trials; in conjunction with the Biological Response
 Modifiers Program of the NCI, to identify agents with potential anti-
 tumor activity and implement the preclinical studies necessary for the
 rational clinical development of BRMs; to assess the relevance of
 preclinical data submitted to support proposed clinical trials; and to
 determine the immunologic monitoring to be performed on proposed
 clinical trials with BRMs.

Applicants should have a strong background in immunology with ex-
 perience as an independent investigator, preferably in an area related
 to host mediated tumor killing and an interest in the application of
 basic science observations to the clinical development of biological
 agents. Applicants should have skills in verbal and written com-
 munication.

Salary range from 38,727 - 50,346 depending upon qualifications.

The National Institutes of Health is an Equal Opportunity Employer.

Applicants should contact:

Michael J. Hawkins, M.D.
 Head, Biologics Evaluation Section
 Investigational Drug Branch
 Cancer Therapy Evaluation Program, DCT, NCI
 7910 Woodmont Avenue, 4C-19 Landow Building
 Bethesda, Maryland 20814

U.S. Citizenship Required

Ph.D Research Pharmacologist Immunoscience Division

The growing \$4 billion success of Abbott
 Laboratories is due in part not only to
 aggressive R&D but also to the exceptional
 management for which we've won considerable
 recognition. These strengths extend to our
 Pharmaceutical Products Division, where we now
 seek a scientist to conduct research aimed
 toward discovering novel pharmaceuticals
 for the treatment of inflammatory and allergic
 diseases.

Candidates will have experience in studying
 Leukotrenes and other lipid mediators. Knowledge
 of hypersensitivity and lung physiology essential.
 Ph.D in Physiology or Pharmacology, with 2-5
 years post-doctoral experience required. Must
 have ability to supervise a technical staff.

In addition to a stimulating professional and
 scientific environment, Abbott provides
 excellent salaries and full benefits including
 profit sharing and stock retirement plans. We
 are headquartered in an attractive suburban area
 just 30 miles north of Chicago. For confidential
 consideration, please send your resume with
 salary history to: **Patricia Handy/Corporate
 Placement, Dept. SCI 1/1.** Abbott is an
 Affirmative Action Employer.

ABBOTT
 ABBOTT PARK IL 60064
 "Health Care Worldwide"

POSITIONS OPEN

BIOSTATISTICAL CONSULTANT

Humana Inc. seeks applicants for a newly created position at corporate headquarters in Louisville, Kentucky. The successful candidate will have an unusually broad range of data analysis responsibilities. These include: providing design and statistical services to the clinical researchers at the Humana Heart Institute International, including the artificial heart program; assisting top management in the analysis of data from a variety of sources, including innovative hospital quality assurance programs; and providing consultations on all phases of data analysis to other areas, including risk management, insurance, public affairs. Minimum qualifications include: a Ph.D. in statistics or a related field; at least 5 years of postdoctoral experience, preferably in an applied setting; and demonstrated ability to perform independently all phases of complex data analysis, from problem conceptualization through computerized statistical analysis to communication of the results in a fashion which will stimulate appropriate behavior. This new position, available immediately, offers an unusual opportunity for an applied statistician to participate fully in the entire range of high level data-based decision making. A letter of application and curriculum vitae should be sent to: **Humana Inc., Doug Howell, P.O. Box 1438, Louisville, KY 40201.**

ASSISTANT OR ASSOCIATE PROFESSOR: A tenure-track position will open at the University of Virginia for an established **CARDIOVASCULAR INVESTIGATOR** in the fall of 1988. The primary appointment will be in cardiology with a joint appointment available in physiology where cardiovascular research is emphasized. Special consideration will be given to applicants applying state-of-the-art electrophysiological or molecular biological techniques to the study of cardiac or vascular function. Candidates should send curriculum vitae and a one-page statement of anticipated research directions to: **Dr. George Beller, University of Virginia Medical Center, Box 158, Charlottesville, VA 22908.** *An Affirmative Action/Equal Opportunity Employer.*

CELL BIOLOGIST M.D. OR Ph.D. Postdoctoral or junior faculty level. Expertise in morphologic techniques and interest in enteric sciences. To develop independent research program, help direct GI morphology laboratory, and interact with multidisciplinary group of basic/clinical investigators in digestive diseases. Send curriculum vitae, bibliography, and three references to: **N. F. LaRusso, M.D., Professor of Medicine and Associate Professor of Biochemistry and Cell Biology, Mayo Clinic and Medical School, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Institution.*

CHAIRMAN UNIVERSITY OF TORONTO MOLECULAR GENETICS

The University of Toronto, Faculty of Medicine, is seeking applicants for the position of **PROFESSOR AND CHAIRMAN** in the Department of Medical Genetics. Applications are invited from established and distinguished scientists (Ph.D. and/or M.D.) with international reputations working in the field of molecular genetics, and with demonstrated leadership and administrative skills, to lead a vigorous and diverse department with research programmes in eukaryotic and prokaryotic molecular genetics, human genetics, structural biology and developmental biology. Applications are particularly encouraged from individuals with a major commitment to basic science and to the molecular and genetic dissection of fundamental biological problems. The department has active programs in both undergraduate and graduate research and teaching and has approximately 40 faculty members and 100 graduate students located in research space at the University, the Hospital for Sick Children Research Institute, and the Mt. Sinai Hospital Research Institute.

The position is available as soon as possible, with salary commensurate with qualifications and experience. *The University of Toronto encourages both men and women to apply for this position.* Enquiries and applications should be addressed to: **Dr. M. J. Hollenberg, Search Committee Chairman, Office of the Dean, Faculty of Medicine, University of Toronto, Ontario, Canada M5S 1A8.**

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

POSITIONS OPEN

THE PROGRAM IN MOLECULAR BIOLOGY AND BIOTECHNOLOGY THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

We are seeking a molecularly oriented **CELL BIOLOGIST** addressing questions using transgenic animals. Applicants should have established records of independent, high-quality research. The successful candidate in addition to maintaining a graduate level research program will be expected to participate in the teaching activities of the institution. The academic appointment can be at the assistant, associate, or full professor level. The Molecular Biology and Biotechnology Program is a multidisciplinary unit, and hence provides access to a broad array of institutional resources. Send curriculum vitae and three references to: **Dr. Marshall Hall Edgell, Director, Program in Molecular Biology and Biotechnology, Campus Box 7100, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7100.** *Minority and women candidates are encouraged to identify themselves when applying.*

CHAIRMAN DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

The University of South Carolina School of Medicine invites applications and nominations for Chairman of the Department of Microbiology and Immunology. Candidates must have a doctorate degree in an appropriate discipline, an established and active research program, a commitment to medical and graduate education, and the ability to provide strong administrative leadership. The department has an active graduate program and faculty are currently funded to pursue research in: immunomodulation, immunophylogeny, membrane receptors, bacterial pathogenesis and inflammatory disease, bacterial adaptation and taxonomy, molecular biology, viral genetics and antivirals. Applicants should send curriculum vitae and the names of three references to: **Dr. Charles A. Blake, Chairman of the Search Committee, Department of Anatomy, University of South Carolina, School of Medicine, Columbia, SC 29208.** *An Equal Opportunity M/F Affirmative Action Employer.*

CHAIRMAN PHYSIOLOGY AND BIOPHYSICS ALBERT EINSTEIN COLLEGE OF MEDICINE NEW YORK

The Albert Einstein College of Medicine invites applications and nominations for the Chairman of the Department of Physiology and Biophysics. Applicants must be qualified for appointment as tenured professor. A distinguished research program in an area related to physiology and/or biophysics is essential. The Chairman will be expected to further develop the research and academic programs of the Department. Substantial resources are available for development of the Department, including positions for new faculty members.

Qualified applicants should submit curriculum vitae, including at least three references by 29 February 1988 to: **Dr. V. L. Schramm, Physiology Search Committee, Department of Biochemistry, Albert Einstein College of Medicine of Yeshiva University, 1300 Morris Park Avenue, Bronx, NY 10461.** *Albert Einstein College of Medicine of Yeshiva University is an Equal Opportunity Employer.*

San Francisco Veterans Administration Medical Center seeks a **CHIEF OF THE ANATOMICAL PATHOLOGY SERVICE** with a joint appointment at the associate professor or professor of pathology level at the University of California, San Francisco. Certification or eligibility for Anatomical Pathology Boards and California license required, as well as demonstrated clinical, teaching, and research ability. Inquiries: **William Margaretten, M.D., 415-821-8218.** Send curriculum vitae to: **Pathology Search Committee, Department of Pathology, University of California, San Francisco, CA 94143-0506.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CHAIRPERSON DEPARTMENT OF MICROBIOLOGY AND PUBLIC HEALTH MICHIGAN STATE UNIVERSITY

Applications and nominations are invited for the position of Chairperson of the Department of Microbiology and Public Health at MSU. This diverse 47-member Department has strong research programs with teaching responsibilities in undergraduate, graduate and professional (M.D., D.O., D.V.M.) curricula. Candidates must have an excellent record of research achievement in any area of modern microbiology, and the ability to provide the administrative leadership necessary to build on established strengths in research, teaching and service in the land grant tradition. Applicants should submit curriculum vitae, a statement of present and past research interests, teaching and administrative experience, and the names of three or more references to:

**Dr. Loran Bieber
Search Committee Chairperson
A101 East Fee Hall
Michigan State University
East Lansing, MI 48824**

Applications will be accepted until a suitable candidate is found. *Michigan State University is an Equal Opportunity/Affirmative Action Employer. Applications from or nominations of women and/or minority candidates are encouraged.*

CHEMISTRY POSITION

Ferris State University invites applications for a tenure-track position for teaching undergraduate biochemistry for September 1988. Duties will include teaching lecture and laboratory courses in biochemistry and participation in a biotechnology program. A Ph.D. is required and applicants must have a strong commitment to excellence in undergraduate teaching. Applications should be sent to: **Dr. Marvin Lofquist, Head, Physical Sciences Department, Ferris State University, Big Rapids, MI 49307.** Deadline for application is 1 February 1988.

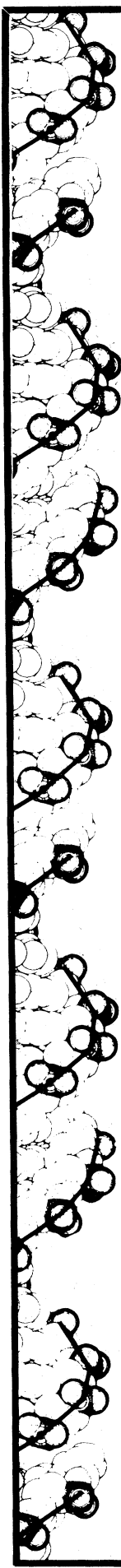
An Equal Opportunity Affirmative Action Employer.

CHIEF OF MEDICINE ROSWELL PARK MEMORIAL INSTITUTE BUFFALO, NEW YORK

The Roswell Park Memorial Institute is seeking a Chief of Medicine who will have responsibilities for the direction and administration of oncology and medical support services.

The candidate must be Board-Certified in internal medicine and have strong qualifications as an established research investigator in oncology and substantial academic credentials in order to qualify for appointment as associate professor or professor at State University of New York at Buffalo School of Medicine. Apply by sending curriculum vitae to: **Andrew A. Gage, M.D., Deputy Institute Director for Clinical Affairs, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263.** *RPMI is an Equal Employment Opportunity Employer.*

COMPUTER SPECIALIST, BIOLOGIST OR MATHEMATICIAN, GS-11/12/13. Crop Science Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture, Mississippi State, Mississippi. Incumbent serves as team leader for expert systems/knowledge engineering effort in the Insect Modeling Project. Responsible for defining appropriate methodology, developing systematic approach to organize system components, understanding biological relationships, and incorporating information into a computer-based system. Responsible for developing new AI methods to implement, synthesize, and transfer knowledge on crop production systems. Must be a U.S. citizen. Salary \$21,172 to \$38,727 based on qualifications and experience. B.S./M.S./Ph.D. or equivalent experience. Usual Federal Government benefits apply. For further position information: **Dr. Terence L. Wagner, 601-323-2230.** For application procedures: **Darlene Fowler: 301-344-1508.** Applications should refer to Announcement No. S-8-005 and be sent to: **Darlene Fowler, USDA-ARS, Personnel Operations Branch, BARC-East, Building 417, Beltsville, MD 20705** by close of business 29 February 1988.



Opportunities in Biotechnology

Repligen is a leader in the application of biotechnology to the health care and personal care markets. We are currently developing an AIDS vaccine, products for the treatment of infectious diseases, cancer therapies, and novel biocompatible personal products. We take pride in the high caliber of our scientific staff and collaborations with major research institutions and corporate partners in Europe and the United States. The expansion of several of our R&D efforts has created the following opportunities:

Immunology

Research Scientist, 300-30. PhD + 0-4 yrs.' experience in Immunology. Experience in cell mediated immunity and/or lymphokine research preferred.

Successful candidates will participate in research on therapeutic and vaccine products for AIDS. They will assist in planning and coordinating preclinical development of several recombinant therapeutic products.

Molecular Biology

Principal Investigator/Research Scientist, 400-31. PhD with 2-5 yrs.' experience. Successful candidates will possess an exceptional record of achievement and have proven program management skills, and milestone planning.

Research Associate, 200-9/26. MS/BS with 2-4 yrs.' experience.

Applicants must have skills in genetic engineering, gene cloning, DNA synthesis, DNA sequencing, or protein expression.

Protein/Peptide Chemistry

Research Associate, 200-12. MS/BS in Biology, Chemistry or related fields.

Successful candidate will have a working knowledge of chemical and enzymatic procedures for protein fragmentation as well as experience with HPLC analysis of peptides. Additional understanding of protein modification or immobilization is a plus.

Research Technician, 100-27. BS in Biology, Chemistry or related fields.

Protein purification experience and a working knowledge of HPLC is desirable.

Repligen Corporation offers a competitive salary, excellent benefits and equity participation. Submit cover letter, resume and references to the **Personnel Director, Repligen Corporation, One Kendall Square, Bldg. 700, Cambridge, MA 02139.** (Please refer to job code number when replying.) An Equal Opportunity Employer.

RepliGen

Postdoctoral Research Staff Members

Lawrence Livermore National Laboratory, located in the San Francisco Bay Area, is seeking four Postdoctoral Research Staff Members.

■ Position requires recent PhD in cell biology, hematology, immunology, molecular biology or related area. Individual will participate in a multidisciplinary effort to separate fetal cells from maternal blood using fluorescence-activated cell sorting, determine the frequency of fetal cells in maternal blood and apply fluorescence in situ hybridization with chromosome-specific probes and image analysis to detect cytogenetic abnormalities. Questions may be directed to **Dr. Joe Gray--(415) 422-5610.**

■ Position requires PhD with experience in molecular biology including cloning, sequencing and gene expression. Incumbent will collaborate on research problems which focus on: development of molecular methods for detecting gene mutations, analysis of physiologically relevant germinal mutations and construction of a physical and genetic map of the human genome. Questions may be directed to **Dr. H. Mohrenweiser--(415) 423-0534.**

■ Position requires recent PhD in molecular biology, cell biology, biochemistry or related area. Individual will participate in a multidisciplinary effort on mammalian cell mutagenic analysis. Flow cytometry and cell sorting will be used to enumerate and select cultured erythroid cells mutated in the glycophorin A locus after exposure to ionizing radiation. Cellular radiation sensitivity will be characterized, and the mutagenic changes will be categorized by Southern blotting and sequencing the glycophorin A gene. Questions should be directed to **Dr. Ronald Jensen--(415) 422-5709**

■ Position requires a recent PhD in molecular biology, genetics, immunology, cell biology, or related area. The individual will participate in studies of the molecular nature of *in vivo* somatic cell mutation in humans and mice. Human and mouse lymphocytes with mutant *hprt* genes will be selected, and analyzed at the DNA sequence level to identify alterations that are diagnostic of prior mutagen exposures. Questions may be directed to **Dr. Irene Jones at (415) 423-3626** or **Dr. Pieter deJong--(415) 423-8145.**

We offer a highly competitive salary and benefits package. Send curriculum vitae to **Earl G. Morrell, Personnel Operations Division, Lawrence Livermore National Laboratory, P.O. Box 808, L-725, Dept. KSC11802B, Livermore, CA 94550.** An equal opportunity employer. U.S. citizenship required.

University of California

**Lawrence Livermore
National Laboratory**

POSITIONS OPEN

CYTOGENETIC TECHNOLOGISTS

Positions open immediately for senior and/or supervisory technologies. Experience in prenatal diagnosis and/or cancer cytogenetics desired.

Excellent salary and benefits.

Please call: 1-800-VIVIGEN or send résumé to:

Kathy Richkind, Laboratory Director
c/o Vivigen
435 St. Michael's Drive
Santa Fe, NM 87501

DIRECTOR, DIVISION OF ENDOCRINOLOGY CASE WESTERN RESERVE UNIVERSITY (CWRU) SCHOOL OF MEDICINE AND UNIVERSITY HOSPITALS OF CLEVELAND

The Department of Medicine, CWRU School of Medicine, invites applications and nominations for the position of Professor of Medicine and Director, Division of Endocrinology. Candidates should have demonstrated accomplishments in endocrine research preferably with emphasis on cell biology, molecular biology, hormonal receptors and signal transduction. Additionally, candidates must have an M.D. degree, clinical experience and an interest in medical education.

Responsibilities will include substantial faculty recruitment, academic leadership in the establishment of endocrine research programs, organization of endocrine clinical activities and participation in undergraduate medical education.

Applications and nominations should be accompanied by curriculum vitae. Please address all correspondence to: **Michael J. Dunn, M.D., Chairman, Endocrine Search Committee, Department of Medicine, University Hospitals, 2074 Abington Road, Cleveland, OH 44106. An Equal Opportunity Employer.**

DIRECTOR OF TOBACCO AND HEALTH RESEARCH INSTITUTE UNIVERSITY OF KENTUCKY

Applications and nominations are invited for the Directorship of the University of Kentucky Tobacco and Health Research Institute. The Tobacco and Health Research Program facilitates multidisciplinary research addressing tobacco and health issues. The Institute coordinates, conducts and administers programs through its laboratory and the University's colleges and departments. The Director is responsible for institute administration, program planning and development, and oversight of technical and research support services. Qualifications include: Ph.D. or M.D., extensive tobacco and health related research, demonstrated administrative expertise, and academic credentials appropriate for senior faculty appointment. Review of candidates begins 15 February 1988. Send résumés to: **Vice Chancellor for Research, 359 Patterson Office Tower, University of Kentucky, Lexington, KY 40506-0272.**

DIRECTOR OF TOXICOLOGICAL SCIENCES THE JOHNS HOPKINS UNIVERSITY SCHOOL OF HYGIENE AND PUBLIC HEALTH

The Johns Hopkins University School of Hygiene and Public Health is seeking a Director for the faculty in Toxicological Sciences. Such an individual should have an outstanding record of academic and professional accomplishment in the toxicological sciences. This young, talented, and dynamic faculty has recently been relocated into new research facilities and has pre- and postdoctoral training programs. Currently there are 4 postdoctoral and 11 predoctoral fellows. The expertise of the eight full-time faculty is in the areas of biochemical, molecular, oxygen radical, and metal toxicology; immunotoxicology; lung toxicology; chemical carcinogenesis. Extensive interaction with units in chemistry, biochemistry, medicine, physiology, and pathology within the University is also ongoing. Direct inquiries including curriculum vitae should be made to: **Dr. Robert Fitzgerald, Associate Chairman, Department of Environmental Health Sciences, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, MD 21205. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

DEVELOPMENTAL BIOLOGIST

The College of Arts and Sciences of Widener University invites applications for a tenure-track position as assistant professor of biology, beginning 1 September 1988. Ph.D. is required. Undergraduate education is the primary emphasis of the position. Competence in comparative animal morphology is also desirable. Application deadline is 1 February 1988. Letters of application, complete curriculum vitae, and three letters of recommendation should be sent to: **Robert Morris, Biology Department, Widener University, Chester, PA 19013.**

The Ohio State University. **DIRECTOR, Ohio Cooperative Extension Service AND ASSOCIATE DEAN, College of Agriculture.** The Director and Associate Dean is the leader of the Ohio Cooperative Extension Service, which includes programs in agriculture, home economics, community and natural resource development, and 4-H youth development. This person also has a variety of state, regional and national assignments. The Director reports to the Vice President for Agricultural Administration, and has administrative responsibility for program development, finance, personnel, and operational policy.

An earned doctorate, demonstrated leadership and administrative capability are required. Experience in education, business, or government desirable. Salary commensurate with qualifications and experience. Tenure and rank negotiable.

Send letter of application, curriculum vitae, and the names and addresses of three references to:

Dr. David L. Zartman
Chair, Search Committee
The Ohio State University
2120 Fyffe Road, Room 100
Columbus, OH 43210-1099

Application deadline: 15 January 1988.

The Ohio State University is an Equal Opportunity Employer and applications will be accepted without regard to age, race, sex, religion, or national origins.

DIRECTOR, THE BUCK CENTER ON AGING.

The Board of Trustees of the Buck Center on Aging is seeking a Director for this newly created research institute to be located in Marin County, California. The Center has been created as the result of a Court settlement and has an initial endowment equivalent to \$60 million. The Center will conduct research on a wide range of subjects focused on aging, with multidisciplinary approaches—including basic biomedical, clinical, psychosocial and health policy—emphasized. No direct clinical services will be offered. The Director should have an established international reputation in the field of aging research and have demonstrated administrative ability in a university, corporate, or hospital setting. A university affiliation is anticipated. The Director must have the experience, vision, and energy necessary to guide the establishment of the Center on Aging in its formative years. The development of graduate and postdoctoral programs for gerontologic researchers and of educational programs for the lay and professional community of Marin County as well as for health professionals throughout the world will form an important part of the Director's responsibilities.

Interested individuals should contact: **Mary K. McEachron, Associate Director, Buck Center on Aging, P.O. Box 2297, Mill Valley, CA 94942, no later than 1 March 1988.**

DIRECTOR: DNA DIAGNOSTIC LABORATORY

The Yale University Department of Human Genetics has a faculty position beginning 1 July 1988 for Director, DNA Diagnostic Laboratory. Must have M.D. or Ph.D. BE/BC, American Board of Medical Genetics desirable. Responsibilities include supervising a service laboratory using DNA-based techniques for diagnosis and carrier detection of genetic disorders. Expertise with gene-specific probes, RFLPs and molecular linkage analysis is required. Close collaboration with the department's clinical service will be an important part of the position. The individual's clinical role and opportunities for research will be tailored to interest and experience. Applicants should send curriculum vitae to: **Dr. M. R. Seashore, Search Committee, Yale University Department of Human Genetics, Box 3333, New Haven, CT 06510 before 15 February 1988. Yale University is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

DIRECTOR— PHARMACEUTICAL SCIENCES CENTER

The University of Kentucky seeks a Director for the Center for Pharmaceutical Science and Technology (CPST), a multidisciplinary research center organized out of the College of Pharmacy but independently funded. Its mission is to draw outstanding researchers from colleges and Centers in order to form problem solving teams primarily in the areas of drug discovery, development and evaluation. Industrial partnerships will be pursued with an emphasis on effective technology transfer and economic development.

The Director of the CPST will have a tenured academic appointment within the College of Pharmacy and should have credentials appropriate for a senior Pharmacy faculty member. Candidates should have an understanding of and preferably experience with academic-industrial partnerships along with a proven ability to blend and work with many constituencies including academic, government and business leaders.

Send curriculum vitae and names of three references to: **Dr. Harry Kostenbauder, Chair, CPST Search, College of Pharmacy, University of Kentucky, Lexington, KY 40506-0082 by 29 February 1988.**

The University of Kentucky is an Equal Opportunity Employer.

DIRECTOR—INSTITUTE OF PHYSICAL RESEARCH AND TECHNOLOGY

Iowa State University invites nominations and applications for the position of Director for the newly created Institute for Physical Research and Technology. The Director will be responsible for the coordination of a major complex of existing centers and laboratories that conduct basic and applied research in the physical sciences and engineering, and for the development of new scientific enterprises of a similar nature. Base funding for the existing facilities is \$26 million, and is expected to grow substantially in the future with the addition of new centers. Qualifications: Candidates should have: i) an understanding of federal, state and corporate financing of academic science; ii) a demonstrated ability to secure major research funding from a variety of sources; iii) a proven capacity to work effectively with university, government and industrial organizations; iv) experience in coordinating interdisciplinary research; v) 5 to 10 years of relevant administrative experience in scientific administration. A Ph.D. in one of the physical sciences or in engineering is preferred but not required. Available: 1 July 1988. Starting salary: Negotiable. Application: Interested persons should send a résumé and the names and addresses of three references to: **Dr. David K. Hoffman, Chairman, IPRT Director Search Committee, Department of Chemistry, Iowa State University, Ames, IA 50011.** Nominations and applications should be received by 15 February 1988, in order to ensure full consideration. *Iowa State University is an Equal Opportunity Affirmative Action Employer.*

ECOSYSTEMS ECOLOGISTS

The Ecosystems Center of the Marine Biological Laboratory is seeking applications for one or two new positions at the assistant, associate, or senior scientist/professor level. Successful applicants will be expected to work collaboratively with a diverse group of terrestrial and aquatic ecologists. All applicants should have postdoctoral experience, with a broad background in ecosystem-level ecology.

Applicants should send curriculum vitae, a short statement of research interests, and the names and addresses of at least three references to: **Dr. John Hobbie, Director, Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA 02543.** Applications will be accepted until 1 February 1988, or until a suitable candidate(s) is found. *An Equal Opportunity/Affirmative Action Employer.*

ECOSYSTEMS ECOLOGIST/PROJECT MANAGER. Postdoctoral position available with the NSF/LTER Site in Agricultural Ecology to study nutrient availability in agricultural systems and to manage daily operations of this large multidisciplinary research project. Requires training in ecosystem ecology or microbial ecology and demonstrated organizational abilities. Send curriculum vitae and three letters of reference before 15 January 1988 to: **Dr. G. P. Robertson, W. K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI 49060.**

POSITIONS OPEN

ECOTOXICOLOGIST

Exxon Biomedical Sciences, Inc. has an immediate opening for a qualified individual specializing in ecotoxicology and environmental hazard assessment. The successful candidate will have a Ph.D. in ecotoxicology or in an environmentally related field, with 0 to 2 years of postdoctoral experience. Experience in or a knowledge of the application of both effects and fate data to real-world concerns, as well as knowledge of regulatory requirements (TSCA/PMN) would be desired. Exxon Biomedical performs both consulting and laboratory toxicology for affiliates around the world. Its resources include state-of-the-art aquatic toxicology, environmental chemistry, and mammalian toxicology laboratories. The candidate will perform as a study monitor and internal consulting toxicologist. Client interactions are an important aspect of our work, and thus, we are also seeking an individual who has excellent communication skills. Please forward résumé to:

Human Resources
Exxon Biomedical Sciences, Inc.
CN 2350, Mettlers Road
East Millstone, NJ 08875-2350
Equal Opportunity Employer M/F/H/V

ENDOCRINOLOGIST AND COMMUNITY ECOLOGIST/LIMNOLOGIST MIAMI UNIVERSITY

Two tenure-track positions are available, effective August 1988. We seek an endocrinologist and a community ecologist/limnologist. Ph.D. is required; postdoctoral experience is desirable. We seek applicants who will be effective teachers and productive researchers. The Department offers B.S., M.S. and Ph.D. programs, and is housed in new, well-equipped facilities. By 1 February 1988, send résumé, three letters of recommendation, and transcripts of all academic work to: **R. G. Sherman, Zoology, Miami University, Oxford, OH 45056.** Minorities and women are strongly encouraged to apply. Miami University is making every effort to create a diverse, heterogeneous faculty and staff.

EUKARYOTIC CELL BIOLOGIST

Indiana University of Pennsylvania and the Biology Department invites applications for a tenure-track position at the assistant/associate professor level in eukaryotic cell biology starting fall 1988.

Qualifications: Ph.D. and should have teaching experience and a strong research record. Commitment to quality teaching and research is essential. Preference will be given to applicants with a specialty in the molecular biology of yeast.

Duties: Will include teaching undergraduate cell physiology, M.S. level graduate courses, establishing a quality research program, and teaching department general course offerings.

Submit letter of application, résumé, undergraduate/graduate transcripts, statement of research goals, and three letters of reference to: **Dr. William E. Dietrich, Jr., Cellular Biology Search Committee, Biology Department, Indiana University of Pennsylvania, Indiana, PA 15705.** Application deadline is 1 February 1988. Minority applicants are encouraged to apply. IUP is an Affirmative Action/Equal Opportunity Employer.

EVOLUTIONARY BIOLOGIST

Indiana University of Pennsylvania and the Department of Biology invites applications for a tenure-track position in evolutionary biology at the assistant professor level starting fall 1988.

Qualifications: Candidates must have an earned doctorate and should have teaching experience and a strong research record. Preference will be given to applicants with a background in population genetics. Commitment to quality teaching and research is essential.

Duties: Will include teaching a field-oriented, nonmajors general biology course on a branch campus; establishing a quality research program; and potentially advising graduate student research.

Submit letter of application, résumé, undergraduate/graduate transcripts, statement of research goals and interests, and three letters of reference to: **Dr. Arthur C. Hulse, Department of Biology, Indiana University of Pennsylvania, Indiana, PA 15705.** Application deadline is 1 March 1988. Minority applicants are encouraged to apply. IUP is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

EVOLUTIONARY BIOLOGIST—The Department of Zoology at Southern Illinois University at Carbondale invites applications for a tenure-track assistant professor in evolutionary biology starting 16 August 1988. Applicants must have a Ph.D. degree; postdoctoral experience is preferred. The strongest candidates will have training in several aspects of evolutionary biology, with an emphasis on techniques of modern molecular biology, e.g., recombinant DNA, immunology. The successful candidate will be expected to establish a vigorous, externally funded research program and to teach courses/seminars in her/his specialty plus participate in the general biology or zoology core curriculum. Demonstrated competence in teaching, writing, publishing and grantsmanship are highly desirable. Send curriculum vitae, undergraduate, and graduate transcripts, one copy of each published paper, a statement of research interests and request at least three letters of recommendation be sent to: **Dr. Lee C. Drickamer, Chair, Department of Zoology, Southern Illinois University, Carbondale, IL 62901. Telephone: 618-536-2314. Deadline: 15 February 1988 or until the position is filled. SIUC is an Affirmative Action/Equal Opportunity Employer.**

STANFORD UNIVERSITY

The Division of Applied Mechanics of the Department of Mechanical Engineering invites applications for a **FACULTY POSITION**. Desired is an individual with teaching and research interests in mechanics of deformable solids, including but not restricted to elasticity, inelasticity, continuum mechanics, fracture, computational mechanics and wave propagation.

The appointment is anticipated to be at the assistant professor level. Individuals with outstanding records and commensurate experience may be considered at the level of untenured associate professor.

Stanford University is an Equal Opportunity Employer and strongly encourages applications from interested minorities and women.

Applicants should submit a résumé and a list of publications by 15 March 1988, to: **Professor Charles R. Steele, Division of Applied Mechanics, Durand Building, Stanford University, Stanford, CA 94305-4040.**

A full-time **FACULTY POSITION** (either M.D. or Ph.D.) in clinical neurophysiology is available at the Center for Clinical Neurophysiology (CCN), University of Pittsburgh Health Center. The CCN provides a full range of evoked potential and evoked field diagnostic tests, ICU monitoring, and intra-operative monitoring procedures. The CCN emphasizes the development and application of new computational approaches to clinical neurophysiology in a strong research environment. The successful candidate will be expected to establish an independent research program. The appointment will be made at an academic level appropriate to the successful candidate. Reply to: **Robert J. Scabassi, M.D., Ph.D., Director, Center for Clinical Neurophysiology, Department of Neurosurgery, University of Pittsburgh, Pittsburgh, PA 15260. Telephone: 412-647-5093.**

UNIVERSITY OF PITTSBURGH DEPARTMENT OF BIOLOGICAL SCIENCES FACULTY POSITION

The Department of Biological Sciences at the University of Pittsburgh invites applications from highly qualified individuals with a strong research commitment for a tenure-track position at the level of assistant professor in one of the following research areas: Molecular genetics, cell and developmental biology, or molecular structure. This position offers an excellent opportunity for diverse interactions with an expanding group of investigators having current research strengths in the areas of protein-DNA interaction, eukaryotic gene expression, RNA structure and function, and aspects of cell and developmental biology. In addition to establishing a vigorous research program, the candidate will direct graduate research and participate in teaching programs. Starting date: 1 September 1988. Applicants with a Ph.D. and postdoctoral experience should forward a brief description of research plans, curriculum vitae, and arrange for three letters of recommendation to be sent to: **Faculty Search Committee, Department of Biological Sciences, University of Pittsburgh, Pittsburgh, PA 15260.** The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer. Applications from minority and women candidates are especially encouraged.

TRANSPLANTATION IMMUNOLOGIST

The Cleveland Clinic Foundation invites applications for a full-time position involving a primary appointment in the Department of Immunology & Cancer and a joint clinical appointment. Interested applicants must have an M.D. and/or Ph.D. degree with experience in basic transplantation immunology. Essential qualities of the successful applicant are the ability to develop a research program bridging basic laboratory investigation with relevant problems in transplantation science, and a willingness to interact with basic scientists as well as transplant clinicians. Please submit a letter of application, curriculum vitae, and research interests to:

Andrew C. Novick, M.D.
Chairman, Department of Urology



THE CLEVELAND CLINIC FOUNDATION
11000 Euclid Avenue Cleveland, OH 44195
A National Referral Center An International Health Resource

The Cleveland Clinic Foundation is an Equal Opportunity/Affirmative Action Employer

Post-Doctoral Visiting Scientist Cancer Immunotherapy.

Projects involve either protein chemistry and cellular immunology or lymphokines and the growth and tumoricidal activities of activated lymphocytes. Previous experience in cellular immunology, immunochimistry, receptorology or tumor biology is required. This is a one-to-two year temporary opportunity at DuPont's Glenolden Laboratory located near Philadelphia. Dupont provides competitive compensation. Please send resumes and references to **Dr. P. Simon, c/o Employee Relations Dept., Room X13446, Nemours Bldg., DuPont Co., Wilmington, DE 19898.**

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POSITIONS OPEN

FACULTY POSITION (non-tenure-track) to conduct research in the molecular biology of mycobacteria, especially the rapidly growing species. Proposed studies include: genetics of mercury and tetracycline resistance, genetic relatedness and function of mycobacterial plasmids, development of shuttle vectors for mycobacteria and mycobacterial transformation methodology. No teaching responsibilities. To join microbiology laboratory studying mechanisms of drug resistance in respiratory pathogens. Require Ph.D. in microbiology or molecular biology with 2 to 3 years of relevant research experience. Please send curriculum vitae to: **Richard Wallace, M.D., Chairman, Department of Microbiology, University of Texas Health Center at Tyler, P.O. Box 2003, Tyler, TX 75710.**

FACULTY POSITION: The Hematopathology Program, Division of Laboratory Medicine, M. D. Anderson Hospital and Tumor Institute has a faculty position for a Ph.D. The candidate should have a strong background in molecular biology with an interest in hematopoietic neoplasia, in addition to interest in diagnostic application and operation and management of a diagnostic laboratory. The successful applicant will be expected to develop independent and collaborative research in hematopoietic neoplasia as well as assume responsibility for operation and management of a molecular diagnostic laboratory. Academic rank is commensurate with qualifications and experience. Send curriculum vitae, names of three references, and statement of experience and research interests to: **Sanford A. Stass, M.D., Division of Laboratory Medicine, Box 73, M. D. Anderson Hospital and Tumor Institute, 1515 Holcombe Boulevard, Houston, TX 77030. The University of Texas System Cancer Center is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION

Outstanding scientist in low temperature stable isotope geochemistry or biogeochemistry is sought for interdisciplinary research in earth sciences/ecology. Rank and salary open. Send statement of interests, curriculum vitae, and names of three referees by 1 March 1988 to: **Chairman, Search Committee, Department of Environmental Sciences, The University of Virginia, Clark Hall, Charlottesville, VA 22903. The University of Virginia is an Equal Opportunity/Affirmative Action Employer.**

THE COLLEGE OF STATEN ISLAND (CSI) OF THE CITY UNIVERSITY OF NEW YORK FACULTY OPENING IN POLYMER CHEMISTRY

The CSI Department of Chemistry is seeking polymer chemists interested in participating in its Ph.D. program in polymer chemistry. The position is open with regard to rank and area of polymer research. Candidates should be interested in actively pursuing outside grant support. Facilities for research include newly acquired instruments for FTNMR (solid-state 200 and 400 MHz), FTIR, thermal analysis, GPC, HPLC, osmometry. The College is scheduled to move to a new, 200-acre campus in 1992. Send curriculum vitae and names of three references by 1 March 1988 to: **Dr. Richard Resch, Dean of Science and Technology, The College of Staten Island/CUNY, Room 1-501, 130 Stuyvesant Place, Staten Island, NY 10301. Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITION IN NEUROBIOLOGY DARTMOUTH MEDICAL SCHOOL

Dartmouth Medical School is expanding in the area of neuroscience through the establishment of the Center for Molecular and Cellular Medicine. In conjunction with this expansion, the Department of Biochemistry seeks a new faculty member with primary research interests in molecular and/or cellular neurobiology. The individual will be appointed at the assistant professor level and will participate in the teaching activities of the department. Applicants should submit curriculum vitae, a statement of research interests and plans, and the names of three references to: **Search Committee, Department of Biochemistry, Dartmouth Medical School, Hanover, NH 03756. Dartmouth Medical School is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

FACULTY POSITION IN BIOCHEMISTRY. Applications invited for a tenure-track position in biochemistry to begin in fall 1988. A Ph.D. is required, postdoctoral experience desirable. Applications will be considered at all ranks. Teaching responsibilities will be primarily in the areas of biochemistry and general chemistry. Research specialization may be in any area of biochemistry including molecular genetics and bioseparations. Applicants should submit curriculum vitae, official copies of both graduate and undergraduate transcripts, and an outline of their research plans. Applicants should also arrange for three letters of recommendation to be sent. All materials should be sent to: **Biochemist Search Committee, c/o Professor D. Paul Rillema, Department of Chemistry, The University of North Carolina at Charlotte, Charlotte, NC 28223.** Applications should be completed by 1 February 1988 to receive full consideration. Evaluation of applications will begin in December 1987. *Women and minority applicants are encouraged to apply. The University of North Carolina is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION BIOLOGY

The Biology Department of Seattle University is seeking applications for a full-time, tenure-track position at the assistant professor level beginning in September, 1988. Seattle University is a metropolitan, Jesuit, teaching university located in Seattle, Washington, serving approximately 3000 undergraduate and 1300 graduate students. Our department consists of five full-time faculty members, and has a strong general biology focus. We are looking for an individual with a Ph.D. in a biological science with emphasis in comparative animal physiology and biological structure, with proven teaching ability or potential, and a strong commitment to undergraduate education. The teaching focus will include undergraduate courses in animal physiology, comparative embryology, comparative anatomy, and histology. The other courses to be included in the teaching responsibilities, such as general biology, biology of human sexuality, and endocrinology will be determined according to departmental needs and individual expertise.

Application, including résumé, transcripts and list of references should be sent to:

**Dr. David C. Brubaker, Chairperson
Department of Biology
Seattle University
Seattle, Washington 98122
206-296-5485**

by 31 January 1988.

Seattle University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION—HUMAN TUMOR IMMUNOLOGY—MOLECULAR MECHANISMS. University of Wisconsin Department of Human Oncology is seeking applicants for tenure-track appointment at the assistant/associate professor level. A highly qualified individual, M.D. or Ph.D., is sought in the general area of Tumor Immunology with an interest in mechanisms of immune effector cell function and/or tumor cell destruction. Applicants are expected to be knowledgeable in immunological, biochemical, and molecular methods. Opportunity exists to interact with laboratories in the University of Wisconsin Clinical Cancer Center along with other laboratories on campus. The successful applicant will be expected to develop a strong, independent research program and to participate in the departmental Ph.D. training program. Send résumé and statement of research interests to: **E. C. Borden, M.D., Chairman, Search Committee, Department of Human Oncology, University of Wisconsin Clinical Cancer Center, K4/410, CSC, 600 Highland Avenue, Madison, WI 53792. The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITIONS—BIOLOGIST strong in ecology or physiology and capable and interested in teaching introductory majors and non-majors courses. Ph.D. preferred. Rockhurst College is a private, liberal arts, Jesuit college strong in science with a growing allied health program. Send curriculum vitae, résumé, and names of three references by 1 February 1988 to: **Chairman, Department of Biology, Rockhurst College, Kansas City, MO 64110. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

FACULTY POSITION IN NEUROBIOLOGY

The Department of Biological Sciences at the University of California, Santa Barbara, invites applications for a tenure-track faculty position (assistant professor level) from outstanding scientists investigating receptors in neurobiological systems using the approaches of biophysics, cell biology, biochemistry, or molecular biology. Applicants must have a Ph.D. degree and postdoctoral training. The successful applicant will be expected to conduct a vigorous independent research program, contribute to teaching in pharmacology and neurobiology, and participate in a new interdisciplinary research program in cellular and molecular neurobiology. Position effective 1 July 1988. Applicants should submit curriculum vitae, selected reprints, a brief description of previous and anticipated research, and arrange to have at least three letters of reference sent by 29 February 1988 to: **Dr. Leslie Wilson, Chairman, Department of Biological Sciences, University of California, Santa Barbara, CA 93106. The University of California is an Equal Opportunity/Affirmative Action Employer. Proof of U.S. Citizenship or eligibility for U.S. employment will be required prior to employment (Immigration Reform and Control Act of 1986).**

FACULTY POSITION IN TROPICAL ECOLOGY

Applications are invited for a position in tropical ecology at the level of assistant professor. A strong background in some aspects of structure, function, and development of tropical forest ecosystems is required. Candidates are expected to have substantial field experience and ongoing research in the tropics, and be cognizant of the environmental, social and economic implications of their research. The successful applicant will be expected to teach graduate courses relating to tropical ecology and participate in undergraduate teaching.

Send curriculum vitae, statement of research and teaching interests, and three letters of reference to:

**Dr. Kristiina Vogt
Yale University
School of Forestry and
Environmental Studies
370 Prospect Street
New Haven, CT 06511**

Deadline for receipt of applications is 15 February 1988 or until suitable candidates are found. The position will be available 1 July 1988.

Yale University is an Equal Opportunity Employer. Women and minority group members are encouraged to apply.

FACULTY POSITIONS THE EYE RESEARCH INSTITUTE OF RETINA FOUNDATION

The Eye Research Institute is seeking a new faculty member at the assistant scientist level with interests in the mechanisms governing proliferation and migration of retinal pigment epithelium, elaboration of extracellular matrix, or degeneration of the vitreoretinal interface which could be applied to the study of proliferative vitreoretinopathy. Research experience should include cell biology, physiology, or biochemistry. The Institute encourages collaboration with both basic scientists and clinician researchers. Initial funding is available for salary and research costs. Curriculum vitae and letter of interest should be forwarded to:

**Sheldon Buzney, M.D.
Search Committee
Eye Research Institute
20 Staniford St.
Boston, MA 02114**

The Eye Research Institute is seeking an additional assistant scientist level Ph.D. cell biologist-microbiologist to join active eye research group. Specific areas of interest will involve corneal inflammation, ulceration and wound healing. Experience in cell culture, immunofluorescence, and monoclonal antibody techniques required. Salary commensurate with experience. Appointment at Harvard Medical School will be sought. Send curriculum vitae and reprints to:

**Kenneth Kenyon, M.D.
Search Committee
Eye Research Institute
20 Staniford Street
Boston, MA 02114**

Equal Opportunity/Affirmative Action Employer M/F/V/H and others.

TENURE-TRACK FACULTY POSITION IN MARINE SCIENCE

The University of Alaska-Fairbanks, Institute of Marine Science is seeking applicants for a tenure-track faculty position in the general area of paleoceanography. The appointment will be with the Institute of Marine Science in the School of Fisheries and Ocean Sciences, and will involve research and graduate-level instruction and supervision. The Institute of Marine Science has a dynamic group of 22 faculty from various disciplines and about 35 graduate students. It is involved in a variety of research activities in arctic and subarctic seas. Many of these are multidisciplinary, and we wish to fill the position with a person committed to collaborative work with ongoing and future programs.

We are seeking applicants who have clearly demonstrated expertise in applying their specialty to larger questions surrounding physical, geochemical and biological evolution of the deep oceans and continental margins. The successful applicant will be responsible for initiating, developing and executing an active research program relating to the marine stratigraphic history of the subarctic and arctic seas of Alaska.

Candidates must possess a Ph.D. in an appropriate discipline. We expect to fill this position at the Assistant Professor level, although a more senior appointment may be possible, depending on the applicant's credentials.

Applications must be received by March 1, 1988. Applicants should send a statement of interest, a curriculum vitae and the names and addresses of three references to:

**Dr. Sathy Naidu, chair
Search Committee
c/o Director's Office
Institute of Marine Science
University of Alaska
Fairbanks, Alaska 99775-1080**

The University of Alaska is an EO/AA employer and educational institution. Your application for employment with the University of Alaska may be subject to public disclosure if you are selected as a finalist.

Scientist Pharmacology

We are seeking a Scientist to work in an endocrine group. This person would conduct animal studies to define the potential to control linear growth in humans. This would include working with growth hormone (GH), somatostatin, insulin-like growth factors, GH releasing factor, and binding proteins. A grounding in physiology is desirable, with further expertise in organ, cell or molecular biology. A Ph.D. and 2-4 years' postdoc experience or M.D. degree equivalent is required, with a proven record of scientific excellence and independent productivity.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send resume and 3 letters of recommendation to Sherrie C. Wilkins, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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OPPORTUNITIES IN RESEARCH AND DEVELOPMENT

HEMATOLOGY MANAGER - Ph.D. in Physiology or Biochemistry, ASCP(SA) desirable, minimum of 5 years industrial experience with blood bags and additive solutions.

PROJECT MANAGER/TUMOR MARKERS - Ph.D. in a Biological or Physical Science with at least 5 years industrial experience in the development of immunoassays. Successful product development to 510(k) and PMA approval. Experience in tumor marker assay development preferred.

RESEARCH ASSOCIATES/EIA ASSAY DEVELOPMENT - M.S. or B.S. in Biology/Chemistry. A bench associate level position requiring the candidate to have 2-3 years industrial experience in immunodiagnostic product development. Skills will include antibody selection and purification procedures, EIA reagent synthesis and qualification testing of assay kits.

RESEARCH ASSOCIATE/TISSUE CULTURE - M.S. or B.S. with a background in Cell Biology or Immunology. 2-3 years laboratory experience in tissue culture. Monoclonal antibody production, scale-up mammalian, cell culture production, ELISA/RIA technique and small animal handling required.

Terumo Medical Corporation, a leading medical device manufacturer, is seeking to expand its professional staff. In addition to liberal fringe benefits and competitive salary, we offer opportunity for growth with an expanding company. Send resume and salary history to:

**Personnel
c/o Dr. Fredric Simon
Terumo Medical Corporation
P. O. Box 605
Elkton, MD 21921**

POSITIONS OPEN

Santa Monica College is recruiting for a full-time tenure-track **FACULTY POSITION** to teach Astronomy. This position requires a master's degree in astronomy, planetary or space science and a valid California Community College Credential. College level teaching experience in astronomy lecture and laboratory courses is preferred. Start date is 13 September 1988 with a salary range of \$23,339 to \$46,680, based upon academic preparation and teaching experience. District application must be received by 7 March 1988. Contact: **Santa Monica College, Office of Personnel Services, 1900 Pico Boulevard, Santa Monica, CA 90405. Telephone: 213-452-9336. Equal Opportunity Employer.**

FACULTY POSITIONS AT THE FRED HUTCHINSON CANCER RESEARCH CENTER DIVISION OF BASIC SCIENCES

The Division of Basic Sciences at the FHCRC has faculty positions available (any rank). The Division is a broadly based, highly interactive group of 25 faculty members conducting research in cellular and molecular biology. Candidates will be selected primarily on the quality of their research, as opposed to specific topics, but the group is seeking to build strength in some specific areas including: structural biology, mammalian development, immunobiology, carcinogenesis, protein biochemistry, and prokaryotic molecular genetics.

Candidates should send curriculum vitae, a concise statement of their research plans, and three letters of reference to:

**New Staff Committee
Fred Hutchinson Cancer Research Center
Division of Basic Sciences
1124 Columbia Street
Seattle, WA 98104**

on or before 31 January 1988.

The FHCRC is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS DEPARTMENT OF BIOCHEMISTRY SUNY/BUFFALO

Two tenure-track positions at the assistant or associate professor level are available in the Department of Biochemistry, Schools of Medicine, Dentistry and Pharmacy at the State University of New York (SUNY) at Buffalo. Applications in any area of biochemistry will be considered. However, applications are encouraged in particular from individuals whose research interests are in prokaryotic or eukaryotic gene expression or its regulation, or who have a well-documented expertise in the application of molecular biological techniques to their area of research. Responsibilities include developing a productive research program with extramural funding, training Ph.D. candidates, and teaching graduate, undergraduate and professional students. Applicants should submit curriculum vitae, a statement of research objectives, reprints and pre-prints, and have three letters of reference sent to:

**Dr. Richard C. Condit, Chairman
Department of Biochemistry Search Committee
102 Cary Hall
SUNY at Buffalo, NY 14214**

Deadline for applications is 29 February 1988.

Women, minority and handicapped scientists are encouraged to apply. An Equal Opportunity/Affirmative Action Employer.

GENE EXPRESSION

The Laboratory of Molecular Endocrinology at the Massachusetts General Hospital seeks a **POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE** to work on the regulation of polypeptide hormone genes. Experience in recombinant DNA techniques is preferable, but not essential. The laboratory is focused on studies of the cis and trans factors that lend cell-specific expression to polypeptide hormone genes. A microchemical facility for protein sequencing-synthesis and DNA synthesis is available. Salary and rank are commensurate with experience. Send curriculum vitae and two letters of recommendation to: **J. Habener, Chief, Laboratory of Molecular Endocrinology, Massachusetts General Hospital, Boston, MA 02114.**

POSITIONS OPEN

TWO FACULTY POSITIONS. University of Illinois at Urbana-Champaign, Department of Kinesiology. Applications are invited for two tenure-track positions, to begin 21 August 1988. (i) Assistant professor with specialization in the physiological aspects of human performance and exercise; directed toward muscle function and related metabolic phenomena. (ii) Assistant or associate professor in biomechanics (broadly defined); particularly research programs using nonlinear dynamics as a modeling technique. Scholarly activity is expected through involvement in undergraduate and graduate instruction, research, and service functions. To assure full consideration, applications must be received by 1 February 1988. Send to: **Chair, Search Committee (Biomechanics or Physiology), Department of Kinesiology, University of Illinois at Urbana-Champaign, 129 Louise Freer Hall, 906 South Goodwin Avenue, Urbana, IL 61801. Telephone: 217-333-2462. The University of Illinois is an Affirmative Action Equal Opportunity Employer.**

FACULTY VACANCIES

Several tenure-track positions are available in the Department of Human Biological Chemistry and Genetics for applicants with outstanding research programs or potential. Rank and salary will be commensurate with qualifications and experience. Hard money salary and start-up support for research available. Of particular interest are the areas of lipid biochemistry, physical biochemistry, electron microscopy, and molecular genetics. Applications from qualified individuals in other research areas are also encouraged. Direct inquiries, including curriculum vitae and the names of three references, by 1 March 1988 to:

**Dr. E. Brad Thompson, Chairman
Department of Human Biological
Chemistry and Genetics
University of Texas Medical Branch
107A Basic Science Building F-29
Galveston, TX 77550**

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FISHERIES SCIENTIST: Starting August 1988, Ph.D. preferred with strong commitment to undergraduate teaching and ability to integrate with existing aquaculture, fisheries, wildlife, and conservation law enforcement programs. Send curriculum vitae, transcripts, letter of teaching and research interests, along with the names and telephone numbers of three references by 15 February to: **Dr. Jim Chacko, Chair, Fisheries Search Committee, Environmental Science Center, Unity College, Unity, ME 04988. Telephone: 207-948-3131.**

GENETICIST—Tenure-track, assistant professor, to begin fall 1988. Candidates should have a Ph.D. and be prepared to teach a core course in genetics, a senior-level molecular genetics course, and a third course to be determined. The successful candidate will actively continue a research program that involves undergraduates and uses molecular biological techniques, preferably to study problems in plant biology. *Women and minorities are encouraged to apply.* Submit a letter of application that describes teaching philosophy and research interests and goals, official transcripts, and at least three letters of recommendation by 25 January 1988 to: **Dr. William Heidcamp, Department of Biology, Gustavus Adolphus College, St. Peter, MN 56082. Equal Opportunity/Affirmative Action Employer.**

HUMAN ANATOMIST

Applications are invited from candidates with the Ph.D., M.D. or equivalent degree and significant postdoctoral research experience for a tenure-track position at the assistant professor level beginning in fall 1988. The appointee will teach in a team-taught course in Gross Anatomy for medical students. The applicant must have demonstrated the potential for development of a productive research program in molecular or cellular neurobiology. Send curriculum vitae and the names of four individuals who are familiar with the candidate's research to: **Chairman, Department of Anatomy and Cell Biology, Emory University School of Medicine, Atlanta, GA 30322. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

The "Zentrum für Molekulare Biologie" of the University of Heidelberg (ZMBH) offers:

GROUP LEADER POSITIONS IN MOLECULAR BIOLOGY

Applicants are expected to have several years of postdoctoral experience in one of the major areas of molecular biology such as DNA-protein interactions, regulation of gene expression, developmental biology, virus and parasite research, and neurobiology. The positions are available for up to 5 years, and include the provision of lab space and access to central facilities of the institute as well as adequate basic and start-up funds. Successful candidates participate in the teaching program of ZMBH. Salaries are according to federal regulations (BAT I/b/a) depending on age and experience.

Applicants should submit curriculum vitae, bibliography, a short presentation of the prospective research program, and names of two references to: **The Director, ZMBH, Im Neuenheimer Feld 282, D-6900 Heidelberg, FRG. Closing date: 15 January 1988.**

HEAD, Division of Endocrinology: The Department of Pediatrics, Northwestern University Medical School, seeks candidates for the position of Head, Division of Endocrinology, based at The Children's Memorial Hospital, Chicago, IL. Applicants should have interests in teaching and patient care as well as substantial research commitment. Interested applicants should submit curriculum vitae and letter of interest by 1 February 1988, to: **Dr. Stanford T. Shulman, Chairman, Endocrinology Search Committee, Children's Memorial Hospital, 2300 Children's Plaza, Chicago, IL 60614. An Equal Opportunity Employer.**

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE AND MEDICAL BIOTECHNOLOGY CENTER HUMAN MOLECULAR GENETICIST

The Division of Human Genetics, in conjunction with the University of Maryland Medical Biotechnology Center, is seeking a full-time, tenure-track investigator with expertise in mammalian DNA repair at the molecular level. The position requires a Ph.D. degree in molecular biology or mammalian/human genetics or with 2 years of relevant postdoctoral training and experience. Significant research accomplishment and the ability to obtain independent funding are essential. Activity will be focused on the identification, isolation, and characterization of genes associated with DNA synthesis and repair in human cells.

The Medical Biotechnology Center offers a creative and challenging scientific environment, with considerable opportunity for interaction and collaboration with cellular and molecular biologists representing a wide diversity of interests.

Salary and academic rank are commensurate with qualifications and experience. Applications would include a current curriculum vitae, a detailed statement of past experience, and a one-page description of future research plans and the names, addresses, and telephone numbers of three professional references. Send all applications to:

**Maimon M. Cohen, Ph.D.
Chief, Division of Human Genetics
Acting Director, Molecular Biotechnology Center
University of Maryland at Baltimore
655 West Baltimore Street—11-037
Baltimore, MD 21201**

HUMAN NUTRITION: The College of Agriculture, Texas A&M University, is seeking two candidates for tenure-track research and teaching positions at the **ASSISTANT OR ASSOCIATE PROFESSOR** rank. One position, a Ph.D. in nutrition, biochemistry or closely related field is required; an R.D. would be desirable. Research program should focus on human health. Second position, a Ph.D. in nutrition, genetics, or biochemistry is required. Research program should have a molecular biology focus. Application or nominations are due by 1 March 1988. Send letter of application, curriculum vitae, statement of teaching and research interest, and names and addresses of three references to: **Dr. H. O. Kunkel, Dean, College of Agriculture, Texas A&M University, College Station, TX 77843. Telephone: 409-845-3714. Equal Opportunity Employer.**

Assistant or Associate Scientist

Applications are sought to fill two tenure-track positions in the Department of Chemistry at the Assistant or Associate Scientist level. The openings are in the general areas of isotope chemistry (stable and/or radioisotopes) and the geochemistry of organic materials. Applicant should have a PhD, preferably post doctoral experience, and a strong background in basic physical, organic, or analytical chemistry as applied to the study of chemical rates and processes in marine systems. Please send a letter of inquiry and curriculum vitae including a statement of research interest to:

Chairman Chemistry Department
P.O. Box 54P



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MICROBIOLOGIST

NATIONAL CANCER INSTITUTE NATIONAL INSTITUTES OF HEALTH

The Biological Response Modifiers Program, DCT, is seeking a uniquely skilled professional with the creativity and know-how to direct an existing laboratory of 4-6 research technicians and postdoctoral fellows conducting basic studies on development of T cell function *in vivo* and *in vitro*.

The Biological Response Modifiers Program, DCT, is the Division's principal component involved in clinical and laboratory research to investigate, develop and bring to clinical trials potential therapeutic agents that may alter biological responses important in the biology of cancer growth and metastasis.

Applicants should have extensive expertise in developmental immunology and thymus function, be experienced in lymphokine research and applications of monoclonal antibodies *in vivo*, and be known as a recognized expert in these areas, with an international reputation. The scientist we seek should have a Ph.D. or equivalent with substantial number of years of post-doctoral level experience and laboratory management experience.

Salary Range: \$38,727 - \$50,346 depending upon qualifications.

Location of Position: Building 10, National Institutes of Health, Bethesda, Maryland

Applicants must be U.S. citizen.

The National Institutes of Health is an Equal Opportunity Employer.

Applicants should contact:

Dan L. Longo, M.D.
Associate Director
BRMP, DCT, NCI
Frederick Cancer Research Facility
Building 567, Room 135
Frederick, Maryland 21701-1013
Telephone: (301) 698-1421

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Molecular Biology

Smith Kline & French Laboratories, a leader in pharmaceutical research is seeking additional technical staff to expand its current research programs employing recombinant DNA technology in our suburban Philadelphia, PA facility.

The Department of Molecular Genetics is searching for individuals with B.S. or M.S. degrees in Microbiology, Biochemistry, Molecular Biology with experience in DNA sequencing. They will join a group responsible for working with other scientists in the Molecular Genetics Department to coordinate, plan and execute sequencing strategies, and to analyze the data. Mastery of either Maxam-Gilbert or Sanger sequencing methods is required.

We offer an excellent compensation and benefits package as well as opportunities for personal and professional growth. For confidential review, please forward your C.V. and names of three references to Barbara J. Schwartz, Associate Employment Administrator, S0007, Smith Kline & French Laboratories, Research and Development Division, P. O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

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POSITIONS OPEN

HYDROGEOLOGIST UNIVERSITY OF CALIFORNIA, SANTA BARBARA

The Environmental Studies Program and the Department of Geological Sciences invite applications for a joint position in hydrogeology, beginning 1 July 1988 or later as negotiated. Ph.D. required at time of appointment. The appointment will be at the assistant, associate, or full professor level, depending on qualifications. The successful candidate will be expected to establish and maintain a high quality research program and teach courses at both the undergraduate and graduate levels. In addition to introduction to hydrogeology, areas of instruction might include contaminant hydrogeology, low temperature geochemistry, field methods in hydrogeology, water quality, or engineering geology.

Send a detailed résumé with a statement of research interests, aims, teaching experience and objectives, together with names and addresses of three references by 26 February 1988 to: **E. A. Keller, Environmental Studies Program, University of California, Santa Barbara, Santa Barbara, CA 93106.**

The University of California is an Equal Opportunity/Affirmative Action Employer. Proof of U.S. citizenship or eligibility for U.S. employment will be required prior to employment (Immigration Reform and Control Act of 1986).

IMMUNOLOGIST

The Department of Biological Sciences at the University of Central Florida invites application for a tenure-track appointment in the area of immunology. This anticipated position will be filled at the assistant professor level in August 1988. Applicants must have a Ph.D. Postdoctoral experience is desirable. Duties will include teaching immunology at the undergraduate level and immunology or a related area at the graduate level. The successful applicant will be expected to supervise graduate students and develop a productive, independently funded research program. Submit curriculum vitae, statement of research interests, and names of at least four references postmarked by 15 February 1988 to: **Search Committee Chair, Department of Biological Sciences, University of Central Florida, Orlando, FL 32816.** UCF is a rapidly growing university of 17,000+ students, within the state university system and is an *Equal Opportunity/Affirmative Action Employer*. As an agency of the State of Florida, the University makes all application materials and selection procedures available for public review.

INORGANIC OR ANALYTICAL CHEMISTRY

TENURABLE POSITION in inorganic or analytical chemistry. Applicants should have a Ph.D. degree, preferably in inorganic or analytical chemistry, and postdoctoral experience. A specialization in instrumental analysis is desirable. Mastery of the French language is essential. According to experience, the appointment will be at the assistant, associate or full professor level. The successful applicant will be required to participate in teaching inorganic and analytical chemistry, to establish a research program in his own specialization, and to supervise graduate students. Applicants should submit before 15 March 1988 curriculum vitae together with a statement of research interest, a brief description of their future research program, and three letters of recommendation to: **Professor Rodrigue Savoie, Chairman, Department of Chemistry, Laval University, Québec, QC, Canada G1K 7P4.**

INSECT TOXICOLOGY/PHYSIOLOGY, ASSISTANT PROFESSOR. Ph.D. required. Available: spring 1988. Research to identify, characterize, and exploit vulnerable physiological/biochemical systems in insects. Advanced cellular/molecular techniques required. Teach insecticides and specialty graduate course. Application deadline: 1 March 1988 or until suitable candidate is found. Submit letter of application, curriculum vitae, transcripts, research goals statement, publications, names and addresses of three references to: **Dr. Eldon E. Ortman, Head, Department of Entomology, Purdue University, West Lafayette, IN 47907.**

Purdue University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

MAMMALIAN TOXICOLOGIST

ASSISTANT PROFESSOR, tenure-track position for a toxicologist with specialization in the effects of insecticides on mammals and mammalian systems. Available after 1 July 1988. A Ph.D. or equivalent degree, with research training in toxicology is required. Eleven-month position, 90% research, 10% teaching. Activities include development of research program on effects and hazards of insecticides on/to mammals and mammalian systems, supervision of graduate students, participation in the entomology and environmental toxicology graduate programs and course instruction. Submit curriculum vitae, graduate transcript, recent reprints, a statement of research interests, and names and addresses of five referees to: **L. K. Gaston, Search Committee Chairman, Division of Toxicology and Physiology, Department of Entomology, University of California, Riverside, CA 92521.** Applications accepted until 29 February 1988, or until a suitable candidate is selected. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

MAMMALOGIST

Senior assistant or associate curator, tenure-stream position available. Ph.D. in evolutionary mammalogy; proven research capability and achievement in publications; experience in biochemical systematics (protein electrophoresis, karyology or DNA techniques); experience in fieldwork, collection development and management. Salary commensurate with qualifications and experience. Starting 1 April 1988, negotiable. Send applications, including research plans, curriculum vitae, reprints of publications, and letters from three referees to: **Dr. Judith L. Eger, Assistant Curator in Charge, Department of Mammalogy, Royal Ontario Museum, Toronto, Ontario, Canada M5S 2C6** by 26 February 1988. Applications are invited from all qualified candidates. *In accordance with Canadian immigration requirements, applications from Canadian citizens and permanent residents will be considered first.*

The Hospital Infections Program, Centers for Disease Control invites applications for a **MEDICAL EPIDEMIOLOGIST**. Duties: conduct national surveillance and case-control study of *P. cepacia* infections in cystic fibrosis (CF) patients, analyze data, and formulate infection control measures from study results; supervise epidemiologic studies of nosocomial infections; give lectures on infection control to public health and academic groups; provide consultation about nosocomial infection control to state and local health officials, and infection control practitioners. Requirements: M.D. or equivalent, infectious diseases and microbiology specialty training. Prefer: experience in infection control and medical epidemiology with involvement in infections in CF patients; experience in design and analysis of epidemiologic studies; knowledge of computers and statistics. Salary range: \$38,726 to \$51,863. Applications: **Louise Griggs, Personnel Management Office, Centers for Disease Control, Atlanta, GA 30333.** Inquiries: **Dr. William Jarvis, Acting Chief, Epidemiology Branch, Hospital Infections Program, CDC, Atlanta, GA 30333; Telephone 404-329-3406.** *An Equal Opportunity Employer with a smoke-free work environment.* Closing: 3 weeks from publication of notice.

CORNELL UNIVERSITY MICROBIOLOGIST— ASSISTANT PROFESSOR

Applicants are invited for the position of assistant professor in the Department of Microbiology, College of Agriculture and Life Sciences, Cornell University. This is a tenure-track 12-month appointment. Those applying should possess a strong background and interest in prokaryotic biology. The appointee will be expected to undertake a vigorous research program and participate in undergraduate and graduate teaching programs of the department. Inquiries are invited from all qualified applicants. Applicants should possess a Ph.D. in microbiology or a related area, have postdoctoral research experience, and demonstrated research ability. *Women and minority candidates are encouraged to apply.* Applicants should submit curriculum vitae by 1 February 1988, and arrange to have three letters of reference sent to: **Dr. William C. Ghiorse, Chairman—Search Committee, Department of Microbiology, Stocking Hall, Cornell University, Ithaca, NY 14853.** *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MAYTAG FELLOW IN ZOOLOGY ARIZONA STATE UNIVERSITY

Intended for recent Ph.D.'s showing exceptional ability in research, this is a 1-year postdoctoral research fellowship that emphasizes collaborative research with a faculty member in the Department. Applications must include curriculum vitae, three letters of recommendation, a statement of research plans, and a letter from the intended faculty collaborator at ASU. Review of applications will begin 15 February 1988. Starting date 15 August 1988. Applications from two individuals wishing to share the position will be considered. *ASU is an Affirmative Action/Equal Opportunity Employer.* For more information contact: **Dr. Ronald L. Rutowski, Department of Zoology, Arizona State University, Tempe, AZ 85287-1501.** Telephone: 602-965-4369.

MICROBIAL ECOLOGIST. Postdoctoral position available to study factors regulating nutrient availability at a cutover rainforest site in Costa Rica. Project aims to examine interactions between soil microbial processes and soil charge chemistry. Requires strong background in soil microbiology or ecosystem ecology and willingness to spend extended periods at a tropical field station. Send curriculum vitae and three letters of reference to: **Dr. G. P. Robertson, W. K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI 49060.**

MICROBIOLOGIST

Boeing Services International is seeking applicants for the position of microbiologist for its Bruceton Research Center (Pittsburgh, Pennsylvania) contract. Qualified individual will be a recent Ph.D. and possess:

- Thorough knowledge of current developments in biotechnology
- Knowledge of mining and minerals processing
- Knowledge, understanding and synthesis of research in such diverse fields as microbiology, botany, biochemistry, genetics, hydrometallurgy, geochemistry, geology and mining engineering
- Must possess ability to generate testable research hypotheses that integrate available or achievable biotechnology with problems in mining technology.

Successful candidate will participate in a program to undertake conceptual development of a specific research program on the use of new biological processes and products to advance mining technology.

Boeing Services International offers a competitive salary and benefits package commensurate with experience. For immediate consideration, please forward a résumé with salary history to:

**Boeing Services International
Employment Office S1224
P.O. Box 10838
Pleasant Hills, PA 15236
M/F Equal Opportunity Employer**

MICROBIOLOGISTS/BIOCHEMISTS

Celgene Corporation, a leader in the application of biotechnology and chemical technology to the chemical industry is currently seeking experienced, innovative microbiologists and biochemists in the following areas:

- Metabolism of Aromatic Compounds
- Hydrocarbon Transformations
- Enzymology
- Bioremediation

Candidates should have a Ph.D. in the relevant discipline, and have outstanding credentials in order to be considered for these high potential positions. Celgene is a well-funded public company with established facilities. Celgene is committed to becoming the premier industrial biotechnology company.

Candidates should immediately send detailed résumés to:

**Dept. SB-B
Celgene Corporation
7 Powder Horn Drive
Warren, NJ 07060**



IMMUNOLOGIST

Unigene Laboratories, a multidisciplinary biotechnology research corporation, is seeking a distinguished scientist for the following position:

SENIOR SCIENTIST

A strong background in Immunology with significant experience in immunoassay technology and tissue culture methodologies is required. The successful candidate will have a Ph.D. degree and a record of accomplishment demonstrating novelty and creativity. Post-doctoral or industrial experience is desirable but not required.

Unigene offers a comprehensive benefits package and the opportunity to work in an environment which fosters continuing professional development. Please send a C.V. and three references in confidence to:

Personnel Department
Unigene Laboratories, Inc.
110 Little Falls Road
Fairfield, NJ 07006

unigene™

An equal opportunity employer

Research Associates

Maimonides Medical Center, a progressive 700 bed teaching hospital, has POST DOCTORAL RESEARCH ASSOCIATE positions available in the following areas:

MOLECULAR BIOLOGY

The selected candidate will perform recombinant DNA techniques in the fields of virology, and immunology. Research will involve viral gene amplification and detection (in situ hybridization).

IMMUNOLOGY

The successful candidate will study cellular and humoral immune mechanisms in the area of autoimmune diseases of the CNS. Experience in Protein Purification, T Cell Cloning, and/or Suppressor T Cell Assay desirable.

The above positions are available immediately and offer salaries in the \$28K to \$35K range, excellent fringe benefits, and an attractive Brooklyn location just 20 minutes from midtown New York City.

Please send C.V. and letters of reference to:

DR. F. MOKHTARIAN
Associate Professor and Director,
Division of Virology/Immunology
DEPARTMENT OF MEDICINE



Maimonides Medical Center
4802 Tenth Ave, Bklyn, NY 11219
Equal Opportunity Employer M/F

ECOGEN inc.

ECOGEN INC., an expanding biotechnology company located in the Philadelphia area and specializing in microbial pesticide development and biological control has immediate openings for the following positions.

Ph.D RESEARCH SCIENTIST:

Molecular biology with an emphasis on *Pseudomonas* species and with experience in DNA cloning, transposon mutagenesis and construction of gene fusions.

Ph.D./M.S. FORMULATION SPECIALIST, preferably with experience in biologicals.

Ph.D. POSTDOCTORAL FELLOW: experience in bacterial physiology, protease biochemistry, or insect digestive physiology.

B.S./M.S. RESEARCH ASSISTANTS:

Molecular biology (experience with *Pseudomonas* helpful).

Field research.

Quality control (analytical, protein, nucleic acid and immuno-chemistry).

Interested candidates should submit a current resume, including the names, addresses and telephone numbers of three references, to:

Personnel Director
Ecogen Inc.
2005 Cabot Blvd. West
Langhorne, PA 19047-1810

Ecogen is an Equal Opportunity Employer.

DIRECTOR OF MICROBIOLOGY AND PROGRAM DEVELOPMENT

The Medical and Health Sciences Division of Oak Ridge Associated Universities is seeking an innovative and creative Director of Microbiology and Program Development who will be responsible for establishing a microbiology program and coordinating division program development activities. Functions in the microbiology area will include proposal writing, staffing and research management. Division program development activities will include identifying areas for future program growth and direction, and potential funding sources, and performing liaison functions with agencies regarding research projects. Candidates should possess an MD or PhD, have a recognized record of scientific achievement in microbiology, possess good human relations and communication skills, and have at least fifteen (15) years research and broad biological research program management experience.

Send resume, salary history and requirements, and references to:



Employment Office
Oak Ridge Associated Universities
P.O. Box 117
Oak Ridge, TN 37831-0117
EEO/AA



IDEON

IDEON CORPORATION is a new biotechnology research and development company located in Redwood City, CA. IDEON's research focuses on the development of products using anti-idiotypic monoclonal antibodies and novel immunomodulators. Ideon is seeking experienced scientists to play key roles in building this exciting new enterprise.

IMMUNOCHEMIST — Ph.D. in Biochemistry or Immunology with 3+ years of post-doctoral experience. Expertise in the chemistry of antibodies and peptide antigens, immunoassays and contemporary monoclonal antibody technologies.

MOLECULAR IMMUNOLOGIST — Ph.D. in Molecular Biology or Immunology with 3+ years of post-doctoral experience. Expertise in the molecular biology of immunoglobulins and/or immunoregulatory molecules.

Qualified candidates will have an opportunity to join a start-up company with the added strength of pharmaceutical manufacturing capability provided by IDEON's affiliation with INVITRON CORP. IDEON CORPORATION offers excellent salary, equity participation, and other benefits. An equal opportunity employer.

For confidential consideration, please forward your C.V. and a list of three references to IDEON CORPORATION, Attn: R&D Department, 515 Galveston Drive, Redwood City, CA 94063.

CLINICAL PROFESSOR OF EDUCATION

Brown University Biology

Faculty member in Education to instruct and supervise student teachers of Biology; to work with teachers in an urban public high school engaged in a significant reform effort; and to work with Brown Education and Biology faculty to define an emerging role for the University in secondary science education. The successful candidate will be an outstanding teacher-scholar experienced in school and university life. Salary range: \$40,000-44,000. Starting date: June 1, 1988. For a full description of the position call (401) 863-3783. Application deadline: January 29, 1988.

Send letter of intent, vitae, and 3 letters of recommendation to: Theodore R. Sizer, Chairman of the Education Department, Box 1938, Brown University, Providence, RI 02912.

Brown University is An Equal Opportunity Employer Committed to Affirmative Action.



Brown University

POSITIONS OPEN

MICROCHEMISTRY LABORATORY SENIOR PROFESSIONAL ASSISTANT

The Jackson Laboratory in Bar Harbor, Maine, is seeking an individual to operate and direct the day-to-day activities of a core microchemistry laboratory for molecular biological research. Experience operating a protein sequencer, HPLC and peptide and DNA synthesizers is highly desirable. The M.S. degree is preferred, but candidates with a B.S. in a relevant scientific discipline and with significant experience will be considered. Salary is competitive and commensurate with experience; excellent fringe benefits.

Send letter of application, curriculum vitae and three letters of recommendation to: **Harold Wheeler, Employment Manager, The Jackson Laboratory, Bar Harbor, ME 04609.** Closing date for receipt of applications is 15 February 1988. *The Jackson Laboratory is an Equal Opportunity/Affirmative Action Employer.*

Northeast Missouri State University invites applications for three tenure-track positions, beginning August 1988: **MOLECULAR BIOLOGIST** (with preference given to applicants with experience in virology or microbiology); **MAMMALIAN BIOLOGIST** (with preference to anatomy and physiology); and **ECOLOGIST** (with preference to animal/plant interactions). Teaching will include courses in general biology for majors and non-majors as well as advanced courses. These individuals will also be expected to involve undergraduate and graduate students in research. Laboratory space, basic instruments, and initial support will be provided. Northeast Missouri State University is a state-wide public liberal arts and science institution which is nationally recognized for its value-added approach to education. Please send letter of application indicating teaching and research goals, curriculum vitae, official undergraduate and graduate transcripts, and three letters of recommendation to: **Dr. W. J. Magruder, Head, Division of Science, Northeast Missouri State University, Kirksville, MO 63501.**

Concordia University invites applications from **MOLECULAR GENETICISTS AND MOLECULAR BIOLOGISTS** to fill one or two tenure-track positions at the level of assistant professor in the Department of Biology to commence 1 June 1988. The successful candidate will participate in undergraduate and postgraduate teaching programmes of the Department, will have a Ph.D. degree or equivalent, and will probably already have at least 2 years of postdoctoral experience. The Department has a preference for candidates with microbial interests. Applications will be considered until the position(s) are filled. Interested candidates should send their curriculum vitae, a brief description of their research interests, and the names and addresses of three persons who could be contacted for letters of recommendation. Send applications to: **Dr. E. B. Newman, Chairman, Search Committee, Department of Biology, Concordia University, 1455 de Maisonneuve Boulevard, West, Montreal, Quebec, H3G 1M8.**

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

OB/GYN FACULTY POSITION

The Department of Obstetrics and Gynecology, University of Oklahoma Health Sciences Center in Oklahoma City is seeking an individual with research interests in reproductive biology. The candidate must have academic training in reproductive biology, early gamete physiology, and andrology. Ph.D. required. Preference will be given to (i) individuals familiar with in vitro fertilization techniques, especially in nonhuman primates, and (ii) individuals with at least a peripheral interest in reproductive immunology. The individual should be prepared to participate in student and resident teaching and assisting in research projects of students and residents. Candidates should be capable of interdigitating research efforts with clinical faculty as well as working independently on more basic projects.

Send curriculum vitae and bibliography:

John I. Fishburne, Jr., M.D.
Professor and Chairman
Department of Obstetrics and Gynecology
University of Oklahoma College of Medicine
P.O. Box 26901, 4SP 700
Oklahoma City, OK 73190
An Equal Opportunity Employer

POSITIONS OPEN

MOLECULAR BIOLOGY POSTDOCTORAL POSITION

A position is available immediately to join a laboratory investigating the molecular biology of human lung cancer. Applicants should have a recent Ph.D. in molecular biology, with a strong background in recombinant DNA technology. Projects will focus on the role of oncogenes and growth factors in tumor progression. Send curriculum vitae, thesis abstract, and names and addresses of three references to: **Dr. Jack A. Roth, Box 109, M. D. Anderson Hospital and Tumor Institute, 1515 Holcombe Boulevard, Houston, TX 77030.** *An Equal Opportunity/Affirmative Action Employer.*

MOLECULAR CARCINOGENESIS UNIVERSITY OF WISCONSIN

ASSISTANT SCIENTIST AND POSTDOCTORAL POSITIONS are available for projects studying the interactions of oncogenes, and "anti-oncogenes" in mammary carcinogenesis. The assistant scientist position requires previous postdoctoral research in areas of molecular biology such as RFLP analysis, gene transfer, transgenic animals, mini-satellite probes, PCR, and library construction and screening. Interested applicants should submit their curriculum vitae, copies of relevant publications and the names of three references to: **Michael N. Gould, University of Wisconsin-Madison, 600 Highland Avenue, Madison, WI 53792.**

NEUROBIOLOGIST CARLETON COLLEGE

Applications are invited for a tenure-track neurobiologist position in the Department of Biology available September 1988. Responsibilities include teaching a neurobiology course, an animal physiology course, as well as participating in a team-taught introductory course. Candidates with research interests in cellular or molecular aspects of neurobiology will be most competitive. The research should lend itself to participation by undergraduates and is expected to be supported by outside funding. The Department is most interested in persons with a commitment to teaching and research in the context of a liberal arts college. Applicants must have a Ph.D.; postdoctoral work is advantageous. *Women and minority candidates are encouraged to apply.* Applications, including curriculum vitae, undergraduate and graduate transcripts, a summary of research goals, and three letters of recommendation should be sent to: **Dr. J. L. Tymoczko, Department of Biology, Carleton College, Northfield, MN 55057-4025** by 1 February 1988.

Carleton is an Equal Opportunity/Affirmative Action Employer.

NEUROPHYSIOLOGY FACULTY POSITION

Tenure-track faculty position as assistant or associate professor available 1 July 1988. Minimum requirements include a doctoral degree, 2 years of postdoctoral training, and teaching experience. Applicants should be conducting high-quality research and be competitive for extramural funding. The faculty member will be expected to teach neurophysiology to medical and graduate students and develop a strong research program. Laboratory space, equipment, and start-up funds are available. Send résumé, description of research interests, and three or more letters of recommendation to: **Norman R. Kreisman, Ph.D., Department of Physiology, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, LA 70112.** *Tulane University is an Affirmative Action/Equal Opportunity Employer.*

A Division of Clinical Immunology has recently been established at Roswell Park Memorial Institute. This Division has a major interest in biological response modifiers with an extensive laboratory program focused on immunoconjugates; anti-idiotypes and lymphokines. Clinical trials with immunoconjugates, lymphokines and lymphokine activated killer cells are under way or planned. These therapies will be explored in patients with hematologic malignancies and solid tumors. Positions are available in this Division for **PHYSICIANS** who have completed their training in medical oncology and/or hematology who have an interest in both clinical trials and laboratory science. This is a tenure-track position. *An Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae/résumés to: **Dr. Kenneth Foon, Division of Clinical Immunology, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263.**

POSITIONS OPEN

Ph.D. BIOCHEMIST/IMMUNOLOGIST with minimum of 5 years of work experience in protein purification, HPLC and SDS-PAGE chromatography, Ab product, and characterization (poly and mono) for RIA and ELISA, plus additional experience with DNA probe techniques for Dx assay development. Entrepreneurial spirit essential and rewarded accordingly by this New York Company. Send curriculum vitae, list of publications, and list of references to: **Box 185, SCIENCE.**

PHYSIOLOGICAL ECOLOGIST

Applications are invited for a tenure-track position in physiological ecology at the University of California, Los Angeles (UCLA). We are seeking an outstanding and innovative scientist who has recently received the Ph.D. degree, but applications from more established investigators will be considered. Individuals doing modern and imaginative ecophysiological research on adaptations of animals or plants to their habitats are encouraged to apply. The candidate should complement the existing research interests in the Department. Teaching responsibilities are participation in an undergraduate "core" course, an undergraduate or graduate specialty course, and a graduate seminar annually. Applications are due by 31 January 1988, and should include curriculum vitae, bibliography, copies of recent publications, a description of research and teaching goals, and the names and addresses of four people from whom we may request letters of evaluation. Send materials to:

**Dr. Ken Nagy, Chair
Physiological Ecologist Search Committee
Department of Biology
University of California, Los Angeles
Los Angeles, CA 90024**

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

PHYSIOLOGIST THE CITY UNIVERSITY OF NEW YORK MEDICAL SCHOOL

Applications are invited for a full-time position in the Department of Physiology. The individual filling this position is expected to have an active fundable research program in cardiovascular, neurotransmitter, or renal physiology. Other areas of specialization will be considered. A priority of our program is on delivering a high quality of teaching to our medical students. The School has special commitments to increasing the number of physicians from presently underrepresented minority groups, to emphasizing the role of primary care, and to training for community-based primary care service to underserved urban areas of New York City. The position is available for September 1988. Salary and rank commensurate with experience.

Closing date for applications is 10 February 1988, or until a suitable candidate is found.

CUNY Medical School is an Equal Opportunity/Affirmative Action Employer. Send curriculum vitae to:

**Dr. Stanley Kalsner, Chairman
Department of Physiology, PP
CUNY Medical School
138th Street and Convent Avenue
New York, NY 10031**

PLANT AQUATIC ECOLOGIST

The Augustana College Biology Department has a tenure-track opening for an assistant professor (Ph.D.) in September 1988. Applicants must be prepared to teach aquatic ecology, principles of ecology, and participate in an introductory biology course. Staff members are expected to maintain active research programs that involve undergraduate students. Augustana is a liberal arts college related to The Evangelical Lutheran Church in America. Applications should include curriculum vitae, complete transcripts, three letters of professional evaluation including critical comments on past teaching performance and research ability, and the applicant's statement of plans for future professional development. Applications accepted until 1 February 1988, or until position is filled. Send applications to:

**Mrs. Jeanne Kruse
Administrative Assistant
Augustana College
Sioux Falls, SD 57197**

POSITIONS OPEN

PLANT BIOCHEMIST/ MOLECULAR BIOLOGIST

The Department of Biochemistry and Biophysics, University of California, Davis, invites applications for a full-time (11 months per year) tenured appointment as an associate of full professor of biochemistry and associate biochemist or biochemist in the Agricultural Experiment Station. Preference will be given to individuals with demonstrated research accomplishment in plant biochemistry and whose research interests emphasize the molecular biology of the plant cell. Applicants should have a Ph.D. or equivalent degree in biochemistry or a closely related discipline. The candidate will also be expected to teach at the graduate and/or undergraduate level, to advise students, and to guide graduate students towards advanced degrees in biochemistry. Applications must be received by 31 March 1988. Candidates should submit a résumé, copies of recent publications, a statement of professional goals/research interests, and the names and addresses of three references to: **Dr. J. C. Lagarias, Chair, Search Committee, Department of Biochemistry and Biophysics, University of California, Davis, California 95616.** *The University of California is an Equal Opportunity Employer and invites applications from all qualified individuals.*

POSTDOCTORAL ASSOCIATE available immediately to study the cellular mediators of acquired antituberculous immunity within the chronically infected mouse lung. Experience in cloning and cellular immunology is desirable.

The Trudeau Institute is a private, not-for-profit basic medical research institution located on the shore of Lower Saranac Lake and 10 miles from Lake Placid, New York. Subsidized housing and liberal fringe benefits are available.

Send curriculum vitae and names of three references to:

Dr. Frank M. Collins
Trudeau Institute
P.O. Box 59
Saranac Lake, NY 12983

POSITIONS OPEN

MSU-DOE PLANT RESEARCH LABORATORY MICHIGAN STATE UNIVERSITY PLANT MOLECULAR BIOLOGY

The MSU-DOE Plant Research Laboratory has available a tenure-track faculty position which can be filled at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Applications are being sought from individuals who propose to establish a research program focused on the investigation of fundamental problems in plant biology at the molecular and cellular level.

The Plant Research Laboratory is operated under a contract from the U.S. Department of Energy and provides a stimulating atmosphere and excellent facilities for research in experimental plant biology. Generous laboratory space and set-up support will be provided. An ongoing allocation of research funding is associated with the position.

Applicants must have postdoctoral research experience with demonstrated productivity and evidence of potential for independent and innovative research; senior applicants should have an established independent research program. In order to assure consideration, applications should preferably be received by 15 February 1988. Send curriculum vitae, a description of research experience and future research plans, and have three letters of reference sent to: **C. R. Somerville, Chairman, Search Committee, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing, MI 48824.** *Michigan State University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL ASSOCIATE IN MOLECULAR CARCINOGENESIS to conduct research in regulation of oncogene expression during tumorigenesis. Project will investigate cis- and trans-regulatory elements controlling expression of the Ha-ras oncogene during two-stage skin carcinogenesis. Background desired in molecular biology, or recombinant DNA and cloning, or cell culture, or DNA-binding proteins. Send curriculum vitae and names of three references to: **Dr. Jill C. Pelling, Eppley Cancer Institute, University of Nebraska Medical Center, Omaha, NE 68105.** Telephone: 402-559-6304. *Equal Opportunity Employer.*

POSITIONS OPEN

PLANT MOLECULAR BIOLOGISTS

The Boyce Thompson Institute (BTI) at Cornell University invites applications for two junior or intermediate positions in plant molecular biology. The Institute is initiating a program in plant molecular biology with a major commitment of resources and space in an outstanding research facility. Candidates will be expected to establish vigorous, independent research programs and to cooperate with well-established groups in environmental biology, plant protection, and plant productivity. Candidates involved in basic research in plant molecular genetics, development, or plant-microbe interaction are encouraged to apply. Excellent opportunities exist for interaction with Cornell faculty and for contribution to academic programs. Candidates with records of achievement in postdoctoral, assistant professor positions, or their equivalent will be considered. Send applications and three references by 15 February 1988 to **Molecular Biologists Search Committee, Boyce Thompson Institute, Ithaca, NY 14853.** *BTI is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW to become involved in a 2-year study involving analysis of ganglion cell degeneration in the retina of donor eyes from Alzheimer patients and age-matched controls. The applicant should hold a Ph.D. in neurosciences, and be experienced in light and electron microscopic techniques, as well as morphometry. A background in immunocytochemistry would be helpful, as would the knowledge of retinal anatomy and/or research experience in studying Alzheimer's disease. Send curriculum vitae to: **Janet C. Blanks, Ph.D., Doheny Eye Institute, 1355 San Pablo Street, Los Angeles, CA 90033.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE to study herpes virus replication. Recent Ph.D. or M.D. Experience needed in molecular biology, genetics, virology. Send curriculum vitae and three references to: **Dr. Denise Galloway, Fred Hutchinson Cancer Research Center, 1124 Columbia Street, Seattle, WA 98104.**

Equal Employment Opportunity/Affirmative Action Employer M/F/H.

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CURRENT DISTRIBUTION 160,000

POSITIONS OPEN

POSTDOCTORAL ASSOCIATE CARDIOVASCULAR PHYSIOLOGY THE UNIVERSITY OF VERMONT

Position available for 2 years to study the cellular and physical factors that influence blood vessel regulation. The research program focuses on mechanisms operative in small arteries, with major interest in stroke, hypertension and coronary vasospasm. The successful candidate will participate in a stimulating multidisciplinary vascular research environment. Send curriculum vitae and names of three references to: **Dr. William Halpern, Department of Physiology and Biophysics, University of Vermont, College of Medicine, Burlington, VT 05405. An Affirmative Action Employer.**

A **POSTDOCTORAL COLLEAGUE** is sought who will apply techniques of molecular biology to investigation of neuropeptide processing and its regulation, building on recent work on *Aplysia* bag cells (*J. Neurosci.* 7, 854), rat neurohypophysis (*Neurochem. Intern.* 11, 229), and crab sinus gland (*J. Neurochem.* 49, 574). Position to start January 1988, or after, now funded for at least 18 months; salary range, \$23,016 to \$30,264. Send curriculum vitae and names of three references to: **Robert Newcomb, Békésy Lab. of Neurobiology, University of Hawaii, 1993 East-West Road, Honolulu, HI 96822. Telephone: 808-948-8001. Equal Employment Opportunity/Affirmative Action.**

POSTDOCTORAL FELLOW IN DEVELOPMENTAL NEUROBIOLOGY for studies on positional information in the eye of the mouse embryo. Antigens with position-dependent distribution in the embryonic eye are being identified by monoclonal antibodies. A candidate preferably with background in protein biochemistry is sought to participate in the characterization of these antigens. Knowledge in tissue culture and embryology is desirable.

Send curriculum vitae and names of references to: **Dr. Ursula C. Dräger, Department of Neurobiology, Harvard Medical School, Boston, MA 02115.**

POSTDOCTORAL FELLOW SIGNAL TRANSDUCTION

Position available immediately to study mechanisms of receptor- and G-protein-mediated control of ion channels, phospholipase C and phospholipase A₂ in neutrophils and hematopoietic progenitor cells. Send curriculum vitae and references to: **Dr. T. G. Gabig, Indiana University Medical Center, 541 Clinical Drive, Room 379, Indianapolis, IN 46223. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately for a Ph.D. in biochemistry, immunology, cell biology, pharmacology, or related areas to study the cellular and biochemical mechanisms of multidrug resistance in cancer cells. Experience in monoclonal antibody production and membrane/receptor biochemistry desirable. The position renewable up to three years. Applicants should send curriculum vitae, recent publications and three letters of reference to: **Dr. Ahmad R. Safa, Joint Section of Hematology/Oncology, University of Chicago and Michael Reese Medical Centers, L231 Blood Center, Lake Shore Drive at 31st Street, Chicago, IL 60616.**

POSTDOCTORAL POSITION available immediately for a recent Ph.D. with experience in molecular biology for a newly funded project to characterize the biochemistry of the cloned HIV *pol* gene products. The applicant will join a multidisciplinary group investigating the molecular biology of retroviral infection.

Competitive salary and excellent benefits. Candidates should send curriculum vitae and names of three references to: **Public Health Research Institute, Ellen Murphy, Karl Drlaca or Abraham Pinter, 455 First Avenue, New York, NY 10016.**

POSTDOCTORAL POSITION open immediately for structural studies of the disulfides, domains and topology of the envelope protein of the AIDS virus. The protein is safely made by cloning methods in the absence of actual virus. A recent Ph.D. in biochemistry is required, and experience in protein chemistry is preferred. Send curriculum vitae and three letters of reference to: **Dr. Grayson Snyder, Department of Biological Sciences, 648 Cooke Hall, SUNY at Buffalo, Buffalo, NY 14260. Telephone: 716-636-2870. SUNYAB is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for molecular biologist or a biochemist/cell biologist to join a basic atherosclerosis research laboratory studying the regulation of growth factor expression in mammalian cells. A Ph.D. or M.D. degree is required. Funding via a training grant. Send curriculum vitae and arrange for three letters of recommendation to be sent to: **Dr. Larry Witte, Columbia University, Department of Medicine, 630 West 168th Street, New York, NY 10032.**

An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in reproductive immunobiology available for Ph.D., M.D., or holders of equivalent degrees. The areas under study include the role of a protein derived from the eosinophil granule in biologic responses culminating in labor in pregnant women and analyses of the functions of placental X cells and placental-site giant cells. Studies involve the use of monoclonal antibodies and recombinant DNA. Applicants must be United States citizens or hold an immigrant's visa. Contact: **Dr. Gerald J. Gleich, Chairman, Department of Immunology, Mayo Foundation, Rochester, MN 55905. Telephone: 507-284-2511. An Equal Opportunity/Affirmative Action Institution.**

POSTDOCTORAL POSITION available for a recent Ph.D. to study molecular biological aspects of the regulation of cholesterol synthetic enzymes of mammalian cells. Background in mammalian protein synthesis or gene expression required. Send curriculum vitae to: **Michael Sinensky Ph.D., Eleanor Roosevelt Institute for Cancer Research, University of Colorado Health Science Center, 4200 East Ninth Avenue, Box B129, Denver, CO 80262. Telephone: 303-270-7997.**

POSTDOCTORAL POSITION is available immediately for 3 years to study the neurobiology of specific glycolipid antigens involved in cell-cell interaction in the embryonic developing nervous system. A background in complex carbohydrate biochemistry, neurochemistry, and cell biology preferred. Send curriculum vitae with names of three references to: **Dr. Firoze B. Jungawala, Department of Biochemistry, 200 Trapelo Road, Waltham, MA 02254.**

POSTDOCTORAL POSITION available immediately to study cellular, neurochemical, neuroanatomical and/or behavioral substrates of peptide and amino acid interactions with dopamine. Salary negotiable. 18 January 1988 or until filled. Send curriculum vitae and names of three references to: **Peter Kalivas, Ph.D., Department of VCAPP, Washington State University, Pullman, WA 99164-6520. Washington State University is an Equal Opportunity/Affirmative Action Employer. Protected group members are encouraged to apply and identify their status.**

POSTDOCTORAL POSITION AVAILABLE CELLULAR ANALYSIS OF MOTOR DEVELOPMENT IN THE CHICK EMBRYO

A postdoctoral position is available to analyze the cellular mechanisms responsible for motor activity in the developing spinal cord of the chick embryo. Applicants should have a recent Ph.D., a strong background in neuroscience, and experience using intracellular recording methods. Interested candidates should send curriculum vitae, two to three reprints of recent work, and the names of three references to: **Michael O'Donovan, M.D., Ph.D., Department of Physiology and Biophysics, The University of Iowa, Iowa City, IA 52242; Telephone: 319-335-7858. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS are available immediately for studies of multidrug resistance (MDR). Areas include the cell biology and molecular pharmacology of "classic" MDR and its circumvention as well as the molecular biology and pharmacology of "atypical" MDR. St. Jude Children's Research Hospital is a multidisciplinary biomedical research center with many opportunities for scientific interactions. Annual salaries are commensurate with experience, and begin at \$22,000. Send curriculum vitae and names of three references to: **William T. Beck, Ph.D., Department of Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.**

St. Jude Children's Research Hospital is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION is now available for at least 2 years for research on glycoprotein biosynthesis in brain. Experience in enzyme purification and characterization, antibody production, radioisotopes, and membrane fractionation is desirable. Send curriculum vitae, summary of research experience, and names and addresses of three references to: **Dr. Oscar Touster, Department of Molecular Biology, Vanderbilt University, Nashville, TN 37235, Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION (developmental neurobiology) available immediately to study the cell surface molecules that regulate specific neuronal cell adhesion in the developing chick visual system, investigated using an in vitro adhesion assay system. Salary is extremely competitive, and moving expenses will be reimbursed. Send curriculum vitae immediately, and/or call: **Dr. Michael Pierce, Department of Anatomy and Cell Biology, University of Miami Medical School, P.O. Box 016960, Miami, FL 33101.**

POSTDOCTORAL POSITION available immediately in the Department of Neurosciences, University of California, San Diego to study the biochemistry of neuronal proteins abnormally expressed in Alzheimer's disease. Special emphasis will be directed toward the study of the processing and regulation of membrane proteins (such as growth factor receptors), cytoskeletal proteins and amyloid. Applications received on or before 29 February 1988, will be considered. Candidates with a recent Ph.D. and training in biochemistry should send curriculum vitae, names of three referees, and outline of research objectives to: **Dr. Robert Katzman, Department of Neurosciences, M-024, University of California, San Diego, La Jolla, CA 92093. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available now to investigate a novel pathway for metabolism of high density lipoproteins. Emphasis will be on in vivo studies using sophisticated tracer methodologies; other studies will focus on the mechanism of uptake of HDL cholesterol esters without uptake of HDL particles. Experience with in vivo studies and a background in cell biology are required. Position is in an established, highly interactive Specialized Center for Research on Arteriosclerosis. Health and other benefits provided. Please send curriculum vitae, reprints, and names of three references to: **Dr. Ray C. Pittman, Department of Medicine M-013D, University of California San Diego, La Jolla, CA 92093-0613. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available to study antibody-cytotoxic drug conjugates. The applicant should have a background in chemistry of dimeric *Catharanthus* alkaloids and transition ion coordination complexes. Salary: \$25,440. Send curriculum vitae, summary of research experience, and the names of three references to: **Dr. Peter Houghton, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately for qualified Ph.D. or M.D./Ph.D. to study the role of cell surface adhesive molecules and glycoproteins in tumor metastasis. Areas of research include cell-cell interaction, regulation and expression of functional cell surface antigens in relation to the cell metastatic phenotype. Background is biochemistry and molecular biology is desired. Salaries up to \$24,000. Send curriculum vitae and names of three references to: **Drs. Abraham Raz/Kenneth V. Honn, Cancer Metastasis Program, Michigan Cancer Foundation, 110 East Warren, Detroit, MI 48201.**

POSTDOCTORAL POSITION in synthetic organic chemistry as part of a program involved in the development of novel anticancer agents. Strong collaborative relationship exists with medicinal chemistry and pharmacology group at the Dana-Farber Cancer Institute and Harvard Medical School. Excellent opportunity for a chemist with an interest in enhancing their biologic background. Send résumé to: **Dr. Michael Wick, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.**

Experimental Oncology

Burroughs Wellcome Co. is committed to developing and marketing important new medicines to relieve suffering and combat disease through medical research. We currently have a position available for a Senior Research Scientist in the Experimental Oncology Section of the Medicinal Biochemistry Department. Your main responsibility will be to carry out studies on the development and use of *in vitro* systems for the selection and evaluation of potential antitumor drugs and on the differentiation of neoplastic cells.

To qualify, you must have a Ph.D. or equivalent in biochemistry, cell biology or a related field and one or more years of relevant postdoctoral experience. Requirements also include a background in oncology and extensive experience in mammalian cell culture. Previous experience in enzymology and HPLC is desirable.

As a professional with Burroughs Wellcome Co. you can expect a highly competitive salary and an excellent benefit package. Qualified minority, female, handicapped and veteran individuals are encouraged to apply. For consideration, please send your resume to: **BURROUGHS WELLCOME CO., Attn: Employment Supervisor, Position #3018, 3030 Cornwallis Road, Research Triangle Park, NC 27709.** We are an equal opportunity employer.



Wellcome

Postdoctoral Fellow Molecular Oncology/ Tumor Cell Biology Genentech, Inc.

The Department of Pharmacological Sciences has an immediate opening for a postdoctoral fellow to work in the area of modulation of growth factor receptor function. The focus of the project will be the role of growth factors and their receptors in human breast cancer.

The successful candidate will have a strong background in molecular and cellular biology and a keen interest in understanding the mechanisms of tumorigenesis.

Please send your CV and letter of interest to: Dr. Michael Shepard, Department of Pharmacological Sciences, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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FACULTY POSITIONS

DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY

THE PHILADELPHIA COLLEGE of PHARMACY & SCIENCE

Several full-time, tenure-track vacancies exist in the Department of Pharmacology & Toxicology at PCP&S. Faculty appointments will be made at the academic level of Assistant or Associate Professor, by July 1, 1988.

Responsibilities will include:

- instruction of undergraduate and graduate students majoring in biomedical educational programs offered by the College.
- development of extramurally funded research in an area of scientific interest directly related to pharmacology or toxicology.
- professional service contributory to departmental and institutional goals and objectives.

Requirements for these positions are:

- Ph.D. degree in pharmacology, toxicology or closely allied field.
- postdoctoral training and research specialization.
- record of teaching experience and scholarly publications.
- evidence of probable success in obtaining funds to support research.

Persons with research training/experience in one of the following areas are particularly encouraged to apply: cardiovascular, molecular, neuroendocrine and immunopharmacology or toxicology.

Please submit a letter of interest, curriculum vita, and a list of three professional references to:

DR. JOHN A. GANS, Acting Dean of Pharmacy
PHILADELPHIA COLLEGE of PHARMACY & SCIENCE
Woodland Avenue at 43rd Street, Philadelphia, PA 19104
An Equal Opportunity, Affirmative Action Employer

RESEARCH SCIENTIST (Ph.D.) PROTEIN CHEMISTRY

The Fine Chemical Division of The Upjohn Company has an opening in its Bioprocess Research and Development unit for a Ph.D. Protein Chemist. This laboratory position involves isolation and purification process development for recombinant proteins and monoclonal antibodies. A strong protein isolation and characterization background is required. Experience in immunochemistry is desirable.

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 a very competitive salary, commensurate with experience and an outstanding benefits program.

For confidential consideration, please call 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. Please refer to Ad Number 1752-F when calling.

An Equal Employment Opportunity Employer M/F
Our commitment to scientific excellence continues..

Upjohn

POSITIONS OPEN

POSTDOCTORAL POSITION

Postdoctoral position in neurobiology/endocrinology is available January 1988 to study electrophysiological correlates of secretion by adrenocortical tissue. Studies will focus on changes in ion conductance (Ca^{++} , K^{+} , etc.) in adrenocortical cells modulated by aldosterone secretagogues (angiotensin II, ACTH, and K^{+}). Experience with intracellular recording and patch clamp techniques is highly desirable. Send résumé and three references to: **Dr. M. Carter Cornwall, Department of Physiology, Boston University School of Medicine, Boston, MA 02118.**

An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately for qualified Ph.D. or M.D./Ph.D. to study cicosanoid metabolism in tumor cells, regulation of surface expression of "integrin" receptors and their relation to metastasis. Experience in lipid biochemistry particularly cicosanoids and receptor/cytoskeleton cell biology desirable. Salaries up to \$24,000. Send curriculum vitae with names and three references to: **Drs. Avraham Raz/Kenneth V. Honn, Cancer Metastasis Program, Michigan Cancer Foundation, 110 East Warren, Detroit, MI 48201.**

POSTDOCTORAL POSITION—NIH Training Grant. Hormone Action. Excellent opportunity for Ph.D. or M.D. interested in acquiring experience in application of contemporary techniques of molecular biology to the study of thyroid hormone action in a physiologic context (including cloning, sequencing, gel shift, footprinting). No experience necessary. Send curriculum vitae, list of publications, and names of three references to: **J. H. Oppenheimer, M.D., Professor of Medicine and Physiology, University of Minnesota, Box 91 UMHC, Minneapolis, MN 55455.**

POSTDOCTORAL POSITION available to study novel pathway of arginine metabolism in immunostimulated macrophages [see *PNAS* 84, 6369 to 6373 (1987)]. Experience in protein purification and enzyme characterization is essential. Additional experience in one or all of the following areas would be helpful: cell culture methods, antibody preparation or analytical techniques. Please send curriculum vitae, and have three letters of recommendation sent to: **Dr. Michael A. Marletta, The University of Michigan, College of Pharmacy, Ann Arbor, MI 48109-1065.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION for individual interested in molecular and cellular biology of myelination and demyelination. Potential for faculty status. Send curriculum vitae and two letters of recommendation to: **Dr. Bruce D. Trapp, Department of Neurology, Johns Hopkins University School of Medicine, Meyer 6-181, Baltimore, MD 21205.**

POSTDOCTORAL POSITION—NEUROBIOLOGY to join NIH-funded investigation into the regulation, distribution, and function of ion channels in vertebrate neuronal and cardiac cells, using patch and whole-cell voltage clamp techniques. Projects include channel modulation by hormones and neurotransmitters and the diversity of channel subtypes in different, closely related animal species. Experience in electrophysiology and computerized data acquisition and analysis is desirable, but not essential. Available January 1988, for up to 4 years (later start may be arranged). The laboratory is located on the central Oregon coast at Oregon State University's Marine Science Center. Send curriculum vitae, names of three references, and a description of experience and career goals to: **Dr. Donald T. Campbell, Hatfield Marine Science Center, Oregon State University, Newport, OR 97365.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS: Postdoctoral training in retroviruses, oncogenes. Model systems include avian leukosis viruses and human immunodeficiency virus. Positions opening in the spring and fall of 1988. Interested candidates should send curriculum vitae and names of three references to: **Dr. Harriet L. Robinson, Department of Pathology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester MA 01655.** *UMMC is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS are immediately available to examine the neurobiological, genetic, and epidemiological aspects of alcohol's action in the brain and alcohol abuse and alcoholism at the Washington University School of Medicine (St. Louis). This institutional training grant consists of the following preceptors with a brief description of their research interests: Theodore J. Cicero (Paternal and Postnatal Effects of Alcohol on Puberty); **Bruce Nock** (Effects of Alcohol on Endogenous Opioid Peptide Receptors and Function); **Lynn O'Connor** (Image Analysis of Involvement of Neurochemical Neuroendocrine Systems in Effects of Ethanol in the Nervous System); **John Olney** (Neuropathology of Alcoholism); **Blake W. Moore** (Effects of Ethanol on Neural Cells in culture); **C. Robert Cloninger** (Genetic Epidemiology of Alcoholism and Related Disorders); **Theodore Reich** (Genetic Epidemiology Studies in Alcoholism); **Eric Devor** (Molecular Markers in Human Alcoholism); **Lee Robins** (Epidemiology of Alcoholism); **John Helzer** (Epidemiology of Alcohol Abuse and Dependence); **Felton Earls** (Antecedents and Transmission of Alcoholism in High-Risk Children). Positions are available in each of these areas. Please submit resume and letters of three references to: **Theodore J. Cicero, Ph.D., Department of Psychiatry, Washington University School of Medicine, 4940 Audubon Avenue, St. Louis, MO 63110.** Positions are open to investigators holding the Ph.D. degree in relevant areas and M.D. degrees. Stipend is dependent upon years of relevant experience. We are particularly interested in the recruitment of minorities and physicians and we encourage such applications. *Washington University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION NEUROCHEMISTRY

Opening for Ph.D. or M.D. with experience in membrane biochemistry/cellular neurobiology to participate in studies on the purification and characterization of potassium channel proteins. Knowledge of molecular biological techniques and/or experience with synaptosome preparations helpful but not essential. Exciting opportunity for training in a very lively academic environment. Position available summer 1988; salary commensurate with experience. Send curriculum vitae, and three letters of recommendation to: **Dr. Mordecai P. Blaustein, Department of Physiology, University of Maryland School of Medicine, 655 West Baltimore Street, Baltimore, MD 21201.** *The University of Maryland is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION: YEAST

Available immediately, NIH funds. Use of killer toxin gene fusions as a model for secretion and processing of proteins in yeast, including the isolation and characterization of hypersecretion and processing mutants. Analysis of the mechanism of immunity to toxin and functions of toxin components. Experience in recombinant DNA/molecular genetics/protein biochemistry techniques desirable. Send résumé and three letters of recommendation to: **Dr. Donald J. Tipper, Department of Molecular Genetics and Microbiology, University of Massachusetts Medical Center, Worcester MA 01655.** *UMMC is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS. D.V.M., D.D.S., M.D. or Ph.D.'s may pursue a graduate degree in comparative and experimental medicine. Persons holding medical degrees should expect emphasis on laboratory research with limited courses. Those with strong research experience may devote a 100% effort to laboratory research. Active programs in virology/immunology, respiratory disease of livestock, hematology, environmental toxicology and animal models of human diseases. Contact: **Ms. Dreaa Cathey, College of Veterinary Medicine, University of Tennessee, P.O. Box 1071, Knoxville, TN 37901-1071.** *The University of Tennessee is an Equal Employment Opportunity/Affirmative Action Title IX/Section 504 employer.*

POSTDOCTORAL POSITIONS (Research) available to study the molecular regulation of glycoprotein biosynthesis. Background in biochemistry or molecular biology required. Send curriculum vitae and names of three references to: **Dr. M. C. Glick, Division of Biochemical Development and Molecular Diseases, The Children's Hospital of Philadelphia, 34th Street and Civic Center Boulevard, Philadelphia, PA 19104.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS available immediately and in the fall of 1988. (i) Structure, function and regulation of *mdr* (P-glycoprotein) genes. (ii) Isolation of amplified genes from human tumors, (iii) Genetic mechanisms of tumor metastasis. Experience in molecular biology preferred. Send curriculum vitae and three letters of reference to: **Dr. Igor Roninson, Center for Genetics, University of Illinois at Chicago, 808 South Wood Street, Chicago, IL 60612.** *Equal Opportunity Employer/Affirmative Action.*

POSTDOCTORAL POSITIONS IN HUMAN MITOCHONDRIAL GENETICS. We are studying the genetics of oxidative phosphorylation (OXPHOS) and analyzing OXPHOS gene variation in relation to neuromuscular disease and human origins. OXPHOS provides much of the cellular ATP and is unique in being assembled from genes encoded in the nuclear DNA (nDNA) and the maternally inherited mitochondrial DNA (mtDNA). Projects include: (i) identification of biochemical defects and mtDNA mutations associated with maternally inherited diseases and design of diagnostic tools and therapeutic regimes; (ii) characterization of mtDNA variation in aboriginal populations and reconstruction of ancient female migration patterns; and (iii) isolation and characterization of nDNA OXPHOS genes and examination of the coevolution and interaction of nDNA and mtDNA genes [Singh et al., *Nature* 329, 270 (1987); Neckelmann et al., *PNAS* 84, 7580 (1987); etc.]. Candidates interested in applying their molecular genetic, population genetic, or OXPHOS enzymological expertise to the study of this fascinating and vital system should send their curriculum vitae and names of three referees to: **Dr. Douglas C. Wallace, Professor of Biochemistry, 109 Woodruff Memorial Building, Emory University Medical School, Atlanta, GA 30322.** *Emory University is an Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS IN MOLECULAR NEUROBIOLOGY. Projects include studies on the structure and control of brain actin and myosin, properties of Alzheimer neurofibrillary tangles, control of amyloid beta-protein formation, and characterization of the infectious scrapie agent. Experience in protein chemistry and/or molecular biology essential. Salary \$27,000 or higher. Send curriculum vitae and names of three references to: **Dr. Marshall Elzinga or Dr. David C. Bolton, NYS Institute for Basic Research, 1050 Forest Hill Road, Staten Island, NY 10314.**

POSTDOCTORAL POSITIONS IN NUTRITIONAL SCIENCES at the University of Illinois at Urbana-Champaign. Positions involve fundamental and applied nutrition of animals or humans. Individuals with an M.D. or Ph.D. in nutrition or allied fields are encouraged to apply. Applications must be received by 1 February 1988. Contact: **Dr. J. A. Milner, Director, Division of Nutritional Sciences, 451 Bevier Hall, 905 South Goodwin, Urbana, IL 61801.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS IN PROTEIN CRYSTALLOGRAPHY. Two postdoctoral positions in protein crystallography will be available on or after 1 December 1987 to study the structure of myosin subfragment-1 or proteins involved in electron transport. Experience in crystallography of diffraction is required. Send curriculum vitae and three letters of recommendation to: **Drs. Ivan Rayment and Hazel M. Holden, Department of Biochemistry, Biological Sciences West, University of Arizona, Tucson, AZ 85721.** *An Affirmative Action/Equal Opportunity Employer.*

FOREST BIOTECHNOLOGY USDA FOREST SERVICE POSTDOCTORAL RESEARCH ASSOCIATE

Position in conifer tissue culture and transformation. Position open to recent Ph.D. in forestry, botany, plant sciences, or related field. Experience with plant tissue culture required; experience with conifer tissue culture and *Agrobacterium* transformation preferred. Individual is expected to contribute tissue culture and transformation expertise to existing projects on the molecular genetics of conifers as well as develop independent research. This is a 2-year appointment. To apply, send résumé and names of three references before 15 February 1988 to: **D. Neale, Genetics Unit, P.O. Box 245, Berkeley, CA 94701** or telephone: 415-486-3688 or 415-486-3612 for more information. *The Forest Service is an Equal Opportunity Employer.*

**POSITION AVAILABLE
DIRECTOR, OFFICE FOR SUBSTANCE ABUSE PREVENTION
ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION
PUBLIC HEALTH SERVICE
DEPARTMENT OF HEALTH AND HUMAN SERVICES**

The Alcohol, Drug Abuse, and Mental Health Administration invites nominations and applications for the position of Director, Office for Substance Abuse Prevention (OSAP).

This is a Senior Executive Service position in the career Civil Service, with an annual salary range of \$64,700 to \$73,400. Physicians may also be eligible for a Physicians' Comparability Allowance of up to \$20,000 per year. The position is located in Rockville, Maryland.

OSAP provides leadership and guidance for program planning, evaluation, and coordination for the national effort in the prevention of alcohol, and drug abuse; develops policies and procedures to assure coordination within the Agency, and the Department, in program implementation; coordinates all program planning, educational, and evaluation activities, and provides liaison among the Institutes, regional offices, private activities, State and local governments, as well as with the Secretary for Health and Human Services and other Federal agencies. The incumbent of this position works under the broad general direction of the Administrator and provides the overall leadership and guidance for OSAP programs. The incumbent is responsible for directing and supervising the Office of the director and three Divisions, with a budget of approximately \$48 million and 56 FTE's in FY 1988.

Minimum qualifications requirements include the following: a degree of Doctor of Medicine, Doctor of Osteopathy, or a

bachelor's or higher degree in an academic field relating to the health sciences pertinent to the work of the position; experience with responsibility for the development, administration, and evaluation of alcohol and drug prevention and/or treatment programs is also required. Candidates must also have experience in the management of programs demonstrating competence to assume leadership in planning, staffing, directing, coordinating, and allocating resources, and other responsibilities associated with executive leadership of a major national program.

Further information about the position and qualifications requirements may be obtained by contacting Ms. Leslie Everheart at 301/443-5030. Applications (Application for Federal Employment, SF 171) accompanied by a current curriculum vitae and bibliography should be submitted to Ms. Everheart at the Division of Personnel Management, Alcohol, Drug Abuse, and Mental Health Administration, 5600 Fishers Lane, Room 15C-26, Rockville, Maryland 20857. Applications will be accepted without the SF 171, provided that the SF 171 is submitted upon request. Complete application material (including the SF 171) must be postmarked by January 29, 1988.

Applications from women and minority group members are especially solicited.

**THE ALCOHOL, DRUG ABUSE, AND
MENTAL HEALTH ADMINISTRATION
IS AN EQUAL OPPORTUNITY EMPLOYER.**

BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc., a major innovator in the research, development and marketing of ethical drugs, has the following openings in the Department of Toxicology and Safety Assessment.

These positions are located at our Research and Development Campus in DANBURY, CONNECTICUT.

REVIEWING TOXICOLOGIST

This position will be responsible for the critical review and evaluation of pharmacology and toxicology studies, the analysis and interpretation of data and the integration of reports into scientific documents for international registration. This is primarily a non-laboratory environment but the opportunity exists for participation in the department's toxicology research efforts.

Requirements include a Ph.D. or Masters (with equivalent experience) in Toxicology, Pharmacology or related life science with 2-4 years of industrial (pharmaceutical) or government experience.

BOEHRINGER INGELHEIM offers a highly competitive compensation and benefits package, relocation assistance, an excellent work environment and the opportunity to have your contributions recognized.

For confidential consideration, please forward your curriculum vitae and salary requirements to:

Dept. JC-IJS,
BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc.,
90 East Ridge, P.O. Box 368,
Ridgefield, CT 06877. We are an equal
opportunity employer
m/f/h/v.

PATHOLOGIST

This NEWLY created position will be responsible for the implementation of an in-house pathology program within the framework of preclinical toxicology testing for international drug applications, the management of scientific staff, the establishment of priorities and the effective utilization of program resources.

This position requires a D.V.M. or Ph.D., board certified in Pathology, with significant experience in reviewing microscopic slides in preclinical drug safety studies and administrative or management experience.



**Boehringer
Ingelheim**

POSITIONS OPEN

TWO POSTDOCTORAL POSITIONS available in spring 1988 to study the mechanisms by which EGF and angiotensin II regulate phosphatidylinositol 4,5 biphosphate breakdown and activate protein kinases in the cell. Major emphasis will be placed on the role of G proteins and membrane phosphoproteins in this process. A background in membrane biochemistry or molecular biology and an interest in hormone action are desired. Please send curriculum vitae including the names of three references to: **Dr. James C. Garrison, Department of Pharmacology, University of Virginia School of Medicine, Charlottesville, VA 22908.**

POSTDOCTORAL/RESEARCH ASSOCIATE position to study the molecular neurobiology of Alzheimer's disease. Qualifications include a Ph.D. or M.D., with a strong background in immunocytochemistry, cell biology, and in vitro cell cultures. Experience with eukaryotic in vitro expression vector systems desirable. The candidate will be part of an effort to study the mechanism of amyloid accumulation in the CNS of the Alzheimer's disease and Down syndrome patients using molecular biology and immunocytochemistry. Please send resumé and the names of three references to: **Dr. Nikos Robakis, Mount Sinai School of Medicine, Department of Psychiatry and Neurobiology Center, One Gustave L. Levy Place, New York, NY 10029-6574. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE. Position available to study mammalian aldehyde dehydrogenase regulation and enzymology as these relate to the biotransformation of drug/agents used to treat cancer and/or facilitate cell differentiation. Highly desired qualifications include Ph.D. and experience in enzymology, protein purification, immunology, and cell culture. Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Dr. N. E. Sladek, Department of Pharmacology, 3-260 Millard Hall, University of Minnesota, Minneapolis, MN 55455.**

POSTDOCTORAL RESEARCH ASSOCIATE position located in Clemson, South Carolina (temporary: not to exceed 2 years), available to study habitat selection of southeastern fox squirrels and southern flying squirrels. Applicants should have a recent Ph.D. in wildlife biology, ecology, or mammalogy. Must have a strong quantitative background to assess squirrel abundance in relation to habitat and ability to develop a comprehensive program of field studies and interact with land managers. Starting salary is \$27,172 per annum. *Forest Service is an Equal Opportunity Employer. Women and minorities are encouraged to apply.* Send letter of application, complete resumé, and names of three references to: **Dr. Michael R. Lennart, USDA Forest Service, Southeastern Forest Experiment Station, Department of Forestry, Clemson University, Clemson, SC 29634-1003.**

POSTDOCTORAL RESEARCH ASSOCIATES

Positions for NCI postdoctoral training program in molecular and cellular mechanisms of carcinogenesis are available at The University of Texas System Cancer Center (UTSCC)—Science Park. Research programs focus on the following areas: somatic cell genetics, DNA repair and mutagenesis, carcinogen metabolism and adduct formation, tumor promotion, mechanisms of lymphomagenesis, normal and tumor cell differentiation, biochemical genetics, growth factors, and retroviruses. Applicants must be U.S. citizens or permanent residents and have a Ph.D., M.D., or D.V.M. degree. For application forms contact: **Dr. Thomas J. Slaga, Director, UTSCC, Science Park-Research Division, P.O. Box 389, Smithville, TX, 78957. Telephone: 512-237-2403. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES: Postdoctoral research associate positions available immediately to study GABA_A, GABA_B, D1 and D2 receptors in barbiturate or cocaine actions. Should have experience in receptor bindings. HPLC analysis of neurotransmitters and their metabolite; uptake and release of neurotransmitters and purification of proteins. Send curriculum vitae and two letters of reference to: **D. I. K. Ho, Department of Pharmacology and Toxicology, The University of Mississippi Medical Center, Jackson, MS 39216-4505. Equal Opportunity Employer, M/F/H/V.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE POSITION available immediately to study mechanisms of steroid hormone regulation of cell proliferation. Candidate should have experience in cell culture techniques, molecular endocrinology, and experience in purification and characterization of growth factors or other biologically active peptides. Send curriculum vitae and references to: **Dr. Pentti K. Suteri, Reproduction Endocrinology Center, HSW 1656, Box 0556, University of California, San Francisco, CA 94143.**

POSTDOCTORAL RESEARCH ASSOCIATE position to study topography of glycosylation and sulfation reactions using biochemical, cell and molecular biological approaches. See *Annual Review Biochemistry* 56, 63 (1987). Send curriculum vitae to: **Dr. C. B. Hirschberg, Department of Biochemistry, University of Massachusetts Medical Center, Worcester MA 01655. UMMC is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION available immediately for molecular biologist to participate in project examining expression and function of human cell receptors involved in cell-cell and cell-substratum adhesion. Candidates should be familiar with gene cloning and sequencing. Salary is commensurate with training. Send curriculum vitae and three references to: **Dr. William Carter, Division of Basic Sciences, Fred Hutchinson Cancer Center, 1124 Columbia Street, Seattle, WA 98104.**

POSTDOCTORAL TEACHING/RESEARCH ASSOCIATE IN ZOOLOGY ARIZONA STATE UNIVERSITY (ASU)

A postdoctoral associate position is open for the 1988 to 1989 academic year in the Department of Zoology. Responsibilities will include teaching in the laboratory component of a large, nonmajors introductory biology course and research that includes collaborative research in biology or biology education with a faculty member in the Department. The appointment may be renewed for an additional year. Applications must include curriculum vitae, three letters of recommendation, a statement of research plans, documentation of teaching experience and abilities, and a letter from the intended faculty collaborator at ASU. Review of applications will begin 15 February 1988. Starting date is 15 August 1988. Applications from two individuals wishing to share the position will be considered. *ASU is an Affirmative Action/Equal Opportunity Employer.* For more information contact: **Dr. Ronald L. Rutowski, Department of Zoology, Arizona State University, Tempe, AZ 85287-1501. Telephone: 602-965-4369.**

REMOTE SENSING. The School of Oceanography at the University of Washington invites applications for a **RESEARCH FACULTY POSITION** in remote sensing. The School currently carries out field and theoretical research in a variety of oceanographic research disciplines including general circulation, wave and eddy dynamics, climate, and high-latitude dynamics. Strong interactions exist with the Department of Atmospheric Sciences, NOAA's Pacific Marine Environmental Laboratory, and the University's Applied Physics Laboratory.

The School of Oceanography is committed to developing a remote sensing program. This program will focus primarily on the mid- and high-latitude North Pacific, particularly on the relationship between wind forcing and large-scale circulation; the relationship between physical forcing and biological productivity; and on sea-ice dynamics. Strong theoretical, observational, and modeling programs already exist in these fields. Emphasis will be on candidates with previous experience in remote sensing especially in the use of sea surface altimeter and scatterometer data. Previous experience in interdisciplinary problems would be helpful. Teaching in areas such as sensor capability and analysis of remotely sensed data will be encouraged.

Applicants for the above position should submit a letter of application, curriculum vitae, appropriate reprints, and the names of four references to: **Dr. Arthur Nowell, Acting Director, School of Oceanography, WB-10, University of Washington, Seattle, WA 98195. (Telephone: 206-545-0923; GTE Telemail: A. NOWELL).** The closing date for applications is 29 February 1988. *The University of Washington is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL TRAINING SECTION OF NEUROBIOLOGY AND BEHAVIOR CORNELL UNIVERSITY

Opportunities for research training are available through an NIH-funded training grant at both entry and advanced postdoctoral levels. The Section of Neurobiology and Behavior includes an interdisciplinary group of integrative, cellular, and molecular neurobiologists and collaborative projects are encouraged.

For information and application materials write:

**Director, Postdoctoral Training Program
Section of Neurobiology and Behavior
Seeley G. Mudd Hall
Cornell University,
Ithaca, NY 14853-2702**

HOST-PARASITE INTERACTIONS POSTDOCTORAL TRAINING—STANFORD UNIVERSITY

Applications are invited for postdoctoral study in the Department of Medical Microbiology as part of an NIH-funded training program. Persons interested in microbiology and immunology as it relates to the molecular basis of the host-parasite interaction are encouraged to apply. Research areas covered by the 12 faculty include virology, bacteriology, parasitology, and immunology with particular emphasis on the application of molecular biology to studies in these systems.

Postdoctoral candidates must have no more than 2 years of NIH-supported postdoctoral experience. They should write directly to the faculty member of interest or, for a list of faculty and their research, to: **Ms. Gloria Samuel, Department of Medical Microbiology, Fairchild Building D319, Stanford University School of Medicine, Stanford, CA 94305-5402.**

Applications will be accepted at any time before 15 June 1988 for support beginning 1 September 1988. *Stanford welcomes and encourages applications from women and minority students.*

POSTGRADUATE RESEARCH POSITION

[Department of Medicine, University of California, San Diego (UCSD)]. NIH-sponsored research investigating cellular mechanisms of stimulus-secretion coupling in exocrine pancreas. Salary within UCSD research salary scale. Degree in cell biology/pharmacology. Start February/March 1988. Send curriculum vitae, research interests, and names of two references to: **Dr. S. J. Pandol, VAMC (V-111D), 3350 La Jolla Village Drive, San Diego, CA 92161. Affirmative Action/Equal Opportunity Employer.**

PROFESSOR AND HEAD

The Department of Botany and Microbiology, in the College of Sciences and Mathematics at Auburn University, invites applications and nominations for an accomplished scientist-educator to head the diverse department of 25 faculty and professional staff. The Department is also responsible for the principal Molecular Genetics Program of the University. The Head will be expected to provide intellectual and philosophical leadership and support for faculty, staff, and students in their teaching and research activities. Although classical areas of botany and microbiology remain an integral component of the Department, future emphasis will be given to subcellular and molecular processes of plants and microbes, molecular genetics of plant and microbial systems, and an emerging program in plant-microbial interactions with emphasis on the rhizosphere. Although the primary responsibilities of the Head will be administration of the Department's programs, an active research program with extramural funding is encouraged. Qualifications for the candidate include a Ph.D. in an appropriate discipline, a record of outstanding scholarly achievement, and demonstrated potential for administration. Review of applications will begin March, 1988, and will continue until an acceptable candidate is identified. Applicants should send curriculum vitae, names of three references, and a brief statement of philosophy on department administration to: **Dr. John D. Weete, Chairman, Botany and Microbiology Department Head Search Committee, Department of Botany and Microbiology, Auburn University, AL 36849.**

Auburn University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

REPRODUCTIVE BIOLOGIST

A private, nonprofit research institute is seeking a reproductive biologist to head up a group of five to six workers to conduct research on the physiological role of the newly discovered intraovarian polypeptide regulators. A minimum of 2 years of postdoctoral training and experience in gonadal cell culture is required. Initial salary, equipment, and supplies will be provided with the understanding that the candidate is expected to participate with a group of biochemists and molecular biologists to secure funding to work on the isolation, characterization, and physiology of the polypeptide regulators in ovarian follicular fluid.

Send curriculum vitae, statement of research interest, and the names of three references to: **Nicholas Ling, Ph.D., Whittier Institute for Diabetes and Endocrinology, 9894 Genesee Avenue, La Jolla, CA 92037.** Closing date for applications is 31 January 1988.

RESEARCH ASSOCIATE. Ph.D. in microbiology and 4 years of advanced research at pre- or postdoctoral level. To conduct research in cloning and sequencing reovirus genes and their expression in prokaryotic and eukaryotic vectors, isolation, characterization and production of monoclonal antibodies for characterization using recombinant DNA technology. Salary: \$17,400. Forty hours. Submit three letters of reference. If not a U.S. citizen indicate visa status. Apply to: **Employment Security Commission, 516 North Mangum Street, Durham, NC 27701** or your local Job Service Office. Job Order Number NC7101352. DOT Code 090.227-010. *Affirmative Action/Equal Opportunity Employer.*

RESEARCH FACULTY POSITION: Molecular biologist for research in mucin composition and function. Ph.D. with research experience faculty position commensurate with background. Send curriculum vitae with bibliography to: **Roy V. Lourenco, M.D., Department of Medicine (M/C 787), University of Illinois at Chicago, 840 South Wood Street, Chicago, IL 60612.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

RESEARCH ASSOCIATE IN MORPHOLOGIC ONCOLOGY.

An opening exists in the oncology research program in the College of Veterinary Medicine, North Carolina State University, for a research associate in morphologic oncology. Applicants should possess either the Ph.D., D.V.M., or M.D. degree, and demonstrated experience in histopathologic interpretation of neoplastic tissue. The oncology research program is a multidisciplinary, multi-institutional program in which experimental cancer therapy is evaluated in laboratory animals and pet dogs with spontaneous tumors. Duties of this position include providing interpretation of biopsy specimens taken from animal cancer patients, compilation and evaluation of necropsy information from animal cancer patients treated in this program, and evaluation of normal tissue effects of various cancer treatments. This position could provide an excellent opportunity for either pursuit of the Doctor of Philosophy degree or establishment of an independent research project, depending on the qualifications of the applicant. Send curriculum vitae, names of three references, and a statement of professional interests to: **Dr. Donald E. Thrall, Department of Anatomy, Physiological Sciences and Radiology, College of Veterinary Medicine, North Carolina State University, 4700 Hillsborough Street, Raleigh, NC 27606.** This position is available immediately and is supported by research grant funds until at least 30 May 1990. Closing date: 1 February 1988 or until filled.

An Equal Opportunity/Affirmative Action Employer. Applicants are requested to identify their race for affirmative action reporting.

RESEARCH ASSOCIATE: For purification and reconstitution of the hepatic glucagon receptor. Ph.D. or M.D. Must have prior experience (2 years or more) in the purification of hydrophobic proteins, and working with hydrophobic peptides. Send curriculum vitae and names of three references to: **Dr. Ravi Iyengar, Department of Pharmacology, Mt. Sinai School of Medicine, Box 1215, 1 Gustave L. Levy Place, New York, NY 10029.**

POSITIONS OPEN

RESEARCH AND DEVELOPMENT SCIENTIST—VIROLOGY

The American Red Cross Jerome H. Holland Laboratories in Rockville, Maryland, has an immediate opening for a research/development scientist in virology. Major responsibilities will be in the area of selective inactivation of viruses and infected cells in biologic systems, particularly blood and blood components. Potential for additional work in diagnostic/screening methods. Direct experience with isolation, assay, and growth of animal and human viruses, including retroviruses, is required. Experience in gene structure and/or cloning desirable. Individuals with industrial/clinical or academic laboratory experience will be considered. Appointment at level equivalent to assistant/associate professor. Please send curriculum vitae and references to:

**Thomas P. Higgins
Position G081
National Headquarters
American Red Cross
Washington, DC 20006**

An Equal Opportunity Employer M/F/V/H

RESEARCH ASSOCIATE position available for individual to conduct research on mouse mammary tumor virus (MMTV) for construction and characterization of MMTV proviral clones. These in vitro constructed clones will be explored to find the molecular basis of oncogenic transformation. These works will involve restriction enzyme analysis of MMTV DNA, recombinant DNA construction, transformation of cells, tissue culture, labeling with radioactive compounds, and biochemical analysis of proteins and nucleic acids. This is a 40-hour-per-week (8:30 a.m. to 5 p.m.) position. The salary is \$25,000 annual. The candidate should have 1 year of experience in handling radioactive compounds like ^{35}S , ^{32}P , ^{14}C and ^3H , and 1 year of experience in biotechnology also desired. Also, required are Ph.D. with training in molecular biology, 2 years of experience in job offered or 1 year in related occupation, virology, tissue culture. Send curriculum vitae and names of three references to: **Louisiana Department of Labor, Job Order #656342, Job Service Office, 6701 Airline Highway, Metairie, LA 70003.**

Electron Microscopy Opportunity

Genentech, Inc., a leader in the field of biotechnology, is searching for an individual to establish and manage a multiuser electron microscope facility. Individual should be familiar with a wide range of TEM and SEM sample preparation techniques. Experience with immunolocalization of proteins in tissues and cells is highly desirable.

Individual must be willing to interact with users from many different areas and will be involved with helping accomplish routine regulatory work as well as basic research projects. Facility will include two TEMs and one SEM.

Genentech, Inc. offers an excellent salary and benefits package, coupled with the opportunity to make a significant contribution to our organization. Please send resume and 3 letters of reference to: **Dr. John Patton, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080.** An equal opportunity employer.

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Molecular Immunologists

The Department of Immunology of Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking outstanding scientists to expand its current research programs in immunopharmacology. The individuals will be involved in a multidisciplinary research effort focused on mechanistic studies, ligand-receptor interactions, and immunoregulation.

Successful candidates are required to have:

- a Ph.D. in Immunology, with at least 3 years postdoctoral experience in cellular or molecular immunology.
- expertise and/or practical knowledge in ligand-receptor interactions, signal transduction and molecular immunoregulation.
- a strong publication record.
- excellent oral and written communication skills.
- ability to interact with a multidisciplinary research team.

We offer excellent compensation and benefits as well as an attractive relocation policy. For confidential consideration, send your C.V. and names of three references to **Robert F. Obst, Manager, Personnel Relations, R0116, Smith Kline & French Laboratories, Research and Development Division, P.O. Box 1539, King of Prussia, PA 19406-0939.** We are an Equal Opportunity Employer, M/F/H/V.

SK&F
A SmithKline Beckman Company

POSITIONS OPEN

RESEARCH ASSOCIATE position available immediately for a molecular biologist to investigate the role of antioxidative enzymes in development and aging of *Drosophila*. Send curriculum vitae and names of three references to: **James Fleming, Linus Pauling Institute of Science and Medicine, Palo Alto, CA 94306.**

RESEARCH OPPORTUNITY IN PLANT BIOTECHNOLOGY

The Biological Sciences Section of the Garst Seed Company, a member of the ICI International Seeds Business, is seeking **RESEARCH TECHNICIANS** to work in the molecular genetics area. Requirements include a B.S. or M.S. degree preferably in genetics, biochemistry, or molecular biology. Preference will be given to applicants with work experience in starch, acrylamide or agarose gel electrophoresis, DNA/RNA extraction, gel transfers, and hybridization.

The successful applicants will join a genetics and plant breeding team using molecular markers to fingerprint germplasm and to study quantitative traits in plants.

Salary and benefits will be competitive. Please send your résumé including a description of relevant experience, names, addresses and telephone numbers of two references to:



Dr. Alex L. Kahler
Garst Seed Company
P.O. Box 400
Slater, IA 50244

The Garst Seed Company is an Equal Opportunity Employer.



RESEARCH PROGRAM DIRECTOR CARDIOVASCULAR

CytRx Corporation, a development stage public company, has an immediate opening for a Ph.D. pharmacologist/toxicologist with experience in developing cardiovascular therapeutics. Must have knowledge of all aspects of preclinical development of pharmaceuticals as well as laboratory management skills. Candidates should be self-motivated independent scientists with two or more years of postdoctoral experience in any of the following areas: antiplatelet agents, hemorheology, thrombosis, or vascular cell biology. CytRx offers a stimulating research environment with opportunity available for academic collaborations and scientific publications. Please send your curriculum vitae and letter of interest to: **Dr. Lee Herron, CytRx Corporation, 150 Technology Parkway, Technology Park/Atlanta, Norcross, GA 30092.**

The Division of Endocrinology of the Department of Medicine at the University of Washington and the Seattle VA Medical Center are recruiting an individual to serve as **RESEARCH SCIENTIST** at the assistant or associate professor level. The candidate should be a Ph.D., with strong research training and productivity, particularly in molecular/cellular endocrinology with relevance to reproductive or neuroendocrinology. *The VA and University of Washington are Equal Opportunity Employers. Women, Hispanics and other minorities are encouraged to apply.* Please send curriculum vitae to: **William J. Bremner, M.D., Ph.D., Chief, Medical Service (111), VA Medical Center, 1660 South Columbian Way, Seattle, WA 98108.**

RESEARCHER

Full-time tenured or tenure-track faculty research position available. Engineering or physical science graduate, Ph.D. or ABD required, dental and/or orthodontic training optional. Must have experience in three-dimensional reconstruction techniques, image processing, software development, instrumentation, and computer graphics. Experience in obtaining extramural funding desirable. Rank and salary commensurate with training and experience. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.* Send curriculum vitae to: **Dr. T. Michael Speidel, Chairman, Department of Orthodontics, University of Minnesota, School of Dentistry, 6-320 Moos Tower, 515 Delaware Street S.E., Minneapolis, MN 55414.**

POSITIONS OPEN

RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

The Department of Biotechnology Research and the Microbial Genetics Division at Pioneer Hi-Bred International, Inc., are seeking applicants for the positions listed below. Successful candidates will be expected to interact extensively with ongoing programs in transformation, gene isolation, and elucidation of the mode of action of agronomically useful microorganisms. Pioneer offers competitive salaries, excellent facilities, and a highly cooperative research environment.

ANALYTICAL BIOCHEMIST

Experience with analytical instrumentation such as GC, HPLC, mass spectroscopy, NMR, etc., and laboratory automation. She/he should also have experience in natural products and nucleic acid chemistry, and be capable of working in a team with a biological perspective. The candidate should have the equivalent of a Ph.D. plus several years of postdoctoral experience.

BIOCHEMIST

A strong background in protein purification, enzymology, and metabolism is desired. Expertise in immunochromatography would be an asset. Proven ability to carry out independent biochemistry research is essential, as is the willingness to collaborate and contribute to a diverse range of projects. The candidate should have the equivalent of a Ph.D. plus two or more years of postdoctoral research experience in biochemistry or a related discipline.

CELL CULTURE RESEARCH TECHNICIAN

Previous tissue culture experience is desirable, but not essential. Planning, writing, and revising experiments in conjunction with the laboratory manager will be expected. Other responsibilities include supervising part-time employees and assisting other research projects in the department. A 4-year degree in the biological sciences or equivalent is a minimum requirement.

Pioneer Hi-Bred International is an Equal Opportunity Affirmative Action Employer. Indicate for which job you are applying, and send résumé with at least three references to:

Lisa Wilson
Pioneer Hi-Bred International, Inc.
700 N.W. 62nd Avenue, P.O. Box 38
Johnston, IA 50131

SALIVARY GLAND PHYSIOLOGIST. Applications are invited for a tenure-track, assistant professor position in the Department of Dental Research at the University of Rochester. Qualifications include a Ph.D. and/or a Ph.D., at least 2 years of postgraduate training in physiology or biochemistry and extensive knowledge of salivary gland physiology or a closely related area. The successful candidate will have shown some success in obtaining grant support, should develop a strong research program, participate in interdepartmental, collaborative research and teach in graduate courses. A commitment to achievement in research and teaching is essential. Please send a statement of research interests, curriculum vitae, and three letters of support to: **Dr. William H. Bowen, Chairman, Department of Dental Research, University of Rochester School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, NY 14642. An Equal Opportunity Employer.** Closing date for applications is 1 February 1988.

SCIENCE/BIOLOGY: The Math, Science and Technology Cluster, Department of Learning and Teaching, Graduate School of Education, Rutgers, The State University of New Jersey is conducting a search for a **FACULTY MEMBER** with expertise in the teaching of the biological sciences. Course work at both the secondary and elementary school levels will be involved although the position will stress elementary education. Emphasis will be placed upon the organizational development of contemporary knowledge in the sciences. Responsibilities will include developing graduate course offerings, conducting research, teaching graduate and undergraduate courses related to science education, and advisement of students. Teaching experience at the pre-college level is desirable. Rank: assistant professor; doctorate required. This is an academic year, tenure-track position. Salary competitive and commensurate with academic background and experience. Send application materials including curriculum vitae, transcripts, and three letters of recommendation before 15 January 1988 to: **Dean Louise Cherry Wilkinson, Rutgers University, Graduate School of Education, 10 Seminary Place, New Brunswick, NJ 08903. Affirmative Action/Equal Opportunity Employer.** This position is contingent on available funding.

POSITIONS OPEN

SCIENTIST

To work on protein purification, characterization, and protective mechanisms of glutathione peroxidases. Applicants are required to have experience in protein purification, analysis of protein structure, enzyme kinetics, oxidoreductive enzyme systems and their function, and cytoskeletal and membrane biochemistry.

The candidate is required to do independent research, supervise technicians and students participating in the research, and be able to write articles for publication in professional journals.

Position is available immediately. Applicant must have a Ph.D. in biochemistry or a related field and at least 3 years of postdoctoral training.

Applications with résumés, and letters of reference should be sent within 30 days to: **Dr. Harvey J. Cohen, in the Department of Pediatrics at the University of Rochester Medical Center, 601 Elmwood Avenue, Box #777, Rochester, NY 14642.**

VIAGENE, INC.

Viagene, Inc., is a rapidly expanding biopharmaceutical company developing novel drugs based on gene delivery. We are seeking several individuals with M.D. or Ph.D. degrees for positions as entry level or senior **SCIENTISTS**. These scientists will study different aspects of gene transfer for use in whole organisms. The successful candidate will have recently demonstrated expertise in one or a combination of the following areas: molecular biology, cell biology, retrovirology (including human), and immunology. These are challenging positions in a dynamic environment with good opportunity for growth and advancement.

Please send application with names of three references to:

Douglas Jolly, Ph.D.
Director of Research
Viagene, Inc.
11180 Roselle Street, Suite A
San Diego, CA 92121

SENIOR RESEARCH SCIENTIST EUKARYOTIC GENE EXPRESSION

We have an immediate opening for an individual to conduct research on nucleic acid based therapeutic systems. Candidates should have a minimum of 2 years of postdoctoral experience in the general field of eukaryotic gene expression, transcription, promoters and other regulatory sequences. A working knowledge of mammalian transfection and expression vectors is essential. Experience with production of transgenic animals and/or plants would be a plus.

Enzo offers exceptional growth opportunities for an individual capable of directing research projects. Send your curriculum vitae to:

The Personnel Department:
Enzo Biochem, Inc.
325 Hudson Street
New York, NY 10013
Equal Opportunity/Affirmative Action Employer

EASTERN VIRGINIA MEDICAL SCHOOL (EVMS) TENURE-TRACK APPOINTMENT IN ANATOMY AND CELL BIOLOGY

The Department of Anatomy and Cell Biology is seeking a qualified applicant for a tenure-track appointment at the assistant professor level. Candidates should possess a Ph.D. or M.D. (or equivalent), and at least 2 years of postdoctoral experience. The successful candidate will have demonstrated excellence in teaching in the anatomical disciplines as well as active research experience in developmental neurobiology, neuroendocrinology, and neural transplantation. Candidates for this position will be expected to pursue vigorous research programs supported by extramural funding. Experience with cell and tissue culture techniques would be highly desirable. Interested individuals should send curriculum vitae, a complete bibliography, three letters of recommendation, and a brief description of current and future research activities to:

David E. Scott, Ph.D.
Professor and Chairman
Department of Anatomy and Cell Biology
Eastern Virginia Medical School
P.O. Box 1980
Norfolk, VA 23501

Opportunities for Protein Chemists

Genentech, Inc., a leader in the field of biotechnology, has a strong commitment to a new department in research to work on state-of-the-art purification and sequence determination of novel proteins.

The success of this group will require the addition of personnel at all levels including Postdocs, Scientists, Senior Scientists, and a Director at the Ph.D. level who have a proven record of innovative and productive research in this area. Senior Scientist level individuals will be expected to establish and lead teams to support the efforts of the group to become a leading force in this field.

Positions will also be available for Research Assistants and Associates with a BS or MS in Biochemistry, Chemistry or related degree. Experience in protein purification, especially high resolution techniques such as FPLC, HPLC, as well as two-dimensional gel electrophoresis and tissue culture would be helpful.

Genentech offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send your curriculum vitae, a summary of your research interests and three letters of reference to Dr. Bart Aggarwal, Senior Scientist, Protein Chemistry Department, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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R & D Opportunities

Baxter Healthcare Corporation, MicroScan Division develops and manufactures computer controlled electronic instrumentation and disposables used in the clinical laboratory. Research involves systems dealing with rapid identification and susceptibility testing.

Our recent growth and expansion has created several opportunities in our Research & Development Department. The positions start at a BS level and progress through to a postdoctoral requirement. Experience varies from entry-level to 6+ years in a research/industrial environment. Background qualifications also vary and require experience in nucleic acid chemistry, microbiology, biochemistry, and molecular biology. Experience in assay development, enzymology, and non-radioactive detection is a plus.

Baxter Healthcare Corporation, MicroScan Division is a leader in the healthcare industry and we offer excellent salaries and benefits. If your education, experience and expertise fall within our requirements, please submit your resume and current salary to: **Vice President of Human Resources, Baxter Healthcare Corporation, MicroScan Division, 1584 Enterprise Blvd., West Sacramento, California 95691.** We are an equal opportunity employer m/f/h/v.

MicroScan Division

Baxter

RESEARCH OPPORTUNITIES IN CANCER THERAPEUTICS

The Dow Chemical Company, in Midland, Michigan, is a recognized world leader in the chemical industry. Expanded research efforts in the area of cancer therapeutics and immunotherapy have created an immediate need within the Biotechnology Laboratory in the Central Research Department for qualified researchers in the area of

HYBRIDOMA TECHNOLOGY

The successful candidate will have a Ph.D. in immunology, microbiology or a related discipline and experience in hybridoma technology. Familiarity with state-of-the-art discovery of monoclonals, immunoassays and immunochemistry is desired. Research efforts will be directed toward obtaining novel antibody specificities for our biotechnology-based cancer therapeutic program. The above candidates must also possess strong communication skills and a desire to carry out independent research while functioning as part of an interdisciplinary research team.

The Dow Chemical Company offers a stimulating work environment and a competitive salary and benefits package.

Send resume to:

Technical Recruiting
Department H-2
P.O. Box 1655
Midland, MI 48641-1655



The Dow Chemical Company is an Equal Opportunity Employer

POSITIONS OPEN

TEACHING OVERSEAS: The Department of Biology at the American University of Beirut, Beirut, Lebanon (AUB), invites applications for faculty positions at the level of **ASSISTANT PROFESSOR**, available 1 October 1988 in the following fields: developmental biology and comparative vertebrate anatomy, genetics and molecular biology, animal cell physiology, botany and ecology, invertebrate zoology.

Applicants should hold the Ph.D. degree and will be expected to engage in both teaching and research. Appointments are normally made for a 3-year period. Interested persons should send their curriculum vitae and three letters of recommendation to: **Dean, Faculty of Arts and Sciences, American University of Beirut, Beirut, Lebanon**, with copy to: **Personnel Services, AUB, 850 Third Avenue, 18th Floor, New York, NY 10022**. AUB is an Equal Opportunity/Affirmative Action Employer.

HARVARD UNIVERSITY

The John F. Kennedy School of Government seeks a **TENURED PROFESSOR** in the field of science and international affairs. Candidates should be strong teachers with distinguished scholarly records in international security, capable of developing and managing collaborative research projects. Send curriculum vitae to: **Professor Harvey Brooks, John F. Kennedy School of Government, 79 JFK Street, Cambridge, MA 02138**. Harvard University is an Affirmative Action/Equal Opportunity Employer.

TWO TENURE-TRACK FACULTY POSITIONS for August 1988 at assistant/associate professor level in biochemistry and organic chemistry. Ph.D. required; postdoctoral experience desirable. Teaching at graduate/undergraduate levels. Active research program expected. Research specialization is open. Send curriculum vitae, transcripts, research plans, and three letters of reference to: **L. Keller, Department of Chemistry, Florida International University (FIU), Miami, FL 33199**. Closing date: 11 February 1988. FIU, The State University of Florida at Miami, has an enrollment of 17,000 students. A new master's program in chemistry is in place; a new chemistry/physics building to open in 1990. FIU is an Affirmative Action/Equal Opportunity Employer.

VEGETABLE/MUSHROOM ENTOMOLOGIST. ASSISTANT PROFESSOR OF ENTOMOLOGY. TENURE TRACK, 12 months. Extension responsibility in vegetables, mushrooms; research responsibility in vegetables. Ph.D. in entomology or related discipline. Experience in IPM and information delivery technologies. Application deadline: 1 March 1988, or until a suitable candidate is found. Send curriculum vitae, academic transcripts, statement of extension and research goals, and interests, and the names and addresses of five references to: **C. W. Pitts, Head, Department of Entomology, Box S, 106 Patterson Building, Penn State, University Park, PA 16802**. An Equal Opportunity/Affirmative Action Employer.

GRADUATE TRAINING PROGRAM

GRADUATE TRAINING PROGRAM IN EXPERIMENTAL PATHOLOGY

The Experimental Pathology Program at the University of California, San Diego, has graduate fellowships available in September 1988. This interdepartmental program places a particular emphasis on understanding the molecular mechanisms of human disease. Research areas include viral carcinogenesis and oncogenic proteins (G. Walter; J. Lipsick), molecular basis of retinoblastoma (W.-H. Lee), virus-induced autoimmune disease (R. Fujinami), mechanisms of signal transduction (J. Feramisco), neuropathology of the AIDS virus (C. Wiley), differentiation of African trypanosomes (C. Davis), and cardiovascular disease (C. Bloor). This Ph.D. program is open to students with a Bachelor's degree who wish to enter medical research without becoming physicians, and also to those with an M.D. Further information and application forms available from: **Dr. J. Lipsick, Department of Pathology M-012, University of California, San Diego, La Jolla, CA 92093**.

ASSISTANTSHIPS

GRADUATE TRAINING PROGRAM IN NEUROSCIENCE—The Neuroscience Program at The Milton S. Hershey Medical Center of The Pennsylvania State University has assistantships available in August 1988. This interdepartmental program is designed to confer a Ph.D. degree with a major in neuroscience after 4 years of study. Participating faculty have established research programs in molecular biology of the nervous system, neurophysiology, neuroendocrinology, behavioral science, neuropharmacology, neurovirology, and cerebral blood flow and metabolism. Interested candidates are invited to apply to: **Dr. Robert Page, Chairman, Neuroscience Program, The Milton S. Hershey Medical Center, The Pennsylvania State University, P.O. Box 850, Hershey, PA 17033**. An Equal Opportunity/Affirmative Action Employer.

GRADUATE PROGRAM

CARNEGIE MELLON UNIVERSITY

GRADUATE STUDY IN ENGINEERING AND PUBLIC POLICY (EPP): The EPP Graduate Program leads to a research-based Ph.D. specializing in policy issues in areas such as: telecommunication, computer and other information technologies; design and application of conventional and AI-based computer systems for policy analysis and decision support; mathematical modeling of energy and environmental systems; technical and economic issues of peace and international security; manufacturing and industrial policy; and risk analysis. Applicants must hold a Bachelor's degree in engineering, physical sciences, or mathematics. Education or experience beyond the Bachelor's degree is very desirable. Contact: **Dr. Indira Nair, Engineering and Public Policy (07), Carnegie Mellon University, Pittsburgh, PA 15213**. Carnegie Mellon University is an Affirmative Action/Equal Opportunity Institution.

PROGRAMS

DOCTORAL PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY AND PATHOBIOLOGY. Interdisciplinary program seeks qualified candidates interested in fundamental molecular and cellular biology and its application to disease. Stipends of \$9000 available on a competitive basis. Contact: **Director, MCBP Program, College of Graduate Studies, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425**.

Medical University of South Carolina (MUSC) offers **PROGRAMS** leading to Ph.D. and M.D./Ph.D. degrees in each of the basic biomedical sciences (anatomy, biochemistry, biometry, microbiology and immunology, pathology, pharmacology, and physiology), pharmaceutical sciences, and molecular and cellular biology/medicine; \$9000 assistantships available to highly qualified students. Contact: **College of Graduate Studies, MUSC, 171 Ashley Avenue, Charleston, SC 29425**.

M.S. DEGREE IN APPLIED MOLECULAR BIOLOGY

The University of Maryland Baltimore County offers a 2-year, highly laboratory-intensive program leading to a Master's degree in Applied Molecular Biology. The program, in which ten biotechnology companies participate, is designed primarily to supply highly qualified research personnel for industry. Formal laboratory courses, exclusive to this program, are in recombinant DNA methods, microbial genetics, and hybridoma production. Research internships, both at a company and on-campus, are also required. For information write:

Dr. Richard E. Wolf, Jr.
AMB Program Director
Biological Sciences Department
University of Maryland Baltimore County
Catonsville, MD 21228

TRAINING PROGRAM

TRAINEESHIPS, Medical Scientist Training Program offers \$9000 stipends for studies leading to combined M.D./Ph.D. degrees in each of the basic biomedical sciences and molecular and cellular biology/medicine. Contact: **Director, Medical Scientist Training Program, College of Graduate Studies, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425**.

COURSE

HOW TO MAKE MICROCAPSULES—A HANDS ON COURSE

A laboratory course designed to teach the art and science of microcapsule making. Suitable for biologists, pharmacists, chemists, life scientists and engineers. Enrollment limited to 12. Lectures and laboratory sessions by **Dr. Curt Thies**, Professor of Chemical Engineering at Washington University in St. Louis. Spring session: 27 to 30 March 1988, and 17 to 20 April 1988. For information call: 314-889-6066.

TRAVEL GRANTS

TRAVEL FUNDS, REGEM 1

Travel funds are available through the American Society for Microbiology for the First International Conference on the Release of Genetically Engineered Microorganisms (REGEM 1), 5 to 8 April 1988, Cardiff, Wales. Awards will be for 80% of economy airfare from the United States to Wales, up to \$700 per award. Applications should be received by 25 January 1988. For more information, contact: **Robert D. Watkins, ASM Headquarters, 1913 I Street, NW, Washington, D.C. 20006**, at 202-833-9680.

TRAVEL GRANTS

XVIII International Congress of Entomology, Vancouver, Canada. **G. G. E. Scudder**, Secretary-General, ICE, The University of British Columbia, Vancouver, British Columbia, V6T2A9 Canada. Partial travel grants are available. Send four copies of application (curriculum vitae, abstract if proposed contribution, and other pertinent information) by 7 February 1988, to: **The Executive Director, Entomological Society of America, 4603 Calvert Road, College Park, MD 20740**.

FELLOWSHIPS

FELLOWSHIPS IN REPRODUCTIVE BIOLOGY

NIH training grant and individual investigator grants provide stipends for pre- and postdoctoral fellows interested in cellular, molecular and neuroendocrine regulation of reproductive processes. Participating faculty from the Departments of Biochemistry and Cell Biology-Anatomy include: **K. L. Barker** (estrogen mechanisms in the uterus); **B. S. Chilton** (steroid actions in the cervix); **A. W. Coquelin** (neural regulation of gonadotropins); **C. W. Garner** (hormone action in the uterus); **J. C. Hutson** (testicular function); **W. W. Leavitt** (hormone receptors and progesterone action); **G. H. Little** (programmed cell death in development); **R. L. Norman** (primate neuroendocrinology); **D. M. Stocco** (testicular steroid synthesis); **H. M. Weitlauf** (blastocyst-uterine interactions); **S. M. Whelly** (estrogen mechanisms in the uterus). For additional information contact the appropriate member above concerning your interest in a specific area or **C. W. Garner**, Chairman of the Selection Committee, Biochemistry Department, Texas Tech University Health Science Center, Lubbock, TX 79430.

TTUHSC is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS in gastroenterological research available for 1 or 2 years beginning 1988. Faculty employs multidisciplinary approach using biochemical, immunological, physiological and electrophysiological techniques. Applicant may focus on either clinical or basic studies. Applicants should have M.D. or Ph.D. Send curriculum vitae, and names of three references to: **N. F. LaRusso, M.D., Program Director, NIH Training Grant, Mayo Clinic, Rochester, MN 55905**. An Equal Opportunity/Affirmative Action Institution.

POSTDOCTORAL FELLOWSHIPS in cardiovascular science. Postdoctoral fellowships (NIH) for training in the departments of biochemistry, pharmacology, and physiology are available for qualified applicants with Ph.D., M.D., D.V.M., or D.O. who desire advanced training in cardiovascular research. For more information contact: **Dr. J. E. Chimoskey, Department of Physiology, Michigan State University, East Lansing, MI 48824-1101**. MSU is an Equal Opportunity/Affirmative Action Employer.

Postdoctoral Fellows & Research Associates

Pharmacological Sciences Dept.
Genentech, Inc.

Genentech, Inc., a leader in the field of biotechnology currently seeks the following:

Postdoctoral Fellows

Positions are available immediately for postdoctoral fellows to work in the area of growth factors. The research will involve investigations of the physiology/pharmacology of neuro-endocrine substances and other hormones.

The successful candidate will have a strong background in biochemistry and biochemical techniques, and a keen interest in endocrinology. The duration of the postdoctoral appointment will be two years with the possibility of extension. Please send your curriculum vitae, 3 references and a short summary of research interests.

Research Associates Biochemistry

Responsibilities will involve performing biochemical techniques such as HPLC, gel chromatography, affinity chromatography, enzyme conjugation, ELISA's and radioiodination. Experience with molecular biology techniques, i.e. Western blots and Northern blots preferable. A background in endocrinology would be an added attribute.

This position requires a Bachelor of Science or a Masters degree in biochemistry or related field and 2-5 years' laboratory research experience in the above areas. The candidate needs to be a self starter able to work with minimal supervision.

Research Associates Endocrinology

In this position, responsibilities will include design and implementation of experiments and analysis of data that will contribute to a variety of projects concerning hormone characterization and hormone action.

The successful candidate will have a background in cell culture, genomic library construction, measurement of transcription rate, in-situ hybridization, hormone receptor assay, gene expression, and radioimmunoassay. Ability to work quickly and accurately with a variety of techniques and instruments and to work with several scientists and on several projects simultaneously is a key qualification. A Master's degree specializing in molecular biology or endocrinology with a strong emphasis on scientific research along with two years of relevant laboratory experience is preferred. Educational and training background in endocrinology is desired. Experience in other related field such as molecular biology is helpful.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send resume to: Sherrie B. Wilkins, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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BIOTECHNOLOGY RESEARCH OPPORTUNITIES: SENIOR RESEARCH SCIENTISTS

CENTOCOR, a leading independent biopharmaceutical company located in suburban Philadelphia has excellent opportunities available for qualified senior individuals with experience in monoclonal antibody technology to work in an exciting and expanding research and development environment.

IMMUNOLOGIST/ MICROBIOLOGIST

Responsibilities include development of *In Vitro* and *In Vivo* methods to evaluate monoclonal antibodies with antibacterial or anti-viral properties. Ideal candidate should have a Ph.D. in Immunology/Microbiology with a minimum of 4 years of research experience in infectious disease model systems. Strong analytical skills in Microbiology/Virology and Protein Chemistry required.

CELL BIOLOGIST

Supervise and support the production of new mammalian hybridomas and develop methods to maintain hybridoma stability and amplify antibody production. Candidate should possess a Ph.D. in Cell Biology, Immunology or equivalent with a minimum of 4 years' postdoctoral experience in mammalian hybridoma cell culture.

PROTEIN BIOCHEMIST

Responsibilities include the development of innovative methods for antibody purification and characterization. Should possess a Ph.D. in Biochemistry or related field, with a minimum of 4 years of related postdoctoral or industrial experience. Experience with standard biochemical techniques and instrumentation is essential. Familiarity with monoclonal antibodies and immunoassay development desirable.

Excellent salary and benefits program accompany these positions at our modern Research & Development facility. Positions provide significant potential for professional career growth and management level responsibilities. Reply in confidence with curriculum vitae and summary of relevant experience indicating the position desired to: **Peter E. Daddona, Ph.D., Director, Immunobiology R&D, Centocor, Inc., 244 Great Valley Parkway, Malvern, PA 19355. NO PHONE CALLS PLEASE.**

EOE

 **CENTOCOR**

FELLOWSHIPS

ELECTROPHYSIOLOGISTS POSTDOCTORAL FELLOWSHIPS

1) Preferably with brain-slice experience, to work with **Robert Werman** and **Yosi Yarom**, studying mechanisms of neuronal death and mapping calcium transients in single neurons [*J. Physiol.* **389**, 319 (1987)]. Up to 4 years of support available.

2) For work with **Peter Hillman** on biophysics of transduction in photoreceptors. Experience in intracellular recording, data analysis and computer modeling desirable. Initial 1- to 2-year appointment.

Well-equipped laboratory facilities. Send application, curriculum vitae, list of publications, Bitnet node, and names of three referees to: **Professor R. Werman, Department of Neurobiology, Institute of Life Sciences, Hebrew University, Jerusalem, 91904, Israel.**

The Institute of Ecosystem Studies (IES) of the New York Botanical Garden will award one IES **SUMMER RESEARCH FELLOWSHIP** for a 3-month period during summer 1988. These awards provide short-term research opportunities for Ph.D.'s to do ecological research as part of the IES program at the Mary Flagler Cary Arboretum in Millbrook, New York. A diversity of terrestrial, wetland and stream habitats, as well as excellent laboratory facilities, is available on the 779-hectare site. Award provides summer stipend plus limited funds for research supplies. Applicants should have a Ph.D., an ecosystem orientation, and be interested in collaborative multidisciplinary studies. Send letter of application, curriculum vitae, and names of three references by 1 March 1988 to: **Dr. Jonathan J. Cole, Institute of Ecosystem Studies, The Mary Flagler Cary Arboretum, Box AB, Millbrook, NY 12545. An Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP—Ph.D. in a biological science or equivalent with experience working with Ca^{2+} -ATPase or other calcium transport proteins. Ability to work independently and to actively participate in the design of experiments. *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and women and minorities are encouraged to voluntarily identify themselves.* Please send curriculum vitae and name of three references to: **Gilbert C. White, II, Center for Thrombosis and Hemostasis, UNC-CH, 435 Burnett Womack Building 229H, Chapel Hill, NC 27514.**

POSTDOCTORAL FELLOWSHIP—Ph.D. in a biological science or equivalent with experience working with molecular biology techniques, cloning techniques, DNA sequencing, preparation of cDNA and genomic libraries, protein expression and clone and express membrane glycoproteins with human platelets. Ability to work independently and to participate in the design of experiments. *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and women and minorities are encouraged to voluntarily identify themselves.* Please send curriculum vitae and name of three references to: **Gilbert C. White, II, Center for Thrombosis and Hemostasis, UNC-CH, 435 Burnett Womack Building 229H, Chapel Hill, NC 27514.**

FELLOWSHIPS FOR RESEARCH AND TRAINING IN ECOLOGY UNIVERSITY OF MICHIGAN BIOLOGICAL STATION 15 JUNE TO 15 AUGUST 1988

Advanced undergraduate or graduate students and researchers with a Ph.D. may apply for fellowships in the Naturalist-Ecologist Training Program at the Biological Station in northern Michigan. All participants conduct independent ecological studies. Students enroll in one course of their choice and in another. Methods of Ecological Research. The latter emphasizes through hands-on experience the fundamentals of experimental design, data management, statistical analyses, and communication of findings. Researchers concentrate on field-based studies, but must be willing to advise and interact with students in the Program. Awards for students cover tuition for both courses (10 graduate credits), fees, room, and board. Researchers receive a stipend, funds for equipment or supplies, fees, room and board, and an allowance for up to two dependents. For details and an application form, contact: **Dr. Mary J. Whitmore, University of Michigan Biological Station, Pellston, MI 49769.** Applications must be received by 29 February 1988.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP UNIVERSITY OF ALABAMA AT BIRMINGHAM

Applications are invited for postdoctoral fellowship in the Department of Pediatrics. Responsibilities include studies of latency, virulence and molecular pathogenesis of herpes simplex virus. The candidate must have a Ph.D. degree and be familiar with tissue culture technique, virus cultivation, recombinant DNA technology, and immunoblotting. Experience with laboratory animals is desirable, but not essential. Candidates should submit applications including curriculum vitae and two references to: **Richard J. Whitley, M.D., Clinical Virology, Department of Pediatrics, The University of Alabama at Birmingham, Children's Hospital Tower, Suite 653, 1600 7th Avenue South, Birmingham, AL 35294.**

POSTDOCTORAL FELLOWSHIPS IN BIOMEDICAL NUTRITION

We announce the availability of postdoctoral positions in the Division of Nutrition of the Department of Physiology and Biochemistry. Preceptors and areas of research include: **P. Macke Consigny** (vasculars function and atherosclerosis), **Frederick D. DeMartini** (adipose growth and development), **Edward A. Fisher** (apolipoprotein gene expression), **Earl H. Harrison** (retinoid metabolism; enzymology), **Julian B. Marsh** (regulation of lipoprotein synthesis; nephrosis), **A. Catherine Ross** (retinoids, cellular lipoprotein metabolism), **Thomas N. Tulenko** (vascular pathophysiology, membrane function). Candidates should have predoctoral training in nutrition, biochemistry, cell biology, molecular biology, cardiovascular physiology, or medicine. Salaries begin at \$18,000, commensurate with experience. Please submit curriculum vitae, and a letter including the research area in which you are interested, names and addresses of three references, a statement of your previous training, and an expected date to begin postdoctoral studies to: **Dr. A. Catharine Ross, Director, Division of Nutrition Department of Physiology and Biochemistry, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, PA 19129. An Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIPS IN MOLECULAR MEDICINE AND IMMUNOLOGY. Areas of interest include mucosal immunity, mechanisms of immunoglobulin, isotype commitment, cellular biology, and molecular mechanism of action of certain lymphokines and colony-stimulating factors. **Thomas B. Tomasi, M.D., Ph.D., Chairman, Department of Molecular Medicine and Immunology, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263.**

POSTDOCTORAL POSITION

Project to investigate gene regulation of proteins involved in initiation of DNA replication. Involves immunoaffinity purification of DNA polymerases, and cell cycle-dependent regulatory proteins, molecular cloning, hybridization in situ, preparation of monoclonal antibodies, immunocytochemistry, and flow cytometry. Begin spring 1988. Contact: **Dr. Robert Bambara, Box 607, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642.**

POSTDOCTORAL RESEARCH FELLOWSHIP

A postdoctoral position is available immediately to study molecular mechanisms of chemoprevention both in vivo and in vitro. The applicant should have background and experience in protein chemistry and enzymology, hold a Ph.D. degree (or equivalent), and be a U.S. citizen or have immigrant status.

Please send curriculum vitae and the names and addresses of two academic referees to:

**Dr. Leon Milewich
The University of Texas
Southwestern Medical Center at Dallas
The Cecil H. and Ida Green Center for
Reproductive Biology Sciences
5323 Harry Hines Boulevard
Dallas, TX 75235-9051**

The University of Texas is an Equal Opportunity/Affirmative Action University.

FELLOWSHIPS

UNIVERSITY OF CALIFORNIA SAN FRANCISCO POSTDOCTORAL FELLOWSHIPS IN MOLECULAR GENETICS, DEVELOPMENT, AND CELL BIOLOGY

Fellowships are available for research on the molecular, cellular, genetic, and developmental aspects of mammalian cells. The faculty include: **M. J. Banda** (angiogenesis, wound healing, and macrophage proteinases), **J. E. Cleaver** (DNA repair genes), **W. F. Morgan** (sister chromatid exchange), **J. P. Murnane** (DNA recombination), **R. B. Painter** (DNA replication and repair), **R. Pedersen** (early mammalian development), **M. R. Wabl** (molecular immunology), **Z. Werb** (macrophages, growth factors, extracellular remodeling in differentiation and development), and **S. Wolff** (tradition genetics, cytogenetics).

Stipends are funded through a National Research Service training program in carcinogenesis and mutagenesis sponsored by NIEHS. Appointments can begin immediately. The requirements are U.S. citizenship or permanent residency and a Ph.D. degree or equivalent. Send résumé, graduate transcript, statement of research interests, and three letters of recommendation before 1 March 1988 to: **Dr. Z. Werb, Program Director, Laboratory of Radiobiology and Environmental Health, University of California, San Francisco, CA 94143-0750. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH FELLOWSHIP IN OTOLARYNGOLOGY AND RELATED BASIC SCIENCE SPECIALTIES—A 2-year fellowship is available for a basic scientist with a Ph.D. beginning July 1988. Opportunities are available in the following areas: tumor preparation, cell culture, flow cytometry, biochemistry of the inner ear, olfactory physiology, energy-linked transport in the inner ear, cancer immunology, deglutition, mucosal immunology, psychosocial interventions of cancer patients, and experimental therapeutics. Apply to: **Robert H. Mathog, M.D., Chairman, Otolaryngology 5E-UHC, Wayne State University, 540 East Canfield, Detroit, MI 48201.**

ROYAL COLLEGE OF SURGEONS OF ENGLAND HUNTERIAN INSTITUTE DEPARTMENT OF DENTAL SCIENCES CANCER RESEARCH FELLOWSHIP

Applications are invited for this post, tenable for 3 years, to work as a postdoctoral research fellow on markers for oral malignancy. Current departmental projects include the identification of activated oncogenes and differentiation markers in normal, dysplastic, and malignant oral mucosa. A close working relationship exists with colleagues in the adjoining Imperial Cancer Research Fund and other laboratories in London.

Applicants should have expertise in a relevant area such as immunocytochemistry, the production and characterization of monoclonal antibodies, virology and cytogenetics.

The post is known as the "Quintan Hogg Fellowship" and is available immediately. The salary (nonclinical) will be in Range 1A (currently £9865 to £14500 plus £1393 London allowance).

Applications including curriculum vitae, a full statement of laboratory experience, and the names of two referees should be sent to: **The Personnel Office, Royal College of Surgeons, 35-43 Lincoln's Inn Fields, London WC2A 3PN.** Informal enquiries to: **Professor N. W. Johnson or Dr. S. E. Chang on 01-405-3474.**

Please quote reference: 38/87.

Closing date: 31 January 1988.

MARKETPLACE

FOR SALE

Used ETEC Autoscan Scanning Electron Microscope. ISN #49 with BSE detector, diagnostic module, digital magnification control, Vistascan information storage, and processing system with TV monitor and additional accessories. Contact **Karen Johnson—Purchasing Department, University of Nebraska Medical Center, 402/559-5497** for a copy of BID S-219, due February 5, 1988, 2:00 p.m.



UNIVERSITY OF MISSOURI-COLUMBIA

OPPORTUNITIES FOR PRE AND POSTDOCTORAL TRAINING IN MOLECULAR BIOLOGY

Expansion of multiple research programs at the **University of Missouri-Columbia** provides new opportunities for training in a variety of disciplines using biomolecular approaches to understanding life processes. Stipends are now offered for highly qualified trainees to participate in interdisciplinary programs in **Molecular Biology, Microbial Pathogenesis, Plant Biotechnology** and **Reproductive Biology**.

MOLECULAR BIOLOGY PROGRAM

The Molecular Biology Program at the University of Missouri-Columbia offers predoctoral and postdoctoral fellowships in Molecular Biology and related disciplines. The predoctoral fellowships are renewable for up to 4 years, and provide a stipend of \$12,000 per year in addition to a waiver of all tuition and fees. The postdoctoral fellowships provide a stipend of \$20,000 per year plus fringe benefits for up to 2 years. Faculty in this campus-wide interdisciplinary program are drawn primarily from the Departments of Biochemistry, Biological Sciences, Microbiology, and Veterinary Microbiology, as well as a variety of other participating divisions. All share a common interest in studies of the molecular basis of biological processes. The multidisciplinary nature of the overall program provides depth as well as breadth in training. The program fosters close scientific interaction among faculty, postdoctoral fellows, and graduate students interested in all aspects of molecular biology. Candidates may address inquiries directly to the Molecular Biology Fellowship Committee, and should indicate the department and subject area(s) related to their research interests. Inquiries and completed applications should be made as soon as possible. Further information on the program and its faculty can be obtained by contacting:

Michael L. Misfeldt, Ph.D.
Molecular Biology Fellowship Committee
M642 Medical Sciences Building
University of Missouri-Columbia
Columbia, Missouri 65212

REPRODUCTIVE BIOLOGY

The Interdisciplinary Group in Reproductive Biology at the University of Missouri has available several graduate and postdoctoral fellowships supported by the University's program, "Food for the 21st Century". These positions may be held in one of several departments within the Colleges of Agriculture, Veterinary Medicine, Arts and Sciences, and Medicine. The emphasis in training is basic research, particularly in the areas of molecular biology, protein biochemistry, endocrinology, embryo manipulation, genetics, and behavior, which might ultimately lead to improvement in the reproductive efficiency of farm animals. Candidates should submit complete resumes, GRE scores, and three letters of reference as soon as possible.

B.N. Day, Ph.D.
Department of Animal Sciences
159 Animal Sciences Research Center
University of Missouri-Columbia
Columbia, Missouri 65211

TRAINING PROGRAM IN MOLECULAR ASPECTS OF MICROBIAL PATHOGENESIS

The University of Missouri-Columbia announces a NIH supported training program for predoctoral and postdoctoral candidates in areas pertaining to the molecular aspects of microbial pathogenesis. Faculty in the Departments of Microbiology, Biochemistry, Medicine, and Biological Sciences participate as preceptors for research training in areas including, but not limited to: developmental biology of nematodes, immunoregulation, oncogene structure and function, near-ultraviolet radiation effects on bacteria, bacterial toxins, bacterial-host interactions, malarial antigens, tumor immunology, genetic organization and regulation of iron transport systems in bacteria, growth factors, T cell activation, virus gene structure and expression, membrane topology and gene expression in mycoplasma, antibiotic resistant plasmids, autoimmune mouse models, and vaccine development. Trainees will benefit from interactions with the interdisciplinary campus-wide program in Molecular Biology. Candidates are also sought to pursue a combined degree program leading to the Ph.D. in Microbiology and the M.D. For more information about specific research programs and application forms, contact:

Michael L. Misfeldt, Ph.D.
Department of Microbiology
School of Medicine
M642 Medical Sciences Building
University of Missouri-Columbia
Columbia, Missouri 65212

NATIONAL NEEDS GRADUATE FELLOWSHIPS PLANT BIOTECHNOLOGY

The Interdisciplinary Plant Group of the University of Missouri has been awarded a grant from the Higher Education Program of the Cooperative State Research Service, U.S. Department of Agriculture providing for a number of graduate fellowships with a \$15,000 per annum stipend. Fellowships will be competitive. To insure consideration, candidates must submit GRE scores, transcripts, three letters of reference, and curriculum vitae by February 1, 1988. Other fellowships and research assistantships are also available. Send program information requests and application to:

Interdisciplinary Plant Group
c/o Douglas D. Randall, Ph.D.
117 Schweitzer Hall
University of Missouri-Columbia
Columbia, Missouri 65211

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The wavelength you don't see... could be the most important

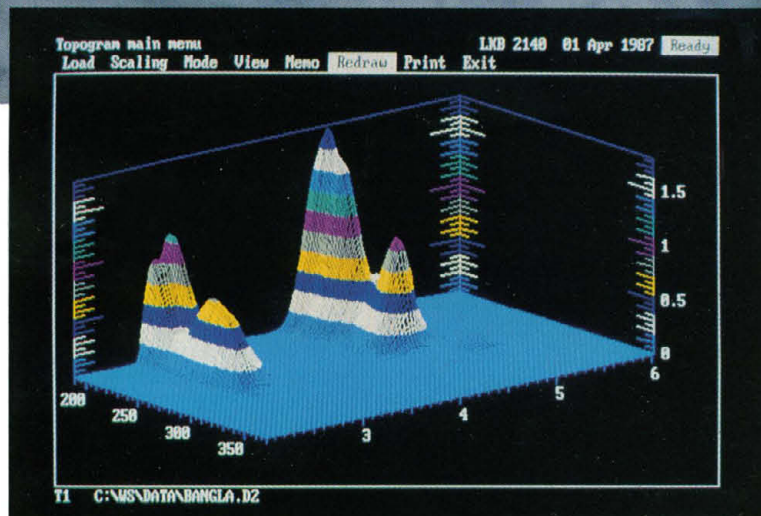
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Wavescan-EG software ensures peak purity control and positive identification of HPLC data, every time. It's state-of-the-art enhanced graphics capabilities, coupled with the power of an IBM AT or XT, provide high quality, detailed presentation of isograms, chromatograms, and spectra—as well as 3-D topograms. Spectral data can be manipulated and analyzed from every possible vantage point. Define and zoom-in on an area of interest.

Simplicity is the key with Wavescan-EG, as its easy, mouse and menu-driven program permits rapid run parameter settings for precision chromatography. Access to spectra, chromatograms and other two- and three-dimensional representations has never been easier; sample identity and purity never more explicitly assured; the potential for post-run professional productivity never greater!

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This 3-dimensional topogram was produced using WAVESCAN-EG.

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